

Архангельск (8182)63-90-72
Астана (7172)727-132
Астрахань (8512)99-46-04
Барнаул (3852)73-04-60
Белгород (4722)40-23-64
Брянск (4832)59-03-52
Владивосток (423)249-28-31
Волгоград (844)278-03-48
Вологда (8172)26-41-59
Воронеж (473)204-51-73
Екатеринбург (343)384-55-89
Иваново (4932)77-34-06

Ижевск (3412)26-03-58
Иркутск (395)279-98-46
Казань (843)206-01-48
Калининград (4012)72-03-81
Калуга (4842)92-23-67
Кемерово (3842)65-04-62
Киров (8332)68-02-04
Краснодар (861)203-40-90
Красноярск (391)204-63-61
Курск (4712)77-13-04
Липецк (4742)52-20-81
Киргизия (996)112-96-26-47

Магнитогорск (3519)55-03-13
Москва (495)268-04-70
Мурманск (8152)59-64-93
Набережные Челны (8552)20-53-41
Нижний Новгород (831)429-08-12
Новокузнецк (3843)20-46-81
Новосибирск (383)227-86-73
Омск (3812)21-46-40
Орел (4862)44-53-42
Оренбург (3532)37-68-04
Пенза (8412)22-31-16
Казахстан (772)734-952-31

Пермь (342)205-81-47
Ростов-на-Дону (863)308-18-15
Рязань (4912)46-61-64
Самара (846)206-03-16
Санкт-Петербург (812)309-46-40
Саратов (845)249-38-78
Севастополь (8692)22-31-93
Симферополь (3652)67-13-56
Смоленск (4812)29-41-54
Сочи (862)225-72-31
Ставрополь (8652)20-65-13
Россия (495)268-04-70

Сургут (3462)77-98-35
Тверь (4822)63-31-35
Томск (3822)98-41-53
Тула (4872)74-02-29
Тюмень (3452)66-21-18
Ульяновск (8422)24-23-59
Уфа (347)229-48-12
Хабаровск (4212)92-98-04
Челябинск (351)202-03-61
Череповец (8202)49-02-64
Ярославль (4852)69-52-93

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Power supplies

Let's connect.



Weidmüller

Power supplies

Catalogue 4.3

Power supplies

Switched-mode power supply units

Electronic load monitoring

Uninterruptible power supplies

DC/DC converters

Redundancy, diode and capacity modules

Communication modules

Appendix

Service and support

Glossary/Technical appendix

Index

Index Type / Index Order No.
Addresses worldwide

Power supplies – Overview

connectPower 1ph PROtop



- Single-phase switched-mode power supply module
- High MTBF values
- Cl. I Div. 2 + ATEX
- Power category 72...960 W
- Output 12, 24 and 48 V DC

connectPower 3ph PROtop



- Multiphase switched-mode power supply module
- 3× 320...575 V AC or 2× 360...575 V AC
- 450...800 V DC
- UL approval
- Power category 120...960 W

connectPower PROtop DCDC



- DCL technology for excellent dynamic range
- Operating modes: single / parallel operation and adjustable short-circuit behaviour (continuous current or switch-off)
- High durability up to 15 years, MTBF > 1.000.000 hours

connectPower PROtop UW



- DCL technology for excellent dynamic range
- Operating modes: single / parallel operation and adjustable short-circuit behaviour (continuous current or switch-off)
- High durability up to 15 years, MTBF > 1.000.000 hours

connectPower 1ph PROmax



- Single-phase switched-mode power supply module
- Slim design
- High efficiency
- Power category from 70...960 W
- International approvals

connectPower 3ph PROmax



- 3-phase switched-mode power supply module
- Slim design
- High efficiency
- Power category 120...960 W
- Wide range of approvals

connectPower 1ph PROeco



- Single-phase switched-mode power supply modules
- Slim design
- Large temperature range from -25 °C to 70 °C
- Three-coloured LED indicators for simple error detection
- Advanced visual warning at 90 % rated output current
- International approvals

connectPower 3ph PROeco



- 3-phase switched-mode power supply modules
- Slim design
- Large temperature range from -25 °C to 70 °C
- Three-coloured LED indicators for simple error detection
- Advanced visual warning at 90 % rated output current
- International approvals

connectPower PRO-PM



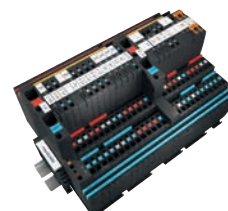
- Wall mounting
- Flat design
- Metal housing
- Power category 25...350 W
- Universal input and output voltages

connectPower 1ph INSTA POWER

- Single-phase switched-mode power supply modules for the distribution board
- Compact form
- Power category 16 and 96 W
- Input and output voltage 5...48 V
- International approvals

topGUARD

- Electronic load monitoring
- Integrated potential distribution
- IO Link capable
- Status notification LEDs

maxGUARD

- Electronic load monitoring
- Status notification LEDs and potential-free contact
- Reset input
- Compact design

connectPower UPS control units

- Two 24 V models in 10 A/20 A and 40 A
- Temperature-compensated charging feature, for a long battery life
- Integrated battery diagnostics including continuous availability test
- Status relay and additional transistor outputs for remote monitoring
- Convenient LED displays for easy error analysis

connectPower Battery modules

- Maintenance-free, lead-acid batteries from 1.3 Ah to 17 Ah
- Integrated temperature sensor for an extended service life
- Integrated fuse for reliable activation
- Buffer times up to 40 A / 30 min or 10 A / 90 min
- Robust metal housing for wall mounting

connectPower Buffer modules

- Maintenance-free UPS on a capacitor basis, with capability to support 20 A / 200 ms
- Parallel switching to increase the output current or support time
- Status notification via LED and relay contact

connectPower DC/DC converters

- Compact form
- Metal housing
- International approvals
- High degree of efficiency
- DCL peak load reserve up to 600%

connectPower Redundancy modules

- Fast status diagnosis via LED display and status relay
- Universally applicable due to wide range of variants (max. up to 80 A output current)
- Wide range of approvals (e.g. cULus, Class I, Div. 2, ATEX and IECEx)

connectPower Diode modules

- Diode module for 100 % decoupling of switching power supplies
- Optimal power doubling
- Max. up to 40 A Output current
- International approvals

Power supplies – Overview

connectPower Capacity modules



- To increase the peak current
- Provides sufficient energy reserves
- Compact design
- For tripping circuit breakers

Communication modules



- Tool-free assembly
- Protection class IP20
- Flexible to adapt PROtop and topGUARD to different communication protocols
- Available in CANopen and IO-Link

Find the perfect product to meet your requirement

Our extensive portfolio of power supplies at a glance

Series / family				Input side		Output side				Additional functions					Recommendation for application						Order No.			
Page	Description	Phases	AC input voltage [V]	DC input voltage [V]	Rated voltage [V]	Rated current [A]	Power rating [W]	Derating at [°C]	Load reserve	Type of contact	Temperature range [°C]	Efficiency [%]	MTBF time [Mh]	Surge category	Approvals	Field cabinets	Small and series machine construction	Machine construction and plant manufacture	Simple process applications	Process industry	Energy technology	Power distribution	Marine engineering	
PROtop A.4	PRO TOP1 72W 24V 3A	1	85-277	80-410	24	3	72	> 60	130 % permanently with ≤ 40 °C	NO	-25 to +70 Start up @ -40	90.0	> 1	III	SEMI F47  LR BV ABS  SEMI F47  TÜV c  ULus Cl1Div2  EAC								2466850000	
	PRO TOP1 120W 24V 5A	1			24	5	120					91.0											2466870000	
	PRO TOP1 240W 24V 10A	1			24	10	240					92.5											2466880000	
	PRO TOP1 480W 24V 20A	1			24	20	480					93.5											2466890000	
	PRO TOP1 960W 24V 40A	1			24	40	960					94.5											2466900000	
	PRO TOP1 120W 12V 10A	1			12	10	120					91.0											2466910000	
	PRO TOP1 480W 48V 10A	1			48	10	480					93.5											2467030000	
	PRO TOP1 960W 48V 20A	1			48	20	960					94.5											2466920000	
	PRO TOP1 72W 24V 3A F	1			24	3	72					90.0											2568970000	
	PRO TOP1 120W 24V 5A F	1			24	5	120					91.0											2568980000	
	PRO TOP1 240W 24V 10A F	1	24	10	240	92.5														2568990000				
	PRO TOP1 120W 12V 10A F	1	12	10	120	91.0														2569000000				
	PRO TOP3 120W 24V 5A	2/3	3 x 320-3 x 575/ 2 x 360-2 x 575	450-800 (max. 500 acc. to UL508)	24	5	120				89.0											2467060000		
	PRO TOP3 240W 24V 10A	2/3			24	10	240				93.0											2467080000		
	PRO TOP3 480W 24V 20A	2/3			24	20	480				94.0											2467100000		
	PRO TOP3 960W 24V 40A	2/3			24	40	960				95.3											2467120000		
	PRO TOP3 480W 48V 10A	2/3			48	10	480				94.0											2467150000		
	PRO TOP3 960W 48V 20A	2/3			48	20	960				95.3											2467170000		
PROtop A.16	PRO TOP1 72W 24V 3A CO	1	85-277	80-410	24	3	72	> 60	130 % permanently with ≤ 40 °C	NO	-40 to +70	90.0	> 1	III	SEMI F47  LR BV ABS  SEMI F47  TÜV c  ULus Cl1Div2  ATEX IECEX  EAC									2466970000
	PRO TOP1 120W 24V 5A EX	1			24	5	120					91.0												2466980000
	PRO TOP1 240W 24V 10A EX	1			24	10	240					92.5												2466990000
	PRO TOP1 480W 24V 20A EX	1			24	20	480					93.5												2467000000
	PRO TOP1 960W 24V 40A EX	1			24	40	960					94.5												2467010000
	PRO TOP1 120W 12V 10A EX	1			12	10	120					91.0												2467020000
	PRO TOP1 480W 48V 10A EX	1			48	10	480					93.5												2467040000
	PRO TOP1 960W 48V 20A CO	1			48	20	960					94.5												2467050000
	PRO TOP3 120W 24V 5A CO	2/3	3 x 320-3 x 575/ 2 x 360-2 x 575	450-800 (max. 500 acc. to UL508)	24	5	120				89.0											2467070000		
	PRO TOP3 240W 24V 10A CO	2/3			24	10	240				93.0											2467090000		
	PRO TOP3 480W 24V 20A CO	2/3			24	20	480				94.0											2467110000		
	PRO TOP3 960W 24V 40A CO	2/3			24	40	960				95.3											2467130000		
PRO TOP3 960W 36V 26,6A CO	2/3			36	27	960	95.3											2467140000						
PRO TOP3 480W 48V 10A CO	2/3			48	10	480	94.0											2467160000						
PRO TOP3 960W 48V 20A CO	2/3			48	20	960	95.3											2467180000						
PROtop DCDC A.26	PRO TOPDC 24V/24V 5A	/	/	14 V...31.2 V (linear Derating from 18 V...14 V, 60% rated load @ Uin 14 V)	24	5	120	> 60	130 % permanently with ≤ 40 °C	NO	-25 to +70	89	> 1	I II III	 TÜV  c  ULus  ABS Cl1Div2 IECEX ATEX								2627650000	
	PRO TOPDC 24V/24V 10A	/			24	10	240					91											2627640000	
	PRO TOPDC 24V/24V 20A	/			24	20	480					91											2627630000	
	PRO TOPDC 24V/48V 10A	/			48	10	480				-40 to +70	91											2627660000	
	PRO TOPDC 24V/24V 10A EX	/			24	10	240					91												2467300000
	PRO TOPDC 24V/24V 20A EX	/			24	20	480					91												2467310000
	PRO TOPDC 24V/24V 5A EX	/			24	5	120				89												2467290000	
PROtop UW A.34	PRO TOP2 120W 24V 5A UW EX	1/2	85...550 V AC (Derating: 2 %/ 1 V @ 85...100 V AC)	90...800 V DC (Derating: 1 %/1 V @ 90...120 V DC)	24	5	120	> 60	130 % permanently with ≤ 40 °C	NO	-40 to +70	89	> 1	III	 TÜV c  ULus									2467240000

NO = NO contact

CO = CO contact

Start-up @ -40°C = In the range of -40 to -25°C the device starts, but some technical parameter may differ (i. e., ripple-voltage).

Series / family		Input side		Output side			Additional functions					Recommendation for application							Order No.																
Page	Description	Phases	AC input voltage [V]	DC input voltage [V]	Rated voltage [V]	Rated current [A]	Power rating [W]	Derating at [°C]	Load reserve	Type of contact	Temperature range [°C]	Efficiency [%]	MTBF time [Mh]	Surge category	Approvals	Field cabinets	Small and series machine construction	Machine construction and plant manufacture	Simple process applications	Process industry	Energy technology	Power distribution	Marine engineering												
PROmax A.40	PRO MAX 72W 24V 3A	1	85-277	80-370	24	3	72	> 60	130 % permanently with ≤ 40 °C	NO	-25 to +70 -25 to +70 -25 to +70	90.0	> 0.5	III	  CI1Div2    Semi F47									1478100000											
	PRO MAX 120W 24V 5A	1			24	5	120																									1478110000			
	PRO MAX 180W 24V 7,5A	1			24	7.5	180																										1478120000		
	PRO MAX 240W 24V 10A	1			24	10	240																											1478130000	
	PRO MAX 480W 24V 20A	1			24	20	480																											1478140000	
	PRO MAX 960W 24V 40A	1			24	40	960																											1478150000	
	PRO MAX 70W 5V 14A	1			5	14	70																											1478210000	
	PRO MAX 72W 12V 6A	1			12	6	72																											1478220000	
	PRO MAX 120W 12V 10A	1			12	10	120																												1478230000
	PRO MAX 240W 48V 5A	1			48	5	240																												1478240000
	PRO MAX 480W 48V 10A	1			48	10	480																												1478200000
	PRO MAX 960W 48V 20A	1			48	20	960																												1478270000
	PRO MAX3 120W 24V 5A	2/3	3 x 320-3 x 575/ 2 x 360-2 x 575	450-800 (max. 500 acc. to UL508)	24	5	120																			1478170000									
	PRO MAX3 240W 24V 10A	2/3			24	10	240																			1478180000									
	PRO MAX3 480W 24V 20A	2/3			24	20	480																			1478190000									
PRO MAX3 960W 24V 40A	2/3	24			40	960																			1478200000										
PROeco A.52	PRO ECO 72W 24V 3A	1	85-264	80-370	24	3	72	> 40		NO		87.0	> 0.5	II	   EAC										1469470000										
	PRO ECO 120W 24V 5A	1			24	5	120																									1469480000			
	PRO ECO 240W 24V 10A	1			24	10	240																										1469490000		
	PRO ECO 480W 24V 20A	1			24	20	480																										1469510000		
	PRO ECO 960W 24V 40A	1			24	40	960																										1469520000		
	PRO ECO 72W 12V 6A	1			12	6	72																										1469570000		
	PRO ECO 120W 12V 10A	1			12	10	120																										1469580000		
	PRO ECO 240W 48V 5A	1			48	5	240																										1469590000		
	PRO ECO 480W 48V 10A	1			48	10	480																										1469610000		
	PRO ECO3 120W 24V 5A	2/3	3 x 320-3 x 575/ 2 x 360-2 x 575	450-800 (max. 500 acc. to UL508)	24	5	120																			1469530000									
	PRO ECO3 240W 24V 10A	2/3			24	10	240																		1469540000										
	PRO ECO3 480W 24V 20A	2/3			24	20	480																		1469550000										
	PRO ECO3 960W 24V 40A	2/3			24	40	960																		1469560000										
PRO-PM A.64	PRO PM 100W 12V 8.5A	1	90-264	/	12	8.5	100	> 50	/	/	-20 to +70	84	/	II	 											2660200285									
	PRO PM 100W 24V 4.5A	1			24	4.5	100																									2660200286			
	PRO PM 100W 48V 2.3A	1			48	2.3	100																										2660200287		
	PRO PM 150W 12V 12.5A	1			12	12.5	150																										2660200288		
	PRO PM 150W 24V 6.5A	1			24	6.5	150																										2660200289		
	PRO PM 150W 48V 3.3A	1			48	3.3	150																										2660200290		
	PRO PM 250W 12V 21A	1			12	21	250																										2660200291		
	PRO PM 250W 24V 10.5A	1			24	10.5	250																										2660200292		
	PRO PM 250W 48V 5.2A	1			48	5.2	250																										2660200293		
	PRO PM 350W 24V 14.6A	1			24	14.6	350																										2660200294		
	PRO PM 350W 48V 7.3A	1			48	7.3	350																										2660200295		
	PRO PM 35W 12V 3A	1			12	3	35																										2660200278		
	PRO PM 35W 24V 1.5A	1			24	1.5	35																										2660200279		
	PRO PM 35W 48V 0.75A	1			48	0.75	35																										2660200280		
	PRO PM 35W 5V 7A	1			5	7	35																										2660200277		
	PRO PM 75W 12V 6A	1			12	6	75																										2660200282		
	PRO PM 75W 24V 3.2A	1			24	3.2	75																										2660200283		
	PRO PM 75W 48V 1.6A	1			48	1.6	75																										2660200284		
	PRO PM 75W 5V 14A	1			5	14	75																										2660200281		
	INSTA POWER A.78	PRO INSTA 16W 24V 0.7A			1	85...264 (Derating @ 100 V AC)	95...370					24				0.7	16	55	/	/	-25 to +70	82.5	750,000	II	   CI.1 Div.2 NEC CI.2 (only 2580260000)										2580180000
PRO INSTA 30W 12V 2.6A		1	12	2.6	30																								2580220000						
PRO INSTA 30W 24V 1.3A		1	24	1.3	30																										2580190000				
PRO INSTA 30W 5V 6A		1	5	6	30																											2580210000			
PRO INSTA 60W 12V 5A		1	12	5	60																											2580240000			
PRO INSTA 60W 24V 2.5A		1	24	2.5	60																											2580230000			
PRO INSTA 90W 24V 3.8A		1	24	3.8	90																											2580250000			
PRO INSTA 96W 24V 4A		1	24	4	96																											2580260000			
PRO INSTA 96W 48V 2A		1	48	2	96																											2580270000			

Overview

Series / family		Input side			Output side						Additional functions					Recommendation for application							Order No.	
Page	Description	AC input voltage [V]	DC input voltage [V]	Rated voltage [V]	configurable range [V]	Rated current [A]	Power rating [W]	Type of contact	Parallel connection option	Side-by-side connectability	Temperature range [°C]	Efficiency [%]	MTBF time [Mh]	Surge category	Approvals	Field cabinets	Small and series machine construction	Machine construction and plant manufacture	Simple process applications	Process industry	Energy technology	Power distribution	Marine engineering	
USV	C.4	CP DC UPS 24V 20A/10A	20-30	U _n -0,3 VU _n -0,3 V		10 / 20		NO		●	-25 to +70	98.0		III	   	●	●	●	●				●	1370050010
		CP DC UPS 24V 40A				40		NO		●		98.0			●	1370040010								
		CP DC BUFFER 24V 20A	22.5-30	24		20		NO		●	95.0			 	●	●	●	●				●	1251220000	
		CP A BATTERY 24V DC1.3AH		24		10 A / 7.8 min	1.3 Ah	≤ 2	●	0 to +40					●	●	●	●				●	1406930000	
		CP A BATTERY 24V DC3.4AH		24		10 A / 11.3 min	3.4 Ah	≤ 2	●		●	1251070000												
		CP A BATTERY 24V DC7.2AH		24		10 A / 26.5 min	7.2 Ah	≤ 2	●		●	1251080000												
		CP A BATTERY 24V DC12AH		24		10 A / 51 min	12 Ah	≤ 2	●		●	1251090000												
		CP A BATTERY 24V DC17AH		24		10 A / 81 min	17 Ah	≤ 2	●		●	1251110000												
DC/DC	D.2	PRO DCDC 120W 24V 5A	18-31.2	24	22.5-29.5	5	120				-25 to +70	92.0	> 1	III	   			●	●		●		●	2001800000
		PRO DCDC 240W 24V 10A	18-31.2	24	22.5-29.5	10	240	NO	≤ 5	●		92.0			   			●	●		●		●	2001810000
		PRO DCDC 480W 24V 20A	18-31.2	24	22.5-29.5	20	480	NO				93.0			   			●	●		●		●	2001820000
DM / RM / CAP	E.4	PRO RM 10	10-32	U _n -0,13 VU _n -0,13 V		2 × 12 A (-40 °C ~ +45 °C), 2 × 10 A (+45 °C ~ +60 °C), 2 × 7.5 A (+70 °C), 2 × 12 A (-40 °C ~ +45 °C), 2 × 10 A (+45 °C ~ +60 °C), 2 × 7.5 A (+70 °C)	480	NO	yes		-40 to +70	> 98		III	  	●	●	●	●	●	●		●	2486090000
		PRO RM 20		U _n -0,2 V		2 × 24 A (-40 °C ~ +45 °C), 2 × 20 A (+45 °C ~ +60 °C), 2 × 15 A (+70 °C)	960	NO	yes			> 98			  	●	●	●	●	●	●		●	2486100000
		PRO RM 40		U _n -0,27 V		3 × 48 A (-40 °C ~ +45 °C), 2 × 40 A (+45 °C ~ +60 °C), 2 × 30 A (+70 °C)	1920	NO	yes			> 98			  	●	●	●	●	●	●		●	2486110000
	E.6	PRO DM 10	0-60	U _n -0,7 VU _n -0,7 V		2 × 12 A (-40 °C ~ +45 °C), 2 × 10 A (+45 °C ~ +60 °C), 2 × 7.5 A (+70 °C), 2 × 12 A (-40 °C ~ +45 °C), 2 × 10 A (+45 °C ~ +60 °C), 2 × 7.5 A (+70 °C)	480		yes		-40 to +70	> 97		III	  	●	●	●	●	●	●		●	2486070000
		PRO DM 20				2 × 24 A (-40 °C ~ +45 °C), 2 × 20 A (+45 °C ~ +60 °C), 2 × 15 A (+70 °C), 2 × 24 A (-40 °C ~ +45 °C), 2 × 20 A (+45 °C ~ +60 °C), 2 × 15 A (+70 °C)	960		yes			> 97			  	●	●	●	●	●	●		●	2486080000
	E.7	CP M CAP	18-30	U _n		40 A / 1 min		CO			-25 to +70		> 0.5		  	●	●	●	●	●	●			1222240000
		CP M CAP					CO	yes		  					●	●	●	●	●			1222240010		

Switched-mode power supply units

Switched-mode power supply units	Overview	A.2
	connectPower PROtop	A.4
	connect Power PROtop DCDC	A.26
	connect Power PROtop UW	A.34
	connectPower PROmax	A.40
	connectPower PROeco	A.52
	connectPower PRO-PM	A.64
	connectPower INSTA POWER	A.78

Optimum power supply for automation technology

A

The switch-mode power supplies feature a high efficiency, compact dimensions and minimal heat generation.

They are an excellent and reliable solution for providing power in all automation applications – safely providing 24 V DC voltage.

The different product series are optimised for the automation industry: they feature Ex approvals for the processing industry, a flat shape perfect for distribution tasks within buildings and provide decentralised control voltages.

All-purpose usage: with a wide range of AC/DC inputs, single-, double- or three-phase versions and a wide temperature range. Additional performance increases

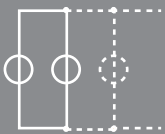
are possible using simple parallel connection. Weidmüller switch-mode power supplies are reliable usable for all applications because of their high efficiency and their resistance to both short circuits and overloads.

Weidmüller offers a system of one- and three-phase switch-mode power supplies especially for the PROtop family. These can be expanded with additional modules to create whole system solutions. The optimal fitting system can be assembled for any type of application: with redundancy circuits containing decoupled outputs, monitoring of the output voltage or triggering of circuit breakers.



AC/DC**International use**

A wide-range input (both DC as well as AC voltages can be used; no switching required) and extensive approvals (UL/CSA and GL (EMC 1 – bridge)).

**Parallel connection**

Module power can be increased by connecting up to five power supplies in parallel without diode module.

**Narrow**

Space-saving configuration in the switching cabinet through very narrow housing construction and side-by-side connectability.



+70 °C
to
-40 °C

Robust

Wide temperature range from -40 °C ... +70 °C.

**Wide choice**

The right power supply for every application: 1-phase 3 A, 5 A, 7.5 A, 10 A, 20 A, 40 A and 3-phase 5 A, 10 A, 20 A, 40 A.

connectPower**connectPower PROtop****connectPower PROtop DCDC****connectPower PROtop UW****connectPower PROmax****connectPower PROeco****connectPower PRO-PM****connectPower INSTA POWER**

High-end-power supplies and future proofed PROtop: Reliable, powerful, efficient and communication-capable

A

Production processes constantly need to be made more efficient. As well as performance, energy efficiency and sustainability are also playing an increasingly important role in cutting-edge industry. PROtop power supplies combine excellent performance data with exemplary sustainability, which has a positive impact on the productivity of the entire production facility.

PROtop offers a number of advantages that give you a real competitive edge. These include the permanent reduction of energy costs thanks to high efficiencies as well as the increase in plant availability due to long service life and high MTBF values. In addition, there is a high functional density due to the extremely space-saving designs.

PROtop can achieve significant savings compared to conventional power supply units. Its increased efficiency saves an average of 50 kWh per day in a medium-sized production facility with approx. 100 PROtop power supplies working in three-shift operation. This adds up to over 15,000 kWh a year and also improves the facility's carbon footprint. The service life, which is twice as long as that of standard power supplies, also sustainably reduces the costs of repurchase and exchange.



ORing MOSFETs

Direct parallel switching without diode modules thanks to integrated ORing MOSFETs for reduced system costs



Sustainable and innovative device concept

- Optimum efficiency levels (up to 95.3 %) for sustainable energy savings
- High MTBF values (> 1,000,000 h) for permanently high system availability

Communication modules can be adapted without tools.



DCL

Outstanding peak load reserves

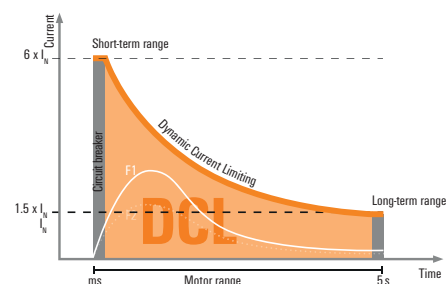
- High dynamic range thanks to unique DCL (dynamic current limiting) technology
- Continuous peak load reserves from millisecond to second range
- Ideal for reliably triggering circuit breakers or for powerful motor starts



Highly future-proof

- Complete data transparency through to the cloud
- Remote controllability for integration into machine control systems
- CANopen and IO-Link communication protocols

CANopen **IO-Link**



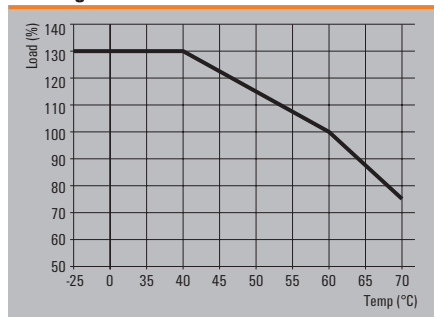
connectPower PROtop

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- DCL technology for an excellent dynamic range
- High energy efficiency (up to 95.4 % efficiency)
- Mode of operation: single or parallel operation and adjustable short-circuit response (continuous current or switch-off)
- Useful life of up to 15 years, MTBF > 1 000 000 h.
- Extremely slim design
- Time-saving PUSH IN connection technology



Derating curve



Technical data

General data	
Insulation voltage input / earth	3.2 kV
Insulation voltage output / earth	0.5 kV
Insulation voltage, input/output	3.5 kV
Earth leakage current, max.	3.5 mA
Series switching capability	Yes
Ambient temperature (operational) / Storage temperature	-25 °C...70 °C / -40 °C...85 °C
Humidity at operating temperature	5...95 %, no condensation
Protection class / Pollution degree	I, with PE connection / 2
MTBF	> 1.000.000 h according IEC 1709 (SN29500)
Housing version	Metal, corrosion resistant
Mounting position, installation notice	Horizontal on DIN rail TS 35, top and bottom 50 mm clearance for free air flow, 10 mm clearance to neighbouring active subassemblies with full load, 5 mm with passive neighbouring subassemblies, direct row mounting with 90% rated load
Conformal coating	No
EMC / shock / vibration	
Interference immunity test acc. to	EN 55032:2015, EN 55024:2010/A1:2015, EN 55035:2017, EN 61000-3-2:2014, EN 61000-6-1:2007, EN 61000-6-2:2005, EN 61000-6-3:2007/A1:2011, EN 61000-6-4:2007/A1:2011
Shock	30 g in all directions
Resistance to vibration	2.3 g (on DIN rail), 4 g (with direct mounting)
Electrical safety (applied standards)	
Electrical machine equipment	Acc. to EN60204
Safety transformers for switch-mode power supplies	According to EN 61558-2-16
For use with electronic equipment	Acc. to EN50178 / VDE0160
Safety extra-low voltage	SELV according to EN 62368-1, PELV according to EN 60204-1
Protective separation / protection against electrical shock	VDE0100-410 / acc. to DIN57100-410
Protection against dangerous shock currents	Acc. to VDE0106-101

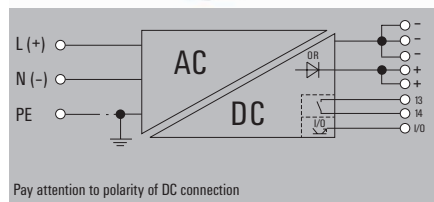
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- 1-phase power supplies

PRO TOP1 72 W 24 V 3 A



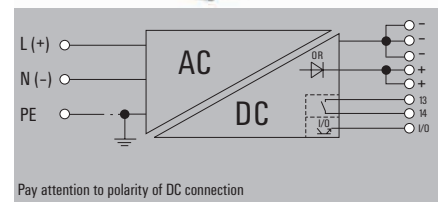
Similar
to illustration



PRO TOP1 120 W 24 V 5 A



Similar
to illustration



Technical data

Input	
Rated input voltage	100 - 240 V AC / 120 - 340 V DC
Input voltage range AC	85...277 V AC
Frequency range AC	45...65 Hz
DC input voltage range	80 ... 410 V DC
Input fuse (internal) / Inrush current	Yes / max. 5 A
Output	
Rated output voltage	24 V DC $\pm$ 1 %
Output voltage	22.5...28.8 V
DCL - peak load reserve	150 % (5 s); 400 % (15 ms)
Residual ripple, breaking spikes	< 50 mVss @ $U_{N_{nom}}$, Full Load
Reserve capacity @ $U_{N_{nom}}$	130% permanent at $\leq 40^{\circ}\text{C}$, 150 % (5 s)
Nominal output current for $U_{N_{nom}}$	3 A @ 60°C
General data	
Derating	> 60°C (2.5% / 1°C)
Series switching capability	Yes
Degree of efficiency	89%
Power factor (approx.)	> 0.5
AC failure bridging time @ I_{nom}	> 20 ms @ 230 V AC / > 20 ms @ 115 V AC
LED green/red	Green: Operation (failure-free), Flashing green: advance warning I>90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error
Parallel connection option	yes, max 10
Depth x width x height	125 / 35 / 130 mm
Net weight	650 g
Approvals	
Approvals	ABS; BURVER; cULus; cULusEX; DNVGL; EAC; LLOYDSREG; RINA; TUEV

Input		Output	
PUSH IN with actuator		PUSH IN with actuator	
3 for L/N/PE		5 (+ / - / -)	
0.5 / 1.5		0.2 / 2.5	
0.5 / 2.5		0.2 / 2.5	
20 / 12		26 / 12	

Input		Output	
PUSH IN with actuator		PUSH IN with actuator	
3 for L/N/PE		5 (+ / - / -)	
0.5 / 1.5		0.2 / 2.5	
0.5 / 2.5		0.2 / 2.5	
20 / 12		26 / 12	

Connection data	
Connection system	
Number of terminals	
Wire cross-section, rigid min/max	mm ²
Wire cross-section, flexible min/max	mm ²
Wire cross-section, AWG/kcmil min/max	
Note	

Ordering data

Type	Qty.	Order No.
PRO TOP1 72W 24V 3A	1	2466850000

Note

Current technical data at catalog.

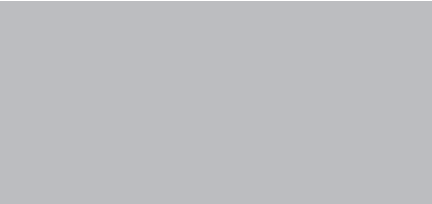
Type	Qty.	Order No.
PRO TOP1 120W 24V 5A	1	2466870000

Current technical data at catalog.

connectPower PROtop

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- 1-phase power supplies



Technical data

Input	
Rated input voltage	100 - 240 V AC / 120 - 340 V DC
Input voltage range AC	85...277 V AC
Frequency range AC	45...65 Hz
DC input voltage range	80 ... 410 V DC
Input fuse (internal) / Inrush current	Yes / max. 5 A
Output	
Rated output voltage	24 V DC ± 1 %
Output voltage	22.5...28.8 V
DCL - peak load reserve	150 % (5 s); 600 % (15 ms)
Residual ripple, breaking spikes	< 50 mVss @ U _{Nom} , Full Load
Reserve capacity @ U _{Nominal}	130% permanent at ≤ 40°C, 150 % (5 s)
Nominal output current for U _{nom}	10 A @ 60 °C
General data	
Derating	> 60°C (2.5% / 1°C)
Series switching capability	Yes
Degree of efficiency	92 %
Power factor (approx.)	> 0.9
AC failure bridging time @ I _{nom}	> 20 ms @ 230 V AC / > 20 ms @ 115 V AC
LED green/red	Green: Operation (failure-free), Flashing green: advance warning >90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error
Parallel connection option	yes, max 10
Depth x width x height	125 / 39 / 130 mm
Net weight	1050 g
Approvals	
Approvals	ABS; BURVER; cULus; cULusEX; DNVGL; EAC; LLOYDSREG; RINA; TUEV

Connection data	
Connection system	PUSH IN with actuator
Number of terminals	3 for L/N/PE
Wire cross-section, rigid min/max	0.5 / 1.5 mm ²
Wire cross-section, flexible min/max	0.5 / 2.5 mm ²
Wire cross-section, AWG/kcmil min/max	20 / 12
Note	

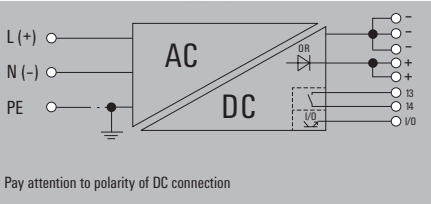
Ordering data

Type	Qty.	Order No.
PRO TOP1 240W 24V 10A	1	2466880000
Note		
Current technical data at catalog:		

PRO TOP1 240 W 24 V 10 A



Similar
to illustration



Input	
Rated input voltage	100 - 240 V AC / 120 - 340 V DC
Input voltage range AC	85...277 V AC
Frequency range AC	45...65 Hz
DC input voltage range	80 ... 410 V DC
Input fuse (internal) / Inrush current	Yes / max. 5 A
Output	
Rated output voltage	24 V DC ± 1 %
Output voltage	22.5...28.8 V
DCL - peak load reserve	150 % (5 s); 600 % (15 ms)
Residual ripple, breaking spikes	< 50 mVss @ U _{Nom} , Full Load
Reserve capacity @ U _{Nominal}	130% permanent at ≤ 40°C, 150 % (5 s)
Nominal output current for U _{nom}	10 A @ 60 °C
General data	
Derating	> 60°C (2.5% / 1°C)
Series switching capability	Yes
Degree of efficiency	92 %
Power factor (approx.)	> 0.9
AC failure bridging time @ I _{nom}	> 20 ms @ 230 V AC / > 20 ms @ 115 V AC
LED green/red	Green: Operation (failure-free), Flashing green: advance warning >90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error
Parallel connection option	yes, max 10
Depth x width x height	125 / 39 / 130 mm
Net weight	1050 g
Approvals	
Approvals	ABS; BURVER; cULus; cULusEX; DNVGL; EAC; LLOYDSREG; RINA; TUEV

Input	Output
PUSH IN with actuator	PUSH IN with actuator
3 for L/N/PE	5 (+ + / - -)
0.5 / 1.5	0.2 / 2.5
0.5 / 2.5	0.2 / 2.5
20 / 12	26 / 12

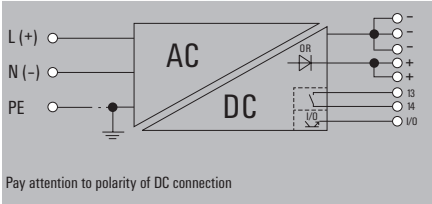
Type	Qty.	Order No.
PRO TOP1 240W 24V 10A	1	2466880000

Current technical data at catalog:

PRO TOP1 480 W 24 V 20 A



Similar
to illustration



Input	
Rated input voltage	100 - 240 V AC / 120 - 340 V DC
Input voltage range AC	85...277 V AC
Frequency range AC	45...65 Hz
DC input voltage range	80 ... 410 V DC
Input fuse (internal) / Inrush current	Yes / max. 5 A
Output	
Rated output voltage	24 V DC ± 1 %
Output voltage	22.5...28.8 V
DCL - peak load reserve	150 % (5 s); 500 % (15 ms)
Residual ripple, breaking spikes	< 50 mVss @ U _{Nom} , Full Load
Reserve capacity @ U _{Nominal}	130% permanent at ≤ 40°C, 150 % (5 s)
Nominal output current for U _{nom}	20 A @ 60 °C
General data	
Derating	> 60°C (2.5% / 1°C)
Series switching capability	Yes
Degree of efficiency	93%
Power factor (approx.)	> 0.9
AC failure bridging time @ I _{nom}	> 20 ms @ 230 V AC / > 20 ms @ 115 V AC
LED green/red	Green: Operation (failure-free), Flashing green: advance warning >90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error
Parallel connection option	yes, max 10
Depth x width x height	125 / 68 / 130 mm
Net weight	1520 g
Approvals	
Approvals	ABS; BURVER; cULus; cULusEX; DNVGL; EAC; LLOYDSREG; RINA; TUEV

Input	Output
PUSH IN	PUSH IN
3 for L/N/PE	5 (+ + / - -)
0.2 / 10	0.2 / 10
0.2 / 6	0.2 / 6
20 / 8	20 / 8

Type	Qty.	Order No.
PRO TOP1 480W 24V 20A	1	2466890000

Current technical data at catalog:

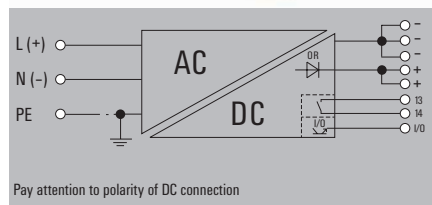
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- 1-phase power supplies

PRO TOP1 960 W 24 V 40 A



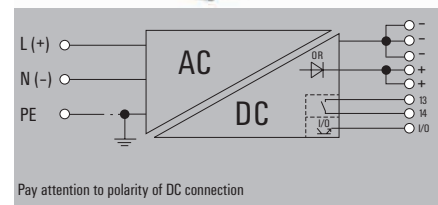
Similar
to illustration



PRO TOP1 120 W 12 V 10 A



Similar
to illustration



Technical data

Input	
Rated input voltage	100 - 240 V AC / 120 - 340 V DC
Input voltage range AC	85...277 V AC
Frequency range AC	45...65 Hz
DC input voltage range	80 ... 410 V DC
Input fuse (internal) / Inrush current	Yes / max. 15 A
Output	
Rated output voltage	24 V DC $\pm$ 1 %
Output voltage	22.5...28.8 V
DCL - peak load reserve	150 % (5 s); 400 % (15 ms)
Residual ripple, breaking spikes	< 50 mVss @ U_{Nemv} , Full Load
Reserve capacity @ U_{Nemv}	130% permanent at $\leq 40^{\circ}\text{C}$, 150 % (5 s)
Nominal output current for U_{nom}	40 A @ 60°C
General data	
Derating	> 60°C (2.5% / 1°C)
Series switching capability	Yes
Degree of efficiency	94%
Power factor (approx.)	> 0.9
AC failure bridging time @ I_{nom}	> 20 ms @ 230 V AC / > 20 ms @ 115 V AC
LED green/red	Green: Operation (failure-free), Flashing green: advance warning I>90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error
Parallel connection option	yes, max 10
Depth x width x height	125 / 124 / 130 mm
Net weight	3400 g
Approvals	
Approvals	ABS; BURVER; cULus; cULusEX; DNVGL; EAC; LLOYDSREG; RINA; TUEV

Input		Output	
PUSH IN		PUSH IN	
3 for L/N/PE		5 (+ / - / -)	
0.75 / 16		0.75 / 16	
0.75 / 16		0.75 / 16	
20 / 4		20 / 4	

Input		Output	
PUSH IN with actuator		PUSH IN with actuator	
3 for L/N/PE		5 (+ / - / -)	
0.5 / 1.5		0.2 / 2.5	
0.5 / 2.5		0.2 / 2.5	
20 / 12		26 / 12	

Connection data	
Connection system	
Number of terminals	
Wire cross-section, rigid min/max	mm ²
Wire cross-section, flexible min/max	mm ²
Wire cross-section, AWG/kcmil min/max	
Note	

Ordering data

Type	Qty.	Order No.
PRO TOP1 960W 24V 40A	1	2466900000

Type	Qty.	Order No.
PRO TOP1 120W 12V 10A	1	2466910000

Type	Qty.	Order No.
PRO TOP1 120W 12V 10A	1	2466910000

Note

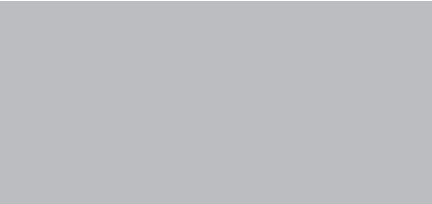
Note

Note

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- 1-phase power supplies



Technical data

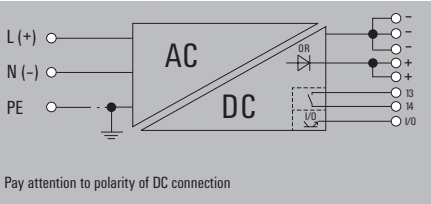
Input	
Rated input voltage	100 - 240 V AC / 120 - 340 V DC
Input voltage range AC	85...277 V AC
Frequency range AC	45...65 Hz
DC input voltage range	80 ... 410 V DC
Input fuse (internal) / Inrush current	Yes / max. 5 A
Output	
Rated output voltage	48 V DC ± 1 %
Output voltage	45...56 V
DCL - peak load reserve	150 % (5 s); 500 % (15 ms)
Residual ripple, breaking spikes	< 100 mV _{pp}
Reserve capacity @ U _{Nominal}	130% permanent at ≤ 40°C, 150 % (5 s)
Nominal output current for U _{nom}	10 A @ 60 °C
General data	
Derating	> 60°C (2.5% / 1°C)
Series switching capability	No
Degree of efficiency	93%
Power factor (approx.)	> 0.9
AC failure bridging time @ I _{nom}	> 20 ms @ 230 V AC / > 20 ms @ 115 V AC
LED green/red	Green: Operation (failure-free), Flashing green: advance warning I>90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error
Parallel connection option	yes, max 10
Depth x width x height	125 / 68 / 130 mm
Net weight	1520 g
Approvals	
Approvals	ABS; BURVER; cULus; cULusEX; DNVGL; EAC; LLOYDSREG; RINA; TUEV

Connection data	
Connection system	PUSH IN
Number of terminals	3 for L/N/PE
Wire cross-section, rigid min/max	0.2 / 10 mm ²
Wire cross-section, flexible min/max	0.2 / 6 mm ²
Wire cross-section, AWG/kcmil min/max	20 / 8
Note	

Ordering data

Type	Qty.	Order No.
PRO TOP1 480W 48V 10A	1	2467030000
Note		
Current technical data at catalog:		

PRO TOP1 480 W 48 V 10 A

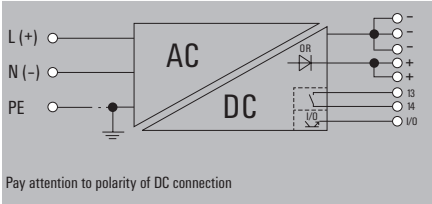


Input	
Rated input voltage	100 - 240 V AC / 120 - 340 V DC
Input voltage range AC	85...277 V AC
Frequency range AC	45...65 Hz
DC input voltage range	80 ... 410 V DC
Input fuse (internal) / Inrush current	Yes / max. 5 A
Output	
Rated output voltage	48 V DC ± 1 %
Output voltage	45...56 V
DCL - peak load reserve	150 % (5 s); 500 % (15 ms)
Residual ripple, breaking spikes	< 100 mV _{pp}
Reserve capacity @ U _{Nominal}	130% permanent at ≤ 40°C, 150 % (5 s)
Nominal output current for U _{nom}	10 A @ 60 °C
General data	
Derating	> 60°C (2.5% / 1°C)
Series switching capability	No
Degree of efficiency	93%
Power factor (approx.)	> 0.9
AC failure bridging time @ I _{nom}	> 20 ms @ 230 V AC / > 20 ms @ 115 V AC
LED green/red	Green: Operation (failure-free), Flashing green: advance warning I>90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error
Parallel connection option	yes, max 10
Depth x width x height	125 / 68 / 130 mm
Net weight	1520 g
Approvals	
Approvals	ABS; BURVER; cULus; cULusEX; DNVGL; EAC; LLOYDSREG; RINA; TUEV

Input	Output
PUSH IN	PUSH IN
3 for L/N/PE	5 (+ / - -)
0.2 / 10	0.2 / 10
0.2 / 6	0.2 / 6
20 / 8	20 / 8

Type	Qty.	Order No.
PRO TOP1 480W 48V 10A	1	2467030000
Note		
Current technical data at catalog:		

PRO TOP1 960 W 48 V 20 A



Input	
Rated input voltage	100 - 240 V AC / 120 - 340 V DC
Input voltage range AC	85...277 V AC
Frequency range AC	45...65 Hz
DC input voltage range	80 ... 410 V DC
Input fuse (internal) / Inrush current	Yes / max. 15 A
Output	
Rated output voltage	48 V DC ± 1 %
Output voltage	45...56 V
DCL - peak load reserve	150 % (5 s); 400 % (15 ms)
Residual ripple, breaking spikes	< 100 mV _{pp}
Reserve capacity @ U _{Nominal}	130% permanent at ≤ 40°C, 150 % (5 s)
Nominal output current for U _{nom}	20 A @ 60 °C
General data	
Derating	> 60°C (2.5% / 1°C)
Series switching capability	No
Degree of efficiency	94%
Power factor (approx.)	> 0.9
AC failure bridging time @ I _{nom}	> 20 ms @ 230 V AC / > 20 ms @ 115 V AC
LED green/red	Green: Operation (failure-free), Flashing green: advance warning I>90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error
Parallel connection option	yes, max 10
Depth x width x height	125 / 124 / 130 mm
Net weight	3382 g
Approvals	
Approvals	ABS; BURVER; cULus; cULusEX; DNVGL; EAC; LLOYDSREG; RINA; TUEV

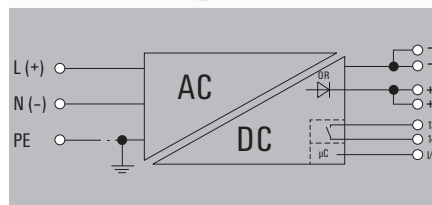
Input	Output
PUSH IN	PUSH IN
3 for L/N/PE	5 (+ / - -)
0.75 / 16	0.75 / 16
0.75 / 16	0.75 / 16
20 / 4	20 / 4

Type	Qty.	Order No.
PRO TOP1 960W 48V 20A	1	2466920000
Note		
Current technical data at catalog:		

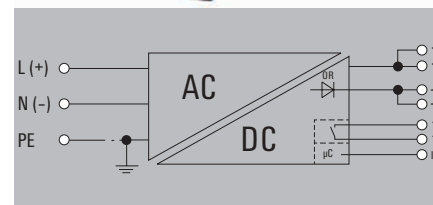
connectPower PROtop

- 1-phase power supplies with output-side screw flange

PRO TOP1 72W 24V 3A F



PRO TOP1 120W 12V 10A F



Technical data

Input	
Rated input voltage	100 - 240 V AC / 120 - 340 V DC
Input voltage range AC	85...277 V AC
Frequency range AC	45...65 Hz
DC input voltage range	80 ... 410 V DC
Input fuse (internal) / Inrush current	Yes / max. 5 A
Output	
Rated output voltage	24 V DC $\pm$ 1 %
Output voltage	22.5...28.8 V
DCL - peak load reserve	150 % (5 s); 400 % (15 ms)
Residual ripple, breaking spikes	< 50 mVss @ U_{Nemv} , Full Load
Reserve capacity @ U_{Nemv}	130% permanent at $\leq 40^{\circ}\text{C}$, 150 % (5 s)
Nominal output current for U_{nom}	3 A @ 60°C
General data	
Derating	> 60°C (2.5% / 1°C)
Series switching capability	Yes
Degree of efficiency	89%
Power factor (approx.)	> 0.5
AC failure bridging time @ I_{nom}	> 20 ms @ 230 V AC / > 20 ms @ 115 V AC
LED green/red	Green: Operation (failure-free), Flashing green: advance warning I>90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error
Parallel connection option	yes, max 10
Depth x width x height	125 / 35 / 130 mm
Net weight	650 g
Approvals	
Approvals	ABS; BURVER; cULus; cULusEX; DNVGL; EAC; LLOYDSREG; RINA; TUEV

Input		Output	
PUSH IN with actuator		PUSH IN with actuator	
3 for L/N/PE		4 (++) (-)	
0.5 / 1.5		0.2 / 2.5	
0.5 / 2.5		0.2 / 2.5	
20 / 12		26 / 12	

Input		Output	
PUSH IN with actuator		PUSH IN with actuator	
3 for L/N/PE		4 (++) (-)	
0.5 / 1.5		0.2 / 2.5	
0.5 / 2.5		0.2 / 2.5	
20 / 12		26 / 12	

Connection data	
Connection system	
Number of terminals	
Wire cross-section, rigid min/max	mm ²
Wire cross-section, flexible min/max	mm ²
Wire cross-section, AWG/kcmil min/max	
Note	

Ordering data

Type	Qty.	Order No.
PRO TOP1 72W 24V 3A F	1	2568970000

Note

Current technical data at catalog.

Type	Qty.	Order No.
PRO TOP1 120W 12V 10A F	1	2569000000

Current technical data at catalog.

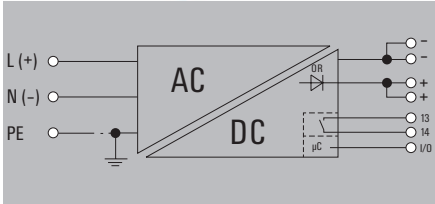
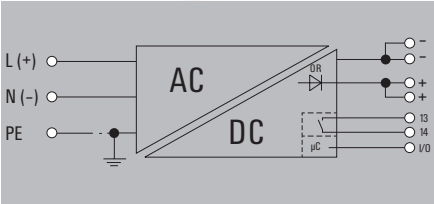
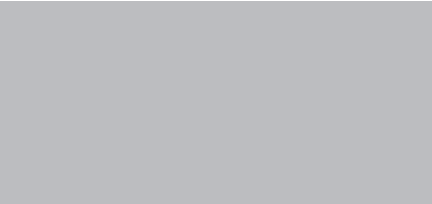
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- 1-phase power supplies with output-side screw flange

PRO TOP1 120W 24V 5A F

PRO TOP1 240W 24V 10A F



Technical data

Input	
Rated input voltage	100 - 240 V AC / 120 - 340 V DC
Input voltage range AC	85...277 V AC
Frequency range AC	45...65 Hz
DC input voltage range	48...410 V DC (Derating 40% @ 48 V DC)
Input fuse (internal) / Inrush current	Yes / max. 5 A
Output	
Rated output voltage	24 V DC $\pm$ 1 %
Output voltage	22.5...28.8 V
DCL - peak load reserve	150 % (5 s); 600 % (15 ms)
Residual ripple, breaking spikes	< 50 mVss @ U_{Norr} , Full Load
Reserve capacity @ U_{Norr}	130% permanent at $\leq 40^{\circ}\text{C}$, 150 % (5 s)
Nominal output current for U_{Norr}	5 A @ 60 °C
General data	
Derating	> 60°C (2.5% / 1°C)
Series switching capability	Yes
Degree of efficiency	91%
Power factor (approx.)	> 0.85
AC failure bridging time @ I_{nom}	> 20 ms @ 230 V AC / > 20 ms @ 115 V AC
LED green/red	Green: Operation (failure-free), Flashing green: advance warning >90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error
Parallel connection option	yes, max 10
Depth x width x height	125 / 35 / 130 mm
Net weight	850 g
Approvals	
Approvals	ABS; BURVER; cULus; cULusEX; DNVGL; EAC; LLOYDSREG; RINA; TUEV

Input	
Rated input voltage	100 - 240 V AC / 120 - 340 V DC
Input voltage range AC	85...277 V AC
Frequency range AC	45...65 Hz
DC input voltage range	48...410 V DC (Derating 40% @ 48 V DC)
Input fuse (internal) / Inrush current	Yes / max. 5 A
Output	
Rated output voltage	24 V DC $\pm$ 1 %
Output voltage	22.5...28.8 V
DCL - peak load reserve	150 % (5 s); 600 % (15 ms)
Residual ripple, breaking spikes	< 50 mVss @ U_{Norr} , Full Load
Reserve capacity @ U_{Norr}	130% permanent at $\leq 40^{\circ}\text{C}$, 150 % (5 s)
Nominal output current for U_{Norr}	10 A @ 60 °C
General data	
Derating	> 60°C (2.5% / 1°C)
Series switching capability	Yes
Degree of efficiency	92 %
Power factor (approx.)	> 0.9
AC failure bridging time @ I_{nom}	> 20 ms @ 230 V AC / > 20 ms @ 115 V AC
LED green/red	Green: Operation (failure-free), Flashing green: advance warning >90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error
Parallel connection option	yes, max 10
Depth x width x height	125 / 39 / 130 mm
Net weight	1050 g
Approvals	
Approvals	ABS; BURVER; cULus; cULusEX; DNVGL; EAC; LLOYDSREG; RINA; TUEV

Input	
Rated input voltage	100 - 240 V AC / 120 - 340 V DC
Input voltage range AC	85...277 V AC
Frequency range AC	45...65 Hz
DC input voltage range	80 ... 410 V DC
Input fuse (internal) / Inrush current	Yes / max. 5 A
Output	
Rated output voltage	24 V DC $\pm$ 1 %
Output voltage	22.5...28.8 V
DCL - peak load reserve	150 % (5 s); 600 % (15 ms)
Residual ripple, breaking spikes	< 50 mVss @ U_{Norr} , Full Load
Reserve capacity @ U_{Norr}	130% permanent at $\leq 40^{\circ}\text{C}$, 150 % (5 s)
Nominal output current for U_{Norr}	10 A @ 60 °C
General data	
Derating	> 60°C (2.5% / 1°C)
Series switching capability	Yes
Degree of efficiency	92 %
Power factor (approx.)	> 0.9
AC failure bridging time @ I_{nom}	> 20 ms @ 230 V AC / > 20 ms @ 115 V AC
LED green/red	Green: Operation (failure-free), Flashing green: advance warning >90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error
Parallel connection option	yes, max 10
Depth x width x height	125 / 39 / 130 mm
Net weight	1050 g
Approvals	
Approvals	ABS; BURVER; cULus; cULusEX; DNVGL; EAC; LLOYDSREG; RINA; TUEV

Connection data	
Connection system	PUSH IN with actuator
Number of terminals	3 for L/N/PE
Wire cross-section, rigid min/max	0.5 / 1.5 mm ²
Wire cross-section, flexible min/max	0.5 / 2.5 mm ²
Wire cross-section, AWG/kcmil min/max	20 / 12
Note	

Input	Output
PUSH IN with actuator	PUSH IN with actuator
3 for L/N/PE	4 (++ / -)
0.5 / 1.5	0.2 / 2.5
0.5 / 2.5	0.2 / 2.5
20 / 12	26 / 12

Input	Output
PUSH IN with actuator	PUSH IN with actuator
3 for L/N/PE	4 (++ / -)
0.5 / 1.5	0.2 / 2.5
0.5 / 2.5	0.2 / 2.5
20 / 12	26 / 12

Ordering data

Type	Qty.	Order No.
PRO TOP1 120W 24V 5A F	1	2568980000
Note		
Current technical data at catalog:		

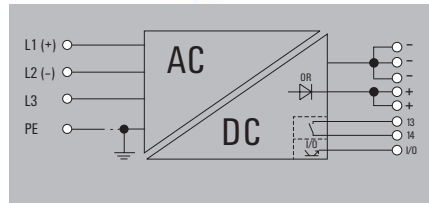
Type	Qty.	Order No.
PRO TOP1 120W 24V 5A F	1	2568980000
Note		
Current technical data at catalog:		

Type	Qty.	Order No.
PRO TOP1 240W 24V 10A F	1	2568990000
Note		
Current technical data at catalog:		

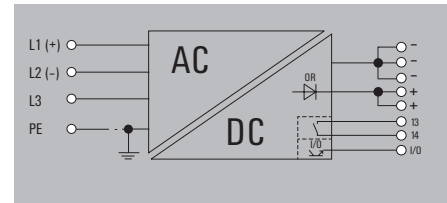
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- 3-phase power supplies

PRO TOP3 120 W 24 V 5 A



PRO TOP3 240 W 24 V 10 A



Technical data

Input	
Rated input voltage	3 x 400...3 x 500 V AC (wide-range input)
Input voltage range AC	3 x 320...3 x 575 V AC / 2 x 360...2 x 575 V AC
Frequency range AC	45...65 Hz
DC input voltage range	450...800 V DC (max. 500 V DC acc. to UL508)
Input fuse (internal) / Inrush current	No / Max. 10 A
Output	
Rated output voltage	24 V DC $\pm$ 1 %
Output voltage	22.5...28.8 V
DCL - peak load reserve	150 % (5 s); 600 % (15 ms)
Residual ripple, breaking spikes	< 50 mVss @ U_{NOM} , Full Load
Reserve capacity @ U_{NOM}	130% permanent at $\leq 40^{\circ}\text{C}$, 150 % (5 s)
Nominal output current for U_{NOM}	5 A @ 60°C
General data	
Derating	> 60°C (2.5% / 1°C)
Series switching capability	Yes
Degree of efficiency	89%
Power factor (approx.)	> 0.4 @ 3x400 V AC
AC failure bridging time @ I_{NOM}	> 20 ms @ 230 V AC / > 20 ms @ 115 V AC
LED green/red	Green: Operation (failure-free), Flashing green: advance warning I>90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error
Parallel connection option	yes, max 10
Depth x width x height	125 / 39 / 130 mm
Net weight	967 g
Approvals	
Approvals	ABS; BURVER; cULus; cULusEX; DNVGL; EAC; LLOYDSREG; RINA; TUEV

Input		Output	
PUSH IN with actuator		PUSH IN with actuator	
4 for L1/L2/L3/PE		5 (+ / - / -)	
0.5 / 1.5		0.2 / 2.5	
0.5 / 2.5		0.2 / 2.5	
20 / 12		26 / 12	

Input		Output	
PUSH IN with actuator		PUSH IN with actuator	
4 for L1/L2/L3/PE		5 (+ / - / -)	
0.5 / 1.5		0.2 / 2.5	
0.5 / 2.5		0.2 / 2.5	
20 / 12		26 / 12	

Connection data	
Connection system	
Number of terminals	
Wire cross-section, rigid min/max	mm ²
Wire cross-section, flexible min/max	mm ²
Wire cross-section, AWG/kcmil min/max	
Note	

Ordering data

Type	Qty.	Order No.
PRO TOP3 120W 24V 5A	1	2467060000

Type	Qty.	Order No.
PRO TOP3 240W 24V 10A	1	2467080000

Type	Qty.	Order No.
PRO TOP3 240W 24V 10A	1	2467080000

Note

Note

Note

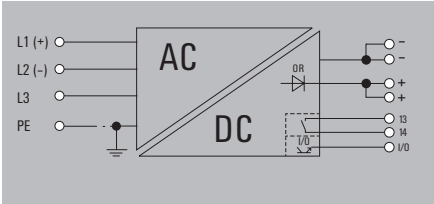
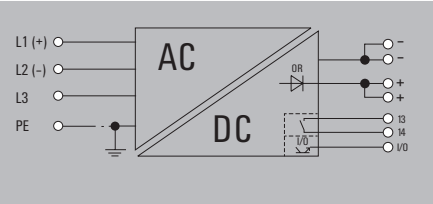
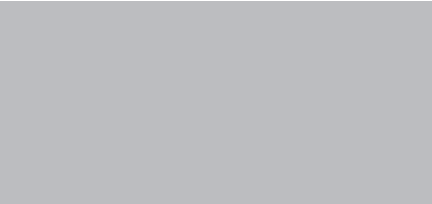
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- 3-phase power supplies

PRO TOP3 480 W 24 V 20 A

PRO TOP3 960 W 24 V 40 A



Technical data

Input	
Rated input voltage	3 x 400...3 x 500 V AC (wide-range input)
Input voltage range AC	3 x 320...3 x 575 V AC / 2 x 360...2 x 575 V AC
Frequency range AC	45...65 Hz
DC input voltage range	450...800 V DC (max. 500 V DC acc. to UL508)
Input fuse (internal) / Inrush current	No / Max. 10 A
Output	
Rated output voltage	24 V DC $\pm$ 1 %
Output voltage	22.5...28.8 V
DCL - peak load reserve	150 % (5 s); 500 % (15 ms)
Residual ripple, breaking spikes	< 50 mVss @ U _{Nom} , Full Load
Reserve capacity @ U _{Nominal}	130% permanent at $\leq$ 40°C, 150 % (5 s)
Nominal output current for U _{Nom}	20 A @ 60 °C
General data	
Derating	> 60°C (2.5% / 1°C)
Series switching capability	Yes
Degree of efficiency	94%
Power factor (approx.)	> 0.75 @ 3x400 V AC
AC failure bridging time @ I _{nom}	> 20 ms @ 230 V AC / > 20 ms @ 115 V AC
LED green/red	Green: Operation (failure-free), Flashing green: advance warning >90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error
Parallel connection option	yes, max 10
Depth x width x height	125 / 68 / 130 mm
Net weight	1650 g
Approvals	
Approvals	ABS; BURVER; cULus; cULusEX; DNVGL; EAC; LLOYDSREG; RINA; TUEV

Input	
Rated input voltage	3 x 400...3 x 500 V AC (wide-range input)
Input voltage range AC	3 x 320...3 x 575 V AC / 2 x 360...2 x 575 V AC
Frequency range AC	45...65 Hz
DC input voltage range	450...800 V DC (max. 500 V DC acc. to UL508)
Input fuse (internal) / Inrush current	No / Max. 10 A
Output	
Rated output voltage	24 V DC $\pm$ 1 %
Output voltage	22.5...28.8 V
DCL - peak load reserve	150 % (5 s); 500 % (15 ms)
Residual ripple, breaking spikes	< 50 mVss @ U _{Nom} , Full Load
Reserve capacity @ U _{Nominal}	130% permanent at $\leq$ 40°C, 150 % (5 s)
Nominal output current for U _{Nom}	40 A @ 60 °C
General data	
Derating	> 60°C (2.5% / 1°C)
Series switching capability	Yes
Degree of efficiency	95,3 %
Power factor (approx.)	> 0.75 @ 3x400 V AC
AC failure bridging time @ I _{nom}	> 20 ms @ 230 V AC / > 20 ms @ 115 V AC
LED green/red	Green: Operation (failure-free), Flashing green: advance warning >90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error
Parallel connection option	yes, max 10
Depth x width x height	175 / 89 / 130 mm
Net weight	2490 g
Approvals	
Approvals	ABS; BURVER; cULus; cULusEX; DNVGL; EAC; LLOYDSREG; RINA; TUEV

Input	
Rated input voltage	3 x 400...3 x 500 V AC (wide-range input)
Input voltage range AC	3 x 320...3 x 575 V AC / 2 x 360...2 x 575 V AC
Frequency range AC	45...65 Hz
DC input voltage range	450...800 V DC (max. 500 V DC acc. to UL508)
Input fuse (internal) / Inrush current	No / Max. 10 A
Output	
Rated output voltage	24 V DC $\pm$ 1 %
Output voltage	22.5...28.8 V
DCL - peak load reserve	150 % (5 s); 400 % (15 ms)
Residual ripple, breaking spikes	< 50 mVss @ U _{Nom} , Full Load
Reserve capacity @ U _{Nominal}	130% permanent at $\leq$ 40°C, 150 % (5 s)
Nominal output current for U _{Nom}	40 A @ 60 °C
General data	
Derating	> 60°C (2.5% / 1°C)
Series switching capability	Yes
Degree of efficiency	95,3 %
Power factor (approx.)	> 0.75 @ 3x400 V AC
AC failure bridging time @ I _{nom}	> 20 ms @ 230 V AC / > 20 ms @ 115 V AC
LED green/red	Green: Operation (failure-free), Flashing green: advance warning >90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error
Parallel connection option	yes, max 10
Depth x width x height	175 / 89 / 130 mm
Net weight	2490 g
Approvals	
Approvals	ABS; BURVER; cULus; cULusEX; DNVGL; EAC; LLOYDSREG; RINA; TUEV

Connection data	
Connection system	PUSH IN
Number of terminals	4 for L1/L2/L3/PE
Wire cross-section, rigid min/max	0.2 / 10 mm ²
Wire cross-section, flexible min/max	0.2 / 6 mm ²
Wire cross-section, AWG/kcmil min/max	20 / 8
Note	

Input	Output
PUSH IN	PUSH IN
4 for L1/L2/L3/PE	4 (++) / (-)
0.2 / 10	0.2 / 10
0.2 / 6	0.2 / 6
20 / 8	20 / 8

Input	Output
PUSH IN	PUSH IN
4 for L1/L2/L3/PE	4 (++) / (-)
0.75 / 16	0.75 / 16
0.75 / 16	0.75 / 16
20 / 4	20 / 4

Ordering data

Type	Qty.	Order No.
PRO TOP3 480W 24V 20A	1	2467100000

Type	Qty.	Order No.
PRO TOP3 480W 24V 20A	1	2467100000

Type	Qty.	Order No.
PRO TOP3 960W 24V 40A	1	2467120000

Note

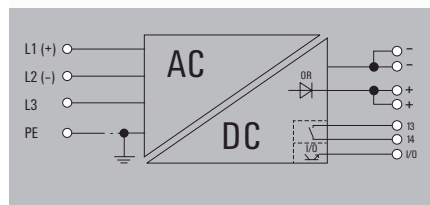
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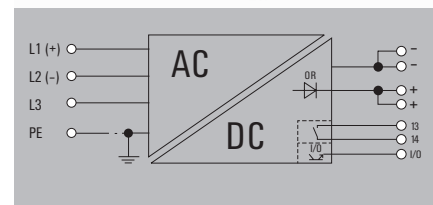
connectPower PROtop

- 3-phase power supplies

PRO TOP3 480 W 48 V 10 A



PRO TOP3 960 W 48 V 20 A



Technical data

Input	
Rated input voltage	3 x 400...3 x 500 V AC (wide-range input)
Input voltage range AC	3 x 320...3 x 575 V AC / 2 x 360...2 x 575 V AC
Frequency range AC	45...65 Hz
DC input voltage range	450...800 V DC (max. 500 V DC acc. to UL508)
Input fuse (internal) / Inrush current	No / Max. 10 A
Output	
Rated output voltage	48 V DC $\pm$ 1 %
Output voltage	45...56 V
DCL - peak load reserve	150 % (5 s); 500 % (15 ms)
Residual ripple, breaking spikes	< 50 mVss @ U_{NOM} , Full Load
Reserve capacity @ U_{NOM}	130% permanent at $\leq 40^{\circ}\text{C}$, 150 % (5 s)
Nominal output current for U_{NOM}	10 A @ 60°C
General data	
Derating	> 60°C (2.5% / 1°C)
Series switching capability	No
Degree of efficiency	94%
Power factor (approx.)	> 0.75 @ 3x400 V AC
AC failure bridging time @ I_{NOM}	> 20 ms @ 230 V AC / > 20 ms @ 115 V AC
LED green/red	Green: Operation (failure-free), Flashing green: advance warning I>90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error
Parallel connection option	yes, max 10
Depth x width x height	125 / 68 / 130 mm
Net weight	1645 g
Approvals	
Approvals	ABS; BURVER; cULus; cULusEX; DNVGL; EAC; LLOYDSREG; RINA; TUEV

Rated input voltage	3 x 400...3 x 500 V AC (wide-range input)
Input voltage range AC	3 x 320...3 x 575 V AC / 2 x 360...2 x 575 V AC
Frequency range AC	45...65 Hz
DC input voltage range	450...800 V DC (max. 500 V DC acc. to UL508)
Input fuse (internal) / Inrush current	No / Max. 10 A
Rated output voltage	48 V DC $\pm$ 1 %
Output voltage	45...56 V
DCL - peak load reserve	150 % (5 s); 400 % (15 ms)
Residual ripple, breaking spikes	< 50 mVss @ U_{NOM} , Full Load
Reserve capacity @ U_{NOM}	130% permanent at $\leq 40^{\circ}\text{C}$, 150 % (5 s)
Nominal output current for U_{NOM}	20 A @ 60°C
Derating	> 60°C (2.5% / 1°C)
Series switching capability	No
Degree of efficiency	95,3 %
Power factor (approx.)	> 0.75 @ 3x400 V AC
AC failure bridging time @ I_{NOM}	> 20 ms @ 230 V AC / > 20 ms @ 115 V AC
LED green/red	Green: Operation (failure-free), Flashing green: advance warning I>90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error
Parallel connection option	yes, max 10
Depth x width x height	175 / 89 / 130 mm
Net weight	2490 g
Approvals	ABS; BURVER; cULus; cULusEX; DNVGL; EAC; LLOYDSREG; RINA; TUEV

Connection data	
Connection system	
Number of terminals	
Wire cross-section, rigid min/max	mm ²
Wire cross-section, flexible min/max	mm ²
Wire cross-section, AWG/kcmil min/max	
Note	

Input	Output
PUSH IN	PUSH IN
4 for L1/L2/L3/PE	4 (++) / (-)
0.2 / 10	0.2 / 10
0.2 / 6	0.2 / 6
20 / 8	20 / 8

Input	Output
PUSH IN	PUSH IN
4 for L1/L2/L3/PE	4 (++) / (-)
0.75 / 16	0.75 / 16
0.75 / 16	0.75 / 16
20 / 4	20 / 4

Ordering data

Type	Qty.	Order No.
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Type	Qty.	Order No.
PRO TOP3 480W 48V 10A	1	2467150000

Type	Qty.	Order No.
PRO TOP3 960W 48V 20A	1	2467170000

Note

Current technical data at catalog:

Current technical data at catalog:

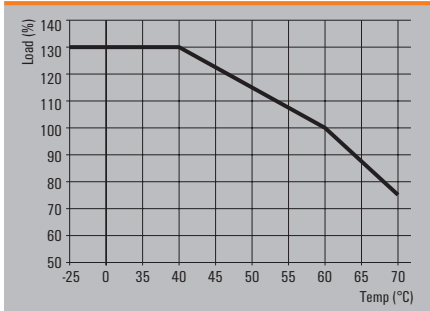
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connectPower PROtop

- DCL technology for an excellent dynamic range
- High energy efficiency (up to 95.4 % efficiency)
- Mode of operation: single or parallel operation and adjustable short-circuit response (continuous current or switch-off)
- Useful life of up to 15 years, MTBF > 1 000 000 h.
- Extremely slim design
- Time-saving PUSH IN connection technology



Derating curve



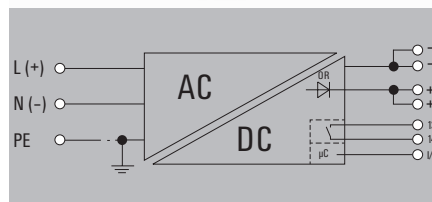
Technical data

General data	
Insulation voltage input / earth	3.2 kV
Insulation voltage output / earth	0.5 kV
Insulation voltage, input/output	3.5 kV
Earth leakage current, max.	3.5 mA
Series switching capability	Yes
Ambient temperature (operational) / Storage temperature	-40 °C...70 °C / -40 °C...85 °C
Humidity at operating temperature	5...100 % no condensation
Protection class / Pollution degree	I, with PE connection / 2
MTBF	> 1.000.000 h according IEC 1709 (SN29500)
Housing version	Metal, corrosion resistant
Mounting position, installation notice	Horizontal on DIN rail TS 35, top and bottom 50 mm clearance for free air flow, 10 mm clearance to neighbouring active subassemblies with full load, 5 mm with passive neighbouring subassemblies, direct row mounting with 90% rated load
Conformal coating	Yes
EMC / shock / vibration	
Interference immunity test acc. to	EN 55032:2015, EN 55024:2010/A1:2015, EN 55035:2017, EN 61000-3-2:2014, EN 61000-6-1:2007, EN 61000-6-2:2005, EN 61000-6-3:2007/A1:2011, EN 61000-6-4:2007/A1:2011
Shock	30 g in all directions
Resistance to vibration	2.3 g (on DIN rail), 4 g (with direct mounting)
Electrical safety (applied standards)	
Electrical machine equipment	Acc. to EN60204
Safety transformers for switch-mode power supplies	According to EN 61558-2-16
For use with electronic equipment	Acc. to EN50178 / VDE0160
Safety extra-low voltage	SELV according to EN 62368-1, PELV according to EN 60204-1
Protective separation / protection against electrical shock	VDE0100-410 / acc. to DIN57100-410
Protection against dangerous shock currents	Acc. to VDE0106-101

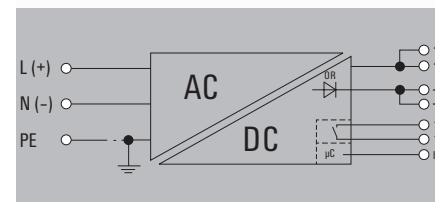
connectPower PROtop

- 1-phase power supplies

PRO TOP1 72W 24V 3A CO



PRO TOP1 120W 24V 5A EX



Technical data

Input	
Rated input voltage	100 - 240 V AC / 120 - 340 V DC
Input voltage range AC	85...277 V AC
Frequency range AC	45...65 Hz
DC input voltage range	80 ... 410 V DC
Input fuse (internal) / Inrush current	Yes / max. 5 A
Output	
Rated output voltage	24 V DC $\pm$ 1 %
Output voltage	22.5...28.8 V
DCL - peak load reserve	150 % (5 s); 400 % (15 ms)
Residual ripple, breaking spikes	< 50 mVss @ $U_{N\text{om}}$, Full Load
Reserve capacity @ $U_{N\text{om}}$	130% permanent at $\leq 40^\circ\text{C}$, 150 % (5 s)
Nominal output current for $U_{N\text{om}}$	3 A @ 60°C
General data	
Derating	> 60°C (2.5% / 1°C)
Series switching capability	Yes
Degree of efficiency	89%
Power factor (approx.)	> 0.5
AC failure bridging time @ $I_{N\text{om}}$	> 20 ms @ 230 V AC / > 20 ms @ 115 V AC
LED green/red	Green: Operation (failure-free), Flashing green: advance warning I>90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error
Parallel connection option	yes, max 10
Depth x width x height	125 / 35 / 130 mm
Net weight	650 g
Approvals	
Approvals	ABS; BURVER; cULus; cULusEX; DNVGL; EAC; LLOYDSREG; RINA; TUEV

Input	
Rated input voltage	100 - 240 V AC / 120 - 340 V DC
Input voltage range AC	85...277 V AC
Frequency range AC	45...65 Hz
DC input voltage range	80 ... 410 V DC
Input fuse (internal) / Inrush current	Yes / max. 5 A
Output	
Rated output voltage	24 V DC $\pm$ 1 %
Output voltage	22.5...28.8 V
DCL - peak load reserve	150 % (5 s); 400 % (15 ms)
Residual ripple, breaking spikes	< 50 mVss @ $U_{N\text{om}}$, Full Load
Reserve capacity @ $U_{N\text{om}}$	130% permanent at $\leq 40^\circ\text{C}$, 150 % (5 s)
Nominal output current for $U_{N\text{om}}$	3 A @ 60°C
General data	
Derating	> 60°C (2.5% / 1°C)
Series switching capability	Yes
Degree of efficiency	89%
Power factor (approx.)	> 0.5
AC failure bridging time @ $I_{N\text{om}}$	> 20 ms @ 230 V AC / > 20 ms @ 115 V AC
LED green/red	Green: Operation (failure-free), Flashing green: advance warning I>90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error
Parallel connection option	yes, max 10
Depth x width x height	125 / 35 / 130 mm
Net weight	650 g
Approvals	
Approvals	ABS; BURVER; cULus; cULusEX; DNVGL; EAC; LLOYDSREG; RINA; TUEV

Input	
Rated input voltage	100 - 240 V AC / 120 - 340 V DC
Input voltage range AC	85...277 V AC
Frequency range AC	45...65 Hz
DC input voltage range	80 ... 410 V DC (Derating 40% @ 48 V DC)
Input fuse (internal) / Inrush current	Yes / max. 5 A
Output	
Rated output voltage	24 V DC $\pm$ 1 %
Output voltage	22.5...28.8 V
DCL - peak load reserve	150 % (5 s); 600 % (15 ms)
Residual ripple, breaking spikes	< 50 mVss @ $U_{N\text{om}}$, Full Load
Reserve capacity @ $U_{N\text{om}}$	130% permanent at $\leq 40^\circ\text{C}$, 150 % (5 s)
Nominal output current for $U_{N\text{om}}$	5 A @ 60°C
General data	
Derating	> 60°C (2.5% / 1°C)
Series switching capability	Yes
Degree of efficiency	91%
Power factor (approx.)	> 0.85
AC failure bridging time @ $I_{N\text{om}}$	> 20 ms @ 230 V AC / > 20 ms @ 115 V AC
LED green/red	Green: Operation (failure-free), Flashing green: advance warning I>90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error
Parallel connection option	yes, max 10
Depth x width x height	125 / 35 / 130 mm
Net weight	850 g
Approvals	
Approvals	ABS; BURVER; cULus; cULusEX; DNVGL; EAC; IECEXTUEV; LLOYDSREG; RINA; TUEV; TUEVSATEX

Connection data	
Connection system	Clamping yoke
Number of terminals	3 for L/N/PE
Wire cross-section, rigid min/max	0.2 / 4 mm ²
Wire cross-section, flexible min/max	0.2 / 4 mm ²
Wire cross-section, AWG/kcmil min/max	30 / 12
Note	

Input	Output
Clamping yoke	Clamping yoke connection
3 for L/N/PE	5 (+ / - -)
0.2 / 4	0.2 / 4
0.2 / 4	0.2 / 4
30 / 12	30 / 12

Input	Output
Clamping yoke	Clamping yoke connection
3 for L/N/PE	5 (+ / - -)
0.2 / 4	0.2 / 4
0.2 / 4	0.2 / 4
30 / 12	30 / 12

Ordering data

Type	Qty.	Order No.
PRO TOP1 72W 24V 3A CO	1	2466970000
Note		

Type	Qty.	Order No.
PRO TOP1 72W 24V 3A CO	1	2466970000
Note		

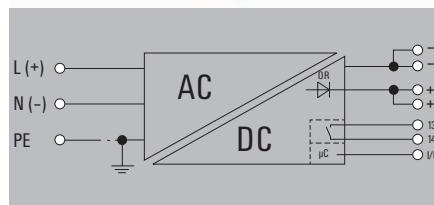
Type	Qty.	Order No.
PRO TOP1 120W 24V 5A EX	1	2466980000
Note		

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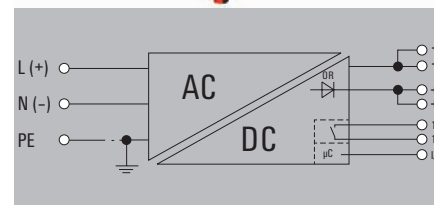
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- 1-phase power supplies

PRO TOP1 240W 24V 10A EX



PRO TOP1 480W 24V 20A EX



Technical data

Input	
Rated input voltage	100 - 240 V AC / 120 - 340 V DC
Input voltage range AC	85...277 V AC
Frequency range AC	45...65 Hz
DC input voltage range	80 ... 410 V DC
Input fuse (internal) / Inrush current	Yes / max. 5 A
Output	
Rated output voltage	24 V DC $\pm$ 1 %
Output voltage	22.5...28.8 V
DCL - peak load reserve	150 % (5 s); 600 % (15 ms)
Residual ripple, breaking spikes	< 50 mVss @ U_{Nemv} , Full Load
Reserve capacity @ U_{Nemv}	130% permanent at $\leq 40^{\circ}\text{C}$, 150 % (5 s)
Nominal output current for U_{nom}	10 A @ 60 °C
General data	
Derating	> 60°C (2.5% / 1°C)
Series switching capability	Yes
Degree of efficiency	92 %
Power factor (approx.)	> 0.9
AC failure bridging time @ I_{nom}	> 20 ms @ 230 V AC / > 20 ms @ 115 V AC
LED green/red	Green: Operation (failure-free), Flashing green: advance warning I>90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error
Parallel connection option	yes, max 10
Depth x width x height	125 / 39 / 130 mm
Net weight	1.05 g
Approvals	
Approvals	ABS; BURVER; cULus; cULusEX; DNVGL; EAC; IECEXTUEV; LLOYDSREG; RINA; TUEV; TUEVSATEX

Input		Output	
Rated input voltage	100 - 240 V AC / 120 - 340 V DC	Rated output voltage	24 V DC $\pm$ 1 %
Input voltage range AC	85...277 V AC	Output voltage	22.5...28.8 V
Frequency range AC	45...65 Hz	DCL - peak load reserve	150 % (5 s); 500 % (15 ms)
DC input voltage range	80 ... 410 V DC	Residual ripple, breaking spikes	< 50 mVss @ U_{Nemv} , Full Load
Input fuse (internal) / Inrush current	Yes / max. 5 A	Reserve capacity @ U_{Nemv}	130% permanent at $\leq 40^{\circ}\text{C}$, 150 % (5 s)
Rated output voltage	24 V DC $\pm$ 1 %	Output voltage	22.5...28.8 V
Output voltage	22.5...28.8 V	DCL - peak load reserve	150 % (5 s); 500 % (15 ms)
DCL - peak load reserve	150 % (5 s); 600 % (15 ms)	Residual ripple, breaking spikes	< 50 mVss @ U_{Nemv} , Full Load
Residual ripple, breaking spikes	< 50 mVss @ U_{Nemv} , Full Load	Reserve capacity @ U_{Nemv}	130% permanent at $\leq 40^{\circ}\text{C}$, 150 % (5 s)
Reserve capacity @ U_{Nemv}	130% permanent at $\leq 40^{\circ}\text{C}$, 150 % (5 s)	Nominal output current for U_{nom}	20 A @ 60 °C
Nominal output current for U_{nom}	20 A @ 60 °C	General data	
Derating	> 60°C (2.5% / 1°C)	Derating	> 60°C (2.5% / 1°C)
Series switching capability	Yes	Series switching capability	Yes
Degree of efficiency	92 %	Degree of efficiency	93%
Power factor (approx.)	> 0.9	Power factor (approx.)	> 0.9
AC failure bridging time @ I_{nom}	> 20 ms @ 230 V AC / > 20 ms @ 115 V AC	AC failure bridging time @ I_{nom}	> 20 ms @ 230 V AC / > 20 ms @ 115 V AC
LED green/red	Green: Operation (failure-free), Flashing green: advance warning I>90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error	LED green/red	Green: Operation (failure-free), Flashing green: advance warning I>90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error
Parallel connection option	yes, max 10	Parallel connection option	yes, max 10
Depth x width x height	125 / 39 / 130 mm	Depth x width x height	125 / 68 / 130 mm
Net weight	1.05 g	Net weight	1520 g
Approvals		Approvals	
Approvals	ABS; BURVER; cULus; cULusEX; DNVGL; EAC; IECEXTUEV; LLOYDSREG; RINA; TUEV; TUEVSATEX	Approvals	ABS; BURVER; cULus; cULusEX; DNVGL; EAC; IECEXTUEV; LLOYDSREG; RINA; TUEV; TUEVSATEX

Input		Output	
Rated input voltage	100 - 240 V AC / 120 - 340 V DC	Rated output voltage	24 V DC $\pm$ 1 %
Input voltage range AC	85...277 V AC	Output voltage	22.5...28.8 V
Frequency range AC	45...65 Hz	DCL - peak load reserve	150 % (5 s); 500 % (15 ms)
DC input voltage range	80 ... 410 V DC	Residual ripple, breaking spikes	< 50 mVss @ U_{Nemv} , Full Load
Input fuse (internal) / Inrush current	Yes / max. 5 A	Reserve capacity @ U_{Nemv}	130% permanent at $\leq 40^{\circ}\text{C}$, 150 % (5 s)
Rated output voltage	24 V DC $\pm$ 1 %	Output voltage	22.5...28.8 V
Output voltage	22.5...28.8 V	DCL - peak load reserve	150 % (5 s); 500 % (15 ms)
DCL - peak load reserve	150 % (5 s); 600 % (15 ms)	Residual ripple, breaking spikes	< 50 mVss @ U_{Nemv} , Full Load
Residual ripple, breaking spikes	< 50 mVss @ U_{Nemv} , Full Load	Reserve capacity @ U_{Nemv}	130% permanent at $\leq 40^{\circ}\text{C}$, 150 % (5 s)
Reserve capacity @ U_{Nemv}	130% permanent at $\leq 40^{\circ}\text{C}$, 150 % (5 s)	Nominal output current for U_{nom}	20 A @ 60 °C
Nominal output current for U_{nom}	20 A @ 60 °C	General data	
Derating	> 60°C (2.5% / 1°C)	Derating	> 60°C (2.5% / 1°C)
Series switching capability	Yes	Series switching capability	Yes
Degree of efficiency	92 %	Degree of efficiency	93%
Power factor (approx.)	> 0.9	Power factor (approx.)	> 0.9
AC failure bridging time @ I_{nom}	> 20 ms @ 230 V AC / > 20 ms @ 115 V AC	AC failure bridging time @ I_{nom}	> 20 ms @ 230 V AC / > 20 ms @ 115 V AC
LED green/red	Green: Operation (failure-free), Flashing green: advance warning I>90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error	LED green/red	Green: Operation (failure-free), Flashing green: advance warning I>90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error
Parallel connection option	yes, max 10	Parallel connection option	yes, max 10
Depth x width x height	125 / 39 / 130 mm	Depth x width x height	125 / 68 / 130 mm
Net weight	1.05 g	Net weight	1520 g
Approvals		Approvals	
Approvals	ABS; BURVER; cULus; cULusEX; DNVGL; EAC; IECEXTUEV; LLOYDSREG; RINA; TUEV; TUEVSATEX	Approvals	ABS; BURVER; cULus; cULusEX; DNVGL; EAC; IECEXTUEV; LLOYDSREG; RINA; TUEV; TUEVSATEX

Connection data	
Connection system	Clamping yoke
Number of terminals	3 for L/N/PE
Wire cross-section, rigid min/max	0.2 / 4 mm ²
Wire cross-section, flexible min/max	0.2 / 4 mm ²
Wire cross-section, AWG/kcmil min/max	30 / 12
Note	

Input	Output
Clamping yoke	Clamping yoke connection
3 for L/N/PE	5 (+ / - -)
0.2 / 4	0.2 / 4
0.2 / 4	0.2 / 4
30 / 12	30 / 12

Input	Output
Clamping yoke	Clamping yoke connection
3 for L/N/PE	5 (+ / - -)
0.18 / 6	0.2 / 6
0.22 / 4	0.5 / 6
26 / 10	24 / 8

Ordering data

Type	Qty.	Order No.
PRO TOP1 240W 24V 10A EX	1	2466990000
Note		

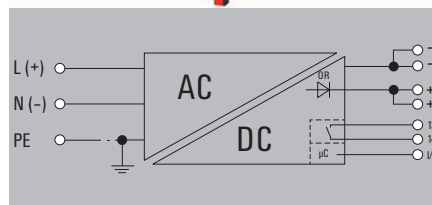
Type	Qty.	Order No.
PRO TOP1 240W 24V 10A EX	1	2466990000
Note		

Type	Qty.	Order No.
PRO TOP1 480W 24V 20A EX	1	2467000000
Note		

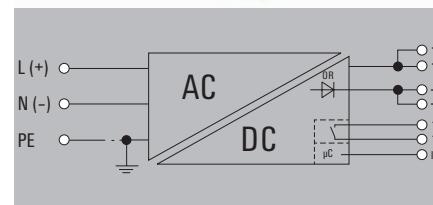
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- 1-phase power supplies

PRO TOP1 480W 48V 10A EX



PRO TOP1 960W 48V 20A CO



Technical data

Input	
Rated input voltage	100 - 240 V AC / 120 - 340 V DC
Input voltage range AC	85...277 V AC
Frequency range AC	45...65 Hz
DC input voltage range	80 ... 410 V DC
Input fuse (internal) / Inrush current	Yes / max. 5 A
Output	
Rated output voltage	48 V DC $\pm$ 1 %
Output voltage	45...56 V
DCL - peak load reserve	150 % (5 s); 500 % (15 ms)
Residual ripple, breaking spikes	< 100 mV _{pp}
Reserve capacity @ U _{Nominal}	130% permanent at $\leq$ 40°C, 150 % (5 s)
Nominal output current for U _{Nom}	10 A @ 60 °C
General data	
Derating	> 60°C (2.5% / 1°C)
Series switching capability	No
Degree of efficiency	93%
Power factor (approx.)	> 0.9
AC failure bridging time @ I _{nom}	> 20 ms @ 230 V AC / > 20 ms @ 115 V AC
LED green/red	Green: Operation (failure-free), Flashing green: advance warning I>90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error
Parallel connection option	yes, max 10
Depth x width x height	125 / 68 / 130 mm
Net weight	1520 g
Approvals	
Approvals	ABS; BURVER; cULus; cULusEX; DNVGL; EAC; IECEXTUEV; LLOYDSREG; RINA; TUEV; TUEVSATEX

Connection data	
Connection system	Clamping yoke
Number of terminals	3 for L/N/PE
Wire cross-section, rigid min/max	0.18 / 6 mm ²
Wire cross-section, flexible min/max	0.22 / 4 mm ²
Wire cross-section, AWG/kcmil min/max	26 / 10
Note	

Ordering data

Type	Qty.	Order No.
PRO TOP1 480W 48V 10A EX	1	2467040000
Note		

Input	
Rated input voltage	100 - 240 V AC / 120 - 340 V DC
Input voltage range AC	85...277 V AC
Frequency range AC	45...65 Hz
DC input voltage range	80 ... 410 V DC
Input fuse (internal) / Inrush current	Yes / max. 5 A
Output	
Rated output voltage	48 V DC $\pm$ 1 %
Output voltage	45...56 V
DCL - peak load reserve	150 % (5 s); 500 % (15 ms)
Residual ripple, breaking spikes	< 100 mV _{pp}
Reserve capacity @ U _{Nominal}	130% permanent at $\leq$ 40°C, 150 % (5 s)
Nominal output current for U _{Nom}	10 A @ 60 °C
General data	
Derating	> 60°C (2.5% / 1°C)
Series switching capability	No
Degree of efficiency	93%
Power factor (approx.)	> 0.9
AC failure bridging time @ I _{nom}	> 20 ms @ 230 V AC / > 20 ms @ 115 V AC
LED green/red	Green: Operation (failure-free), Flashing green: advance warning I>90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error
Parallel connection option	yes, max 10
Depth x width x height	125 / 68 / 130 mm
Net weight	1520 g
Approvals	
Approvals	ABS; BURVER; cULus; cULusEX; DNVGL; EAC; IECEXTUEV; LLOYDSREG; RINA; TUEV; TUEVSATEX

Input		Output	
Connection system	Clamping yoke	Connection system	Clamping yoke connection
Number of terminals	3 for L/N/PE	Number of terminals	5 (+ + / - -)
Wire cross-section, rigid min/max	0.18 / 6 mm ²	Wire cross-section, rigid min/max	0.2 / 6 mm ²
Wire cross-section, flexible min/max	0.22 / 4 mm ²	Wire cross-section, flexible min/max	0.5 / 6 mm ²
Wire cross-section, AWG/kcmil min/max	26 / 10	Wire cross-section, AWG/kcmil min/max	24 / 8
Note			

Type	Qty.	Order No.
PRO TOP1 480W 48V 10A EX	1	2467040000

Input	
Rated input voltage	3x 400...3x 500 V AC (wide-range input)
Input voltage range AC	85...277 V AC
Frequency range AC	45...65 Hz
DC input voltage range	80 ... 410 V DC
Input fuse (internal) / Inrush current	Yes / max. 15 A
Output	
Rated output voltage	48 V DC $\pm$ 1 %
Output voltage	45...56 V
DCL - peak load reserve	150 % (5 s); 400 % (15 ms)
Residual ripple, breaking spikes	< 100 mV _{pp}
Reserve capacity @ U _{Nominal}	130% permanent at $\leq$ 40°C, 150 % (5 s)
Nominal output current for U _{Nom}	20 A @ 60 °C
General data	
Derating	> 60°C (2.5% / 1°C)
Series switching capability	No
Degree of efficiency	94%
Power factor (approx.)	> 0.9
AC failure bridging time @ I _{nom}	> 20 ms @ 230 V AC / > 20 ms @ 115 V AC
LED green/red	Green: Operation (failure-free), Flashing green: advance warning I>90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error
Parallel connection option	yes, max 10
Depth x width x height	125 / 139 / 130 mm
Net weight	3382 g
Approvals	
Approvals	ABS; BURVER; cULus; cULusEX; DNVGL; EAC; LLOYDSREG; RINA; TUEV

Input		Output	
Connection system	Clamping yoke	Connection system	Clamping yoke connection
Number of terminals	3 for L/N/PE	Number of terminals	5 (+ + / - -)
Wire cross-section, rigid min/max	0.18 / 6 mm ²	Wire cross-section, rigid min/max	0.2 / 16 mm ²
Wire cross-section, flexible min/max	0.22 / 4 mm ²	Wire cross-section, flexible min/max	6 / 16 mm ²
Wire cross-section, AWG/kcmil min/max	26 / 10	Wire cross-section, AWG/kcmil min/max	22 / 6
Note			

Type	Qty.	Order No.
PRO TOP1 960W 48V 20A CO	1	2467050000

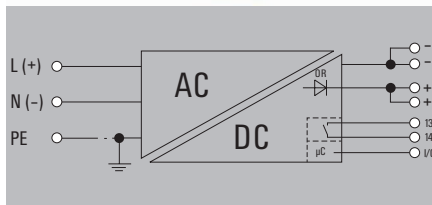
Note		
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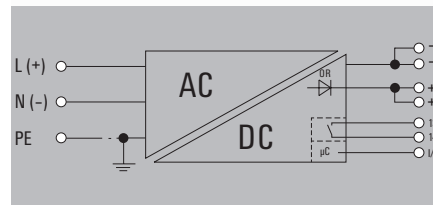
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- 1-phase power supplies

PRO TOP1 960W 24V 40A EX



PRO TOP1 120W 12V 10A EX



Technical data

Input	
Rated input voltage	100 - 240 V AC / 120 - 340 V DC
Input voltage range AC	85...277 V AC
Frequency range AC	45...65 Hz
DC input voltage range	80 ... 410 V DC
Input fuse (internal) / Inrush current	Yes / max. 15 A
Output	
Rated output voltage	24 V DC $\pm$ 1 %
Output voltage	22.5...28.8 V
DCL - peak load reserve	150 % (5 s); 400 % (15 ms)
Residual ripple, breaking spikes	< 50 mVss @ $U_{N\text{orm}}$, Full Load
Reserve capacity @ $U_{N\text{orm}}$	130% permanent at $\leq 40^\circ\text{C}$, 150 % (5 s)
Nominal output current for $U_{N\text{orm}}$	40 A @ 60 °C
General data	
Derating	> 60°C (2.5% / 1°C)
Series switching capability	Yes
Degree of efficiency	94%
Power factor (approx.)	> 0.9
AC failure bridging time @ $I_{N\text{orm}}$	> 20 ms @ 230 V AC / > 20 ms @ 115 V AC
LED green/red	Green: Operation (failure-free), Flashing green: advance warning >90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error
Parallel connection option	yes, max 10
Depth x width x height	125 / 139 / 130 mm
Net weight	3382 g
Approvals	
Approvals	ABS; BURVER; cULus; cULusEX; DNVGL; EAC; IECEXTUEV; LLOYDSREG; RINA; TUEV; TUEVSATEX

Input		Output	
Clamping yoke	Clamping yoke connection		
3 for L/N/PE	5 (+ + / - -)		
0.18 / 6	0.2 / 16		
0.22 / 4	6 / 16		
26 / 10	22 / 6		

Input		Output	
Clamping yoke	Clamping yoke connection		
3 for L/N/PE	5 (+ + / - -)		
0.2 / 4	0.2 / 4		
0.2 / 4	0.2 / 4		
30 / 12	30 / 12		

Connection data	
Connection system	
Number of terminals	
Wire cross-section, rigid min/max	mm ²
Wire cross-section, flexible min/max	mm ²
Wire cross-section, AWG/kcmil min/max	
Note	

Input		Output	
Clamping yoke	Clamping yoke connection		
3 for L/N/PE	5 (+ + / - -)		
0.18 / 6	0.2 / 16		
0.22 / 4	6 / 16		
26 / 10	22 / 6		

Input		Output	
Clamping yoke	Clamping yoke connection		
3 for L/N/PE	5 (+ + / - -)		
0.2 / 4	0.2 / 4		
0.2 / 4	0.2 / 4		
30 / 12	30 / 12		

Ordering data

Type	Qty.	Order No.
PRO TOP1 960W 24V 40A EX	1	2467010000

Type	Qty.	Order No.
PRO TOP1 120W 12V 10A EX	1	2467020000

Type	Qty.	Order No.
PRO TOP1 120W 12V 10A EX	1	2467020000

Note

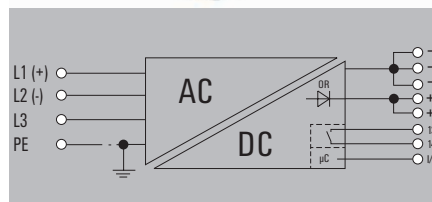
Note

Note

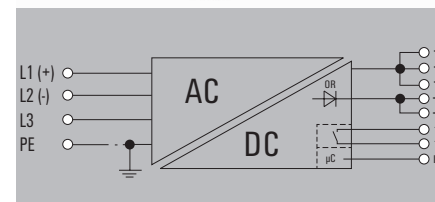
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- 3-phase power supplies

PRO TOP3 120W 24V 5A CO



PRO TOP3 240W 24V 10A CO



Technical data

Input	
Rated input voltage	3x 400...3x 500 V AC (wide-range input)
Input voltage range AC	3 x 320...3 x 575 V AC / 2 x 360...2 x 575 V AC
Frequency range AC	45...65 Hz
DC input voltage range	450...800 V DC (max. 500 V DC acc. to UL508)
Input fuse (internal) / Inrush current	No / Max. 10 A
Output	
Rated output voltage	48 V DC $\pm$ 1 %
Output voltage	22.5...28.8 V
DCL - peak load reserve	150 % (5 s); 600 % (15 ms)
Residual ripple, breaking spikes	< 50 mVss @ U_{Norr} , Full Load
Reserve capacity @ U_{Norr}	130% permanent at $\leq 40^\circ\text{C}$, 150 % (5 s)
Nominal output current for U_{Norr}	5 A @ 60°C
General data	
Derating	> 60°C (2.5% / 1°C)
Series switching capability	Yes
Degree of efficiency	89%
Power factor (approx.)	> 0.4 @ 3x400 V AC
AC failure bridging time @ I_{nom}	> 20 ms @ 230 V AC / > 20 ms @ 115 V AC
LED green/red	Green: Operation (failure-free), Flashing green: advance warning I>90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error
Parallel connection option	yes, max 10
Depth x width x height	125 / 39 / 130 mm
Net weight	967 g
Approvals	
Approvals	ABS; BURVER; cULus; cULusEX; DNVGL; EAC; LLOYDSREG; RINA; TUEV

Input	
Rated input voltage	3x 400...3x 500 V AC (wide-range input)
Input voltage range AC	3 x 320...3 x 575 V AC / 2 x 360...2 x 575 V AC
Frequency range AC	45...65 Hz
DC input voltage range	450...800 V DC (max. 500 V DC acc. to UL508)
Input fuse (internal) / Inrush current	No / Max. 10 A
Output	
Rated output voltage	48 V DC $\pm$ 1 %
Output voltage	22.5...28.8 V
DCL - peak load reserve	150 % (5 s); 600 % (15 ms)
Residual ripple, breaking spikes	< 50 mVss @ U_{Norr} , Full Load
Reserve capacity @ U_{Norr}	130% permanent at $\leq 40^\circ\text{C}$, 150 % (5 s)
Nominal output current for U_{Norr}	10 A @ 60°C
General data	
Derating	> 60°C (2.5% / 1°C)
Series switching capability	Yes
Degree of efficiency	93%
Power factor (approx.)	> 0.75 @ 3x400 V AC
AC failure bridging time @ I_{nom}	> 20 ms @ 230 V AC / > 20 ms @ 115 V AC
LED green/red	Green: Operation (failure-free), Flashing green: advance warning I>90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error
Parallel connection option	yes, max 10
Depth x width x height	125 / 50 / 130 mm
Net weight	1120 g
Approvals	
Approvals	ABS; BURVER; cULus; cULusEX; DNVGL; EAC; LLOYDSREG; RINA; TUEV

Connection data	
Connection system	
Number of terminals	
Wire cross-section, rigid min/max	mm ²
Wire cross-section, flexible min/max	mm ²
Wire cross-section, AWG/kcmil min/max	
Note	

Input	Output
PUSH IN with actuator	PUSH IN with actuator
4 for L1/L2/L3/PE	5 (+ / -)
0.5 / 1.5	0.2 / 2.5
0.5 / 2.5	0.2 / 2.5
20 / 12	26 / 12

Input	Output
PUSH IN with actuator	PUSH IN with actuator
4 for L1/L2/L3/PE	5 (+ / -)
0.5 / 1.5	0.2 / 2.5
0.5 / 2.5	0.2 / 2.5
20 / 12	26 / 12

Ordering data

Type	Qty.	Order No.
PRO TOP3 120W 24V 5A CO	1	2467070000

Type	Qty.	Order No.
PRO TOP3 240W 24V 10A CO	1	2467090000

Note

Note

Note

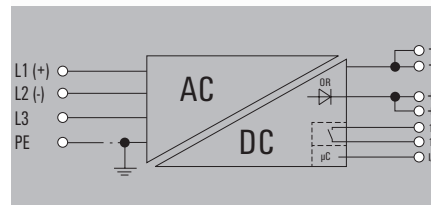
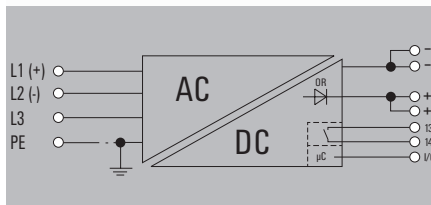
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- 3-phase power supplies

PRO TOP3 480W 24V 20A CO

PRO TOP3 960W 24V 40A CO



Technical data

Input	
Rated input voltage	3x 400...3x 500 V AC (wide-range input)
Input voltage range AC	3 x 320...3 x 575 V AC / 2 x 360...2 x 575 V AC
Frequency range AC	45...65 Hz
DC input voltage range	450...800 V DC (max. 500 V DC acc. to UL508)
Input fuse (internal) / Inrush current	No / Max. 10 A
Output	
Rated output voltage	48 V DC $\pm$ 1 %
Output voltage	22.5...28.8 V
DCL - peak load reserve	150 % (5 s); 500 % (15 ms)
Residual ripple, breaking spikes	< 50 mVss @ U_{Norr} , Full Load
Reserve capacity @ U_{Norr}	130% permanent at $\leq 40^\circ\text{C}$, 150 % (5 s)
Nominal output current for U_{nom}	20 A @ 60 °C
General data	
Derating	> 60°C (2.5% / 1°C)
Series switching capability	Yes
Degree of efficiency	94%
Power factor (approx.)	> 0.75 @ 3x400 V AC
AC failure bridging time @ I_{nom}	> 20 ms @ 230 V AC / > 20 ms @ 115 V AC
LED green/red	Green: Operation (failure-free), Flashing green: advance warning I>90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error
Parallel connection option	yes, max 10
Depth x width x height	125 / 68 / 130 mm
Net weight	1650 g
Approvals	
Approvals	ABS; BURVER; cULus; cULusEX; DNVGL; EAC; LLOYDSREG; RINA; TUEV

Input		Output	
PUSH IN		PUSH IN	
4 for L1/L2/L3/PE		4 (++ / -)	
0.2 / 10		0.2 / 10	
0.2 / 6		0.2 / 6	
20 / 8		20 / 8	

Input		Output	
PUSH IN		PUSH IN	
4 for L1/L2/L3/PE		4 (++ / -)	
0.75 / 16		0.75 / 16	
0.75 / 16		0.75 / 16	
20 / 4		20 / 4	

Connection data	
Connection system	
Number of terminals	
Wire cross-section, rigid min/max	mm ²
Wire cross-section, flexible min/max	mm ²
Wire cross-section, AWG/kcmil min/max	
Note	

Input		Output	
PUSH IN		PUSH IN	
4 for L1/L2/L3/PE		4 (++ / -)	
0.2 / 10		0.2 / 10	
0.2 / 6		0.2 / 6	
20 / 8		20 / 8	

Input		Output	
PUSH IN		PUSH IN	
4 for L1/L2/L3/PE		4 (++ / -)	
0.75 / 16		0.75 / 16	
0.75 / 16		0.75 / 16	
20 / 4		20 / 4	

Ordering data

Type	Qty.	Order No.
PRO TOP3 480W 24V 20A CO	1	2467110000

Type	Qty.	Order No.
PRO TOP3 960W 24V 40A CO	1	2467130000

Type	Qty.	Order No.
PRO TOP3 960W 24V 40A CO	1	2467130000

Note

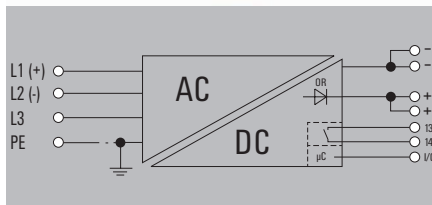
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Note

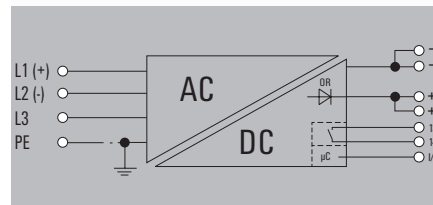
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- 3-phase power supplies

PRO TOP3 960W 36V 26,6A CO



PRO TOP3 480W 48V 10A CO



Technical data

Input	
Rated input voltage	3x 400...3x 500 V AC (wide-range input)
Input voltage range AC	3 x 320...3 x 575 V AC / 2 x 360...2 x 575 V AC
Frequency range AC	45...65 Hz
DC input voltage range	450...800 V DC (max. 500 V DC acc. to UL508)
Input fuse (internal) / Inrush current	No / Max. 10 A
Output	
Rated output voltage	36 V DC $\pm$ 1 %
Output voltage	33...44 V
DCL - peak load reserve	150 % (5 s); 500 % (15 ms)
Residual ripple, breaking spikes	< 50 mVss @ U_{Nenn} , Full Load
Reserve capacity @ U_{Nenn}	130% permanent at $\leq 40^\circ\text{C}$, 150 % (5 s)
Nominal output current for U_{nom}	26.6 A @ 60°C
General data	
Derating	> 60°C (2.5% / 1°C)
Series switching capability	No
Degree of efficiency	95,3 %
Power factor (approx.)	> 0.75 @ 3x400 V AC
AC failure bridging time @ I_{nom}	> 20 ms @ 230 V AC / > 20 ms @ 115 V AC
LED green/red	Green: Operation (failure-free), Flashing green: advance warning I>90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error
Parallel connection option	yes, max 10
Depth x width x height	175 / 89 / 130 mm
Net weight	2490 g
Approvals	
Approvals	ABS; BURVER; cULus; cULusEX; DNVGL; EAC; LLOYDSREG; RINA; TUEV

Input		Output	
Rated input voltage	3x 400...3x 500 V AC (wide-range input)	Rated output voltage	48 V DC $\pm$ 1 %
Input voltage range AC	3 x 320...3 x 575 V AC / 2 x 360...2 x 575 V AC	Output voltage	45...56 V
Frequency range AC	45...65 Hz	DCL - peak load reserve	150 % (5 s); 500 % (15 ms)
DC input voltage range	450...800 V DC (max. 500 V DC acc. to UL508)	Residual ripple, breaking spikes	< 100 mV ss @ 48 V DC, I Nenn
Input fuse (internal) / Inrush current	No / Max. 10 A	Reserve capacity @ U_{Nenn}	130% permanent at $\leq 40^\circ\text{C}$, 150 % (5 s)
Output		General data	
Rated output voltage	48 V DC $\pm$ 1 %	Derating	> 60°C (2.5% / 1°C)
Output voltage	45...56 V	No	No
DCL - peak load reserve	150 % (5 s); 500 % (15 ms)	Degree of efficiency	94%
Residual ripple, breaking spikes	< 100 mV ss @ 48 V DC, I Nenn	Power factor (approx.)	> 0.75 @ 3x400 V AC
Reserve capacity @ U_{Nenn}	130% permanent at $\leq 40^\circ\text{C}$, 150 % (5 s)	AC failure bridging time @ I_{nom}	> 20 ms @ 230 V AC / > 20 ms @ 115 V AC
Nominal output current for U_{nom}	10 A @ 60°C	LED green/red	Green: Operation (failure-free), Flashing green: advance warning I>90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error
General data		Parallel connection option	yes, max 10
Derating	> 60°C (2.5% / 1°C)	Depth x width x height	125 / 68 / 130 mm
Series switching capability	No	Net weight	1645 g
Degree of efficiency	94%	Approvals	ABS; BURVER; cULus; cULusEX; DNVGL; EAC; LLOYDSREG; RINA; TUEV
Power factor (approx.)	> 0.75 @ 3x400 V AC		
AC failure bridging time @ I_{nom}	> 20 ms @ 230 V AC / > 20 ms @ 115 V AC		
LED green/red	Green: Operation (failure-free), Flashing green: advance warning I>90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error		

Input		Output	
Rated input voltage	3x 400...3x 500 V AC (wide-range input)	Rated output voltage	48 V DC $\pm$ 1 %
Input voltage range AC	3 x 320...3 x 575 V AC / 2 x 360...2 x 575 V AC	Output voltage	45...56 V
Frequency range AC	45...65 Hz	DCL - peak load reserve	150 % (5 s); 500 % (15 ms)
DC input voltage range	450...800 V DC (max. 500 V DC acc. to UL508)	Residual ripple, breaking spikes	< 100 mV ss @ 48 V DC, I Nenn
Input fuse (internal) / Inrush current	No / Max. 10 A	Reserve capacity @ U_{Nenn}	130% permanent at $\leq 40^\circ\text{C}$, 150 % (5 s)
Output		General data	
Rated output voltage	48 V DC $\pm$ 1 %	Derating	> 60°C (2.5% / 1°C)
Output voltage	45...56 V	No	No
DCL - peak load reserve	150 % (5 s); 500 % (15 ms)	Degree of efficiency	94%
Residual ripple, breaking spikes	< 100 mV ss @ 48 V DC, I Nenn	Power factor (approx.)	> 0.75 @ 3x400 V AC
Reserve capacity @ U_{Nenn}	130% permanent at $\leq 40^\circ\text{C}$, 150 % (5 s)	AC failure bridging time @ I_{nom}	> 20 ms @ 230 V AC / > 20 ms @ 115 V AC
Nominal output current for U_{nom}	10 A @ 60°C	LED green/red	Green: Operation (failure-free), Flashing green: advance warning I>90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error
General data		Parallel connection option	yes, max 10
Derating	> 60°C (2.5% / 1°C)	Depth x width x height	125 / 68 / 130 mm
Series switching capability	No	Net weight	1645 g
Degree of efficiency	94%	Approvals	ABS; BURVER; cULus; cULusEX; DNVGL; EAC; LLOYDSREG; RINA; TUEV
Power factor (approx.)	> 0.75 @ 3x400 V AC		
AC failure bridging time @ I_{nom}	> 20 ms @ 230 V AC / > 20 ms @ 115 V AC		
LED green/red	Green: Operation (failure-free), Flashing green: advance warning I>90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error		

Connection data	
Connection system	PUSH IN
Number of terminals	4 for L1/L2/L3/PE
Wire cross-section, rigid min/max	0.75 / 16 mm ²
Wire cross-section, flexible min/max	0.75 / 16 mm ²
Wire cross-section, AWG/kcmil min/max	20 / 4
Note	

Input	Output
PUSH IN	PUSH IN
4 for L1/L2/L3/PE	4 (++) / (-)
0.75 / 16	0.75 / 16
0.75 / 16	0.75 / 16
20 / 4	20 / 4

Input	Output
PUSH IN	PUSH IN
4 for L1/L2/L3/PE	4 (++) / (-)
0.2 / 10	0.2 / 10
0.2 / 6	0.2 / 6
20 / 8	20 / 8

Ordering data

Type	Qty.	Order No.
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Type	Qty.	Order No.
PRO TOP3 960W 36V 26,6A CO	1	2467140000

Type	Qty.	Order No.
PRO TOP3 480W 48V 10A CO	1	2467160000

Note

Note

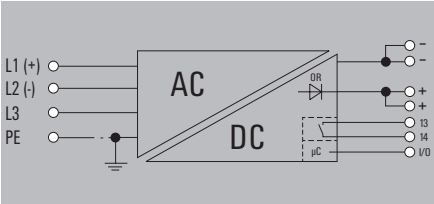
Note

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- 3-phase power supplies

PRO TOP3 960W 48V 20A CO



Technical data

Input	
Rated input voltage	3x 400...3x 500 V AC (wide-range input)
Input voltage range AC	3 x 320...3 x 575 V AC / 2 x 360...2 x 575 V AC
Frequency range AC	45...65 Hz
DC input voltage range	450...800 V DC (max. 500 V DC acc. to UL508)
Input fuse (internal) / Inrush current	No / Max. 10 A
Output	
Rated output voltage	48 V DC $\pm$ 1 %
Output voltage	45...56 V
DCL - peak load reserve	150 % (5 s); 400 % (15 ms)
Residual ripple, breaking spikes	< 100 mV ss @ 48 V DC, I Nenn
Reserve capacity @ U _{Nominal}	130% permanent at $\leq$ 40°C, 150 % (5 s)
Nominal output current for U _{nom}	20 A @ 60 °C
General data	
Derating	> 60°C (2.5% / 1°C)
Series switching capability	No
Degree of efficiency	95,3 %
Power factor (approx.)	> 0.75 @ 3x400 V AC
AC failure bridging time @ I _{nom}	> 20 ms @ 230 V AC / > 20 ms @ 115 V AC
LED green/red	Green: Operation (failure-free), Flashing green: advance warning I>90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error
Parallel connection option	yes, max 10
Depth x width x height	175 / 89 / 130 mm
Net weight	2490 g
Approvals	
Approvals	ABS; BURVER; cULus; cULusEX; DNVGL; EAC; LLOYDSREG; RINA; TUEV

3x 400...3x 500 V AC (wide-range input)
3 x 320...3 x 575 V AC / 2 x 360...2 x 575 V AC
45...65 Hz
450...800 V DC (max. 500 V DC acc. to UL508)
No / Max. 10 A
48 V DC $\pm$ 1 %
45...56 V
150 % (5 s); 400 % (15 ms)
< 100 mV ss @ 48 V DC, I Nenn
130% permanent at $\leq$ 40°C, 150 % (5 s)
20 A @ 60 °C
> 60°C (2.5% / 1°C)
No
95,3 %
> 0.75 @ 3x400 V AC
> 20 ms @ 230 V AC / > 20 ms @ 115 V AC
Green: Operation (failure-free), Flashing green: advance warning I>90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error
yes, max 10
175 / 89 / 130 mm
2490 g
ABS; BURVER; cULus; cULusEX; DNVGL; EAC; LLOYDSREG; RINA; TUEV

Connection data	
Connection system	
Number of terminals	
Wire cross-section, rigid min/max	mm ²
Wire cross-section, flexible min/max	mm ²
Wire cross-section, AWG/kcmil min/max	
Note	

Input	Output
PUSH IN	PUSH IN
4 for L1/L2/L3/PE	4 (++ / -)
0.75 / 16	0.75 / 2.5
0.75 / 16	0.75 / 16
20 / 4	20 / 4

Ordering data

Type	Qty.	Order No.
PRO TOP3 960W 48V 20A CO	1	2467180000

Type	Qty.	Order No.
PRO TOP3 960W 48V 20A CO	1	2467180000

Note

Note

PROtop DCDC converter with IoT connection – fit for digitalisation

Powerful, efficient, and reliable isolation

PROtop DCDC converters are used for safe electrical isolation to avoid ground loops that can occur when supplying field devices in production or process plants. DCDC converters can be used on long supply lines to refresh the supply voltage.

The integrated ORing MOSFET reliably decouples possible internal short circuits. It allows direct parallel connection of ACDC and DCDC converters of the PROtop series for redundancy purposes or to increase power. This makes the use of the otherwise common diode or redundancy modules obsolete. Furthermore, PROtop DCDC converters feature the powerful DCL technology – and their communication module allows full data transparency and remote control.

Your special advantages:

- Integrated ORing MOSFET for direct parallel connection for redundancy purposes or to increase power
- Thanks to DCL technology, very high peak current reserves for fuse tripping or for powerful motor starts
- Communication interface for complete data transparency and remote control





Fit for the future thanks to IO-LINK

The optional communication modules, which can be retrofitted at any time, create data transparency, and enable automated parameterisation and remote control.



Redundancy without diode modules

The integrated ORing MOSFET allows direct parallel connection for redundancy purposes or to increase power. Diode and redundancy modules are thus obsolete.



DCL

Peak current reserves thanks to DCL

The high peak current reserves of up to 600 % nominal current reliably trigger miniature circuit breakers. In addition, the dynamic current limitation DCL offers high peak currents for powerful motor starting

Optimal for:



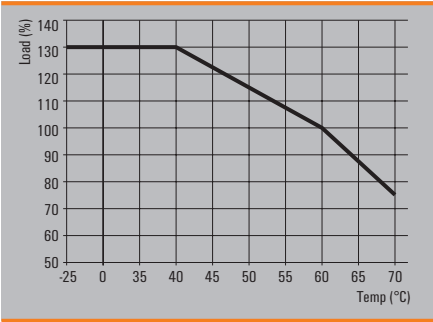
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- DCL technology for an excellent dynamic range
- High energy efficiency
- Mode of operation: single or parallel operation and adjustable short-circuit response (continuous current or switch-off)
- Useful life of up to 15 years, MTBF > 1 000 000 h.
- Extremely slim design
- Time-saving PUSH IN connection technology



Derating curve



Technical data

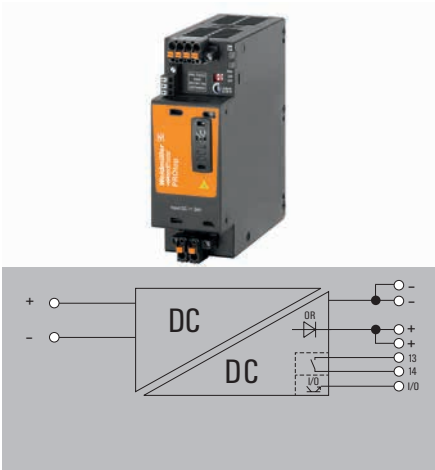
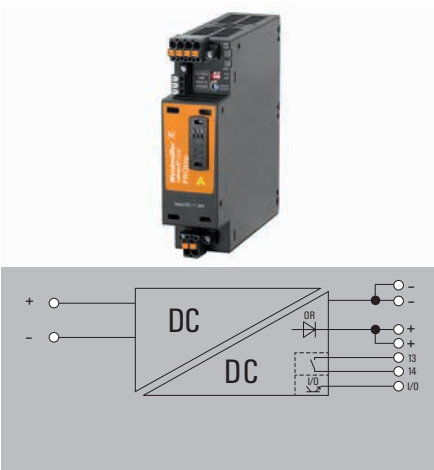
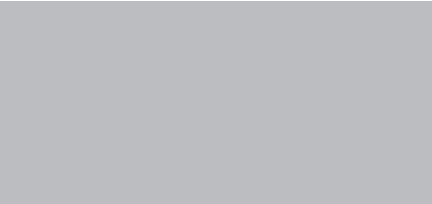
General data	
Insulation voltage input / earth	1.41 kV
Insulation voltage output / earth	0.7 kV
Insulation voltage, input/output	1.41 kV
Ambient temperature (operational) / Storage temperature	-25 °C...70 °C / -40 °C...85 °C
Humidity at operating temperature	5...95 %, no condensation
Protection class / Pollution degree	III, with no ground connection, for SELV
MTBF	> 1.000.000 h according IEC 1709 (SN29500)
Housing version	Metal, corrosion resistant
Mounting position, installation notice	Horizontal on DIN rail TS 35, top and bottom 50 mm clearance for free air flow, 10 mm clearance to neighbouring active subassemblies with full load, 5 mm with passive neighbouring subassemblies, direct row mounting with 90% rated load
Conformal coating	No
EMC / shock / vibration	
Interference immunity test acc. to	EN 55032:2015, EN 55035:2017, EN 61000-6-1:2007, EN 61000-6-2:2005, EN 61000-6-3:2007/A1:2011, EN 61000-6-4:2007/A1:2011, IEC 61000-4-2, IEC 61000-4-3, DIN EN 61000-4-4, EN 61000-4-5:2005, EN 61000-4-6:2008, IEC 61000-4-8
Shock	30 g in all directions
Resistance to vibration	2.3 g (on DIN rail), 4 g (with direct mounting)
Electrical safety (applied standards)	
Electrical machine equipment	Acc. to EN60204
Safety transformers for switch-mode power supplies	According to EN 61558-2-17
For use with electronic equipment	Acc. to EN50178 / VDE0160
Safety extra-low voltage	SELV according to EN 62368-1
Protective separation / protection against electrical shock	VDE0100-410 / acc. to DIN57100-410
Protection against dangerous shock currents	Acc. to VDE0106-101

connectPower PROtop DCDC

- DC/DC-Wandler

PRO TOPDC 24V/24V 5A

PRO TOPDC 24V/24V 10A



Technical data

Input	
Rated input voltage	24 V DC
Input current	5.7A @ 24V / 7.6A @ 18V
DC input voltage range	14 V...31.2 V (linear Derating from 18 V...14 V, 60% rated load @ Uin 14 V)
Input fuse (internal) / Inrush current	Yes / max. 5 A
Output	
Rated output voltage	24 V DC ± 1 %
Output voltage	22.5...28.8 V
DCL - peak load reserve	600 % (15 ms); 200 % (5 s)
Residual ripple, breaking spikes	< 40 mV _{pp} @25 °C
Reserve capacity @ U _{Nominal}	130% permanent at ≤ 40°C, 150 % (5 s)
Nominal output current for U _{Nom}	5 A @ 60 °C
General data	
Derating	> 60°C (2.5% / 1°C)
Series switching capability	Yes
Degree of efficiency	89%
Mains failure bridge-over time	10ms
LED green/red	Green: Operation (failure-free), Flashing green: advance warning >90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error
Parallel connection option	yes, max 10
Depth x width x height	125 / 35 / 130 mm
Net weight	800 g
Approvals	
Approvals	ABS; BURVER; DNVGL; LLOYDSREG; RINA; TUEV; CE

Input	
Rated input voltage	24 V DC
Input current	11A @ 24V / 15A @ 18V
DC input voltage range	14 V...31.2 V (linear Derating from 18 V...14 V, 60% rated load @ Uin 14 V)
Input fuse (internal) / Inrush current	Yes / Max. 10 A
Output	
Rated output voltage	24 V DC ± 1 %
Output voltage	22.5...28.8 V
DCL - peak load reserve	600 % (15 ms); 200 % (5 s)
Residual ripple, breaking spikes	< 40 mV _{pp} @25 °C
Reserve capacity @ U _{Nominal}	130% permanent at ≤ 40°C, 150 % (5 s)
Nominal output current for U _{Nom}	10 A @ 60 °C
General data	
Derating	> 60°C (2.5% / 1°C)
Series switching capability	Yes
Degree of efficiency	91%
Mains failure bridge-over time	10ms
LED green/red	Green: Operation (failure-free), Flashing green: advance warning >90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error
Parallel connection option	yes, max 10
Depth x width x height	125 / 43 / 130 mm
Net weight	1000 g
Approvals	
Approvals	ABS; BURVER; DNVGL; LLOYDSREG; RINA; TUEV; CE

Input	
Rated input voltage	24 V DC
Input current	11A @ 24V / 15A @ 18V
DC input voltage range	14 V...31.2 V (linear Derating from 18 V...14 V, 60% rated load @ Uin 14 V)
Input fuse (internal) / Inrush current	Yes / Max. 10 A
Output	
Rated output voltage	24 V DC ± 1 %
Output voltage	22.5...28.8 V
DCL - peak load reserve	600 % (15 ms); 200 % (5 s)
Residual ripple, breaking spikes	< 40 mV _{pp} @25 °C
Reserve capacity @ U _{Nominal}	130% permanent at ≤ 40°C, 150 % (5 s)
Nominal output current for U _{Nom}	10 A @ 60 °C
General data	
Derating	> 60°C (2.5% / 1°C)
Series switching capability	Yes
Degree of efficiency	91%
Mains failure bridge-over time	10ms
LED green/red	Green: Operation (failure-free), Flashing green: advance warning >90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error
Parallel connection option	yes, max 10
Depth x width x height	125 / 43 / 130 mm
Net weight	1000 g
Approvals	
Approvals	ABS; BURVER; DNVGL; LLOYDSREG; RINA; TUEV; CE

Connection data	
Connection system	PUSH IN with actuator
Number of terminals	2 for (+, -)
Wire cross-section, rigid min/max	0.5 / 1.5 mm ²
Wire cross-section, flexible min/max	0.5 / 2.5 mm ²
Wire cross-section, AWG/kcmil min/max	20 / 12
Note	

Input	Output
PUSH IN with actuator	PUSH IN with actuator
2 for (+, -)	4 (++, --)
0.5 / 1.5	0.2 / 2.5
0.5 / 2.5	0.2 / 2.5
20 / 12	26 / 12

Input	Output
PUSH IN with actuator	PUSH IN with actuator
2 for (+, -)	4 (++, --)
0.5 / 1.5	0.2 / 2.5
0.5 / 2.5	0.2 / 2.5
20 / 12	26 / 12

Ordering data

Type	Qty.	Order No.
PRO TOPDC 24V/24V 5A	1	2627650000

Type	Qty.	Order No.
PRO TOPDC 24V/24V 5A	1	2627650000

Type	Qty.	Order No.
PRO TOPDC 24V/24V 10A	1	2627640000

Note

Current technical data at catalog.

Current technical data at catalog.

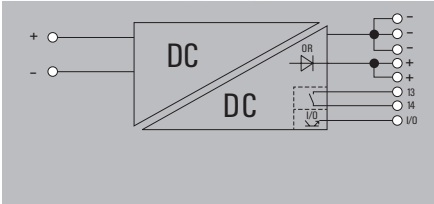
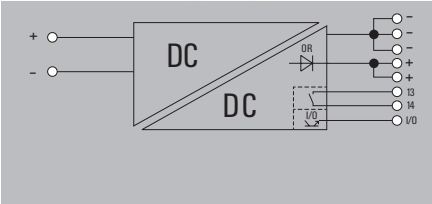
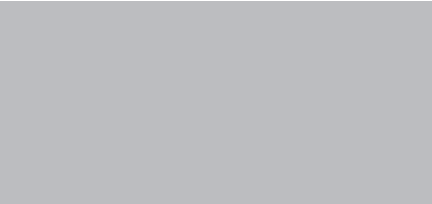
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connectPower PROtop DCDC

- DC/DC converter

PRO TOPDC 24V/24V 20A

PRO TOPDC 24V/48V 10A



Technical data

Input	
Rated input voltage	24 V DC
Input current	22A @ 24V / 30A @ 18V
DC input voltage range	14 V...31.2 V (linear Derating from 18 V...14 V, 60% rated load @ Uin 14 V)
Input fuse (internal) / Inrush current	Yes / max. 15 A
Output	
Rated output voltage	24 V DC ± 1 %
Output voltage	22.5...28.8 V
DCL - peak load reserve	500 % (15 ms); 200 % (5 s)
Residual ripple, breaking spikes	< 40 mV _{pp} @25 °C
Reserve capacity @ U _{Nominal}	130% permanent at ≤ 40°C, 150 % (5 s)
Nominal output current for U _{nom}	20 A @ 60 °C
General data	
Derating	> 60°C (2.5% / 1°C)
Series switching capability	Yes
Degree of efficiency	91%
Mains failure bridge-over time	10ms
LED green/red	Green: Operation (failure-free), Flashing green: advance warning >90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error
Parallel connection option	yes, max 10
Depth x width x height	125 / 75 / 130 mm
Net weight	2030 g
Approvals	
Approvals	ABS; DNVGL; LLOYDSREG; TUEV; CE

Input		Output	
PUSH IN with actuator		PUSH IN with actuator	
2 for (+, -)		5 (+ + / - -)	
0.2 / 10		0.2 / 10	
0.2 / 6		0.2 / 6	
20 / 8		20 / 8	

Input		Output	
PUSH IN with actuator		PUSH IN with actuator	
2 for (+, -)		5 (+ + / - -)	
0.2 / 10		0.2 / 10	
0.2 / 6		0.2 / 6	
20 / 8		20 / 8	

Connection data	
Connection system	
Number of terminals	
Wire cross-section, rigid min/max	mm ²
Wire cross-section, flexible min/max	mm ²
Wire cross-section, AWG/kcmil min/max	
Note	

Ordering data

Type	Qty.	Order No.
PRO TOPDC 24V/24V 20A	1	2627630000

Note

Type	Qty.	Order No.
PRO TOPDC 24V/24V 20A	1	2627630000

Current technical data at catalog.

Input		Output	
PUSH IN with actuator		PUSH IN with actuator	
2 for (+, -)		5 (+ + / - -)	
0.2 / 10		0.2 / 10	
0.2 / 6		0.2 / 6	
20 / 8		20 / 8	

Type	Qty.	Order No.
PRO TOPDC 24V/48V 10A	1	2627660000

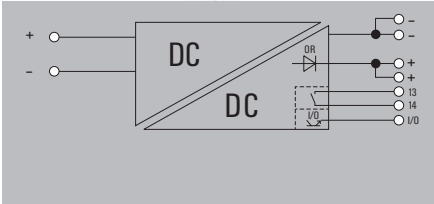
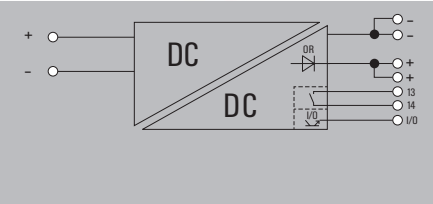
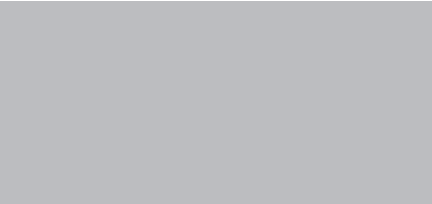
Current technical data at catalog.

connectPower PROtop DCDC

- DC/DC converter

PRO TOPDC 24V/24V 5A EX

PRO TOPDC 24V/24V 10A EX



Technical data

Input	
Rated input voltage	24 V DC
Input current	5.7A @ 24V / 7.6A @ 18V
DC input voltage range	14 V...31.2 V (linear Derating from 18 V...14 V, 60% rated load @ Uin 14 V)
Input fuse (internal) / Inrush current	Yes / max. 5 A
Output	
Rated output voltage	24 V DC ± 1 %
Output voltage	22.5...28.8 V
DCL - peak load reserve	600 % (15 ms); 200 % (5 s)
Residual ripple, breaking spikes	< 40 mV _{pp} @25 °C
Reserve capacity @ U _{Nominal}	130% permanent at ≤ 40°C, 150 % (5 s)
Nominal output current for U _{nom}	5 A @ 60 °C
General data	
Derating	> 60°C (2.5% / 1°C)
Series switching capability	Yes
Degree of efficiency	89%
Mains failure bridge-over time	10ms
LED green/red	Green: Operation (failure-free), Flashing green: advance warning >90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error
Parallel connection option	yes, max 10
Depth x width x height	125 / 35 / 130 mm
Net weight	800 g
Approvals	
Approvals	DNVGL; LLOYDSREG; RINA; TUEV; CE

Input	
Rated input voltage	24 V DC
Input current	11A @ 24V / 15A @ 18V
DC input voltage range	14 V...31.2 V (linear Derating from 18 V...14 V, 60% rated load @ Uin 14 V)
Input fuse (internal) / Inrush current	Yes / Max. 10 A
Output	
Rated output voltage	24 V DC ± 1 %
Output voltage	22.5...28.8 V
DCL - peak load reserve	600 % (15 ms); 200 % (5 s)
Residual ripple, breaking spikes	< 40 mV _{pp} @25 °C
Reserve capacity @ U _{Nominal}	130% permanent at ≤ 40°C, 150 % (5 s)
Nominal output current for U _{nom}	10 A @ 60 °C
General data	
Derating	> 60°C (2.5% / 1°C)
Series switching capability	Yes
Degree of efficiency	91%
Mains failure bridge-over time	10ms
LED green/red	Green: Operation (failure-free), Flashing green: advance warning >90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error
Parallel connection option	yes, max 10
Depth x width x height	125 / 43 / 130 mm
Net weight	1000 g
Approvals	
Approvals	DNVGL; LLOYDSREG; RINA; TUEV; CE

Input	
Rated input voltage	24 V DC
Input current	11A @ 24V / 15A @ 18V
DC input voltage range	14 V...31.2 V (linear Derating from 18 V...14 V, 60% rated load @ Uin 14 V)
Input fuse (internal) / Inrush current	Yes / Max. 10 A
Output	
Rated output voltage	24 V DC ± 1 %
Output voltage	22.5...28.8 V
DCL - peak load reserve	600 % (15 ms); 200 % (5 s)
Residual ripple, breaking spikes	< 40 mV _{pp} @25 °C
Reserve capacity @ U _{Nominal}	130% permanent at ≤ 40°C, 150 % (5 s)
Nominal output current for U _{nom}	10 A @ 60 °C
General data	
Derating	> 60°C (2.5% / 1°C)
Series switching capability	Yes
Degree of efficiency	91%
Mains failure bridge-over time	10ms
LED green/red	Green: Operation (failure-free), Flashing green: advance warning >90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error
Parallel connection option	yes, max 10
Depth x width x height	125 / 43 / 130 mm
Net weight	1000 g
Approvals	
Approvals	DNVGL; LLOYDSREG; RINA; TUEV; CE

Connection data	
Connection system	Clamping yoke
Number of terminals	2 for (+, -)
Wire cross-section, rigid min/max	0.2 / 4 mm ²
Wire cross-section, flexible min/max	0.2 / 4 mm ²
Wire cross-section, AWG/kcmil min/max	30 / 12
Note	

Input	Output
Clamping yoke	Clamping yoke connection
2 for (+, -)	4 (++, --)
0.2 / 4	0.2 / 4
0.2 / 4	0.2 / 4
30 / 12	30 / 12

Input	Output
Clamping yoke	Clamping yoke connection
2 for (+, -)	4 (++, --)
0.2 / 4	0.2 / 4
0.2 / 4	0.2 / 4
30 / 12	30 / 12

Ordering data

Type	Qty.	Order No.
PRO TOPDC 24V/24V 5A EX	1	2467290000

Type	Qty.	Order No.
PRO TOPDC 24V/24V 5A EX	1	2467290000

Type	Qty.	Order No.
PRO TOPDC 24V/24V 10A EX	1	2467300000

Note

Current technical data at catalog:

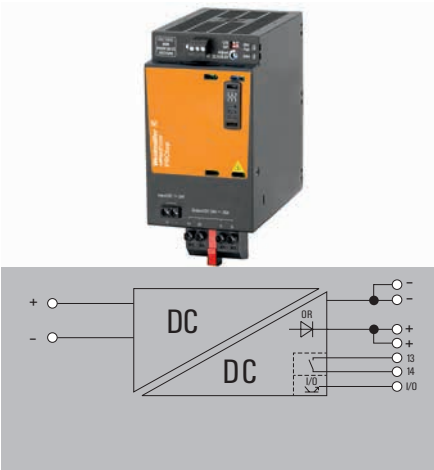
Current technical data at catalog:

connectPower PROtop DCDC

connectPower PROtop DCDC

- DC/DC converter

PRO TOPDC 24V/24V 20A EX



Technical data

Input	
Rated input voltage	
Input current	
DC input voltage range	
Input fuse (internal) / Inrush current	
Output	
Rated output voltage	
Output voltage	
DCL - peak load reserve	
Residual ripple, breaking spikes	
Reserve capacity @ $U_{N\text{ominal}}$	
Nominal output current for $U_{N\text{om}}$	
General data	
Derating	
Series switching capability	
Degree of efficiency	
Mains failure bridge-over time	
LED green/red	
Parallel connection option	
Depth x width x height	
Net weight	
Approvals	
Approvals	

24 V DC
22A @ 24V / 30A @ 18V
14 V...31.2 V (linear Derating from 18 V...14 V, 60% rated load @ U_{in} 14 V)
Yes / max. 15 A
24 V DC $\pm$ 1 %
22.5...28.8 V
500 % (15 ms); 200 % (5 s)
< 40 mV _{pp} @25 °C
130% permanent at $\leq$ 40°C, 150 % (5 s)
20 A @ 60 °C
> 60°C (2.5% / 1°C)
Yes
91%
10ms
Green: Operation (failure-free), Flashing green: advance warning $I > 90\%$, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error
yes, max 10
125 / 75 / 130 mm
2030 g
TUEV; CE

Connection data	
Connection system	
Number of terminals	
Wire cross-section, rigid min/max	mm ²
Wire cross-section, flexible min/max	mm ²
Wire cross-section, AWG/kcmil min/max	
Note	

Input	Output
Clamping yoke	Clamping yoke connection
2 for (+, -)	4 (++ / --)
0.18 / 6	0.2 / 6
0.22 / 4	0.5 / 6
26 / 10	24 / 8

Ordering data

Type	Qty.	Order No.
PRO TOPDC 24V/24V 20A EX	1	2467310000

Type	Qty.	Order No.
PRO TOPDC 24V/24V 20A EX	1	2467310000

Note

Current technical data at catalog.

PROtop UW power supplies with ultra wide input voltage range

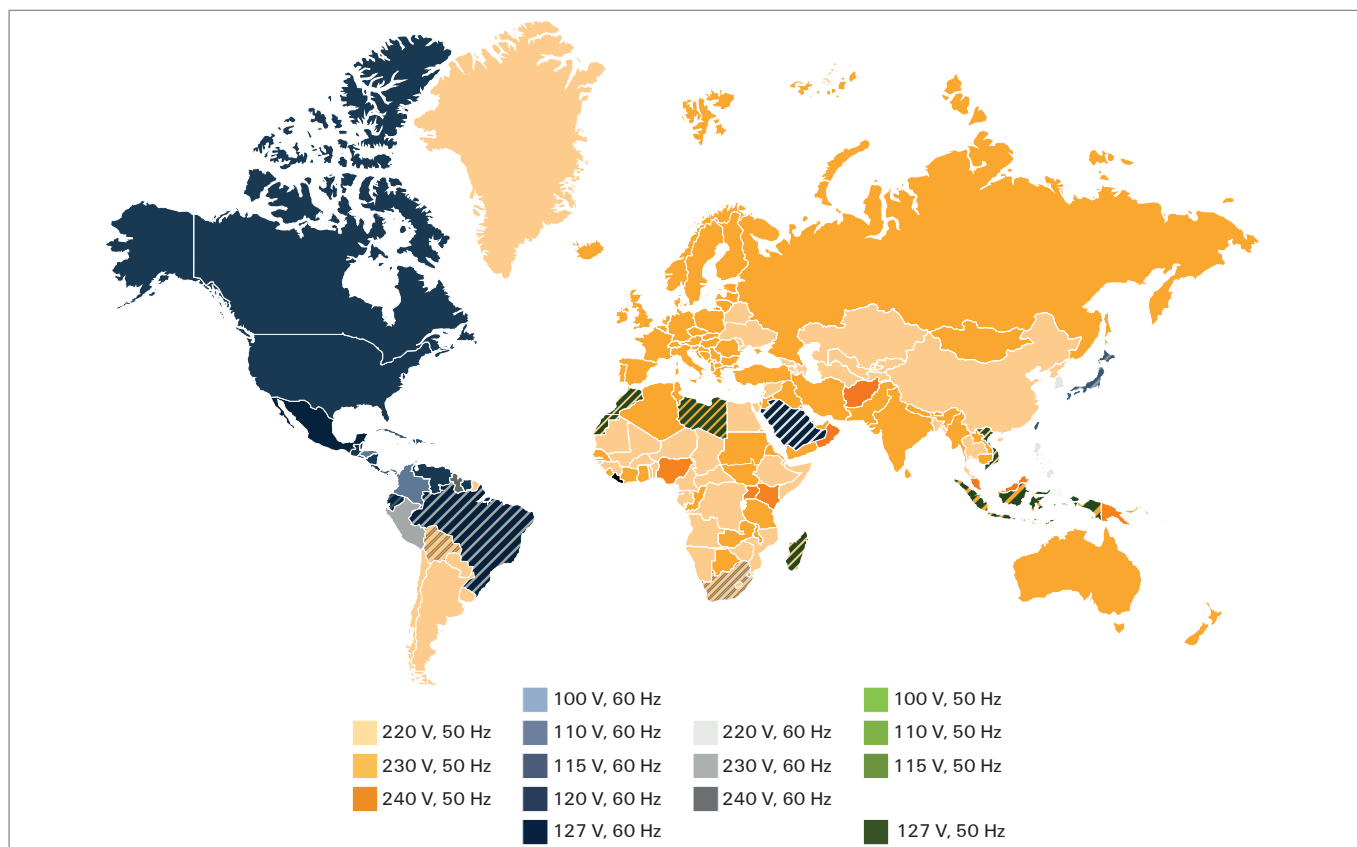
Use only one device for all the mains voltages

An increasing number of machines are being used worldwide. PROtop UW power supply units can be operated on all mains voltages in the world – both on single- and three-phase mains and DC supply networks. The units allow direct parallel connection for redundancy or power increase.

The fully electronic input circuit of our UW power supplies with an ultra-wide input voltage range of 85 – 550 V AC or 90 – 800 V DC allows operation on all supply networks in the world. Device classes up to 240 W ensure the basic supply of small to medium control systems. The integrated ORing MOSFETs of the PROtop family allow direct parallel connection to increase performance as well as the design of redundant power supply systems.

Your special advantages:

- Ultra-wide input voltage range for operation in supply networks worldwide
- Integrated ORing MOSFETs for direct parallel connection for redundancy purposes or to increase power
- DCL technology for high peak current reserves for fuse tripping or motor starts
- Communication interface for data transparency and remote control



Countries with a cross-hatched colour pattern have different supply voltages between the colour-coded voltage supplies.



Operation on all networks worldwide

The fully electronic input stage of the UW power supply units enables continuous operation on single- and three-phase mains supplies of 85 – 550 V AC as well as operation on DC mains supplies of 90 – 800 V DC.

ORing
MOSFETs

Direct parallel connection

The integrated ORing MOSFETs enable direct parallel connection for power increase or redundancy without any diode modules.



Fit for the future thanks to IO-LINK

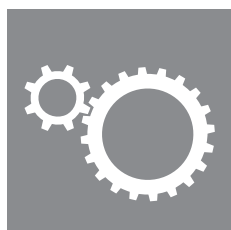
The optional communication modules, which can be retrofitted at any time, ensure data transparency, allow automated parameterization, and enable remote control.

DCL

Peak current reserves thanks to DCL

High peak current reserves of up to 600 % nominal current reliably trigger miniature circuit breakers. In addition, the dynamic current limitation DCL enables high peak currents for powerful motor starts.

Optimal for:



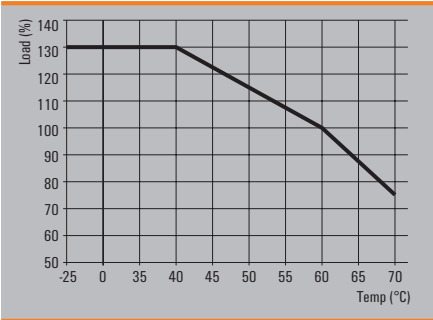
connectPower PROtop UW

connectPower PROtop2 UW

- DCL technology for an excellent dynamic range
- High energy efficiency
- Mode of operation: single or parallel operation and adjustable short-circuit response (continuous current or switch-off)
- Useful life of up to 15 years, MTBF > 1 000 000 h.
- Extremely slim design



Derating curve



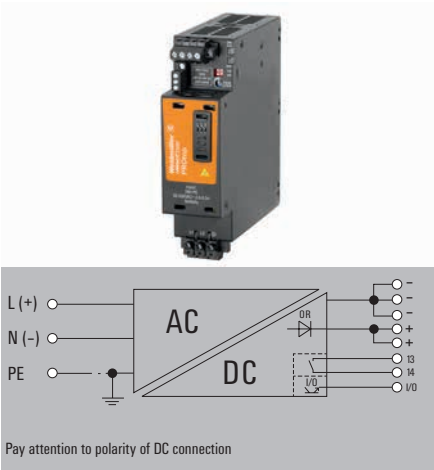
Technical data

General data	
Insulation voltage input / earth	3.2 kV
Insulation voltage output / earth	0.5 kV
Insulation voltage, input/output	3.5 kV
Earth leakage current, max.	3.5 mA
Series switching capability	Yes
Ambient temperature (operational) / Storage temperature	-40 °C...75 °C / -40 °C...85 °C
Humidity at operating temperature	5...100 % no condensation
Protection class / Pollution degree	I, with PE connection / 2
MTBF	> 1.000.000 h according IEC 1709 (SN29500)
Housing version	Metal, corrosion resistant
Mounting position, installation notice	Horizontal on DIN rail TS 35, top and bottom 50 mm clearance for free air flow, 10 mm clearance to neighbouring active subassemblies with full load, 5 mm with passive neighbouring subassemblies, direct row mounting with 90% rated load
Conformal coating	Yes
EMC / shock / vibration	
Interference immunity test acc. to	EN 55032:2015, EN 61000-3-2:2019, EN 61000-6-3:2007/A1:2011, EN 61000-6-4:2007/A1:2011, EN 61000-3-3:2013+A1:2019, EN 55035:2017, EN 61000-6-1:2019, EN 61000-6-2:2019, IEC 61000-4-2:2008, IEC 61000-4-3:2006+A1:2007+A2:2010, IEC 61000-4-4:2012, IEC 61000-4-5:2014, IEC 61000-4-6:2013, IEC 61000-4-8:2009, IEC 61000-4-11:2004
Shock	30 g in all directions
Resistance to vibration	2.3 g (on DIN rail), 4 g (with direct mounting)
Electrical safety (applied standards)	
Electrical machine equipment	Acc. to EN60335-1
Safety transformers for switch-mode power supplies	According to EN 61558-2-17
Safety extra-low voltage	SELV according to EN 62368-1, PELV according to EN 60204-1
Protective separation / protection against electrical shock	VDE0100-410 / acc. to DIN57100-410
Protection against dangerous shock currents	Acc. to VDE0106-101

connectPower PROtop2 UW

- 1-phase power supplies with wide voltage input

PRO TOP2 120W 24V 5A UW EX



Technical data

Input	
Rated input voltage	100 - 500 V AC / 120 - 500 V DC
Input voltage range AC	85...550 V AC
Frequency range AC	45...65 Hz
DC input voltage range	90...800 V DC
Input fuse (internal) / Inrush current	Yes / max. 5 A
Output	
Rated output voltage	24 V DC $\pm$ 1 %
Output voltage	22.5...28.8 V
DCL - peak load reserve	600 % (15 ms)
Residual ripple, breaking spikes	< 50 mVss @ U_{Nomin} , Full Load
Reserve capacity @ U_{Nomin}	130% permanent at $\leq 40^{\circ}\text{C}$, 150 % (5 s)
Nominal output current for U_{nom}	5 A @ 60 °C
General data	
Derating	> 60°C (2.5% / 1°C)
Series switching capability	Yes
Degree of efficiency	89%
Power factor (approx.)	> 0.8 @ 230 V AC, > 0.6 @ 400 V AC
Mains failure bridge-over time, min. [In-Block]	20ms
LED green/red	Green: Operation (failure-free), Flashing green: advance warning I>90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error
Parallel connection option	yes, max 10
Depth x width x height	125 / 39 / 130 mm
Net weight	920 g
Approvals	
Approvals	TUEV, CE

Input	
Rated input voltage	100 - 500 V AC / 120 - 500 V DC
Input voltage range AC	85...550 V AC
Frequency range AC	45...65 Hz
DC input voltage range	90...800 V DC
Input fuse (internal) / Inrush current	Yes / max. 5 A
Output	
Rated output voltage	24 V DC $\pm$ 1 %
Output voltage	22.5...28.8 V
DCL - peak load reserve	600 % (15 ms)
Residual ripple, breaking spikes	< 50 mVss @ U_{Nomin} , Full Load
Reserve capacity @ U_{Nomin}	130% permanent at $\leq 40^{\circ}\text{C}$, 150 % (5 s)
Nominal output current for U_{nom}	5 A @ 60 °C
General data	
Derating	> 60°C (2.5% / 1°C)
Series switching capability	Yes
Degree of efficiency	89%
Power factor (approx.)	> 0.8 @ 230 V AC, > 0.6 @ 400 V AC
Mains failure bridge-over time, min. [In-Block]	20ms
LED green/red	Green: Operation (failure-free), Flashing green: advance warning I>90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error
Parallel connection option	yes, max 10
Depth x width x height	125 / 39 / 130 mm
Net weight	920 g
Approvals	
Approvals	TUEV, CE

Connection data	
Connection system	Clamping yoke
Number of terminals	4 (++) (-)
Wire cross-section, rigid min/max	0.2 / 4
Wire cross-section, flexible min/max	0.2 / 4
Wire cross-section, AWG/kcmil min/max	30 / 12
Note	

Input	Output
Clamping yoke	Clamping yoke connection
3 for L/N/PE	4 (++) (-)
0.2 / 4	0.2 / 4
0.2 / 4	0.2 / 4
30 / 12	30 / 12

Ordering data

Type	Qty.	Order No.
PRO TOP2 120W 24V 5A UW EX	1	2467240000

Type	Qty.	Order No.
PRO TOP2 120W 24V 5A UW EX	1	2467240000

Note

Current technical data at catalog.

Small metal foot



Type	Order No.
MTA 30 MF	1251320000

Large metal foot



Type	Order No.
MTA 45 MF	1251310000

Small plastic foot



Type	Order No.
MTA 30 BK	1168970000

Large plastic foot



Type	Order No.
MTA 45 BK	1962250000

Small wall mounting



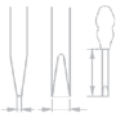
Type	Order No.
CP A WALLADAPTER 30 MM	1461870000

Large wall mounting



Type	Order No.
CP A WALLADAPTER 45 MM	1461850000

Small screwdriver



Type	Size/AF	a	b	c	Order No.
SDIK PH 1 X 80				80	2749890000
SDIS 0.5X3.0X100		0,5	3	100	2749800000

Markers



Type	Colour	Qty.	Order No.
SM 18/9.5 K MC NE WS	white	200	1248580000

End bracket

For DIN rail TS 35



Polyamide with fibre glass, screwable	Colour	Torque	Qty.	Order No.
WEW 35/1 SW	black	1.2 Nm	50	1162600000

Powerful power supply for machines and systems

PROmax offers flexible solutions for ambitious automation

Power supplies for large systems and machines are particularly challenging. Failures caused by device defects impact the entire production line and can result in high costs.

Our high performance and durable PROmax switched-mode power supply units are designed for demanding requirements. Continuous overload of up to 120 % or transient peak loads of 300 % are easy for PROmax to handle.

High boost capability and full power are also enabled over a wide temperature range. Our switched-mode power supply units can be used around the world and are also suitable for tight spaces thanks to their narrow width.

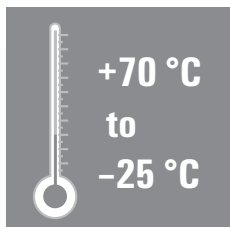


High boost capability for all industrial systems

Whether in large machines and plants, in power engineering or even in light process systems: Thanks to their high boost capability, the space-saving housing geometries, the wide temperature range and the numerous approvals, our PROmax switched-mode power supply units can be used for universal applications and anywhere in the world.

Robust and reliable supply

MTBF values exceeding 500,000 hours and a wide temperature range of -25°C to $+70^{\circ}\text{C}$ ensure reliable supply of the systems. Start-up temperatures of -40°C make the PROmax particularly robust.

**Space-saving width**

With extremely small width and direct side-by-side fitting, minimal space is required on the DIN rail.

**Universal application**

Variants with 3 A to 40 A output current, output voltages of 5 V DC to 48 V DC and numerous approvals (e.g. GL, UL, Class I, Div. 2) enable universal application solutions the world over.

**Powerful**

Continuous output power of up to 120 % at temperatures up to $+45^{\circ}\text{C}$ and high output peaks up to 300 % ensure safe operation, also at the limits.

Robust Input

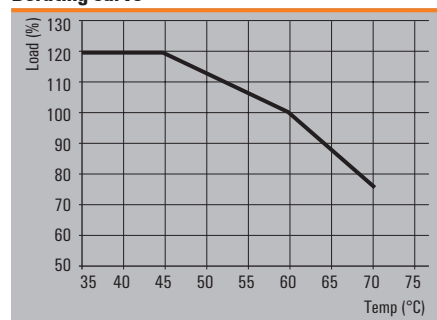
With an AC input voltage range of up to 277 V in single-phase devices and SEMI F47, PROmax is extremely robust.

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Derating curve



Permitted continuous limit currents [A]

Typ\Temp.	45 °C	50 °C	55 °C	60 °C	65 °C	70 °C
1ph 24 V / 3 A	3,6	3,3	3,2	3	2,6	2,2
1ph 24 V / 5 A	6	5,7	5,4	5	4,4	3,8
1ph 24 V / 7,5 A	9	8,5	8	7,5	6,6	5,6
1ph 24 V / 10 A	12	11,3	10,7	10	8,8	7,5
1ph 24 V / 20 A	24	22,6	21,4	20	17,6	15
1ph 24 V / 40 A	48	45,2	42,8	40	35,2	30
1ph 5 V / 14 A	16,8	15,8	15	14	12,3	10,5
1ph 12 V / 6 A	7,2	6,8	6,4	6	5,3	4,5
1ph 12 V / 10 A	12	11,3	10,7	10	8,8	7,5
1ph 48 V / 5 A	6	5,7	5,4	5	4,4	3,8
1ph 48 V / 10 A	12	11,3	10,7	10	8,8	7,5
1ph 48 V / 20 A	24	22,6	21,4	20	17,6	15
3ph 24 V / 5 A	6	5,7	5,4	5	4,4	3,8
3ph 24 V / 10 A	12	11,3	10,7	10	8,8	7,5
3ph 24 V / 20 A	24	22,6	21,4	20	17,6	15
3ph 24 V / 40 A	48	45,2	42,8	40	35,2	30

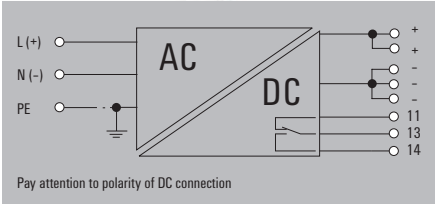
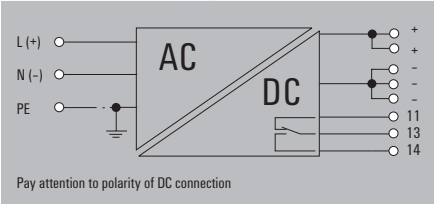
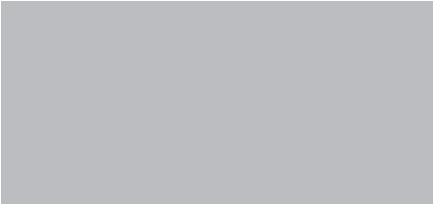
Technical data

General data	
Current limiting	> 120% I _N
Insulation voltage input / earth	3.5 kV
Insulation voltage output / earth	0.5 kV
Insulation voltage, input/output	4 kV
Earth leakage current, max.	3.5 mA
Series switching capability	Yes
Ambient temperature (operational) / Storage temperature / Start-up	-25 °C...70 °C / -40 °C...85 °C / ≥ -40 °C
Humidity at operating temperature	5...95 %, no condensation
Protection class / Pollution degree	I, with PE connection / 2
MTBF	>500.000h (25°C, IEC 61709 (SN29500))
Housing version	Metal, corrosion resistant
Status indication	LED red/green and relay (≥21.6 V DC LED green, relay on/ ≤20.6 LED red, relay off)
Mounting position, installation notice	Horizontal on TS35 mounting rail. 50 mm of clearance at top & bottom for air circ. Can mount side by side with no space in between.
EMC / shock / vibration	
Interference immunity test acc. to	EN 55024, EN 55032, IEC61000-3-2-3, IEC61000-4-2-3,4-5-6-8-11
Shock	30 g in all directions
Resistance to vibration	2.3 g
Electrical safety (applied standards)	
Electrical machine equipment	Acc. to EN60204
Safety transformers for switch-mode power supplies	According to EN 61558-2-16
For use with electronic equipment	Acc. to EN50178 / VDE0160
Protective separation / protection against electrical shock	VDE0100-410 / acc. to DIN57100-410
Protection against dangerous shock currents	Acc. to VDE0106-101

connectPower PROmax

PRO MAX 72W 24V 3A

PRO MAX 120W 24V 5A



Technical data

Input	
Rated input voltage	100...240 V AC (wide-range input)
Input voltage range AC	85...277 V AC
Frequency range AC	45...65 Hz
DC input voltage range	80...370 V DC
AC current consumption	1 A @ 230 V AC / 1.5 A @ 115 V AC
DC current consumption	1A @ 370 VDC / 1,5A @ 120 VDC
Input fuse (internal) / Inrush current	Yes / max. 15 A
Recommended back-up fuse	6 A, Char. B, circuit breaker, 3 - 5 A, char. C, circuit breaker
Output	
Rated output voltage	24 V DC $\pm$ 1 %
Output voltage	22.5...29.5 V (adjustable via potentiometer)
Residual ripple, breaking spikes	< 50 mVss @ U_{Nomo} , Full Load
Nominal output current for U_{Nomo}	3 A @ 60 °C
Continuous output current @ U_{Nomin}	3,6 A @ 45 °C, 2,25 A @ 70 °C
Reserve capacity @ U_{Nomin}	3,6 A (1 min), 4,5 A (4s)
Current capacity (pulse) @ U_{Nomin}	9 A (2ms)
General data	
Degree of efficiency	89%
Power factor (approx.)	> 0.90 @ 230 V AC
AC failure bridging time @ I_{Nomo}	min. 20 ms
Protection against reverse voltages from the load	30...35 V DC
Parallel connection option	yes, max. 5
Depth x width x height	125 / 32 / 130 mm
Net weight	650 g
Approvals	
Approvals	CE; cULus; cULusEX; cURus; DNVGL; EAC; TUEV

Input		Output	
Screw connection		Screw connection	
3 for L/N/PE		8 (+,-,11,13,14)	
0.18 / 6		0.5 / 6	
0.22 / 4		0.5 / 4	
26 / 10		26 / 12	
Input		Output	
Screw connection		Screw connection	
3 for L/N/PE		8 (+,-,11,13,14)	
0.18 / 6		0.5 / 6	
0.22 / 4		0.5 / 4	
26 / 10		26 / 12	

Input		Output	
Screw connection		Screw connection	
3 for L/N/PE		8 (+,-,11,13,14)	
0.18 / 6		0.5 / 6	
0.22 / 4		0.5 / 4	
26 / 10		26 / 12	
Input		Output	
Screw connection		Screw connection	
3 for L/N/PE		8 (+,-,11,13,14)	
0.18 / 6		0.5 / 6	
0.22 / 4		0.5 / 4	
26 / 10		26 / 12	

Connection data	
Connection system	
Number of terminals	
Wire cross-section, rigid min/max	mm ²
Wire cross-section, flexible min/max	mm ²
Wire cross-section, AWG/kcmil min/max	
Note	

Connection data	
Connection system	
Number of terminals	
Wire cross-section, rigid min/max	mm ²
Wire cross-section, flexible min/max	mm ²
Wire cross-section, AWG/kcmil min/max	
Note	

Connection data	
Connection system	
Number of terminals	
Wire cross-section, rigid min/max	mm ²
Wire cross-section, flexible min/max	mm ²
Wire cross-section, AWG/kcmil min/max	
Note	

Ordering data

Type	Qty.	Order No.
PRO MAX 72W 24V 3A	1	1478100000
Note		

Type	Qty.	Order No.
PRO MAX 72W 24V 3A	1	1478100000
Note		

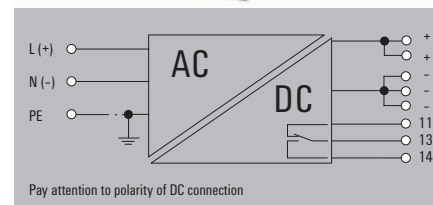
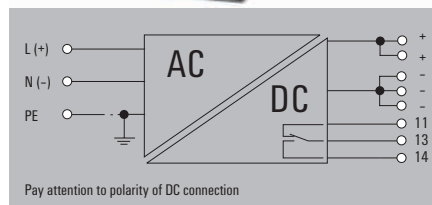
Type	Qty.	Order No.
PRO MAX 120W 24V 5A	1	1478110000
Note		

connectPower PROmax

connectPower PROmax

PRO MAX 180W 24V 7,5A

PRO MAX 240W 24V 10A



Technical data

Input	
Rated input voltage	100...240 V AC (wide-range input)
Input voltage range AC	85...277 V AC
Frequency range AC	45...65 Hz
DC input voltage range	80...370 V DC
AC current consumption	1 A @ 230 V AC / 2 A @ 115 V AC
DC current consumption	1A @ 370 VDC / 2A @ 120 VDC
Input fuse (internal) / Inrush current	Yes / max. 15 A
Recommended back-up fuse	10 A, Char. B circuit breaker, 6...8 A, char. C circuit breaker
Output	
Rated output voltage	24 V DC $\pm$ 1 %
Output voltage	22.5...29.5 V (adjustable via potentiometer)
Residual ripple, breaking spikes	< 50 mVss @ U_{Nem} , Full Load
Nominal output current for U_{nom}	7,5 A @ 60 °C
Continuous output current @ $U_{Nominal}$	9 A @ 45°C, 5,6 A @ 70°C
Reserve capacity @ $U_{Nominal}$	9 A (1 min), 11.25 A (4s)
Current capacity (pulse) @ $U_{Nominal}$	22,5 A (2ms)
General data	
Degree of efficiency	91.5%
Power factor (approx.)	> 0.95 @ 230 V AC
AC failure bridging time @ I_{nom}	min. 20 ms
Protection against reverse voltages from the load	30...35 V DC
Parallel connection option	yes, max. 5
Depth x width x height	125 / 50 / 130 mm
Net weight	950 g
Approvals	
Approvals	CE; cULus; cULusEX; cURus; DNVGL; EAC; TUEV

Input	
Rated input voltage	100...240 V AC (wide-range input)
Input voltage range AC	85...277 V AC
Frequency range AC	45...65 Hz
DC input voltage range	80...370 V DC
AC current consumption	1.5 A @ 230 V AC / 3 A @ 115 V AC
DC current consumption	1,5A @ 370 VDC / 3A @ 120 VDC
Input fuse (internal) / Inrush current	Yes / max. 15 A
Recommended back-up fuse	10 A, Char. B circuit breaker, 6...8 A, char. C circuit breaker
Output	
Rated output voltage	24 V DC $\pm$ 1 %
Output voltage	22.5...29.5 V (adjustable via potentiometer)
Residual ripple, breaking spikes	< 50 mVss @ U_{Nem} , Full Load
Nominal output current for U_{nom}	10 A @ 60 °C
Continuous output current @ $U_{Nominal}$	12 A @ 45°C, 7,5 A @ 70°C
Reserve capacity @ $U_{Nominal}$	12 A (1 min), 15 A (4s)
Current capacity (pulse) @ $U_{Nominal}$	30 A (2ms)
General data	
Degree of efficiency	91.5%
Power factor (approx.)	> 0.95 @ 230 V AC
AC failure bridging time @ I_{nom}	min. 20 ms
Protection against reverse voltages from the load	30...35 V DC
Parallel connection option	yes, max. 5
Depth x width x height	125 / 60 / 130 mm
Net weight	1050 g
Approvals	
Approvals	CE; cULus; cULusEX; cURus; DNVGL; EAC; TUEV

Input	
Rated input voltage	100...240 V AC (wide-range input)
Input voltage range AC	85...277 V AC
Frequency range AC	45...65 Hz
DC input voltage range	80...370 V DC
AC current consumption	1.5 A @ 230 V AC / 3 A @ 115 V AC
DC current consumption	1,5A @ 370 VDC / 3A @ 120 VDC
Input fuse (internal) / Inrush current	Yes / max. 15 A
Recommended back-up fuse	10 A, Char. B circuit breaker, 6...8 A, char. C circuit breaker
Output	
Rated output voltage	24 V DC $\pm$ 1 %
Output voltage	22.5...29.5 V (adjustable via potentiometer)
Residual ripple, breaking spikes	< 50 mVss @ U_{Nem} , Full Load
Nominal output current for U_{nom}	10 A @ 60 °C
Continuous output current @ $U_{Nominal}$	12 A @ 45°C, 7,5 A @ 70°C
Reserve capacity @ $U_{Nominal}$	12 A (1 min), 15 A (4s)
Current capacity (pulse) @ $U_{Nominal}$	30 A (2ms)
General data	
Degree of efficiency	91.5%
Power factor (approx.)	> 0.95 @ 230 V AC
AC failure bridging time @ I_{nom}	min. 20 ms
Protection against reverse voltages from the load	30...35 V DC
Parallel connection option	yes, max. 5
Depth x width x height	125 / 60 / 130 mm
Net weight	1050 g
Approvals	
Approvals	CE; cULus; cULusEX; cURus; DNVGL; EAC; TUEV

Connection data	
Connection system	
Number of terminals	
Wire cross-section, rigid min/max	mm ²
Wire cross-section, flexible min/max	mm ²
Wire cross-section, AWG/kcmil min/max	
Note	

Input	Output
Screw connection	Screw connection
3 for L/N/PE	8 (+, -, 11, 13, 14)
0.18 / 6	0.5 / 6
0.22 / 4	0.5 / 4
26 / 10	26 / 12

Input	Output
Screw connection	Screw connection
3 for L/N/PE	8 (+, -, 11, 13, 14)
0.18 / 6	0.18 / 6
0.22 / 4	0.22 / 4
26 / 10	26 / 10

Ordering data

Type	Qty.	Order No.
PRO MAX 180W 24V 7,5A	1	1478120000
Note		
The internal varistor found in a switch-mode power supply does not replace the need for surge protection within a system.		

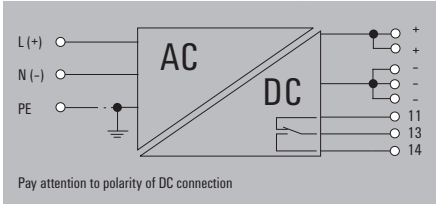
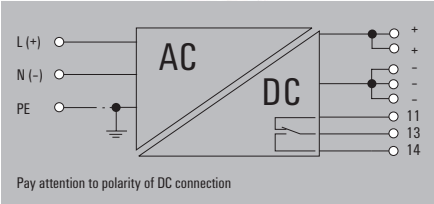
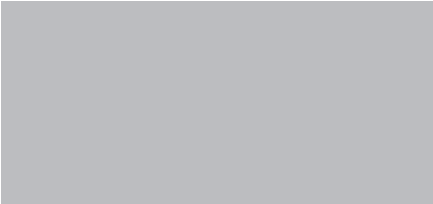
Type	Qty.	Order No.
PRO MAX 240W 24V 10A	1	1478130000
Note		
The internal varistor found in a switch-mode power supply does not replace the need for surge protection within a system.		

Type	Qty.	Order No.
PRO MAX 240W 24V 10A	1	1478130000
Note		
The internal varistor found in a switch-mode power supply does not replace the need for surge protection within a system.		

connectPower PROmax

PRO MAX 480W 24V 20A

PRO MAX 960W 24V 40A



Technical data

Input	
Rated input voltage	100...240 V AC (wide-range input)
Input voltage range AC	85...277 V AC
Frequency range AC	45...65 Hz
DC input voltage range	80...370 V DC
AC current consumption	2,3A @ 230 VAC / 4,8A @ 115 VAC
DC current consumption	1,5A @ 370 VDC / 4,8A @ 120 VDC
Input fuse (internal) / Inrush current	Yes / max. 15 A
Recommended back-up fuse	16 A, char. B circuit breaker, 10 A, Char. C circuit breaker
Output	
Rated output voltage	24 V DC $\pm$ 1 %
Output voltage	22.5...29.5 V (adjustable via potentiometer)
Residual ripple, breaking spikes	< 50 mVss @ $U_{N\text{om}}$, Full Load
Nominal output current for $U_{N\text{om}}$	20 A @ 60 °C
Continuous output current @ $U_{N\text{om}}$	24 A @ 45°C, 15 A @ 70°C
Reserve capacity @ $U_{N\text{om}}$	24 A (1 min), 30 A (4s), 100...240 V AC
Current capacity (pulse) @ $U_{N\text{om}}$	60 A (2ms)
General data	
Degree of efficiency	92 %
Power factor (approx.)	> 0.95 @ 230 V AC
AC failure bridging time @ $I_{N\text{om}}$	min. 20 ms
Protection against reverse voltages from the load	30...35 V DC
Parallel connection option	yes, max. 3
Depth x width x height	150 / 90 / 130 mm
Net weight	2000 g
Approvals	
Approvals	CE; cULus; cULusEX; cURus; DNVGL; EAC; TUEV

Input	
Rated input voltage	100...240 V AC (wide-range input)
Input voltage range AC	85...277 V AC
Frequency range AC	45...65 Hz
DC input voltage range	80...370 V DC
AC current consumption	4,52A @ 230 VAC / 10A @ 115 VAC
DC current consumption	2,8A @ 370 VDC / 10A @ 120 VDC
Input fuse (internal) / Inrush current	Yes / max. 15 A
Recommended back-up fuse	20 A, char. B circuit breaker, 16 A, char. C, circuit breaker
Output	
Rated output voltage	24 V DC $\pm$ 1 %
Output voltage	22.5...29.5 V (adjustable via potentiometer)
Residual ripple, breaking spikes	< 50 mVss @ $U_{N\text{om}}$, Full Load
Nominal output current for $U_{N\text{om}}$	40 A @ 60 °C
Continuous output current @ $U_{N\text{om}}$	48 A @ 45°C, 30 A @ 70°C
Reserve capacity @ $U_{N\text{om}}$	48 A (1 min), 60 A (4s), 100...240 V AC
Current capacity (pulse) @ $U_{N\text{om}}$	120 A (2ms)
General data	
Degree of efficiency	93%
Power factor (approx.)	> 0.95 @ 230 V AC
AC failure bridging time @ $I_{N\text{om}}$	min. 20 ms
Protection against reverse voltages from the load	30...35 V DC
Parallel connection option	yes, max. 3
Depth x width x height	150 / 140 / 130 mm
Net weight	3900 g
Approvals	
Approvals	CE; cULus; cULusEX; cURus; DNVGL; EAC; TUEV

Input	
Rated input voltage	100...240 V AC (wide-range input)
Input voltage range AC	85...277 V AC
Frequency range AC	45...65 Hz
DC input voltage range	80...370 V DC
AC current consumption	4,52A @ 230 VAC / 10A @ 115 VAC
DC current consumption	2,8A @ 370 VDC / 10A @ 120 VDC
Input fuse (internal) / Inrush current	Yes / max. 15 A
Recommended back-up fuse	20 A, char. B circuit breaker, 16 A, char. C, circuit breaker
Output	
Rated output voltage	24 V DC $\pm$ 1 %
Output voltage	22.5...29.5 V (adjustable via potentiometer)
Residual ripple, breaking spikes	< 50 mVss @ $U_{N\text{om}}$, Full Load
Nominal output current for $U_{N\text{om}}$	40 A @ 60 °C
Continuous output current @ $U_{N\text{om}}$	48 A @ 45°C, 30 A @ 70°C
Reserve capacity @ $U_{N\text{om}}$	48 A (1 min), 60 A (4s), 100...240 V AC
Current capacity (pulse) @ $U_{N\text{om}}$	120 A (2ms)
General data	
Degree of efficiency	93%
Power factor (approx.)	> 0.95 @ 230 V AC
AC failure bridging time @ $I_{N\text{om}}$	min. 20 ms
Protection against reverse voltages from the load	30...35 V DC
Parallel connection option	yes, max. 3
Depth x width x height	150 / 140 / 130 mm
Net weight	3900 g
Approvals	
Approvals	CE; cULus; cULusEX; cURus; DNVGL; EAC; TUEV

Connection data	
Connection system	Screw connection
Number of terminals	3 for L/N/PE
Wire cross-section, rigid min/max	0.18 / 6 mm ²
Wire cross-section, flexible min/max	0.22 / 4 mm ²
Wire cross-section, AWG/kcmil min/max	26 / 10
Note	

Input	Output
Screw connection	Screw connection
3 for L/N/PE	8 (+, -, 11, 13, 14)
0.18 / 6	0.18 / 6
0.22 / 4	0.22 / 4
26 / 10	26 / 10

Input	Output
Screw connection	Screw connection
3 for L/N/PE	8 (+, -, 11, 13, 14)
0.18 / 6	0.5 / 16
0.22 / 4	0.5 / 16
26 / 10	22 / 8

Ordering data

Type	Qty.	Order No.
PRO MAX 480W 24V 20A	1	1478140000

Type	Qty.	Order No.
PRO MAX 480W 24V 20A	1	1478140000

Type	Qty.	Order No.
PRO MAX 960W 24V 40A	1	1478150000

Note
The internal varistor found in a switch-mode power supply does not replace the need for surge protection within a system.

Note
The internal varistor found in a switch-mode power supply does not replace the need for surge protection within a system.

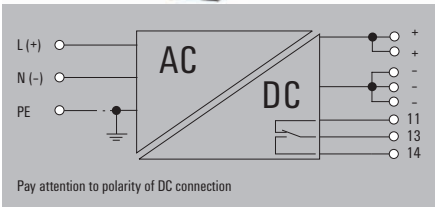
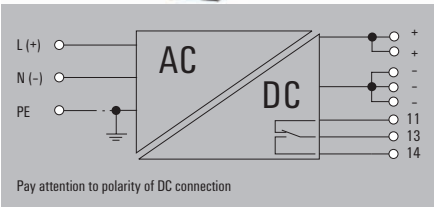
Note
The internal varistor found in a switch-mode power supply does not replace the need for surge protection within a system.

connectPower PROmax

connectPower PROmax

PRO MAX 70W 5V 14A

PRO MAX 72W 12V 6A



Technical data

Input	
Rated input voltage	100...240 V AC (wide-range input)
Input voltage range AC	85...277 V AC
Frequency range AC	45...65 Hz
DC input voltage range	80...370 V DC
AC current consumption	1 A @ 230 V AC / 1.5 A @ 115 V AC
DC current consumption	1A @ 370 VDC / 1,5A @ 120 VDC
Input fuse (internal) / Inrush current	Yes / max. 15 A
Recommended back-up fuse	6 A, Char. B, circuit breaker, 3 - 5 A, char. C, circuit breaker
Output	
Rated output voltage	5 V DC
Output voltage	4.5...7 V (adjustable via potentiometer)
Residual ripple, breaking spikes	< 50 mVss @ U _{Nom} , Full Load
Nominal output current for U _{nom}	14 A @ 60°C
Continuous output current @ U _{Nominal}	16,8 A @ 45°C, 10,5 A @ 70°C
Reserve capacity @ U _{Nominal}	16.8 A (1 min), 21 A (4s)
Current capacity (pulse) @ U _{Nominal}	42 A (2ms)
General data	
Degree of efficiency	86%
Power factor (approx.)	> 0.90 @ 230 V AC
AC failure bridging time @ I _{nom}	min. 20 ms
Protection against reverse voltages from the load	> 7.5 V DC
Parallel connection option	yes, max. 5
Depth x width x height	125 / 32 / 130 mm
Net weight	650 g
Approvals	
Approvals	

Input	
Rated input voltage	100...240 V AC (wide-range input)
Input voltage range AC	85...277 V AC
Frequency range AC	45...65 Hz
DC input voltage range	80...370 V DC
AC current consumption	1 A @ 230 V AC / 1.5 A @ 115 V AC
DC current consumption	1A @ 370 VDC / 1,5A @ 120 VDC
Input fuse (internal) / Inrush current	Yes / max. 15 A
Recommended back-up fuse	6 A, Char. B, circuit breaker, 3 - 5 A, char. C, circuit breaker
Output	
Rated output voltage	5 V DC
Output voltage	4.5...7 V (adjustable via potentiometer)
Residual ripple, breaking spikes	< 50 mVss @ U _{Nom} , Full Load
Nominal output current for U _{nom}	14 A @ 60°C
Continuous output current @ U _{Nominal}	16,8 A @ 45°C, 10,5 A @ 70°C
Reserve capacity @ U _{Nominal}	16.8 A (1 min), 21 A (4s)
Current capacity (pulse) @ U _{Nominal}	42 A (2ms)
General data	
Degree of efficiency	86%
Power factor (approx.)	> 0.90 @ 230 V AC
AC failure bridging time @ I _{nom}	min. 20 ms
Protection against reverse voltages from the load	> 7.5 V DC
Parallel connection option	yes, max. 5
Depth x width x height	125 / 32 / 130 mm
Net weight	650 g
Approvals	
Approvals	

Input	
Rated input voltage	100...240 V AC (wide-range input)
Input voltage range AC	85...277 V AC
Frequency range AC	45...65 Hz
DC input voltage range	80...370 V DC
AC current consumption	1 A @ 230 V AC / 1.5 A @ 115 V AC
DC current consumption	1A @ 370 VDC / 1,5A @ 120 VDC
Input fuse (internal) / Inrush current	Yes / max. 15 A
Recommended back-up fuse	6 A, Char. B, circuit breaker, 3 - 5 A, char. C, circuit breaker
Output	
Rated output voltage	12 V DC ± 1 %
Output voltage	10...15 V (adjustable via potentiometer)
Residual ripple, breaking spikes	< 50 mVss @ U _{Nom} , Full Load
Nominal output current for U _{nom}	6 A @ 60°C
Continuous output current @ U _{Nominal}	7.2 A @ 45°C, 4.5 A @ 70°C
Reserve capacity @ U _{Nominal}	7.2 A (1 min), 9 A (4s)
Current capacity (pulse) @ U _{Nominal}	18 A (2ms)
General data	
Degree of efficiency	89%
Power factor (approx.)	> 0.90 @ 230 V AC
AC failure bridging time @ I _{nom}	min. 20 ms
Protection against reverse voltages from the load	> 18 V DC
Parallel connection option	yes, max. 5
Depth x width x height	125 / 32 / 130 mm
Net weight	650 g
Approvals	
Approvals	

Connection data	
Connection system	Screw connection
Number of terminals	3 for L/N/PE
Wire cross-section, rigid min/max	0.18 / 6 mm ²
Wire cross-section, flexible min/max	0.22 / 4 mm ²
Wire cross-section, AWG/kcmil min/max	26 / 10
Note	

Input	Output
Screw connection	Screw connection
3 for L/N/PE	8 (++,-,11,13,14)
0.18 / 6	0.5 / 6
0.22 / 4	0.5 / 4
26 / 10	26 / 12

Input	Output
Screw connection	Screw connection
3 for L/N/PE	8 (++,-,11,13,14)
0.18 / 6	0.5 / 6
0.22 / 4	0.5 / 4
26 / 10	26 / 12

Ordering data

Type	Qty.	Order No.
PRO MAX 70W 5V 14A	1	1478210000
Note		

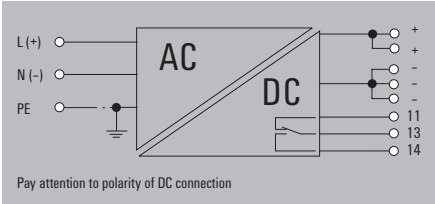
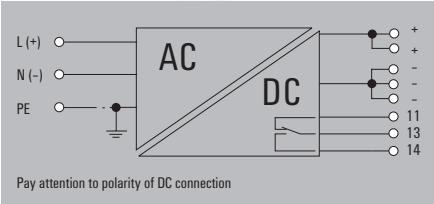
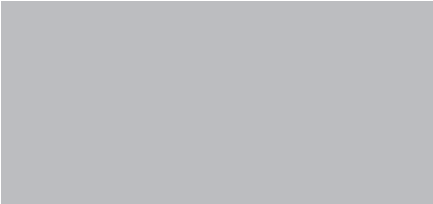
Type	Qty.	Order No.
PRO MAX 70W 5V 14A	1	1478210000
Note		
The internal varistor found in a switch-mode power supply does not replace the need for surge protection within a system.		

Type	Qty.	Order No.
PRO MAX 72W 12V 6A	1	1478220000
Note		
The internal varistor found in a switch-mode power supply does not replace the need for surge protection within a system.		

connectPower PROmax

PRO MAX 120W 12V 10A

PRO MAX 240W 48V 5A



Technical data

Input	
Rated input voltage	100...240 V AC (wide-range input)
Input voltage range AC	85...277 V AC
Frequency range AC	45...65 Hz
DC input voltage range	80...370 V DC
AC current consumption	1A @ 230 VAC / 2,5A @ 115 VAC
DC current consumption	1,5A @ 370 VDC / 2,5A @ 120 VDC
Input fuse (internal) / Inrush current	Yes / max. 15 A
Recommended back-up fuse	6 A, Char. B, circuit breaker, 6 A, char. C circuit breaker
Output	
Rated output voltage	12 V DC $\pm$ 1 %
Output voltage	10...15 V (adjustable via potentiometer)
Residual ripple, breaking spikes	< 50 mVss @ U_{Nemo} , Full Load
Nominal output current for U_{nom}	10 A @ 60 °C
Continuous output current @ $U_{Nominal}$	12 A @ 45 °C, 7,5 A @ 70 °C
Reserve capacity @ $U_{Nominal}$	12 A (1 min), 15 A (4s)
Current capacity (pulse) @ $U_{Nominal}$	30 A (2ms)
General data	
Degree of efficiency	89%
Power factor (approx.)	> 0.90 @ 230 V AC
AC failure bridging time @ I_{nom}	min. 20 ms
Protection against reverse voltages from the load	> 18 V DC
Parallel connection option	yes, max. 5
Depth x width x height	125 / 40 / 130 mm
Net weight	850 g
Approvals	
Approvals	CE; cULus; cULusEX; cURus; DNVGL; EAC; TUEV

Input	
Rated input voltage	100...240 V AC (wide-range input)
Input voltage range AC	85...277 V AC
Frequency range AC	45...65 Hz
DC input voltage range	80...370 V DC
AC current consumption	1,5 A @ 230 V AC / 3 A @ 115 V AC
DC current consumption	1,5 A @ 370 VDC / 3 A @ 120 VDC
Input fuse (internal) / Inrush current	Yes / max. 15 A
Recommended back-up fuse	10 A, Char. B circuit breaker, 6...8 A, char. C circuit breaker
Output	
Rated output voltage	48 V DC $\pm$ 1 %
Output voltage	30...56 V (adjustable via potentiometer)
Residual ripple, breaking spikes	< 50 mVss @ U_{Nemo} , Full Load
Nominal output current for U_{nom}	5 A @ 60 °C
Continuous output current @ $U_{Nominal}$	6,0 A @ 45 °C, 3,75 A @ 70 °C
Reserve capacity @ $U_{Nominal}$	5 A (1 min), 7,5 A (4s)
Current capacity (pulse) @ $U_{Nominal}$	15 A (2ms)
General data	
Degree of efficiency	92.5%
Power factor (approx.)	> 0.95 @ 230 V AC
AC failure bridging time @ I_{nom}	min. 20 ms
Protection against reverse voltages from the load	58...65 V DC
Parallel connection option	yes, max. 5
Depth x width x height	125 / 60 / 130 mm
Net weight	1050 g
Approvals	
Approvals	CE; cULus; cULusEX; cURus; DNVGL; EAC; TUEV

Input	
Rated input voltage	100...240 V AC (wide-range input)
Input voltage range AC	85...277 V AC
Frequency range AC	45...65 Hz
DC input voltage range	80...370 V DC
AC current consumption	1,5 A @ 230 V AC / 3 A @ 115 V AC
DC current consumption	1,5 A @ 370 VDC / 3 A @ 120 VDC
Input fuse (internal) / Inrush current	Yes / max. 15 A
Recommended back-up fuse	10 A, Char. B circuit breaker, 6...8 A, char. C circuit breaker
Output	
Rated output voltage	48 V DC $\pm$ 1 %
Output voltage	30...56 V (adjustable via potentiometer)
Residual ripple, breaking spikes	< 50 mVss @ U_{Nemo} , Full Load
Nominal output current for U_{nom}	5 A @ 60 °C
Continuous output current @ $U_{Nominal}$	6,0 A @ 45 °C, 3,75 A @ 70 °C
Reserve capacity @ $U_{Nominal}$	5 A (1 min), 7,5 A (4s)
Current capacity (pulse) @ $U_{Nominal}$	15 A (2ms)
General data	
Degree of efficiency	92.5%
Power factor (approx.)	> 0.95 @ 230 V AC
AC failure bridging time @ I_{nom}	min. 20 ms
Protection against reverse voltages from the load	58...65 V DC
Parallel connection option	yes, max. 5
Depth x width x height	125 / 60 / 130 mm
Net weight	1050 g
Approvals	
Approvals	CE; cULus; cULusEX; cURus; DNVGL; EAC; TUEV

Connection data	
Connection system	Screw connection
Number of terminals	3 for L/N/PE
Wire cross-section, rigid min/max	0.18 / 6 mm ²
Wire cross-section, flexible min/max	0.22 / 4 mm ²
Wire cross-section, AWG/kcmil min/max	26 / 10
Note	

Input	Output
Screw connection	Screw connection
3 for L/N/PE	8 (+, -, 11, 13, 14)
0.18 / 6	0.5 / 6
0.22 / 4	0.5 / 4
26 / 10	26 / 12

Input	Output
Screw connection	Screw connection
3 for L/N/PE	8 (+, -, 11, 13, 14)
0.18 / 6	0.18 / 6
0.22 / 4	0.22 / 4
26 / 10	26 / 10

Ordering data

Type	Qty.	Order No.
PRO MAX 120W 12V 10A	1	1478230000
Note		
The internal varistor found in a switch-mode power supply does not replace the need for surge protection within a system.		

Type	Qty.	Order No.
PRO MAX 120W 12V 10A	1	1478230000
Note		
The internal varistor found in a switch-mode power supply does not replace the need for surge protection within a system.		

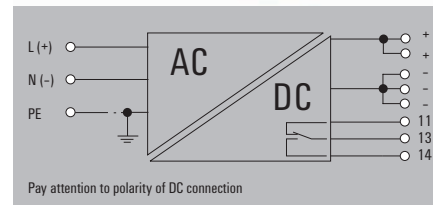
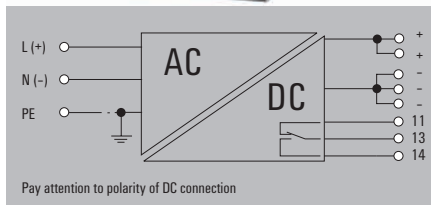
Type	Qty.	Order No.
PRO MAX 240W 48V 5A	1	1478240000
Note		
The internal varistor found in a switch-mode power supply does not replace the need for surge protection within a system.		

connectPower PROmax

connectPower PROmax

PRO MAX 480W 48V 10A

PRO MAX 960W 48V 20A



Technical data

Input	
Rated input voltage	100...240 V AC (wide-range input)
Input voltage range AC	85...277 V AC
Frequency range AC	45...65 Hz
DC input voltage range	80...370 V DC
AC current consumption	2,3A @ 230 VAC / 4,8A @ 115 VAC
DC current consumption	1,5A @ 370 VDC / 4,8A @ 120 VDC
Input fuse (internal) / Inrush current	Yes / max. 15 A
Recommended back-up fuse	16 A, char. B circuit breaker, 10 A, Char. C circuit breaker
Output	
Rated output voltage	48 V DC $\pm$ 1 %
Output voltage	30...56 V (adjustable via potentiometer)
Residual ripple, breaking spikes	< 50 mVss @ U_{Nem} , Full Load
Nominal output current for U_{nom}	10 A @ 60 °C
Continuous output current @ $U_{Nominal}$	12 A @ 45°C, 7,5 A @ 70°C
Reserve capacity @ $U_{Nominal}$	12 A (1 min), 15 A (4s), 100...240 V AC
Current capacity (pulse) @ $U_{Nominal}$	60 A (2ms)
General data	
Degree of efficiency	93%
Power factor (approx.)	> 0.95 @ 230 V AC
AC failure bridging time @ I_{nom}	min. 20 ms
Protection against reverse voltages from the load	58...65 V DC
Parallel connection option	yes, max. 5
Depth x width x height	150 / 90 / 130 mm
Net weight	2000 g
Approvals	
Approvals	CE; cULus; cULusEX; cURus; DNVGL; EAC; TUEV

Input		Output	
Screw connection		Screw connection	
3 for L/N/PE		8 (++,-,11,13,14)	
0.18 / 6		0.18 / 6	
0.22 / 4		0.22 / 4	
26 / 10		26 / 10	

Input		Output	
Screw connection		Screw connection	
3 for L/N/PE		8 (++,-,11,13,14)	
0.18 / 6		0.5 / 16	
0.22 / 4		0.5 / 16	
26 / 10		22 / 8	

Connection data	
Connection system	
Number of terminals	
Wire cross-section, rigid min/max	mm ²
Wire cross-section, flexible min/max	mm ²
Wire cross-section, AWG/kcmil min/max	
Note	

Input		Output	
Screw connection		Screw connection	
3 for L/N/PE		8 (++,-,11,13,14)	
0.18 / 6		0.18 / 6	
0.22 / 4		0.22 / 4	
26 / 10		26 / 10	

Input		Output	
Screw connection		Screw connection	
3 for L/N/PE		8 (++,-,11,13,14)	
0.18 / 6		0.5 / 16	
0.22 / 4		0.5 / 16	
26 / 10		22 / 8	

Ordering data

Type	Qty.	Order No.
PRO MAX 480W 48V 10A	1	1478250000

Type	Qty.	Order No.
PRO MAX 480W 48V 10A	1	1478250000

Type	Qty.	Order No.
PRO MAX 960W 48V 20A	1	1478270000

Note
The internal varistor found in a switch-mode power supply does not replace the need for surge protection within a system.

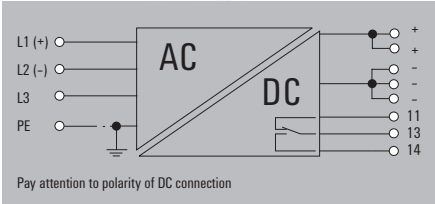
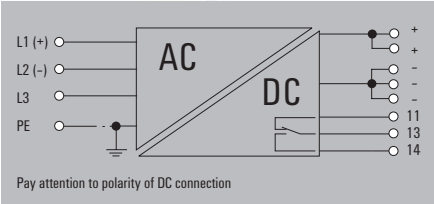
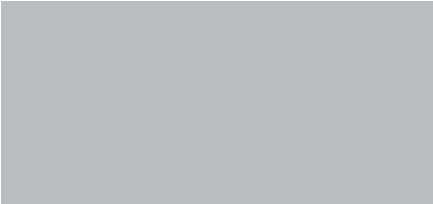
Note
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Note
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connectPower PROmax

PRO MAX3 120W 24V 5A

PRO MAX3 240W 24V 10A



Technical data

Input	
Rated input voltage	3 x 400...3 x 500 V AC (wide-range input)
Input voltage range AC	3 x 320...3 x 575 V AC / 2 x 360...2 x 575 V AC
Frequency range AC	45...65 Hz
DC input voltage range	450...800 V DC (max. 500 V DC acc. to UL508)
AC current consumption	0,28A @ 3*500 VAC / 0,3A @ 3*400 VAC
DC current consumption	0,18 A @ 800 V DC / 0,3 A @ 450 V DC
Input fuse (internal) / Inrush current	Yes / max. 15 A
Recommended back-up fuse	2...3 A, char. C circuit breaker
Output	
Rated output voltage	24 V DC $\pm$ 1 %
Output voltage	22.5...29.5 V (adjustable via potentiometer)
Residual ripple, breaking spikes	< 50 mVss @ U_{Nemo} , Full Load
Nominal output current for U_{nom}	5 A @ 60 °C
Continuous output current @ $U_{Nominal}$	6.0 A @ 45 °C, 3,75 A @ 70 °C
Reserve capacity @ $U_{Nominal}$	6 A (1 min), 7.5 A (4s), 400...500 V AC
Current capacity (pulse) @ $U_{Nominal}$	15 A (2ms)
General data	
Degree of efficiency	90%
Power factor (approx.)	> 0.50 @ 3x400 V AC
AC failure bridging time @ I_{nom}	min. 20 ms
Protection against reverse voltages from the load	30...35 V DC
Parallel connection option	yes, max. 5
Depth x width x height	125 / 40 / 130 mm
Net weight	783 g
Approvals	
Approvals	CE; cULus; cULusEX; cURus; DNVGL; EAC; TUEV

Input	
Rated input voltage	3 x 400...3 x 500 V AC (wide-range input)
Input voltage range AC	3 x 320...3 x 575 V AC / 2 x 360...2 x 575 V AC
Frequency range AC	45...65 Hz
DC input voltage range	450...800 V DC (max. 500 V DC acc. to UL508)
AC current consumption	0,35A @ 3*500 VAC / 0,4A @ 3*400 VAC
DC current consumption	0,35 A @ 800 V DC / 0,6 A @ 450 V DC
Input fuse (internal) / Inrush current	Yes / max. 15 A
Recommended back-up fuse	3 - 5 A, char. C, circuit breaker
Output	
Rated output voltage	24 V DC $\pm$ 1 %
Output voltage	22.5...29.5 V (adjustable via potentiometer)
Residual ripple, breaking spikes	< 50 mVss @ U_{Nemo} , Full Load
Nominal output current for U_{nom}	10 A @ 60 °C
Continuous output current @ $U_{Nominal}$	12 A @ 45 °C, 7,5 A @ 70 °C
Reserve capacity @ $U_{Nominal}$	12 A (1 min), 15 A (4s)
Current capacity (pulse) @ $U_{Nominal}$	30 A (2ms)
General data	
Degree of efficiency	91.5%
Power factor (approx.)	> 0.85 @ 3*400 V AC
AC failure bridging time @ I_{nom}	min. 20 ms
Protection against reverse voltages from the load	30...35 V DC
Parallel connection option	yes, max. 5
Depth x width x height	125 / 60 / 130 mm
Net weight	1322 g
Approvals	
Approvals	CE; cULus; cULusEX; cURus; DNVGL; EAC; TUEV

Input	
Rated input voltage	3 x 400...3 x 500 V AC (wide-range input)
Input voltage range AC	3 x 320...3 x 575 V AC / 2 x 360...2 x 575 V AC
Frequency range AC	45...65 Hz
DC input voltage range	450...800 V DC (max. 500 V DC acc. to UL508)
AC current consumption	0,35A @ 3*500 VAC / 0,4A @ 3*400 VAC
DC current consumption	0,35 A @ 800 V DC / 0,6 A @ 450 V DC
Input fuse (internal) / Inrush current	Yes / max. 15 A
Recommended back-up fuse	3 - 5 A, char. C, circuit breaker
Output	
Rated output voltage	24 V DC $\pm$ 1 %
Output voltage	22.5...29.5 V (adjustable via potentiometer)
Residual ripple, breaking spikes	< 50 mVss @ U_{Nemo} , Full Load
Nominal output current for U_{nom}	10 A @ 60 °C
Continuous output current @ $U_{Nominal}$	12 A @ 45 °C, 7,5 A @ 70 °C
Reserve capacity @ $U_{Nominal}$	12 A (1 min), 15 A (4s)
Current capacity (pulse) @ $U_{Nominal}$	30 A (2ms)
General data	
Degree of efficiency	91.5%
Power factor (approx.)	> 0.85 @ 3*400 V AC
AC failure bridging time @ I_{nom}	min. 20 ms
Protection against reverse voltages from the load	30...35 V DC
Parallel connection option	yes, max. 5
Depth x width x height	125 / 60 / 130 mm
Net weight	1322 g
Approvals	
Approvals	CE; cULus; cULusEX; cURus; DNVGL; EAC; TUEV

Connection data	
Connection system	Screw connection
Number of terminals	4 for L1/L2/L3/PE
Wire cross-section, rigid min/max	0.18 / 6 mm ²
Wire cross-section, flexible min/max	0.22 / 4 mm ²
Wire cross-section, AWG/kcmil min/max	26 / 10
Note	

Input	Output
Screw connection	Screw connection
4 for L1/L2/L3/PE	8 (++,-,11,13,14)
0.18 / 6	0.5 / 6
0.22 / 4	0.5 / 4
26 / 10	26 / 12

Input	Output
Screw connection	Screw connection
4 for L1/L2/L3/PE	8 (++,-,11,13,14)
0.18 / 6	0.18 / 6
0.22 / 4	0.22 / 4
26 / 10	26 / 10

Ordering data

Type	Qty.	Order No.
PRO MAX3 120W 24V 5A	1	1478170000

Type	Qty.	Order No.
PRO MAX3 120W 24V 5A	1	1478170000

Type	Qty.	Order No.
PRO MAX3 240W 24V 10A	1	1478180000

Note
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Note
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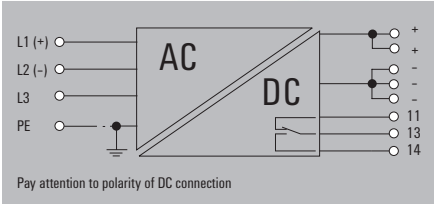
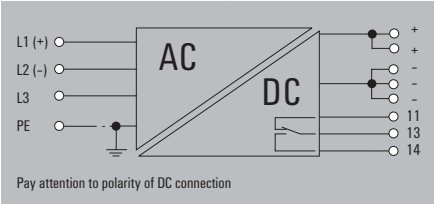
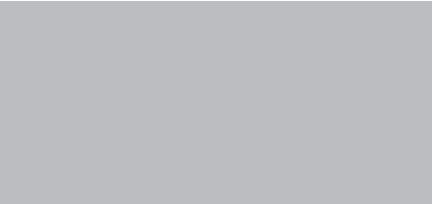
Note
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connectPower PROmax

connectPower PROmax

PRO MAX3 480W 24V 20A

PRO MAX3 960W 24V 40A



Technical data

Input	
Rated input voltage	3 x 400...3 x 500 V AC (wide-range input)
Input voltage range AC	3 x 320...3 x 575 V AC / 2 x 360...2 x 575 V AC
Frequency range AC	45...65 Hz
DC input voltage range	450...800 V DC (max. 500 V DC acc. to UL508)
AC current consumption	0,7A @ 3*500 VAC / 0,85 @ 3*400 VAC
DC current consumption	0,7 A @ 800 V DC / 1,2 A @ 450 V DC
Input fuse (internal) / Inrush current	Yes / max. 15 A
Recommended back-up fuse	3 - 5 A, char. C, circuit breaker
Output	
Rated output voltage	24 V DC $\pm$ 1 %
Output voltage	22.5...29.5 V (adjustable via potentiometer)
Residual ripple, breaking spikes	< 50 mVss @ U _{Nom} , Full Load
Nominal output current for U _{nom}	20 A @ 60 °C
Continuous output current @ U _{Nominal}	24 A @ 45°C, 15 A @ 70°C
Reserve capacity @ U _{Nominal}	24 A (1 min), 30 A (4s)
Current capacity (pulse) @ U _{Nominal}	60 A (2ms)
General data	
Degree of efficiency	91.5%
Power factor (approx.)	> 0.85 @ 3*400 V AC
AC failure bridging time @ I _{nom}	min. 20 ms
Protection against reverse voltages from the load	30...35 V DC
Parallel connection option	yes, max. 3
Depth x width x height	150 / 70 / 130 mm
Net weight	1600 g
Approvals	
Approvals	CE; cULus; cULusEX; cURus; DNVGL; EAC; TUEV

Input	
Rated input voltage	3 x 400...3 x 500 V AC (wide-range input)
Input voltage range AC	3 x 320...3 x 575 V AC / 2 x 360...2 x 575 V AC
Frequency range AC	45...65 Hz
DC input voltage range	450...800 V DC (max. 500 V DC acc. to UL508)
AC current consumption	1,3A @ 3*500 VAC / 1,6A @ 3*400 VAC
DC current consumption	1,4 A @ 800 V DC / 2,4 A @ 450 V DC
Input fuse (internal) / Inrush current	Yes / max. 15 A
Recommended back-up fuse	6...8 A, char. C circuit breaker
Output	
Rated output voltage	24 V DC $\pm$ 1 %
Output voltage	22.5...29.5 V (adjustable via potentiometer)
Residual ripple, breaking spikes	< 50 mVss @ U _{Nom} , Full Load
Nominal output current for U _{nom}	40 A @ 60 °C
Continuous output current @ U _{Nominal}	48 A @ 45°C, 30 A @ 70°C
Reserve capacity @ U _{Nominal}	48 A (1 min), 60 A (4s), 400...500 V AC
Current capacity (pulse) @ U _{Nominal}	120 A (2ms)
General data	
Degree of efficiency	93.5%
Power factor (approx.)	> 0.75 @ 3x400 V AC
AC failure bridging time @ I _{nom}	min. 20 ms
Protection against reverse voltages from the load	30...35 V DC
Parallel connection option	yes, max. 3
Depth x width x height	150 / 140 / 130 mm
Net weight	3400 g
Approvals	
Approvals	CE; cULus; cULusEX; cURus; DNVGL; EAC; TUEV

Input	
Rated input voltage	3 x 400...3 x 500 V AC (wide-range input)
Input voltage range AC	3 x 320...3 x 575 V AC / 2 x 360...2 x 575 V AC
Frequency range AC	45...65 Hz
DC input voltage range	450...800 V DC (max. 500 V DC acc. to UL508)
AC current consumption	1,3A @ 3*500 VAC / 1,6A @ 3*400 VAC
DC current consumption	1,4 A @ 800 V DC / 2,4 A @ 450 V DC
Input fuse (internal) / Inrush current	Yes / max. 15 A
Recommended back-up fuse	6...8 A, char. C circuit breaker
Output	
Rated output voltage	24 V DC $\pm$ 1 %
Output voltage	22.5...29.5 V (adjustable via potentiometer)
Residual ripple, breaking spikes	< 50 mVss @ U _{Nom} , Full Load
Nominal output current for U _{nom}	40 A @ 60 °C
Continuous output current @ U _{Nominal}	48 A @ 45°C, 30 A @ 70°C
Reserve capacity @ U _{Nominal}	48 A (1 min), 60 A (4s), 400...500 V AC
Current capacity (pulse) @ U _{Nominal}	120 A (2ms)
General data	
Degree of efficiency	93.5%
Power factor (approx.)	> 0.75 @ 3x400 V AC
AC failure bridging time @ I _{nom}	min. 20 ms
Protection against reverse voltages from the load	30...35 V DC
Parallel connection option	yes, max. 3
Depth x width x height	150 / 140 / 130 mm
Net weight	3400 g
Approvals	
Approvals	CE; cULus; cULusEX; cURus; DNVGL; EAC; TUEV

Connection data	
Connection system	Screw connection
Number of terminals	4 for L1/L2/L3/PE
Wire cross-section, rigid min/max	0.18 / 6 mm ²
Wire cross-section, flexible min/max	0.22 / 4 mm ²
Wire cross-section, AWG/kcmil min/max	26 / 10
Note	

Input	Output
Screw connection	Screw connection
4 for L1/L2/L3/PE	8 (++,-,11,13,14)
0.18 / 6	0.18 / 6
0.22 / 4	0.22 / 4
26 / 10	26 / 10

Input	Output
Screw connection	Screw connection
4 for L1/L2/L3/PE	8 (++,-,11,13,14)
0.18 / 6	0.5 / 16
0.22 / 4	0.5 / 16
26 / 10	22 / 8

Ordering data

Type	Qty.	Order No.
PRO MAX3 480W 24V 20A	1	1478190000

Type	Qty.	Order No.
PRO MAX3 480W 24V 20A	1	1478190000

Type	Qty.	Order No.
PRO MAX3 960W 24V 40A	1	1478200000

Note

The internal varistor found in a switch-mode power supply does not replace the need for surge protection within a system.

The internal varistor found in a switch-mode power supply does not replace the need for surge protection within a system.

Small metal foot

Type	Order No.
MTA 30 MF	1251320000

Large metal foot

Type	Order No.
MTA 45 MF	1251310000

Small plastic foot

Type	Order No.
MTA 30 BK	1168970000

Large plastic foot

Type	Order No.
MTA 45 BK	1962250000

Small wall mounting

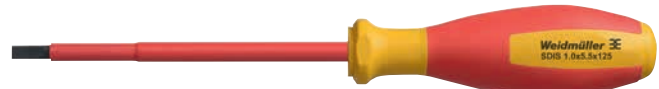
Type	Order No.
CP A WALLADAPTER 30 MM	1461870000

Large wall mounting

Type	Order No.
CP A WALLADAPTER 45 MM	1461850000

Small screwdriver

Type	Size/AF	a	b	c	Order No.
SDIK PH 1 X 80				80	2749890000
SDIS 0.5X3.0X100		0.5	3	100	2749800000

Large screwdriver

Type	Size/AF	a	b	c	Order No.
SDIS 1.0X5.5X125		1	5.5	125	2749850000

Markers

Type	Colour	Qty.	Order No.
SM 18/9.5 K MC NE WS	white	200	1248580000

Endwinkel

For DIN rail TS 35



Polyamide with fibre glass, screwable	Colour	Torque	Qty.	Order No.
WEW 35/1 SW	black	1.2 Nm	50	1162600000

Find the cost-effective solution for your power supply

PROeco combines all of the basic functions in a compact design

Even in series machine construction, switched-mode power supply units can create a real competitive edge thanks to above-average performance values. The efficient PROeco series offers all of the basic functions and delivers impressively high performance and flexibility.

Our PROeco switched-mode power supply units are characterised by their compact design, a high degree of efficiency and the fact that they are extremely easy to service. Thanks to over temperature protection, short-circuit and overload protection, they can be universally used in all applications.

Solutions featuring PROeco are characterised by extensive safety functions and compatibility with our diode modules, capacity modules and UPS components for setting up a redundant power supply.



Rapid status diagnosis

The tricolour LED display and an integrated status relay make it easier to analyse statuses and errors during commissioning and operation.

**Extremely compact**

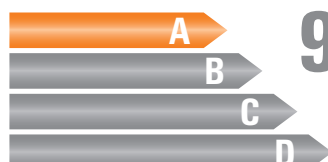
With a depth of 100 mm, PROeco power supplies even fit into small cabinets. The compact design also saves up to 50 % space in the cabinet.

**Robust and reliable**

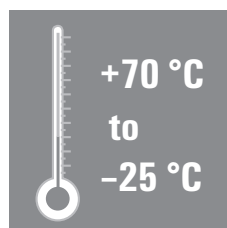
PROeco power packs work reliably in a wide temperature range from -25°C to $+70^{\circ}\text{C}$ and boast a high MTBF value of more than 500,000 hours.

Noticeably energy-saving

A high degree of efficiency of up to 93 % and minimal no-load losses ensure low energy consumption and a long service life.



93 %

**Power supply solution**

Together with the uninterruptible DC UPS, the diode modules or CAP modules, you can create a power supply solution that is tailored to your requirements.



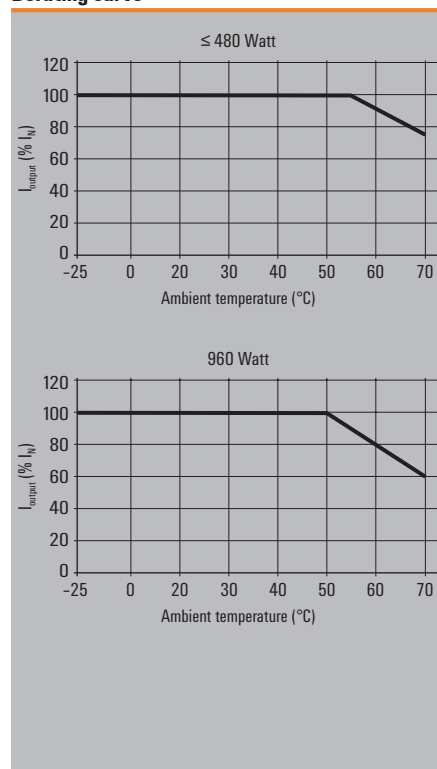
connectPower PROeco

PROeco power supplies with basic functionality and a high level of reliability

- Single- and three-phase switched-mode power supply units
- Slim design
- Large temperature range from -25 °C to 70 °C
- The output voltage can be precisely adjusted via the potentiometer on the front
- Remote monitoring via integrated status relay
- Three-coloured LED indicators for simple error detection
- Advanced visual warning at 90 % rated output current
- International approvals



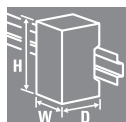
Derating curve



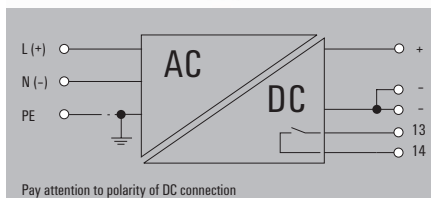
Technical data

General data	
Ambient temperature (operational)	-25 °C...70 °C
Storage temperature	-40 °C...85 °C
Max. perm. air humidity (operational)	5 %...95 % RH
Protection degree	IP20
Protection class	I, with PE connection
Pollution degree	2
Insulation voltage, input/output	3 kV
Insulation voltage input / earth	2 kV
Insulation voltage output / earth	0.5 kV
MTBF	> 500,000 h in accordance with IEC 61709 (SN29500)
Parallel connection option	yes, max. 5
Housing version	Metal, corrosion resistant
Mounting position, installation notice	on terminal rail TS 35
Short-circuit protection	Yes
Overload protection	Yes
Protection against over-heating	Yes
EMC / shock / vibration	
Noise emission in accordance with EN55032	Class B
Interference immunity test acc. to	EN 61000-4-2 (ESD), EN 61000-4-3 (RS), EN 61000-4-4 (burst), EN 61000-4-5 (surge), EN 61000-4-6 (conducted), EN61000-4-8 (Fields), EN61000-4-11 (Dips)
Limiting of mains voltage harmonic currents	According to EN 61000-3-2
Resistance to vibration / Shock	1 g according to EN 50178 / 15 g in all directions
Electrical safety (applied standards)	
Electrical machine equipment	Acc. to EN60204
Safety transformers for switch-mode power supplies	According to EN 61558-2-16
For use with electronic equipment	Acc. to EN50178 / VDE0160
Protective separation / protection against electrical shock	VDE0100-410 / acc. to DIN57100-410
Protection against dangerous shock currents	Acc. to VDE0106-101

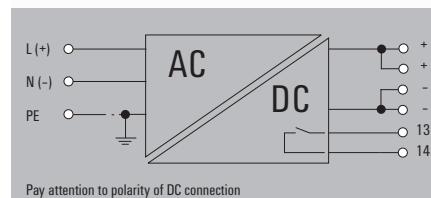
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PRO ECO 72W 24V 3A

Similar
to illustration

PRO ECO 120W 24V 5A

Similar
to illustration

Technical data

Input	
Rated input voltage	100...240 V AC (wide-range input)
Input voltage range AC	85...264 V AC (derating at 100 V AC)
Frequency range AC	47...63 Hz
DC input voltage range	80...370 V DC (Derating @ 120 V DC)
AC current consumption	0,55 A @ 230 V AC / 1,04 A @ 110 V AC
DC current consumption	0,22 A @ 370 V DC / 0,68 A @ 120 V DC
Input fuse (internal) / Inrush current	Yes / max. 40 A
Recommended back-up fuse	2 A / DI, safety fuse 6 A, Char. B, circuit breaker 2...4 A, Char. C circuit breaker
Output	
Rated output voltage	24 V DC $\pm$ 1 %
Output voltage	22...28 V (adjustable via potentiometer)
Ramp-up time / Residual ripple, breaking spikes	$\leq$ 100 ms / $<$ 50 mV _{pp} @ 24 V DC, I _N
Nominal output current for U _{nom}	3 A at 55 °C
Continuous output current @ U _{Nominal}	3 A @ 55 °C, 2,25 A @ 70 °C
Capacitive load	unrestricted
Protection against inverse voltage	Yes
Signalling	
Indication	Green LED (U _{output} > 21.6 V DC), Yellow LED (I _{output} > 90 % I _{Rated} typ.), red LED (overload, overtemperature, short-circuit, U _{output} < 20.4 V DC)
Floating contact / Contact load	Yes / max. 30 V DC / 1 A
Relay on/off	Output voltage >21.6 V DC/ <20.4 V DC, overload
General data	
Degree of efficiency	87 %
Power loss idling / nominal load / Power loss, nominal load	4 W / 9.5 W
Earth leakage current, max.	3.5 mA
Power factor (approx.)	> 0.5...230 V AC / > 0.53...115 V AC
AC failure bridging time @ I _{nom}	> 100 ms @ 230 V AC / > 20 ms @ 115 V AC
Parallel connection option	yes, max. 5
Depth x width x height / Net weight	100 / 34 / 125 mm / 566 g
Approvals	
Approvals	CE; cULus; EAC; TUEV
Connection data	
Connection system	Screw connection
Number of terminals	3 for L/N/PE
Wire cross-section, rigid min/max	0.5 / 6 mm ²
Wire cross-section, flexible min/max	0.5 / 2.5 mm ²
Wire cross-section, AWG/kcmil min/max	26 / 12
Note	

Ordering data

Type	Qty.	Order No.
PRO ECO 72W 24V 3A	1	1469470000
Note		
The internal varistor found in a switch-mode power supply does not replace the need for surge protection within a system.		

Input		Output	
Screw connection		Screw connection	
3 for L/N/PE		5 (+, -, 13, 14)	
0.5 / 6		0.5 / 6	
0.5 / 2.5		0.5 / 2.5	
26 / 12		26 / 12	

Input		Output	
Screw connection		Screw connection	
3 for L/N/PE		6 (+, -, 13, 14)	
0.5 / 6		0.5 / 6	
0.5 / 2.5		0.5 / 2.5	
26 / 12		26 / 12	

Type	Qty.	Order No.
PRO ECO 72W 24V 3A	1	1469470000

The internal varistor found in a switch-mode power supply does not replace the need for surge protection within a system.

Input		Output	
Screw connection		Screw connection	
3 for L/N/PE		6 (+, -, 13, 14)	
0.5 / 6		0.5 / 6	
0.5 / 2.5		0.5 / 2.5	
26 / 12		26 / 12	

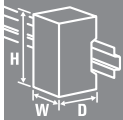
Input		Output	
Screw connection		Screw connection	
3 for L/N/PE		6 (+, -, 13, 14)	
0.5 / 6		0.5 / 6	
0.5 / 2.5		0.5 / 2.5	
26 / 12		26 / 12	

Type	Qty.	Order No.
PRO ECO 120W 24V 5A	1	1469480000

The internal varistor found in a switch-mode power supply does not replace the need for surge protection within a system.

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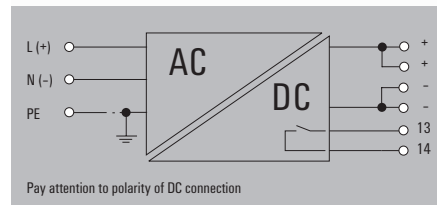
Technical data

Input	
Rated input voltage	100...240 V AC (wide-range input)
Input voltage range AC	85...264 V AC (derating at 100 V AC)
Frequency range AC	47...63 Hz
DC input voltage range	80...370 V DC (Derating @ 120 V DC)
AC current consumption	1,23 A @ 230 V AC / 2,47 A @ 110 V AC
DC current consumption	1,18 A @ 370 V DC / 2,4 A @ 120 V DC
Input fuse (internal) / Inrush current	Yes / max. 15 A
Recommended back-up fuse	4 A / DI, safety fuse 10 A, Char. B, circuit breaker 3...4 A, Char. C, circuit breaker
Output	
Rated output voltage	24 V DC $\pm$ 1 %
Output voltage	22...28 V (adjustable via potentiometer)
Ramp-up time / Residual ripple, breaking spikes	$\leq$ 100 ms / $<$ 50 mV _{pp} @ 24 V DC, I _N
Nominal output current for U _{nom}	10 A @ 55 °C
Continuous output current @ U _{Nominal}	10 A @ 55 °C, 2,5 A @ 70 °C
Capacitive load	unrestricted
Protection against inverse voltage	Yes
Signalling	
Indication	Green LED (U _{output} > 21.6 V DC), Yellow LED (I _{output} > 90 % I _{Rated} typ.), red LED (overload, overtemperature, short-circuit, U _{output} < 20.4 V DC)
Floating contact / Contact load	Yes / max. 30 V DC / 1 A
Relay on/off	Output voltage >21.6 V DC/ <20.4 V DC, overload
General data	
Degree of efficiency	90%
Power loss idling / nominal load / Power loss, nominal load	2 W / 24 W
Earth leakage current, max.	3.5 mA
Power factor (approx.)	> 0.94 @ 230 V AC / > 0.99 @ 115 V AC
AC failure bridging time @ I _{nom}	> 20 ms @ 230 V AC / > 20 ms @ 115 V AC
Parallel connection option	yes, max. 5
Depth x width x height / Net weight	100 / 60 / 125 mm / 1016 g
Approvals	
Approvals	CE; cULus; EAC; TUEV
Connection data	
Connection system	Screw connection
Number of terminals	3 for L/N/PE
Wire cross-section, rigid min/max	0.5 / 6 mm ²
Wire cross-section, flexible min/max	0.5 / 2.5 mm ²
Wire cross-section, AWG/kcmil min/max	26 / 12
Note	

Ordering data

Type	Qty.	Order No.
PRO ECO 240W 24V 10A	1	1469490000
Note		
The internal varistor found in a switch-mode power supply does not replace the need for surge protection within a system.		

PRO ECO 240W 24V 10A

Similar
to illustration

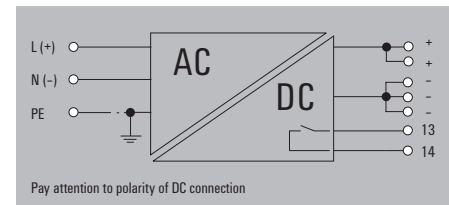
100...240 V AC (wide-range input)	85...264 V AC (derating at 100 V AC)	47...63 Hz	80...370 V DC (Derating @ 120 V DC)	1,23 A @ 230 V AC / 2,47 A @ 110 V AC	1,18 A @ 370 V DC / 2,4 A @ 120 V DC	Yes / max. 15 A	4 A / DI, safety fuse 10 A, Char. B, circuit breaker 3...4 A, Char. C, circuit breaker	24 V DC $\pm$ 1 %	22...28 V (adjustable via potentiometer)	$\leq$ 100 ms / $<$ 50 mV _{pp} @ 24 V DC, I _N	10 A @ 55 °C	10 A @ 55 °C, 2,5 A @ 70 °C	unrestricted	Yes	Green LED (U _{output} > 21.6 V DC), Yellow LED (I _{output} > 90 % I _{Rated} typ.), red LED (overload, overtemperature, short-circuit, U _{output} < 20.4 V DC)	Yes / max. 30 V DC / 1 A	Output voltage >21.6 V DC/ <20.4 V DC, overload	90%	2 W / 24 W	3.5 mA	> 0.94 @ 230 V AC / > 0.99 @ 115 V AC	> 20 ms @ 230 V AC / > 20 ms @ 115 V AC	yes, max. 5	100 / 60 / 125 mm / 1016 g	CE; cULus; EAC; TUEV
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Input	Output
Screw connection	Screw connection
3 for L/N/PE	6 (++,-,13,14)
0.5 / 6	0.5 / 6
0.5 / 2.5	0.5 / 2.5
26 / 12	26 / 12

Type	Qty.	Order No.
PRO ECO 240W 24V 10A	1	1469490000

The internal varistor found in a switch-mode power supply does not replace the need for surge protection within a system.

PRO ECO 480W 24V 20A

Similar
to illustration

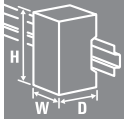
100...240 V AC (wide-range input)	85...264 V AC (derating at 100 V AC)	47...63 Hz	80...370 V DC (Derating @ 120 V DC)	2,37 A @ 230 V AC / 5,2 A @ 110 V AC	1,55 A @ 370 V DC / 4,85 A @ 120 V DC	Yes / max. 5 A	6 A / DI, safety fuse 16 A, Char. B, circuit breaker 6...8 A, Char. C, circuit breaker	24 V DC $\pm$ 1 %	22...28 V (adjustable via potentiometer)	$\leq$ 100 ms / $<$ 50 mV _{pp} @ 24 V DC, I _N	20 A @ 55 °C	20 A @ 55 °C, 15 A @ 70 °C	unrestricted	Yes	Green LED (U _{output} > 21.6 V DC), Yellow LED (I _{output} > 90 % I _{Rated} typ.), red LED (overload, overtemperature, short-circuit, U _{output} < 20.4 V DC)	Yes / max. 30 V DC / 1 A	Output voltage >21.6 V DC/ <20.4 V DC, overload	91%	5 W / 43 W	3.5 mA	> 0.98...230 V AC / > 0.98...115 V AC	> 20 ms @ 230 V AC / > 20 ms @ 115 V AC	yes, max. 3	120 / 100 / 125 mm / 1557 g	CE; cULus; EAC; TUEV
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Input	Output
Screw connection	Screw connection
3 for L/N/PE	7 (++,-,13,14)
0.5 / 6	0.5 / 6
0.5 / 2.5	0.5 / 2.5
26 / 12	26 / 10

Type	Qty.	Order No.
PRO ECO 480W 24V 20A	1	1469510000

The internal varistor found in a switch-mode power supply does not replace the need for surge protection within a system.

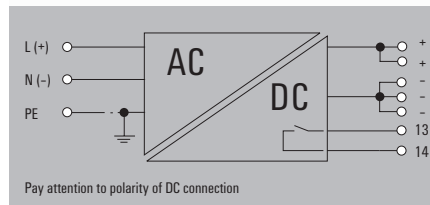
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PRO ECO 960W 24V 40A



Similar
to illustration



Technical data

Input

Rated input voltage
Input voltage range AC
Frequency range AC
DC input voltage range
AC current consumption
DC current consumption
Input fuse (internal) / Inrush current
Recommended back-up fuse

100...240 V AC (wide-range input)
85...264 V AC (derating at 100 V AC)
47...63 Hz
80...370 V DC (Derating @ 120 V DC)
4,6 A @ 230 V AC / 9,9 A @ 110 V AC
2,9 A @ 370 V DC / 9 A @ 120 V DC
Yes / max. 5 A
16 A / DI, safety fuse
20 A, Char. B, circuit breaker
16 A, Char. C, circuit breaker

Output

Rated output voltage
Output voltage
Ramp-up time / Residual ripple, breaking spikes
Nominal output current for U_{nom}
Continuous output current @ $U_{nominal}$
Capacitive load
Protection against inverse voltage

24 V DC $\pm 1\%$
22...28 V (adjustable via potentiometer)
 ≤ 100 ms / < 50 mV_{pp} @ 24 V DC, I_L
40 A @ 50 °C
40 A @ 50 °C, 24 A @ 70 °C
unrestricted
Yes

Signalling

Indication

Green LED ($U_{output} > 21.6$ V DC), Yellow LED ($I_{output} > 90\%$ I_{Rated} typ.), red LED (overload, overtemperature, short-circuit, $U_{output} < 20.4$ V DC)
Yes / max. 30 V DC / 1 A
Output voltage > 21.6 V DC / < 20.4 V DC, overload

General data

Degree of efficiency
Power loss idling / nominal load / Power loss, nominal load
Earth leakage current, max.
Power factor (approx.)
AC failure bridging time @ I_{nom}
Parallel connection option
Depth x width x height / Net weight

93%
8 W / 85 W
3.5 mA
 > 0.98 ...230 V AC / > 0.98 ...115 V AC
 > 20 ms @ 230 V AC / > 20 ms @ 115 V AC
yes, max. 3
120 / 160 / 125 mm / 3190 g

Approvals

Approvals

CE; cULus; EAC; TUEV

Connection data

Connection system
Number of terminals
Wire cross-section, rigid min/max
Wire cross-section, flexible min/max
Wire cross-section, AWG/kcmil min/max

mm²mm²

Note

Input	Output
Screw connection	Screw connection
3 for L/N/PE	7 (+, -, 13, 14)
0.5 / 6	0.5 / 16
0.5 / 2.5	2.5 / 10
26 / 12	22 / 8

Ordering data

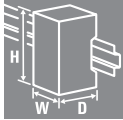
Type	Qty.	Order No.
PRO ECO 960W 24V 40A	1	1469520000

Note

The internal varistor found in a switch-mode power supply does not replace the need for surge protection within a system.

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Technical data

Input

Rated input voltage
Input voltage range AC
Frequency range AC
DC input voltage range
AC current consumption
DC current consumption
Input fuse (internal) / Inrush current
Recommended back-up fuse

Output

Rated output voltage
Output voltage
Ramp-up time / Residual ripple, breaking spikes
Nominal output current for U_{out}
Continuous output current @ U_{out}
Capacitive load
Protection against inverse voltage

Signalling

Indication

Floating contact / Contact load
Relay on/off

General data

Degree of efficiency
Power loss idling / nominal load / Power loss, nominal load
Earth leakage current, max.
Power factor (approx.)
AC failure bridging time @ I_{out}
Parallel connection option
Depth x width x height / Net weight

Approvals

Approvals

Connection data

Connection system
Number of terminals
Wire cross-section, rigid min/max
Wire cross-section, flexible min/max
Wire cross-section, AWG/kcmil min/max

Note

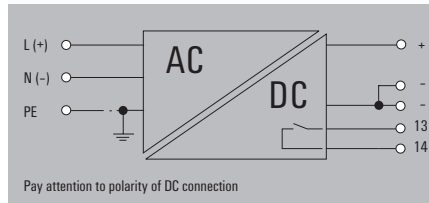
Ordering data

Note

PRO ECO 72W 12V 6A



Similar
to illustration



100...240 V AC (wide-range input)
85...264 V AC (derating at 100 V AC)
47...63 Hz
80...370 V DC (Derating @ 120 V DC)
0.6 A @ 230 V AC / 1.1 A @ 115 V AC
0.25 A @ 370 V DC / 0.7 A @ 120 V DC
Yes / max. 40 A
2 A / DI, safety fuse
6 A, Char. B, circuit breaker
2...4 A, Char. C circuit breaker

12 V DC $\pm 1\%$
10...16 V (adjustable via potentiometer)
 ≤ 100 ms / < 50 mV ss @ 12 V DC, I Nenn
6 A @ 55 °C
6 A @ 55 °C, 4.5 A @ 60 °C
unrestricted
Yes

Green LED ($U_{out} > 21.6$ V DC), Yellow LED ($I_{out} > 90\% I_{Rated}$ typ.), red LED (overload, overtemperature, short-circuit, $U_{out} < 20.4$ V DC)
Yes / max. 30 V DC / 1 A
Output voltage > 21.6 V DC / < 20.4 V DC, overload

85 %
4 W / 15 W
3.5 mA
 $> 0.5...230$ V AC / $> 0.53...115$ V AC
 > 100 ms @ 230 V AC / > 20 ms @ 115 V AC
yes, max. 5
100 / 34 / 125 mm / 570 g

CE; cULus; EAC; TUEV

Input	Output
Screw connection	Screw connection
3 for L/N/PE	5 (+, -, 13, 14)
0.5 / 6	0.5 / 6
0.5 / 2.5	0.5 / 2.5
26 / 12	26 / 12

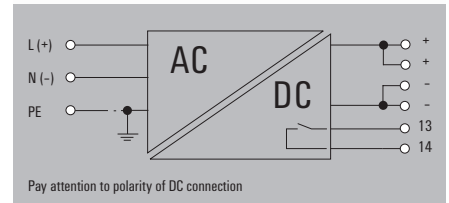
Type	Qty.	Order No.
PRO ECO 72W 12V 6A	1	1469570000

The internal varistor found in a switch-mode power supply does not replace the need for surge protection within a system.

PRO ECO 120W 12V 10A



Similar
to illustration



100...240 V AC (wide-range input)
85...264 V AC (derating at 100 V AC)
47...63 Hz
80...370 V DC (Derating @ 120 V DC)
1.25 A @ 230 V AC / 2.25 A @ 110 V AC
0.4 A @ 370 V DC / 1.2 A @ 120 V DC
Yes / max. 40 A
4 A / DI, safety fuse
6 A, Char. B, circuit breaker
3...5 A, Char. C, circuit breaker

12 V DC $\pm 1\%$
10...16 V (adjustable via potentiometer)
 ≤ 100 ms / < 50 mV ss @ 12 V DC, I Nenn
10 A @ 55 °C
10 A @ 55 °C, 2.5 A @ 70 °C
unrestricted
Yes

Green LED ($U_{out} > 21.6$ V DC), Yellow LED ($I_{out} > 90\% I_{Rated}$ typ.), red LED (overload, overtemperature, short-circuit, $U_{out} < 20.4$ V DC)
Yes / max. 30 V DC / 1 A
Output voltage > 21.6 V DC / < 20.4 V DC, overload

87 %
4 W / 20 W
3.5 mA
 $> 0.5...230$ V AC / $> 0.53...115$ V AC
 > 80 ms @ 230 V AC / > 20 ms @ 115 V AC
yes, max. 5
100 / 40 / 125 mm / 684 g

CE; cULus; EAC; TUEV

Input	Output
Screw connection	Screw connection
3 for L/N/PE	6 (+, -, 13, 14)
0.5 / 6	0.5 / 6
0.5 / 2.5	0.5 / 2.5
26 / 12	26 / 12

Type	Qty.	Order No.
PRO ECO 120W 12V 10A	1	1469580000

The internal varistor found in a switch-mode power supply does not replace the need for surge protection within a system.

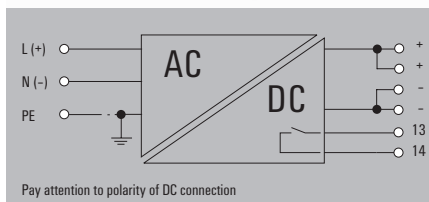
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PRO ECO 240W 48V 5A



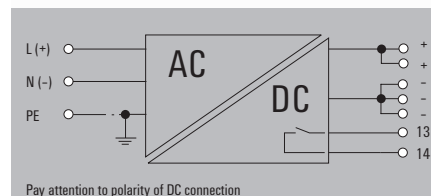
Similar
to illustration



PRO ECO 480W 48V 10A



Similar
to illustration



Technical data

Input	
Rated input voltage	100...240 V AC (wide-range input)
Input voltage range AC	85...264 V AC (derating at 100 V AC)
Frequency range AC	47...63 Hz
DC input voltage range	80...370 V DC (Derating @ 120 V DC)
AC current consumption	1.2 A @ 230 V AC / 2.4 A @ 115 V AC
DC current consumption	1.2 A @ 370 V DC / 2.4 A @ 120 V DC
Input fuse (internal) / Inrush current	Yes / Max. 10 A
Recommended back-up fuse	4 A / DI, safety fuse 10 A, Char. B, circuit breaker 3...4 A, Char. C, circuit breaker
Output	
Rated output voltage	48 V DC $\pm$ 1 %
Output voltage	42...56 V (adjustable via potentiometer)
Ramp-up time / Residual ripple, breaking spikes	$\leq$ 100 ms / $<$ 100 mV ss @ 48 V DC, I Nenn
Nominal output current for U_{nom}	5 A at 55 °C
Continuous output current @ $U_{nominal}$	5 A @ 55 °C, 3.75 A @ 70 °C
Capacitive load	unrestricted
Protection against inverse voltage	Yes
Signalling	
Indication	Green LED ($U_{output} > 21.6$ V DC), Yellow LED ($I_{output} > 90 \% I_{Rated}$ typ.), red LED (overload, overtemperature, short-circuit, $U_{output} < 20.4$ V DC)
Floating contact / Contact load	Yes / max. 30 V DC / 1 A
Relay on/off	Output voltage > 21.6 V DC / < 20.4 V DC, overload
General data	
Degree of efficiency	92 %
Power loss idling / nominal load / Power loss, nominal load	3 W / 23 W
Earth leakage current, max.	3.5 mA
Power factor (approx.)	> 0.94 @ 230 V AC / > 0.99 @ 115 V AC
AC failure bridging time @ I_{nom}	> 20 ms @ 230 V AC / > 20 ms @ 115 V AC
Parallel connection option	yes, max. 5
Depth x width x height / Net weight	100 / 60 / 125 mm / 1.01 g
Approvals	
Approvals	CE; cULus; EAC; TUEV
Connection data	
Connection system	Screw connection
Number of terminals	3 for L/N/PE
Wire cross-section, rigid min/max	0.5 / 6 mm ²
Wire cross-section, flexible min/max	0.5 / 2.5 mm ²
Wire cross-section, AWG/kcmil min/max	26 / 12
Note	

Ordering data

Type	Qty.	Order No.
PRO ECO 240W 48V 5A	1	1469590000
Note		
The internal varistor found in a switch-mode power supply does not replace the need for surge protection within a system.		

Input		Output	
Screw connection		Screw connection	
3 for L/N/PE		6 (++,-,13,14)	
0.5 / 6		0.5 / 6	
0.5 / 2.5		0.5 / 2.5	
26 / 12		26 / 12	

Input		Output	
Screw connection		Screw connection	
3 for L/N/PE		7 (++,-,13,14)	
0.5 / 6		0.5 / 6	
0.5 / 2.5		0.22 / 4	
26 / 12		26 / 10	

Type	Qty.	Order No.
PRO ECO 240W 48V 5A	1	1469590000

The internal varistor found in a switch-mode power supply does not replace the need for surge protection within a system.

Input		Output	
Screw connection		Screw connection	
3 for L/N/PE		7 (++,-,13,14)	
0.5 / 6		0.5 / 6	
0.5 / 2.5		0.22 / 4	
26 / 12		26 / 10	

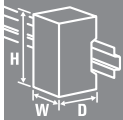
Input		Output	
Screw connection		Screw connection	
3 for L/N/PE		7 (++,-,13,14)	
0.5 / 6		0.5 / 6	
0.5 / 2.5		0.22 / 4	
26 / 12		26 / 10	

Type	Qty.	Order No.
PRO ECO 480W 48V 10A	1	1469610000

The internal varistor found in a switch-mode power supply does not replace the need for surge protection within a system.

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Technical data

Input

Rated input voltage
Input voltage range AC
Frequency range AC
DC input voltage range
AC current consumption
DC current consumption
Input fuse (internal) / Inrush current
Recommended back-up fuse

Output

Rated output voltage
Output voltage
Ramp-up time / Residual ripple, breaking spikes
Nominal output current for U_{nom}
Continuous output current @ $U_{nominal}$
Capacitive load
Protection against inverse voltage

Signalling

Indication

Floating contact / Contact load
Relay on/off

General data

Degree of efficiency
Power loss idling / nominal load / Power loss, nominal load
Earth leakage current, max.
Power factor (approx.)
AC failure bridging time @ I_{nom}
Parallel connection option
Depth x width x height / Net weight

Approvals

Approvals

Connection data

Connection system
Number of terminals
Wire cross-section, rigid min/max
Wire cross-section, flexible min/max
Wire cross-section, AWG/kcmil min/max

Note

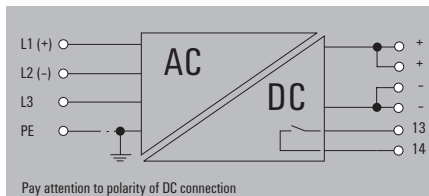
Ordering data

Note

PRO EC03 120W 24V 5A



Similar
to illustration



3 x 400...3 x 500 V AC (wide-range input)
3 x 320...3 x 575 V AC / 2 x 360...2 x 575 V AC
47...63 Hz
450...800 V DC (max. 500 V DC acc. to UL508)
0.3 A @ 3 x 500 V AC / 0.4 A @ 3 x 400 V AC
0.2 A @ 800 V DC / 0.4 A @ 450 V DC
Yes / max. 40 A
2 A / DI, safety fuse
2...3 A, Char. C, circuit breaker

24 V DC $\pm 1\%$
22...28 V (adjustable via potentiometer)
 ≤ 100 ms / < 50 mV_{pp} @ 24 V DC, I_L
5 A at 55 °C
5 A @ 55 °C, 3.75 A @ 70 °C
unrestricted
Yes
Green LED ($U_{output} > 21.6$ V DC), Yellow LED ($I_{output} > 90\% I_{Rated}$ typ.), red LED (overload, overtemperature, short-circuit, $U_{output} < 20.4$ V DC)
Yes / max. 30 V DC / 1 A
Output voltage > 21.6 V DC / < 20.4 V DC, overload

87 %
6 W / 17 W
3.5 mA
 > 0.55 @ 3 x 500 V AC / > 0.65 @ 3 x 400 V AC
 > 40 ms @ 3 x 500 V AC / > 20 ms @ 3 x 400 V AC
yes, max. 5
100 / 40 / 125 mm / 685 g

CE; cULus; EAC; TUEV

Input	Output
Screw connection	Screw connection
4 for L1/L2/L3/PE	6 (+, -, 13, 14)
0.5 / 6	0.5 / 6
0.5 / 2.5	0.5 / 2.5
26 / 12	26 / 12

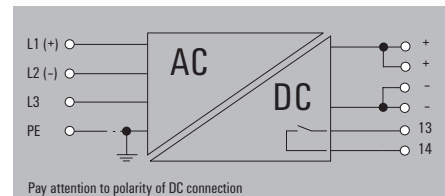
Type	Qty.	Order No.
PRO EC03 120W 24V 5A	1	1469530000

The internal varistor found in a switch-mode power supply does not replace the need for surge protection within a system.

PRO EC03 240W 24V 10A



Similar
to illustration



3 x 400...3 x 500 V AC (wide-range input)
3 x 320...3 x 575 V AC / 2 x 360...2 x 575 V AC
47...63 Hz
450...800 V DC (max. 500 V DC acc. to UL508)
0.6 A @ 3 x 500 V AC / 0.8 A @ 3 x 400 V AC
0.4 A @ 800 V DC / 0.7 A @ 450 V DC
Yes / max. 50 A
2 A / DI, safety fuse
2...3 A, Char. C, circuit breaker

24 V DC $\pm 1\%$
22...28 V (adjustable via potentiometer)
 ≤ 100 ms / < 50 mV_{pp} @ 24 V DC, I_L
10 A @ 55 °C
10 A @ 55 °C, 2.5 A @ 70 °C
unrestricted
Yes
Green LED ($U_{output} > 21.6$ V DC), Yellow LED ($I_{output} > 90\% I_{Rated}$ typ.), red LED (overload, overtemperature, short-circuit, $U_{output} < 20.4$ V DC)
Yes / max. 30 V DC / 1 A
Output voltage > 21.6 V DC / < 20.4 V DC, overload

88 %
8 W / 26 W
3.5 mA
 > 0.55 @ 3 x 500 V AC / > 0.65 @ 3 x 400 V AC
 > 40 ms @ 3 x 500 V AC / > 20 ms @ 3 x 400 V AC
yes, max. 5
100 / 60 / 125 mm / 962 g

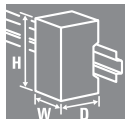
CE; cULus; cURus; EAC; TUEV

Input	Output
Screw connection	Screw connection
4 for L1/L2/L3/PE	6 (+, -, 13, 14)
0.5 / 6	0.5 / 6
0.5 / 2.5	0.5 / 2.5
26 / 12	26 / 12

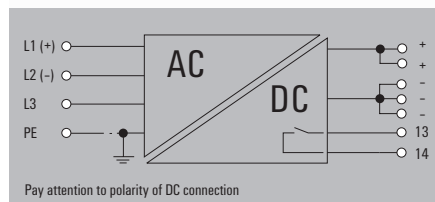
Type	Qty.	Order No.
PRO EC03 240W 24V 10A	1	1469540000

The internal varistor found in a switch-mode power supply does not replace the need for surge protection within a system.

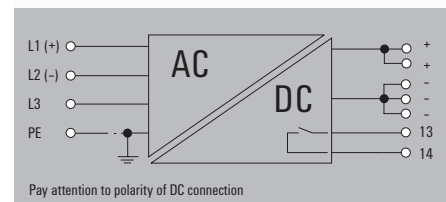
connectPower PROeco



PRO EC03 480W 24V 20A



PRO EC03 960W 24V 40A



Technical data

Input	
Rated input voltage	3 x 400...3 x 500 V AC (wide-range input)
Input voltage range AC	3 x 320...3 x 575 V AC / 2 x 360...2 x 575 V AC
Frequency range AC	47...63 Hz
DC input voltage range	450...800 V DC (max. 500 V DC acc. to UL508)
AC current consumption	1.2 A @ 3 x 500 V AC / 1.5 A @ 3 x 400 V AC
DC current consumption	0.7 A @ 800 V DC / 1.2 A @ 450 V DC
Input fuse (internal) / Inrush current	Yes / max. 50 A
Recommended back-up fuse	4 A / DI, safety fuse 3...5 A, Char. C, circuit breaker
Output	
Rated output voltage	24 V DC $\pm$ 1 %
Output voltage	22...28 V (adjustable via potentiometer)
Ramp-up time / Residual ripple, breaking spikes	$\leq$ 100 ms / $<$ 50 mV _{pp} @ 24 V DC, I _N
Nominal output current for U _{nom}	20 A @ 55 °C
Continuous output current @ U _{Nominal}	20 A @ 55 °C, 15 A @ 70 °C
Capacitive load	unrestricted
Protection against inverse voltage	Yes
Signalling	
Indication	Green LED (U _{output} > 21.6 V DC), Yellow LED (I _{output} > 90 % I _{Rated} typ.), red LED (overload, overtemperature, short-circuit, U _{output} < 20.4 V DC)
Floating contact / Contact load	Yes / max. 30 V DC / 1 A
Relay on/off	Output voltage > 21.6 V DC / < 20.4 V DC, overload
General data	
Degree of efficiency	89%
Power loss idling / nominal load / Power loss, nominal load	8 W / 48 W
Earth leakage current, max.	3.5 mA
Power factor (approx.)	> 0.55 @ 3 x 500 V AC / > 0.65 @ 3 x 400 V AC
AC failure bridging time @ I _{nom}	> 30 ms @ 3 x 500 V AC / > 20 ms @ 3 x 400 V AC
Parallel connection option	yes, max. 3
Depth x width x height / Net weight	120 / 100 / 125 mm / 1300 g
Approvals	
Approvals	CE; cULus; cURus; EAC; TUEV
Connection data	
Connection system	Screw connection
Number of terminals	4 for L1/L2/L3/PE
Wire cross-section, rigid min/max	0.5 / 6 mm ²
Wire cross-section, flexible min/max	0.5 / 2.5 mm ²
Wire cross-section, AWG/kcmil min/max	26 / 12
Note	

Ordering data

Type	Qty.	Order No.
PRO EC03 480W 24V 20A	1	1469550000
Note		
The internal varistor found in a switch-mode power supply does not replace the need for surge protection within a system.		

Input		Output	
Rated input voltage	3 x 400...3 x 500 V AC (wide-range input)	Rated output voltage	24 V DC $\pm$ 1 %
Input voltage range AC	3 x 320...3 x 575 V AC / 2 x 360...2 x 575 V AC	Output voltage	22...28 V (adjustable via potentiometer)
Frequency range AC	47...63 Hz	Ramp-up time / Residual ripple, breaking spikes	$\leq$ 100 ms / $<$ 50 mV _{pp} @ 24 V DC, I _N
DC input voltage range	450...800 V DC (max. 500 V DC acc. to UL508)	Nominal output current for U _{nom}	20 A @ 55 °C
AC current consumption	1.2 A @ 3 x 500 V AC / 1.5 A @ 3 x 400 V AC	Continuous output current @ U _{Nominal}	20 A @ 55 °C, 15 A @ 70 °C
DC current consumption	0.7 A @ 800 V DC / 1.2 A @ 450 V DC	Capacitive load	unrestricted
Input fuse (internal) / Inrush current	Yes / max. 50 A	Protection against inverse voltage	Yes
Recommended back-up fuse	4 A / DI, safety fuse 3...5 A, Char. C, circuit breaker	Indication	Green LED (U _{output} > 21.6 V DC), Yellow LED (I _{output} > 90 % I _{Rated} typ.), red LED (overload, overtemperature, short-circuit, U _{output} < 20.4 V DC)
		Floating contact / Contact load	Yes / max. 30 V DC / 1 A
		Relay on/off	Output voltage > 21.6 V DC / < 20.4 V DC, overload
		Degree of efficiency	89%
		Power loss idling / nominal load / Power loss, nominal load	8 W / 48 W
		Earth leakage current, max.	3.5 mA
		Power factor (approx.)	> 0.55 @ 3 x 500 V AC / > 0.65 @ 3 x 400 V AC
		AC failure bridging time @ I _{nom}	> 30 ms @ 3 x 500 V AC / > 20 ms @ 3 x 400 V AC
		Parallel connection option	yes, max. 3
		Depth x width x height / Net weight	120 / 100 / 125 mm / 1300 g
		Approvals	CE; cULus; cURus; EAC; TUEV

Input	Output
Screw connection	Screw connection
4 for L1/L2/L3/PE	7 (+, -, 13, 14)
0.5 / 6	0.5 / 6
0.5 / 2.5	0.5 / 2.5
26 / 12	26 / 10

Input		Output	
Rated input voltage	3 x 400...3 x 500 V AC (wide-range input)	Rated output voltage	24 V DC $\pm$ 1 %
Input voltage range AC	3 x 320...3 x 575 V AC / 2 x 360...2 x 575 V AC	Output voltage	22...28 V (adjustable via potentiometer)
Frequency range AC	47...63 Hz	Ramp-up time / Residual ripple, breaking spikes	$\leq$ 100 ms / $<$ 50 mV _{pp} @ 24 V DC, I _N
DC input voltage range	450...800 V DC (max. 500 V DC acc. to UL508)	Nominal output current for U _{nom}	40 A @ 50 °C
AC current consumption	2.15 A @ 3 x 500 V AC / 2.68 A @ 3 x 400 V AC	Continuous output current @ U _{Nominal}	40 A @ 50 °C, 24 A @ 70 °C
DC current consumption	1.37 A @ 800 V DC / 2.37 A @ 450 V DC	Capacitive load	unrestricted
Input fuse (internal) / Inrush current	Yes / max. 40 A	Protection against inverse voltage	Yes
Recommended back-up fuse	6 A / DI, safety fuse 10 A, Char. B, circuit breaker 6...8 A, Char. C, circuit breaker	Indication	Green LED (U _{output} > 21.6 V DC), Yellow LED (I _{output} > 90 % I _{Rated} typ.), red LED (overload, overtemperature, short-circuit, U _{output} < 20.4 V DC)
		Floating contact / Contact load	Yes / max. 30 V DC / 1 A
		Relay on/off	Output voltage > 21.6 V DC / < 20.4 V DC, overload
		Degree of efficiency	90%
		Power loss idling / nominal load / Power loss, nominal load	5 W / 95 W
		Earth leakage current, max.	3.5 mA
		Power factor (approx.)	> 0.55 @ 3 x 500 V AC / > 0.65 @ 3 x 400 V AC
		AC failure bridging time @ I _{nom}	> 25 ms @ 3 x 500 V AC / > 20 ms @ 3 x 400 V AC
		Parallel connection option	yes, max. 3
		Depth x width x height / Net weight	120 / 160 / 125 mm / 2899 g
		Approvals	CE; cULus; cURus; EAC; TUEV

Input	Output
Screw connection	Screw connection
4 for L1/L2/L3/PE	7 (+, -, 13, 14)
0.5 / 6	0.5 / 16
0.5 / 2.5	2.5 / 10
26 / 12	22 / 8

Type	Qty.	Order No.
PRO EC03 960W 24V 40A	1	1469560000

Note		
The internal varistor found in a switch-mode power supply does not replace the need for surge protection within a system.		

Small metal foot



Type	Order No.
MTA 30 MF	1251320000

Large metal foot



Type	Order No.
MTA 45 MF	1251310000

Small plastic foot



Type	Order No.
MTA 30 BK	1168970000

Large plastic foot



Type	Order No.
MTA 45 BK	1962250000

Small wall mounting



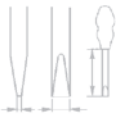
Type	Order No.
CP A WALLADAPTER 30 MM	1461870000

Large wall mounting



Type	Order No.
CP A WALLADAPTER 45 MM	1461850000

Small screwdriver



Type	Size/AF	a	b	c	Order No.
SDIK PH 1 X 80				80	2749890000
SDIS 0.5X3.0X100		0,5	3	100	2749800000

Markers



Type	Colour	Qty.	Order No.
SM 18/9.5 K MC NE WS	white	200	1248580000

End bracket

For DIN rail TS 35



Polyamide with fibre glass, screwable	Colour	Torque	Qty.	Order No.
WEW 35/1 SW	black	1.2 Nm	50	1162600000

PRO-PM – the efficient plate mounted power supply solution

Powering simple automation applications

Simple machines and automation applications require standard power supply solutions with basic functionalities. The new power supplies of the PRO-PM series offer an excellent price/performance ratio and are designed for reliable DC control voltage.

Due to the wide range of variants with output voltages of 5, 12, 24, and 48 V and extensive international approvals, they are suitable for use in many applications. The power range extends from 35 W to 350 W. The individual adaptability makes PRO-PM the right choice for many standard machines.

Your special advantages:

- Especially compact and robust metal housing
- Wide temperature range from -20°C to +70°C – for almost all industrial applications
- Certified according to CE, CCC, and cURus for universal worldwide use



Compact design

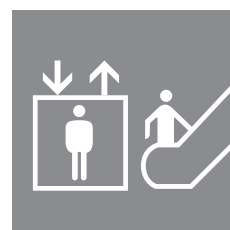
The low height of only 30 mm saves space and reduces overall system costs

Wide range of applications

The wide temperature range from - 20°C to +70°C as well as international certificates such as CE, cURus, CCC etc. ensure reliable operation worldwide.

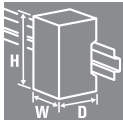
Especially economic

Thanks to the new „Design-to-Cost“ concept, PRO-PM power supplies offer a particularly favourable price/performance ratio.

Optimal for:

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connectPower PRO-PM



PRO PM 35W 5V 7A



PRO PM 35W 12V 3A



Technical data

Input			
Input voltage range AC	90...264 V AC	90...264 V AC	
Frequency range AC	47...63 Hz	47...63 Hz	
Rated input voltage	100...240 V AC	100...240 V AC	
Recommended back-up fuse	2 A at 230 V AC, characteristic curve C	2 A at 230 V AC, characteristic curve C	
Output			
Output voltage	5 V DC	12 V DC	
Output voltage adjustment	± 10% nominal output voltage tolerance, adjustable with potentiometer	± 10% nominal output voltage tolerance, adjustable with potentiometer	
Output current	7 A	3 A	
Output power	35 W	35 W	
Derating	> 50°C (2% / 1°C)	> 50°C (2% / 1°C)	
Residual ripple, breaking spikes	< 100 mV _{pp}	< 100 mV _{pp}	
Overload protection	120%...180% I _{nominal} , hiccup mode with automatic recovery	120%...180% I _{nominal} , hiccup mode with automatic recovery	
Surge protection	5.6...6.8 V @ 5 V DC	13.5...16.2 V @ 12 V DC	
Mains failure bridge-over time	20 ms	20 ms	
Parallel connection option	Yes, with diode module	Yes, with diode module	
General data			
Ambient temperature (operational)	-20 °C...70 °C	-20 °C...70 °C	
Storage temperature	-40 °C...85 °C	-40 °C...85 °C	
Humidity	5...95 % RH	5...95 % RH	
Degree of efficiency	82 %	84 %	
Status indication	LED green: ready	LED green: ready	
Mounting position, installation notice	Panel mount, screw fix	Panel mount, screw fix	
Net weight	223 g	220 g	
Approvals	CE; cULus; CCC	CE; cULus; CCC	
Screw connection			
Connection cross-section, solid, min. / max.	0.34 / 4 mm ²	0.34 / 4 mm ²	
Depth x width x height	99 / 82 / 30 mm	99 / 82 / 30 mm	

Note

Ordering data

Type	Qty.	Order No.
PRO PM 35W 5V 7A	1	2660200277

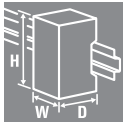
Type	Qty.	Order No.
PRO PM 35W 12V 3A	1	2660200278

Note

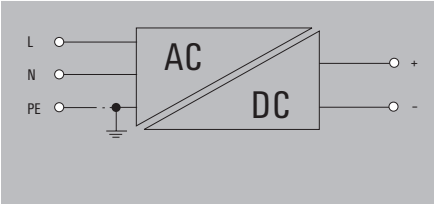
The internal varistor found in a switch-mode power supply does not replace the necessary surge protection in a system.

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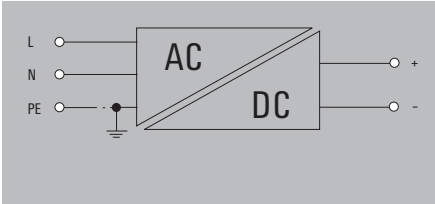
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PRO PM 35W 24V 1.5A



PRO PM 35W 48V 0.75A



Technical data

Input	
Input voltage range AC	90...264 V AC
Frequency range AC	47...63 Hz
Rated input voltage	100...240 V AC
Recommended back-up fuse	2 A at 230 V AC, characteristic curve C
Output	
Output voltage	24 V DC
Output voltage adjustment	± 10% nominal output voltage tolerance, adjustable with potentiometer
Output current	1.5 A
Output power	35 W
Derating	> 50°C (2% / 1°C)
Residual ripple, breaking spikes	< 100 mV _{pp}
Overload protection	120%...180% I _{nominal} , hiccup mode with automatic recovery
Surge protection	28...32 V @ 24 V DC
Mains failure bridge-over time	20 ms
Parallel connection option	Yes, with diode module
General data	
Ambient temperature (operational)	-20 °C...70 °C
Storage temperature	-40 °C...85 °C
Humidity	5...95 % RH
Degree of efficiency	86%
Status indication	LED green: ready
Mounting position, installation notice	Panel mount, screw fix
Net weight	223 g
Approvals	CE; cULus; CCC
Screw connection	
Connection cross-section, solid, min. / max.	0.34 / 4 mm ²
Depth x width x height	99 / 82 / 30 mm

90...264 V AC
47...63 Hz
100...240 V AC
2 A at 230 V AC, characteristic curve C
24 V DC
± 10% nominal output voltage tolerance, adjustable with potentiometer
1.5 A
35 W
> 50°C (2% / 1°C)
< 100 mV _{pp}
120%...180% I _{nominal} , hiccup mode with automatic recovery
28...32 V @ 24 V DC
20 ms
Yes, with diode module
-20 °C...70 °C
-40 °C...85 °C
5...95 % RH
86%
LED green: ready
Panel mount, screw fix
223 g
CE; cULus; CCC
0.34 / 4 mm ²
99 / 82 / 30 mm

90...264 V AC
47...63 Hz
100...240 V AC
2 A at 230 V AC, characteristic curve C
48 V DC
± 10% nominal output voltage tolerance, adjustable with potentiometer
0.75 A
35 W
> 50°C (2% / 1°C)
< 150 mV _{pp}
120%...180% I _{nominal} , hiccup mode with automatic recovery
55...62 V @ 48 V DC
20 ms
Yes, with diode module
-20 °C...70 °C
-40 °C...85 °C
5...95 % RH
86%
LED green: ready
Panel mount, screw fix
223 g
CE; cULus; CCC
0.34 / 4 mm ²
99 / 82 / 30 mm

Note

Ordering data

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Type	Qty.	Order No.
PRO PM 35W 24V 1.5A	1	2660200279

Type	Qty.	Order No.
PRO PM 35W 48V 0.75A	1	2660200280

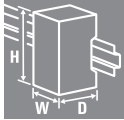
Note

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PRO PM 75W 5V 14A



PRO PM 75W 12V 6A



Technical data

Input

Input voltage range AC
Frequency range AC
Rated input voltage
Recommended back-up fuse

Output

Output voltage
Output voltage adjustment

Output current
Output power
Derating
Residual ripple, breaking spikes
Overload protection

Surge protection
Mains failure bridge-over time
Parallel connection option

General data

Ambient temperature (operational)
Storage temperature
Humidity
Degree of efficiency
Status indication
Mounting position, installation notice
Net weight
Approvals

Screw connection

Connection cross-section, solid, min. / max.
Depth x width x height

90...264 V AC
47...63 Hz
100...240 V AC
4 A at 230 V AC, characteristic curve C

5 V DC
± 10% nominal output voltage tolerance, adjustable with potentiometer
14 A
75 W
> 50°C (2% / 1°C)
< 100 mV_{pp}
120%...180% I_{nominal}, hiccup mode with automatic recovery

5.6...6.8 V @ 5 V DC
20 ms
Yes, with diode module

-20 °C...70 °C
-40 °C...85 °C
5...95 % RH
82 %
LED green: ready
Panel mount, screw fix
240 g
CE; cULus; CCC
0.34 / 4 mm²
99 / 97 / 30 mm

90...264 V AC
47...63 Hz
100...240 V AC
4 A at 230 V AC, characteristic curve C

12 V DC
± 10% nominal output voltage tolerance, adjustable with potentiometer
6 A
75 W
> 50°C (2% / 1°C)
< 100 mV_{pp}
120%...180% I_{nominal}, hiccup mode with automatic recovery

13.5...16.2 V @ 12 V DC
20 ms
Yes, with diode module

-20 °C...70 °C
-40 °C...85 °C
5...95 % RH
84 %
LED green: ready
Panel mount, screw fix
240 g
CE; cULus; CCC
0.34 / 4 mm²
99 / 97 / 30 mm

Note

Ordering data

Type	Qty.	Order No.
PRO PM 75W 5V 14A	1	2660200281

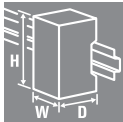
Type	Qty.	Order No.
PRO PM 75W 12V 6A	1	2660200282

Note

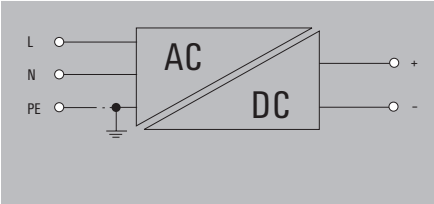
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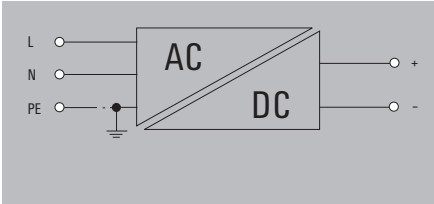
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PRO PM 75W 24V 3.2A



PRO PM 75W 48V 1.6A



Technical data

Input	
Input voltage range AC	90...264 V AC
Frequency range AC	47...63 Hz
Rated input voltage	100...240 V AC
Recommended back-up fuse	4 A at 230 V AC, characteristic curve C
Output	
Output voltage	24 V DC
Output voltage adjustment	± 10% nominal output voltage tolerance, adjustable with potentiometer
Output current	3.2 A
Output power	75 W
Derating	> 50°C (2% / 1°C)
Residual ripple, breaking spikes	< 100 mV _{pp}
Overload protection	120%...180% I _{nominal} , hiccup mode with automatic recovery
Surge protection	28...32 V @ 24 V DC
Mains failure bridge-over time	20 ms
Parallel connection option	Yes, with diode module
General data	
Ambient temperature (operational)	-20 °C...70 °C
Storage temperature	-40 °C...85 °C
Humidity	5...95 % RH
Degree of efficiency	86%
Status indication	LED green: ready
Mounting position, installation notice	Panel mount, screw fix
Net weight	240 g
Approvals	CE; cULus; CCC
Screw connection	
Connection cross-section, solid, min. / max.	0.34 / 4 mm ²
Depth x width x height	99 / 97 / 30 mm

90...264 V AC
47...63 Hz
100...240 V AC
4 A at 230 V AC, characteristic curve C
24 V DC
± 10% nominal output voltage tolerance, adjustable with potentiometer
3.2 A
75 W
> 50°C (2% / 1°C)
< 100 mV _{pp}
120%...180% I _{nominal} , hiccup mode with automatic recovery
28...32 V @ 24 V DC
20 ms
Yes, with diode module
-20 °C...70 °C
-40 °C...85 °C
5...95 % RH
86%
LED green: ready
Panel mount, screw fix
240 g
CE; cULus; CCC
0.34 / 4 mm ²
99 / 97 / 30 mm

90...264 V AC
47...63 Hz
100...240 V AC
4 A at 230 V AC, characteristic curve C
48 V DC
± 10% nominal output voltage tolerance, adjustable with potentiometer
1.6 A
75 W
> 50°C (2% / 1°C)
< 150 mV _{pp}
120%...180% I _{nominal} , hiccup mode with automatic recovery
55...62 V @ 48 V DC
20 ms
Yes, with diode module
-20 °C...70 °C
-40 °C...85 °C
5...95 % RH
86%
LED green: ready
Panel mount, screw fix
240 g
CE; cULus; CCC
0.34 / 4 mm ²
99 / 97 / 30 mm

Note

Ordering data

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Type	Qty.	Order No.
PRO PM 75W 24V 3.2A	1	2660200283

Type	Qty.	Order No.
PRO PM 75W 48V 1.6A	1	2660200284

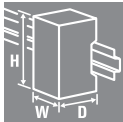
Note

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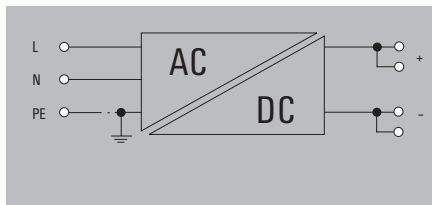
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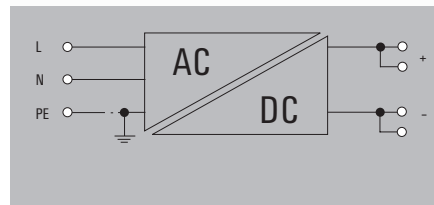
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PRO PM 100W 12V 8.5A



PRO PM 100W 24V 4.5A



Technical data

Input

Input voltage range AC
Frequency range AC
Rated input voltage
Recommended back-up fuse

Output

Output voltage
Output voltage adjustment

Output current
Output power
Derating
Residual ripple, breaking spikes
Overload protection

Surge protection
Mains failure bridge-over time
Parallel connection option

General data

Ambient temperature (operational)
Storage temperature
Humidity
Degree of efficiency
Status indication
Mounting position, installation notice
Net weight
Approvals

Screw connection

Connection cross-section, solid, min. / max.
Depth x width x height

90...264 V AC
47...63 Hz
100...240 V AC
4 A at 230 V AC, characteristic curve C

12 V DC
± 10% nominal output voltage tolerance, adjustable with potentiometer
8.5 A
100 W
> 50°C (2% / 1°C)
< 100 mV_{pp}
120%...180% I_{nominal}, hiccup mode with automatic recovery

13.5...16.2 V @ 12 V DC
20 ms
Yes, with diode module

-20 °C...70 °C
-40 °C...85 °C
5...95 % RH
84%
LED green: ready
Panel mount, screw fix
330 g
CE; cULus; CCC

0.34 / 4 mm²
129 / 97 / 30 mm

90...264 V AC
47...63 Hz
100...240 V AC
4 A at 230 V AC, characteristic curve C

24 V DC
± 10% nominal output voltage tolerance, adjustable with potentiometer
4.5 A
100 W
> 50°C (2% / 1°C)
< 100 mV_{pp}
120%...180% I_{nominal}, hiccup mode with automatic recovery

28...32 V @ 24 V DC
20 ms
Yes, with diode module

-20 °C...70 °C
-40 °C...85 °C
5...95 % RH
86%
LED green: ready
Panel mount, screw fix
330 g
CE; cULus; CCC

0.34 / 4 mm²
129 / 97 / 30 mm

Note

Ordering data

Type	Qty.	Order No.
PRO PM 100W 12V 8.5A	1	2660200285

Type	Qty.	Order No.
PRO PM 100W 24V 4.5A	1	2660200286

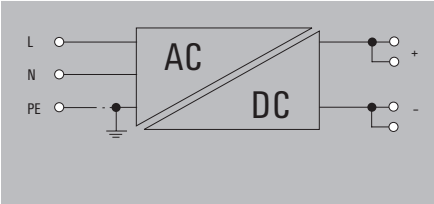
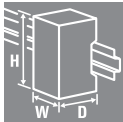
Note

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The internal varistor found in a switch-mode power supply does not replace the necessary surge protection in a system.

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PRO PM 100W 48V 2.3A



Technical data

Input	
Input voltage range AC	90...264 V AC
Frequency range AC	47...63 Hz
Rated input voltage	100...240 V AC
Recommended back-up fuse	4 A at 230 V AC, characteristic curve C
Output	
Output voltage	48 V DC
Output voltage adjustment	± 10% nominal output voltage tolerance, adjustable with potentiometer
Output current	2.3 A
Output power	100 W
Derating	> 50°C (2% / 1°C)
Residual ripple, breaking spikes	< 150 mV _{pp}
Overload protection	120%...180% I _{nominal} , hiccup mode with automatic recovery
Surge protection	55...62 V @ 48 V DC
Mains failure bridge-over time	20 ms
Parallel connection option	Yes, with diode module
General data	
Ambient temperature (operational)	-20 °C...70 °C
Storage temperature	-40 °C...85 °C
Humidity	5...95 % RH
Degree of efficiency	86%
Status indication	LED green: ready
Mounting position, installation notice	Panel mount, screw fix
Net weight	330 g
Approvals	CE; cULus; CCC
Screw connection	
Connection cross-section, solid, min. / max.	0.34 / 4 mm ²
Depth x width x height	129 / 97 / 30 mm

Input	
Input voltage range AC	90...264 V AC
Frequency range AC	47...63 Hz
Rated input voltage	100...240 V AC
Recommended back-up fuse	4 A at 230 V AC, characteristic curve C
Output	
Output voltage	48 V DC
Output voltage adjustment	± 10% nominal output voltage tolerance, adjustable with potentiometer
Output current	2.3 A
Output power	100 W
Derating	> 50°C (2% / 1°C)
Residual ripple, breaking spikes	< 150 mV _{pp}
Overload protection	120%...180% I _{nominal} , hiccup mode with automatic recovery
Surge protection	55...62 V @ 48 V DC
Mains failure bridge-over time	20 ms
Parallel connection option	Yes, with diode module
General data	
Ambient temperature (operational)	-20 °C...70 °C
Storage temperature	-40 °C...85 °C
Humidity	5...95 % RH
Degree of efficiency	86%
Status indication	LED green: ready
Mounting position, installation notice	Panel mount, screw fix
Net weight	330 g
Approvals	CE; cULus; CCC
Screw connection	
Connection cross-section, solid, min. / max.	0.34 / 4 mm ²
Depth x width x height	129 / 97 / 30 mm

Note

Ordering data

Type	Qty.	Order No.
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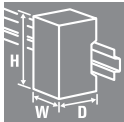
Type	Qty.	Order No.
PRO PM 100W 48V 2.3A	1	2660200287

Note

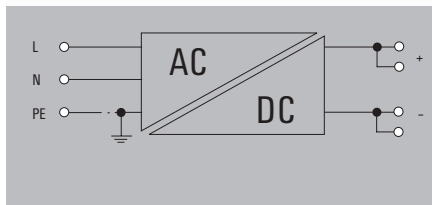
The internal varistor found in a switch-mode power supply does not replace the necessary surge protection in a system.
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connectPower PRO-PM

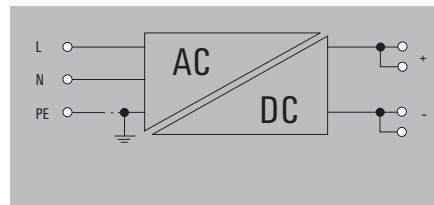
connectPower PRO-PM



PRO PM 150W 12V 12.5A



PRO PM 150W 24V 6.5A



Technical data

Input

Input voltage range AC

Frequency range AC

Rated input voltage

Recommended back-up fuse

Output

Output voltage

Output voltage adjustment

Output current

Output power

Derating

Residual ripple, breaking spikes

Overload protection

Surge protection

Mains failure bridge-over time

Parallel connection option

General data

Ambient temperature (operational)

Storage temperature

Humidity

Degree of efficiency

Status indication

Mounting position, installation notice

Net weight

Approvals

Screw connection

Connection cross-section, solid, min. / max.

Depth x width x height

90...264 V AC

47...63 Hz

100...240 V AC

4 A at 230 V AC, characteristic curve C

12 V DC

 $\pm 10\%$ nominal output voltage tolerance, adjustable with potentiometer

12.5 A

150 W

 $> 50^\circ\text{C}$ (2% / 1°C) $< 100\text{ mV}_{\text{pp}}$ 120%...180% I_{nominal} , hiccup mode with automatic recovery

13.5...16.2 V @ 12 V DC

20 ms

Yes, with diode module

 -20°C ... 70°C -40°C ... 85°C

5...95 % RH

84%

LED green: ready

Panel mount, screw fix

394 g

CE; cULus; CCC

0.34 / 4 mm²

159 / 97 / 30 mm

90...264 V AC

47...63 Hz

100...240 V AC

4 A at 230 V AC, characteristic curve C

24 V DC

 $\pm 10\%$ nominal output voltage tolerance, adjustable with potentiometer

6.5 A

150 W

 $> 50^\circ\text{C}$ (2% / 1°C) $< 100\text{ mV}_{\text{pp}}$ 120%...180% I_{nominal} , hiccup mode with automatic recovery

28...32 V @ 24 V DC

20 ms

Yes, with diode module

 -20°C ... 70°C -40°C ... 85°C

5...95 % RH

86%

LED green: ready

Panel mount, screw fix

394 g

CE; cULus; CCC

0.34 / 4 mm²

159 / 97 / 30 mm

Note

Ordering data

Type	Qty.	Order No.
PRO PM 150W 12V 12.5A	1	2660200288

Type	Qty.	Order No.
PRO PM 150W 24V 6.5A	1	2660200289

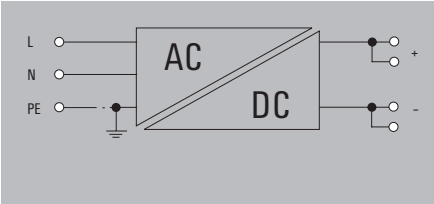
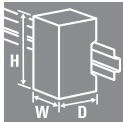
Note

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The internal varistor found in a switch-mode power supply does not replace the necessary surge protection in a system.

connectPower PRO-PM

PRO PM 150W 48V 3.3A



Technical data

Input	
Input voltage range AC	90...264 V AC
Frequency range AC	47...63 Hz
Rated input voltage	100...240 V AC
Recommended back-up fuse	4 A at 230 V AC, characteristic curve C
Output	
Output voltage	48 V DC
Output voltage adjustment	± 10% nominal output voltage tolerance, adjustable with potentiometer
Output current	3.3 A
Output power	150 W
Derating	> 50°C (2% / 1°C)
Residual ripple, breaking spikes	< 150 mV _{pp}
Overload protection	120%...180% I _{nominal} , hiccup mode with automatic recovery
Surge protection	55...62 V @ 48 V DC
Mains failure bridge-over time	20 ms
Parallel connection option	Yes, with diode module
General data	
Ambient temperature (operational)	-20 °C...70 °C
Storage temperature	-40 °C...85 °C
Humidity	5...95 % RH
Degree of efficiency	86%
Status indication	LED green: ready
Mounting position, installation notice	Panel mount, screw fix
Net weight	394 g
Approvals	CE; cULus; CCC
Screw connection	
Connection cross-section, solid, min. / max.	0.34 / 4 mm ²
Depth x width x height	159 / 97 / 30 mm

Input	
Input voltage range AC	90...264 V AC
Frequency range AC	47...63 Hz
Rated input voltage	100...240 V AC
Recommended back-up fuse	4 A at 230 V AC, characteristic curve C
Output	
Output voltage	48 V DC
Output voltage adjustment	± 10% nominal output voltage tolerance, adjustable with potentiometer
Output current	3.3 A
Output power	150 W
Derating	> 50°C (2% / 1°C)
Residual ripple, breaking spikes	< 150 mV _{pp}
Overload protection	120%...180% I _{nominal} , hiccup mode with automatic recovery
Surge protection	55...62 V @ 48 V DC
Mains failure bridge-over time	20 ms
Parallel connection option	Yes, with diode module
General data	
Ambient temperature (operational)	-20 °C...70 °C
Storage temperature	-40 °C...85 °C
Humidity	5...95 % RH
Degree of efficiency	86%
Status indication	LED green: ready
Mounting position, installation notice	Panel mount, screw fix
Net weight	394 g
Approvals	CE; cULus; CCC
Screw connection	
Connection cross-section, solid, min. / max.	0.34 / 4 mm ²
Depth x width x height	159 / 97 / 30 mm

Note

Ordering data

Type	Qty.	Order No.
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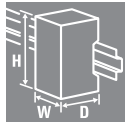
Type	Qty.	Order No.
PRO PM 150W 48V 3.3A	1	2660200290

Note

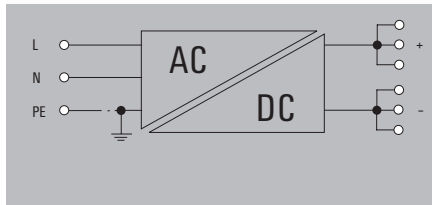
The internal varistor found in a switch-mode power supply does not replace the necessary surge protection in a system.
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connectPower PRO-PM

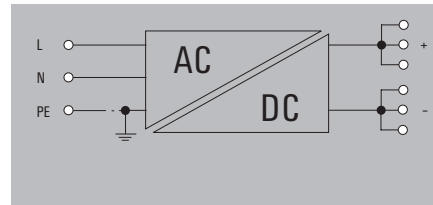
connectPower PRO-PM



PRO PM 250W 12V 21A



PRO PM 250W 24V 10.5A



Technical data

Input			
Input voltage range AC	90...264 V AC	Input voltage range AC	90...264 V AC
Frequency range AC	47...63 Hz	Frequency range AC	47...63 Hz
Rated input voltage	100...240 V AC	Rated input voltage	100...240 V AC
Recommended back-up fuse	6 A at 230 V AC, characteristic curve C	Recommended back-up fuse	6 A at 230 V AC, characteristic curve C
Output			
Output voltage	12 V DC	Output voltage	24 V DC
Output voltage adjustment	± 10% nominal output voltage tolerance, adjustable with potentiometer	Output voltage adjustment	± 10% nominal output voltage tolerance, adjustable with potentiometer
Output current	21 A	Output current	10.5 A
Output power	250 W	Output power	250 W
Derating	> 50°C (2% / 1°C)	Derating	> 50°C (2% / 1°C)
Residual ripple, breaking spikes	< 100 mV _{pp}	Residual ripple, breaking spikes	< 100 mV _{pp}
Overload protection	120%...180% I _{nominal} , hiccup mode with automatic recovery	Overload protection	120%...180% I _{nominal} , hiccup mode with automatic recovery
Surge protection	13.5...16.2 V @ 12 V DC	Surge protection	28...32 V @ 24 V DC
Mains failure bridge-over time	20 ms	Mains failure bridge-over time	20 ms
Parallel connection option	Yes, with diode module	Parallel connection option	Yes, with diode module
General data			
Ambient temperature (operational)	-20 °C...70 °C	Ambient temperature (operational)	-20 °C...70 °C
Storage temperature	-40 °C...85 °C	Storage temperature	-40 °C...85 °C
Humidity	5...95 % RH	Humidity	5...95 % RH
Degree of efficiency	84%	Degree of efficiency	86%
Status indication	LED green: ready	Status indication	LED green: ready
Mounting position, installation notice	Panel mount, screw fix	Mounting position, installation notice	Panel mount, screw fix
Net weight	736 g	Net weight	0.84 g
Approvals	CE; cULus; CCC	Approvals	CE; cULus; CCC
Screw connection			
Connection cross-section, solid, min. / max.	0.34 / 4 mm ²	Connection cross-section, solid, min. / max.	0.34 / 4 mm ²
Depth x width x height	215 / 115 / 30 mm	Depth x width x height	215 / 115 / 30 mm

Note

Ordering data

Type	Qty.	Order No.	Type	Qty.	Order No.
PRO PM 250W 12V 21A	1	2660200291	PRO PM 250W 24V 10.5A	1	2660200292

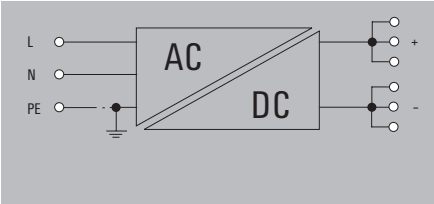
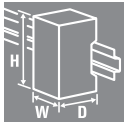
Note

The internal varistor found in a switch-mode power supply does not replace the necessary surge protection in a system.

The internal varistor found in a switch-mode power supply does not replace the necessary surge protection in a system.

connectPower PRO-PM

PRO PM 250W 48V 5.2A



Technical data

Input	
Input voltage range AC	90...264 V AC
Frequency range AC	47...63 Hz
Rated input voltage	100...240 V AC
Recommended back-up fuse	6 A at 230 V AC, characteristic curve C
Output	
Output voltage	48 V DC
Output voltage adjustment	± 10% nominal output voltage tolerance, adjustable with potentiometer
Output current	5.2 A
Output power	250 W
Derating	> 50°C (2% / 1°C)
Residual ripple, breaking spikes	< 150 mV _{pp}
Overload protection	120%...180% I _{nominal} , hiccup mode with automatic recovery
Surge protection	55...62 V @ 48 V DC
Mains failure bridge-over time	20 ms
Parallel connection option	Yes, with diode module
General data	
Ambient temperature (operational)	-20 °C...70 °C
Storage temperature	-40 °C...85 °C
Humidity	5...95 % RH
Degree of efficiency	86%
Status indication	LED green: ready
Mounting position, installation notice	Panel mount, screw fix
Net weight	736 g
Approvals	CE; cULus; CCC
Screw connection	
Connection cross-section, solid, min. / max.	0.34 / 4 mm ²
Depth x width x height	215 / 115 / 30 mm

Input	
Input voltage range AC	90...264 V AC
Frequency range AC	47...63 Hz
Rated input voltage	100...240 V AC
Recommended back-up fuse	6 A at 230 V AC, characteristic curve C
Output	
Output voltage	48 V DC
Output voltage adjustment	± 10% nominal output voltage tolerance, adjustable with potentiometer
Output current	5.2 A
Output power	250 W
Derating	> 50°C (2% / 1°C)
Residual ripple, breaking spikes	< 150 mV _{pp}
Overload protection	120%...180% I _{nominal} , hiccup mode with automatic recovery
Surge protection	55...62 V @ 48 V DC
Mains failure bridge-over time	20 ms
Parallel connection option	Yes, with diode module
General data	
Ambient temperature (operational)	-20 °C...70 °C
Storage temperature	-40 °C...85 °C
Humidity	5...95 % RH
Degree of efficiency	86%
Status indication	LED green: ready
Mounting position, installation notice	Panel mount, screw fix
Net weight	736 g
Approvals	CE; cULus; CCC
Screw connection	
Connection cross-section, solid, min. / max.	0.34 / 4 mm ²
Depth x width x height	215 / 115 / 30 mm

Note

Ordering data

Type	Qty.	Order No.
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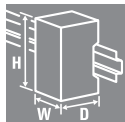
Type	Qty.	Order No.
PRO PM 250W 48V 5.2A	1	2660200293

Note

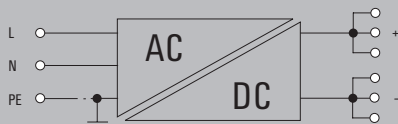
The internal varistor found in a switch-mode power supply does not replace the necessary surge protection in a system.
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connectPower PRO-PM

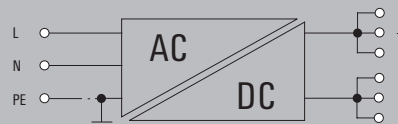
connectPower PRO-PM



PRO PM 350W 24V 14.6A



PRO PM 350W 48V 7.3A



Technical data

Input			
Input voltage range AC	90...264 V AC	Input voltage range AC	90...264 V AC
Frequency range AC	47...63 Hz	Frequency range AC	47...63 Hz
Rated input voltage	100...240 V AC	Rated input voltage	100...240 V AC
Recommended back-up fuse	6 A at 230 V AC, characteristic curve C	Recommended back-up fuse	6 A at 230 V AC, characteristic curve C
Output			
Output voltage	24 V DC	Output voltage	48 V DC
Output voltage adjustment	± 10% nominal output voltage tolerance, adjustable with potentiometer	Output voltage adjustment	± 10% nominal output voltage tolerance, adjustable with potentiometer
Output current	14.6 A	Output current	7.3 A
Output power	350 W	Output power	350 W
Derating	> 50°C (2% / 1°C)	Derating	> 50°C (2% / 1°C)
Residual ripple, breaking spikes	< 100 mV _{pp}	Residual ripple, breaking spikes	< 150 mV _{pp}
Overload protection	120%...180% I _{nominal} , hiccup mode with automatic recovery	Overload protection	120%...180% I _{nominal} , hiccup mode with automatic recovery
Surge protection	28...32 V @ 24 V DC	Surge protection	55...62 V @ 48 V DC
Mains failure bridge-over time	20 ms	Mains failure bridge-over time	20 ms
Parallel connection option	Yes, with diode module	Parallel connection option	Yes, with diode module
General data			
Ambient temperature (operational)	-20 °C...70 °C	Ambient temperature (operational)	-20 °C...70 °C
Storage temperature	-40 °C...85 °C	Storage temperature	-40 °C...85 °C
Humidity	5...95 % RH	Humidity	5...95 % RH
Degree of efficiency	86%	Degree of efficiency	86%
Status indication	LED green: ready	Status indication	LED green: ready
Mounting position, installation notice	Panel mount, screw fix	Mounting position, installation notice	Panel mount, screw fix
Net weight	750 g	Net weight	750 g
Approvals	CE; cULus; CCC	Approvals	CE; cULus; CCC
Screw connection			
Connection cross-section, solid, min. / max.	0.34 / 4 mm ²	Connection cross-section, solid, min. / max.	0.34 / 4 mm ²
Depth x width x height	215 / 115 / 30 mm	Depth x width x height	215 / 115 / 30 mm

Note

Ordering data

Type	Qty.	Order No.	Type	Qty.	Order No.
PRO PM 350W 24V 14.6A	1	2660200294	PRO PM 350W 48V 7.3A	1	2660200295

Note

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The internal varistor found in a switch-mode power supply does not replace the necessary surge protection in a system.

An everlasting power supply for buildings and machines

INSTA POWER power supplies – compact, efficient and reliable

In building automation and mechanical engineering, many small distributors, meter cabinets and electrical distributions must often be taken into account. Efficient power supply solutions with high power density and high efficiency are in demand here.

The single phase INSTA POWER have a broad power spectrum, compact design, and good price-performance ratio. They operate in a temperature range from -25 °C to +70 °C and have wide range of approvals and wide-range voltage input. They are suitable for a variety of applications, which include signal and telecommunication systems and automation systems with low power requirements up to 96 W.

With its unique combination of particularly slim design, proven PUSH IN connection technology and high cost efficiency, INSTA POWER has decisive advantages over competitive products on the market.



Building automation with the compact power package.

The new INSTA POWER is optimal for the use in building automation. Due to the standardized design with small width, this power supply also finds sufficient space in sub-distribution boards and small distribution boards. Furthermore, the extensive power spectrum of INSTA POWER is an additional advantage for compact applications.

Extremely space- and energy-saving

With a basic depth of only 60 mm, INSTA POWER fits into the smallest control cabinets. The high efficiency of up to 91 % and the extremely low no-load power loss of max. 0.5 W ensure minimum energy costs.

**Robust and reliable**

INSTA POWER operates reliably in a temperature range from -25 °C to +70 °C (start-up: -40 °C) and have a high MTBF value of more than 1,000,000 hours.

**Easy and quick to install**

The INSTA POWER devices can either be snapped onto a DIN rail or screwed to the control cabinet wall. The maintenance work and measurements can be carried out conveniently via the PUSH IN connections.

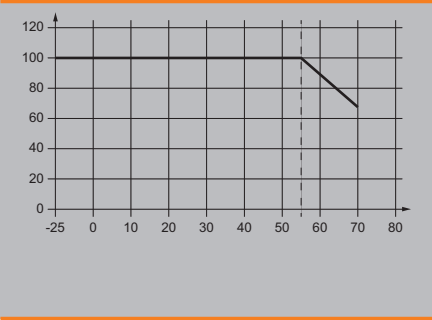


connectPower INSTA POWER

connectPower INSTA POWER



Derating curve



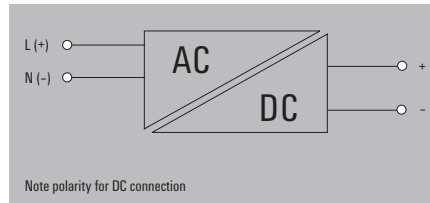
Technical data

General data	
Ambient temperature (operational)	-25 °C...70 °C
MTBF	> 750.000 h nach IEC 61709 (SN29500)
Protection degree	IP20
Housing version	Plastic, protective insulation
Mounting position, installation notice	Horizontal on DIN rail TS 35, top and bottom 50 mm clearance for free air flow, 10 mm clearance to neighbouring active subassemblies with full load, 5 mm with passive neighbouring subassemblies, direct row mounting with 90% rated load
Signalling	
LED green	Operating voltage OK
EMC / shock / vibration	
Limiting of mains voltage harmonic currents	According to EN 61000-3-2
Noise emission in accordance with EN55032	Class B
Interference immunity test acc. to	EN 61000-4-2 (ESD) EN 61000-4-3 and EN 61000-4-8 (fields) EN 61000-4-4 (burst) EN 61000-4-5 (surge) EN 61000-4-6 (conducted) EN 61000-4-11 (dips), EN 61000-4-11 (Dips)
Shock	15 g In all directions
Insulation coordination	
Insulation voltage output / earth	0.5 kV
Insulation voltage, input/output	4 kV
Insulation voltage input / earth	3.5 kV
Protection class	II
Pollution degree	2
Electrical safety (applied standards)	
For use with electronic equipment	Acc. to EN50178 / VDE0160
Electrical machine equipment	Acc. to EN60204
Protection against dangerous shock currents	Acc. to VDE0106-101
Protective separation / protection against electrical shock	VDE0100-410 / acc. to DIN57100-410
Safety transformers for switch-mode power supplies	According to EN 61558-2-16

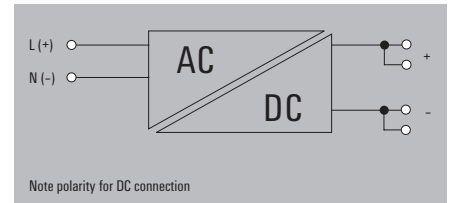
connectPower INSTA POWER

- 1-phase power supplies

PRO INSTA 16 W 24 V 0.7 A



PRO INSTA 30 W 5 V 6 A



Technical data

Input	
Rated input voltage	100 - 240 V AC / 120 - 340 V DC
Input voltage range AC	85...264 V AC (derating at 100 V AC)
AC current consumption	0.25 A @ 230 V AC / 0.45 A @ 100 V AC
Frequency range AC	45...65 Hz
DC input voltage range	95...370 V DC
DC current consumption	0.08 A @ 370V DC / 0.22 A @ 120 V DC
Inrush current	max. 40 A
Output	
Rated output voltage	24 V DC $\pm$ 1 %
Nominal output current for U_{nom}	0.7 A @ 55 °C
Output voltage	22...28 V (adjustable via potentiometer on front)
Continuous output current @ U_{Nomin}	0.7 A @ 55 °C, 0.43 A @ 70 °C
Residual ripple, breaking spikes	< 50 mVss @ U_{Nomin} , Full Load
Capacitive load	unrestricted
General data	
Degree of efficiency	82.5 %
Power loss idling / nominal load	0.4 W
Power loss, nominal load	3.6 W
Protection against reverse voltages from the load	30...35 V DC
Depth x width x height	60 / 22.5 / 90.5 mm
Net weight	82 g
Approvals	
Approvals	cCSAus; TUEV

Input	
Rated input voltage	100 - 240 V AC / 120 - 340 V DC
Input voltage range AC	85...264 V AC (derating at 100 V AC)
AC current consumption	0.25 A @ 230 V AC / 0.45 A @ 100 V AC
Frequency range AC	45...65 Hz
DC input voltage range	95...370 V DC
DC current consumption	0.08 A @ 370V DC / 0.22 A @ 120 V DC
Inrush current	max. 40 A
Output	
Rated output voltage	24 V DC $\pm$ 1 %
Nominal output current for U_{nom}	0.7 A @ 55 °C
Output voltage	22...28 V (adjustable via potentiometer on front)
Continuous output current @ U_{Nomin}	0.7 A @ 55 °C, 0.43 A @ 70 °C
Residual ripple, breaking spikes	< 50 mVss @ U_{Nomin} , Full Load
Capacitive load	unrestricted
General data	
Degree of efficiency	82.5 %
Power loss idling / nominal load	0.4 W
Power loss, nominal load	3.6 W
Protection against reverse voltages from the load	30...35 V DC
Depth x width x height	60 / 22.5 / 90.5 mm
Net weight	82 g
Approvals	
Approvals	cCSAus; TUEV

Input	
Rated input voltage	100 - 240 V AC / 120 - 340 V DC
Input voltage range AC	85...264 V AC (derating at 100 V AC)
AC current consumption	0.5 A @ 230 V AC / 1.0 A @ 100 V AC
Frequency range AC	45...65 Hz
DC input voltage range	95...370 V DC
DC current consumption	0.2 A @ 370 V DC / 0.5 A @ 120 V DC
Inrush current	max. 40 A
Output	
Rated output voltage	5 V DC $\pm$ 2 %
Nominal output current for U_{nom}	6 A @ 55 °C
Output voltage	7...4 V (adjustable via potentiometer on front)
Continuous output current @ U_{Nomin}	6 A @ 55 °C, 3.75 A @ 70 °C
Residual ripple, breaking spikes	< 50 mVss @ U_{Nomin} , Full Load
Capacitive load	unrestricted
General data	
Degree of efficiency	82 %
Power loss idling / nominal load	0.45 W
Power loss, nominal load	5.4 W
Protection against reverse voltages from the load	8...10 V DC
Depth x width x height	60 / 72 / 90 mm
Net weight	256 g
Approvals	
Approvals	cCSAus; TUEV

Connection data	
Connection system	PUSH IN
Number of terminals	2 (L,N)
Wire cross-section, rigid min/max	0.25 / 2.5 mm ²
Wire cross-section, flexible min/max	0.25 / 2.5 mm ²
Wire cross-section, AWG/kcmil min/max	24 / 12
Note	

Input	Output
PUSH IN	PUSH IN
2 (L,N)	2 (+ / -)
0.25 / 2.5	0.25 / 2.5
0.25 / 2.5	0.25 / 2.5
24 / 12	24 / 12

Input	Output
PUSH IN	PUSH IN
2 (L,N)	4 (++ / -)
0.25 / 2.5	0.25 / 2.5
0.25 / 2.5	0.25 / 2.5
24 / 12	24 / 12

Ordering data

Type	Qty.	Order No.
PRO INSTA 16W 24V 0.7A	1	2580180000
Note		

Type	Qty.	Order No.
PRO INSTA 16W 24V 0.7A	1	2580180000
Note		

Type	Qty.	Order No.
PRO INSTA 30W 5V 6A	1	2580210000
Note		

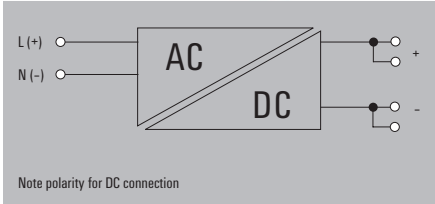
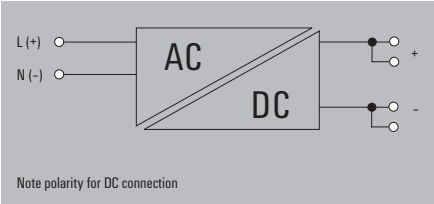
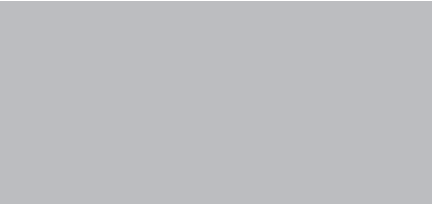
connectPower INSTA POWER

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- 1-phase power supplies

PRO INSTA 30 W 12 V 2.6 A

PRO INSTA 30 W 24 V 1.3 A



Technical data

Input	
Rated input voltage	100 - 240 V AC / 120 - 340 V DC
Input voltage range AC	85...264 V AC (derating at 100 V AC)
AC current consumption	0.5 A @ 230 V AC / 1.0 A @ 100 V AC
Frequency range AC	45...65 Hz
DC input voltage range	95...370 V DC
DC current consumption	0.2 A @ 370 V DC / 0.5 A @ 120 V DC
Inrush current	max. 40 A
Output	
Rated output voltage	12 V DC ± 1 %
Nominal output current for U _{nom}	2.6 A @ 55 °C
Output voltage	16...9 V (adjustable via potentiometer on front)
Continuous output current @ U _{Nominal}	2.6 A @ 55 °C, 1.625 A @ 55 °C
Residual ripple, breaking spikes	< 50 mVss @ U _{Nom} , Full Load
Capacitive load	unrestricted
General data	
Degree of efficiency	85 %
Power loss idling / nominal load	0.45 W
Power loss, nominal load	5.29 W
Protection against reverse voltages from the load	18...25 V DC
Depth x width x height	60 / 54 / 90 mm
Net weight	192 g
Approvals	
Approvals	cCSAus; TUEV

Input	
Rated input voltage	100 - 240 V AC / 120 - 340 V DC
Input voltage range AC	85...264 V AC (derating at 100 V AC)
AC current consumption	0.5 A @ 230 V AC / 1.0 A @ 100 V AC
Frequency range AC	45...65 Hz
DC input voltage range	95...370 V DC
DC current consumption	0.2 A @ 370 V DC / 0.5 A @ 120 V DC
Inrush current	max. 40 A
Output	
Rated output voltage	12 V DC ± 1 %
Nominal output current for U _{nom}	2.6 A @ 55 °C
Output voltage	16...9 V (adjustable via potentiometer on front)
Continuous output current @ U _{Nominal}	2.6 A @ 55 °C, 1.625 A @ 55 °C
Residual ripple, breaking spikes	< 50 mVss @ U _{Nom} , Full Load
Capacitive load	unrestricted
General data	
Degree of efficiency	85 %
Power loss idling / nominal load	0.45 W
Power loss, nominal load	5.29 W
Protection against reverse voltages from the load	18...25 V DC
Depth x width x height	60 / 54 / 90 mm
Net weight	192 g
Approvals	
Approvals	cCSAus; TUEV

Input	
Rated input voltage	100 - 240 V AC / 120 - 340 V DC
Input voltage range AC	85...264 V AC (derating at 100 V AC)
AC current consumption	0.5 A @ 230 V AC / 1.0 A @ 100 V AC
Frequency range AC	45...65 Hz
DC input voltage range	95...370 V DC
DC current consumption	0.2 A @ 370 V DC / 0.5 A @ 120 V DC
Inrush current	max. 40 A
Output	
Rated output voltage	24 V DC ± 1 %
Nominal output current for U _{nom}	1.3 A @ 55 °C
Output voltage	22...28 V (adjustable via potentiometer on front)
Continuous output current @ U _{Nominal}	1.3 A @ 55 °C, 0.8 A @ 70 °C
Residual ripple, breaking spikes	< 50 mVss @ U _{Nom} , Full Load
Capacitive load	unrestricted
General data	
Degree of efficiency	86%
Power loss idling / nominal load	0.45 W
Power loss, nominal load	4.88 W
Protection against reverse voltages from the load	30...35 V DC
Depth x width x height	60 / 54 / 90 mm
Net weight	192 g
Approvals	
Approvals	cCSAus; TUEV

Connection data	
Connection system	PUSH IN
Number of terminals	2 (L,N)
Wire cross-section, rigid min/max	0.25 / 2.5 mm ²
Wire cross-section, flexible min/max	0.25 / 2.5 mm ²
Wire cross-section, AWG/kcmil min/max	24 / 12
Note	

Input	Output
PUSH IN	PUSH IN
2 (L,N)	4 (++) / (-)
0.25 / 2.5	0.25 / 2.5
0.25 / 2.5	0.25 / 2.5
24 / 12	24 / 12

Input	Output
PUSH IN	PUSH IN
2 (L,N)	4 (++) / (-)
0.25 / 2.5	0.25 / 2.5
0.25 / 2.5	0.25 / 2.5
24 / 12	24 / 12

Ordering data

Type	Qty.	Order No.
------	------	-----------

Type	Qty.	Order No.
PRO INSTA 30W 12V 2.6A	1	2580220000

Type	Qty.	Order No.
PRO INSTA 30W 24V 1.3A	1	2580190000

Note

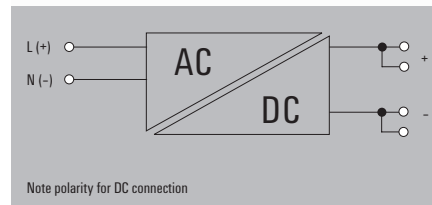
Note

Note

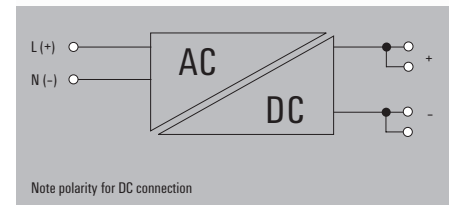
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- 1-phase power supplies

PRO INSTA 60 W 12 V 5 A



PRO INSTA 60 W 24 V 2.5 A



Technical data

Input	
Rated input voltage	100 - 240 V AC / 120 - 340 V DC
Input voltage range AC	85...264 V AC (derating at 100 V AC)
AC current consumption	0.7 A @ 230 V AC / 1.5 A @ 100 V AC
Frequency range AC	45...65 Hz
DC input voltage range	95...370 V DC
DC current consumption	0.25 A @ 370 V DC / 0.8 A @ 120 V DC
Inrush current	max. 40 A
Output	
Rated output voltage	12 V DC $\pm$ 1 %
Nominal output current for U_{nom}	5 A @ 55 °C
Output voltage	16...9 V (adjustable via potentiometer on front)
Continuous output current @ U_{Nomin}	5 A @ 55 °C, 3.75 A @ 70 °C
Residual ripple, breaking spikes	< 50 mVss @ U_{Nomin} , Full Load
Capacitive load	unrestricted
General data	
Degree of efficiency	86%
Power loss idling / nominal load	0.42 W
Power loss, nominal load	8.4 W
Protection against reverse voltages from the load	18...25 V DC
Depth x width x height	60 / 72 / 90 mm
Net weight	258 g
Approvals	
Approvals	cCSAus; TUEV

Input		Output	
PUSH IN		PUSH IN	
2 (L,N)		4 (++ / -)	
0.25 / 2.5		0.25 / 2.5	
0.25 / 2.5		0.25 / 2.5	
24 / 12		24 / 12	
Input		Output	
PUSH IN		PUSH IN	
2 (L,N)		4 (++ / -)	
0.25 / 2.5		0.25 / 2.5	
0.25 / 2.5		0.25 / 2.5	
24 / 12		24 / 12	

Input		Output	
PUSH IN		PUSH IN	
2 (L,N)		4 (++ / -)	
0.25 / 2.5		0.25 / 2.5	
0.25 / 2.5		0.25 / 2.5	
24 / 12		24 / 12	
Input		Output	
PUSH IN		PUSH IN	
2 (L,N)		4 (++ / -)	
0.25 / 2.5		0.25 / 2.5	
0.25 / 2.5		0.25 / 2.5	
24 / 12		24 / 12	

Connection data	
Connection system	
Number of terminals	
Wire cross-section, rigid min/max	mm ²
Wire cross-section, flexible min/max	mm ²
Wire cross-section, AWG/kcmil min/max	
Note	

Connection data	
Connection system	
Number of terminals	
Wire cross-section, rigid min/max	mm ²
Wire cross-section, flexible min/max	mm ²
Wire cross-section, AWG/kcmil min/max	
Note	

Connection data	
Connection system	
Number of terminals	
Wire cross-section, rigid min/max	mm ²
Wire cross-section, flexible min/max	mm ²
Wire cross-section, AWG/kcmil min/max	
Note	

Ordering data

Type	Qty.	Order No.
PRO INSTA 60W 12V 5A	1	2580240000
Note		

Type	Qty.	Order No.
PRO INSTA 60W 12V 5A	1	2580240000
Note		

Type	Qty.	Order No.
PRO INSTA 60W 24V 2.5A	1	2580230000
Note		

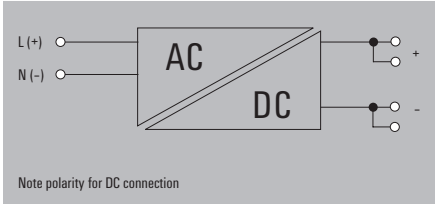
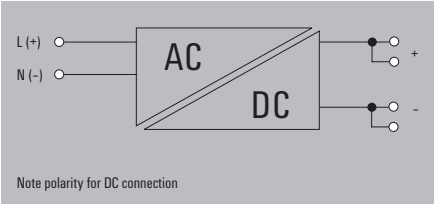
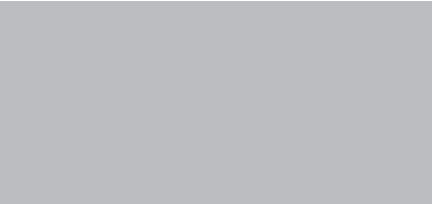
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- 1-phase power supplies

PRO INSTA 90 W 24 V 3.8 A

PRO INSTA 96 W 24 V 4 A



Technical data

Input	
Rated input voltage	100 - 240 V AC / 120 - 340 V DC
Input voltage range AC	85...264 V AC (derating at 100 V AC)
AC current consumption	1.2 A @ 230 V AC / 2.4 A @ 100 V AC
Frequency range AC	45...65 Hz
DC input voltage range	95...370 V DC
DC current consumption	0.4 A @ 370 V DC / 1.3 A @ 120 V DC
Inrush current	max. 40 A
Output	
Rated output voltage	24 V DC ± 1 %
Nominal output current for U _{nom}	3.8 A @ 55 °C
Output voltage	22...25 V (adjustable via potentiometer on front)
Continuous output current @ U _{Nominal}	3.8 A @ 55 °C, 2.38 A @ 70 °C
Residual ripple, breaking spikes	< 50 mVss @ U _{Nom} , Full Load
Capacitive load	unrestricted
General data	
Degree of efficiency	87 %
Power loss idling / nominal load	0.45 W
Power loss, nominal load	11.7 W
Protection against reverse voltages from the load	30...35 V DC
Depth x width x height	60 / 90 / 90 mm
Net weight	352 g
Approvals	
Approvals	cCSAus; TUEV

Input	
Rated input voltage	100 - 240 V AC / 120 - 340 V DC
Input voltage range AC	85...264 V AC (derating at 100 V AC)
AC current consumption	1.2 A @ 230 V AC / 2.4 A @ 100 V AC
Frequency range AC	45...65 Hz
DC input voltage range	95...370 V DC
DC current consumption	0.4 A @ 370 V DC / 1.3 A @ 120 V DC
Inrush current	max. 40 A
Output	
Rated output voltage	24 V DC ± 1 %
Nominal output current for U _{nom}	3.8 A @ 55 °C
Output voltage	22...25 V (adjustable via potentiometer on front)
Continuous output current @ U _{Nominal}	3.8 A @ 55 °C, 2.38 A @ 70 °C
Residual ripple, breaking spikes	< 50 mVss @ U _{Nom} , Full Load
Capacitive load	unrestricted
General data	
Degree of efficiency	87 %
Power loss idling / nominal load	0.45 W
Power loss, nominal load	11.7 W
Protection against reverse voltages from the load	30...35 V DC
Depth x width x height	60 / 90 / 90 mm
Net weight	352 g
Approvals	
Approvals	cCSAus; TUEV

Input	
Rated input voltage	100 - 240 V AC / 120 - 340 V DC
Input voltage range AC	85...264 V AC (derating at 100 V AC)
AC current consumption	1.2 A @ 230 V AC / 2.5 A @ 100 V AC
Frequency range AC	45...65 Hz
DC input voltage range	95...370 V DC
DC current consumption	0.4 A @ 370 V DC / 1.35 A @ 120 V DC
Inrush current	max. 40 A
Output	
Rated output voltage	24 V DC ± 1 %
Nominal output current for U _{nom}	4 A @ 55 °C
Output voltage	22...28 V (adjustable via potentiometer on front)
Continuous output current @ U _{Nominal}	4 A @ 55 °C, 2.5 A @ 70 °C
Residual ripple, breaking spikes	< 50 mVss @ U _{Nom} , Full Load
Capacitive load	unrestricted
General data	
Degree of efficiency	87 %
Power loss idling / nominal load	0.45 W
Power loss, nominal load	12.48 W
Protection against reverse voltages from the load	30...35 V DC
Depth x width x height	60 / 90 / 90 mm
Net weight	352 g
Approvals	
Approvals	cCSAus; TUEV

Connection data	
Connection system	PUSH IN
Number of terminals	2 (L,N)
Wire cross-section, rigid min/max	0.25 / 2.5 mm ²
Wire cross-section, flexible min/max	0.25 / 2.5 mm ²
Wire cross-section, AWG/kcmil min/max	24 / 12
Note	

Input	Output
PUSH IN	PUSH IN
2 (L,N)	4 (++) / (-)
0.25 / 2.5	0.25 / 2.5
0.25 / 2.5	0.25 / 2.5
24 / 12	24 / 12

Input	Output
PUSH IN	PUSH IN
2 (L,N)	4 (++) / (-)
0.25 / 2.5	0.25 / 2.5
0.25 / 2.5	0.25 / 2.5
24 / 12	24 / 12

Ordering data

Type	Qty.	Order No.
------	------	-----------

Type	Qty.	Order No.
PRO INSTA 90W 24V 3.8A	1	2580250000

Type	Qty.	Order No.
PRO INSTA 96W 24V 4A	1	2580260000

Note

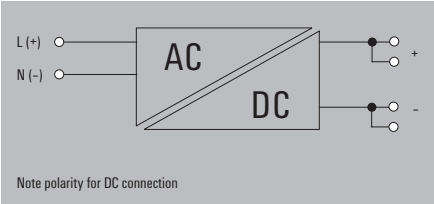
Note

Note

connectPower INSTA POWER

- 1-phase power supplies

PRO INSTA 96 W 48 V 2 A



Technical data

Input	
Rated input voltage	100 - 240 V AC / 120 - 340 V DC
Input voltage range AC	85...264 V AC (derating at 100 V AC)
AC current consumption	1.2 A @ 230 V AC / 2.5 A @ 100 V AC
Frequency range AC	45...65 Hz
DC input voltage range	95...370 V DC
DC current consumption	0.4 A @ 370 V DC / 1.35 A @ 120 V DC
Inrush current	max. 40 A
Output	
Rated output voltage	48 V DC $\pm$ 1 %
Nominal output current for U_{nom}	2 A @ 55 °C
Output voltage	56...35 V (adjustable via potentiometer on front)
Continuous output current @ $U_{Nominale}$	2 A @ 55 °C, 1.25 A @ 70 °C
Residual ripple, breaking spikes	< 50 mVss @ $U_{Nominale}$, Full Load
Capacitive load	unrestricted
General data	
Degree of efficiency	89%
Power loss idling / nominal load	0.45 W
Power loss, nominal load	10.56 W
Protection against reverse voltages from the load	58...62 V DC
Depth x width x height	60 / 90 / 90 mm
Net weight	361 g
Approvals	
Approvals	cCSAus; TUEV

100 - 240 V AC / 120 - 340 V DC
85...264 V AC (derating at 100 V AC)
1.2 A @ 230 V AC / 2.5 A @ 100 V AC
45...65 Hz
95...370 V DC
0.4 A @ 370 V DC / 1.35 A @ 120 V DC
max. 40 A
48 V DC $\pm$ 1 %
2 A @ 55 °C
56...35 V (adjustable via potentiometer on front)
2 A @ 55 °C, 1.25 A @ 70 °C
< 50 mVss @ $U_{Nominale}$, Full Load
unrestricted
89%
0.45 W
10.56 W
58...62 V DC
60 / 90 / 90 mm
361 g
cCSAus; TUEV

Connection data	
Connection system	
Number of terminals	
Wire cross-section, rigid min/max	mm ²
Wire cross-section, flexible min/max	mm ²
Wire cross-section, AWG/kcmil min/max	
Note	

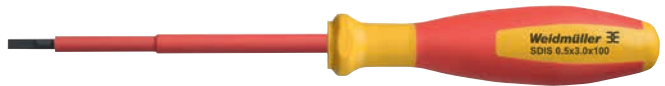
Input	Output
PUSH IN	PUSH IN
2 (L,N)	4 (++ / -)
0.25 / 2.5	0.25 / 2.5
0.25 / 2.5	0.25 / 2.5
24 / 12	24 / 12

Ordering data

Type	Qty.	Order No.
PRO INSTA 96W 48V 2A	1	2580270000

Type	Qty.	Order No.
PRO INSTA 96W 48V 2A	1	2580270000

Small screwdriver



Type	Size/AF	a	b	c	Order No.
SDIS 0.5X3.0X100		0.5	3	100	2749800000

Markers



Type	Colour	Qty.	Order No.
SM 18/9.5 K MC NE WS	white	200	1248580000

End bracket

For DIN rail TS 35



Polyamide with fibre glass, screwable	Colour	Torque	Qty.	Order No.
WEW 35/1 SW	black	1.2 Nm	50	1162600000

Electronic load monitoring

Electronic load monitoring	Overview	B.2
	topGUARD	B.3
	maxGUARD	B.8

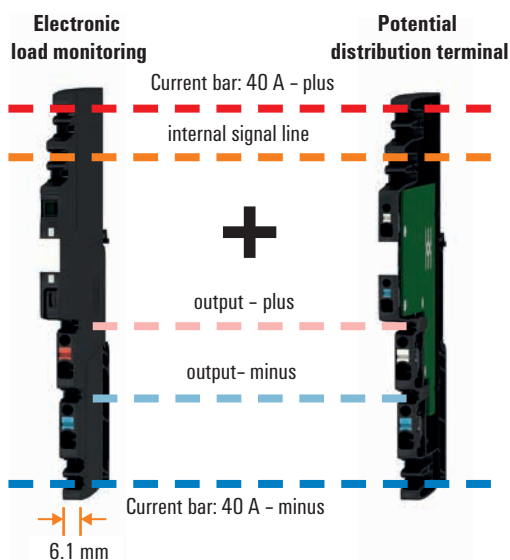
Control current distribution further developed

Load monitoring and potential distribution in one overall solution

New ways in the control current distribution increase the efficiency in the operation of machines and plants. The combination of load monitoring and potential distribution terminals saves up to 50 % space and up to 20 % wiring costs, while the free combinability of numerous single-channel and four-channel variants optimizes material costs. Benefit from the advantages of a modular system that offers you high flexibility and adapts optimally to any application.



Combination of load monitoring and potential distribution



- Three main connection channels: positive, negative and internal signals
- Simple to increase the number of contacts thanks to crossconnection option in the potential distribution terminals



Intelligent protection of DC loads

topGUARD load monitoring system with communication via IO-LINK

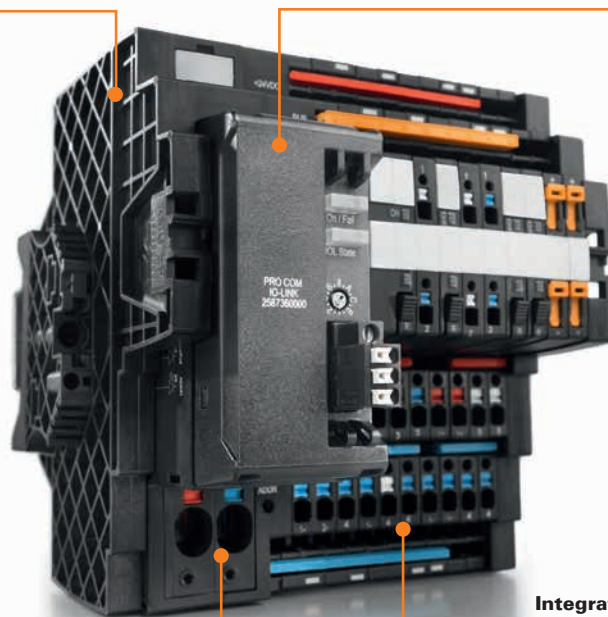
Modern machines and plants require load monitoring systems capable of communication. The IO-Link-capable load monitoring system topGUARD offers remote control options, full data transparency, and reliable protection of the 24 V system voltage.

topGUARD is an outstanding supplement to the IO-Link-capable PROtop power supplies for innovative power management systems. It saves space and time during device installation through an innovative approach to integrated distribution of potential. Parameterisation, control, and provision of all operating data are carried out by plugging in the IO-Link module and integrating an IODD file. The module can be used for PROtop power supplies as well as for topGUARD load monitoring.

IO-LINK capable

The IO-Link-capable load monitoring system topGUARD offers remote control options, provides operating data for optimal condition monitoring, and enables entirely new control solutions.

Data transparency and remote control thanks to IO-Link.



Modular and innovative

The modular concept enables custom-fit solutions. The first of its kind, voltage-adaptive class 2 load monitoring allows the continued use of 18 to 30 V DC operating voltage.

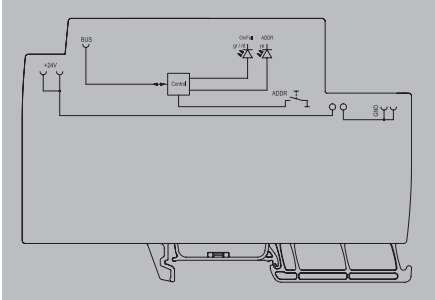
Integrated distribution of potential

The integrated distribution of potential, well known from the maxGUARD concept, takes up significantly less space and saves valuable time during installation.



topGUARD – power-feed module

TGD FIM-C



Technical data

Input
Input fuse (internal)
DC input voltage range
Rated input voltage
max. admissible residual ripple at the input
General data
Protection degree
Surge protection input, bus
Overvoltage category
Signalling
Yellow LED
LED green/red
Connection data
Number of terminals
Wire cross-section, AWG/kcmil min/max
Wire cross-section, flexible min/max
Wire cross-section, rigid min/max
Screwdriver blade
Approvals
Approvals
Note

No
18...30 V DC
24 V DC
100 mVpp
IP20
Suppressor diode
III
Address is assigned, Addresses being assigned (slow flashing, 1.5 Hz), Address error (fast flashing, 13 Hz)
Station ok (slow flashing green, 1.5 Hz), Device ok (fast flashing green, 13 Hz), Station error (slow flashing red, 1.5 Hz), Device error (fast flashing red, 13 Hz)
2 (+,-)
18..6
0.75...16 mm ²
0.75...10 mm ²
1.2 x 6.5
cULus; CE

Ordering data

Rated current
Note

Type	Qty.	Order No.
TGD FIM-C	1	2625000000

Accessories

Note

Type	Qty.	Order No.
PRO COM IO-LINK	1	2587360000

topGUARD – load monitoring adjustable

TGD ELM-12



Technical data

Input	
Input fuse (internal)	
DC input voltage range	
Rated input voltage	
max. admissible residual ripple at the input	
Output	
Connection system	
Triggering characteristic	
Adjustable range	
adjustable rated current	
Capacitive load	
Function key	
Function key	
General data	
Relay to activate the output	
Protection degree	
Surge protection input, output, bus	
Overvoltage category	
Signalling	
Yellow LED	
LED green	
Red LED	
Connection data	
Number of terminals	
Wire cross-section, AWG/kcmil min/max	
Wire cross-section, flexible min/max	
Wire cross-section, rigid min/max	
Screwdriver blade	
Approvals	
Approvals	
Note	

Ordering data

Rated current	12 A
Note	

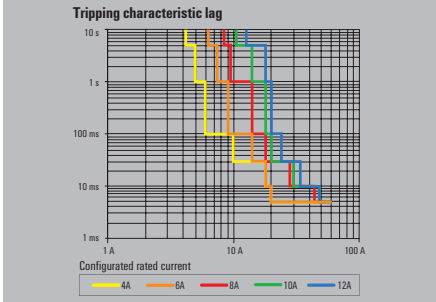
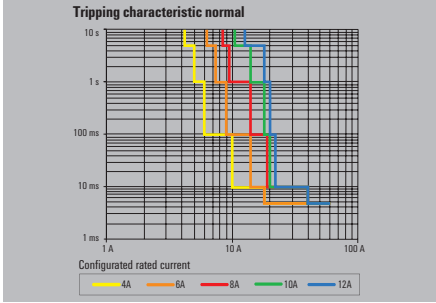
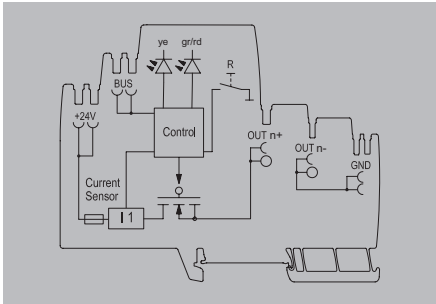
Accessories

Note	

Yes	
18...30 V DC	
24 V DC	
100 mVpp	
PUSH IN	
see characteristic curve	
4-12 A	
Yes	
20,000 µF	
Activation time < 3s, Reset, ON	
No	
IP20	
Suppressor diode	
III	
Address is assigned, Address is being assigned (flashing)	
Operation (failure-free), Early warning: I Out > 90% I Rated (flashing)	
Load monitoring has disconnected, Load monitoring has triggered (flashing), Internal error (rapid flashing)	
4 (++) / -)	
26...12	
0.14...2.5 mm ²	
0.14...2.5 mm ²	
0.6 x 3.5	
cULus; CE	

Type	Qty.	Order No.
TGD ELM-12	1	2624990000

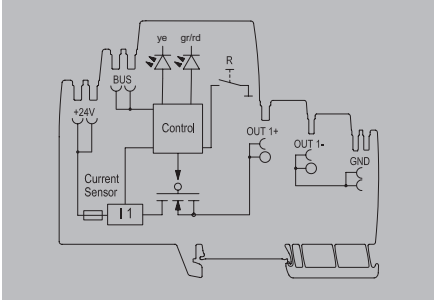
Type	Qty.	Order No.
AMG DIS	10	2123050000
AMG MD	10	2122930000
AMG OD	10	2122910000
AMG PD	10	2122920000



topGUARD

topGUARD – Adjustable load monitoring

TGD ELM-6



Technical data

Input	
Input fuse (internal)	Yes
DC input voltage range	18...30 V DC
Rated input voltage	24 V DC
max. admissible residual ripple at the input	100 mVpp
Output	
Connection system	PUSH IN
Triggering characteristic	see characteristic curve
Adjustable range	1- 6 A
Capacitive load	15,000 µF
adjustable rated current	Yes
Function key	
Function key	Activation time < 3s, Reset, ON
General data	
Relay to activate the output	No
Protection degree	IP20
Surge protection input, output, bus	Suppressor diode
Overvoltage category	III
Signalling	
Yellow LED	Address is assigned, Address is being assigned (flashing)
LED green	Operation (failure-free), Early warning: I Out > 90% I Rated (flashing)
Red LED	Load monitoring has disconnected, Load monitoring has triggered (flashing), Internal error (rapid flashing)
Connection data	
Number of terminals	2 (+ / -)
Wire cross-section, AWG/kcmil min/max	26...12
Wire cross-section, flexible min/max	0.14...2.5 mm ²
Wire cross-section, rigid min/max	0.14...2.5 mm ²
Screwdriver blade	0.6 x 3.5
Approvals	
Approvals	cULus; CE
Note	

Ordering data

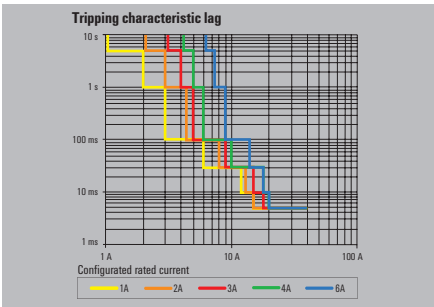
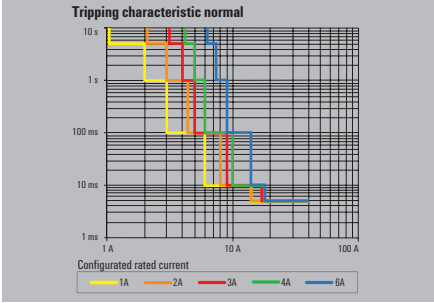
Rated current	6 A
Note	

Accessories

Note	

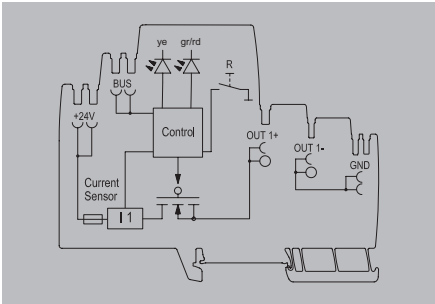
Type	Qty.	Order No.
TGD ELM-6	1	2624980000

Type	Qty.	Order No.
AMG DIS	10	2123050000
AMG MD	10	2122930000
AMG OD	10	2122910000
AMG PD	10	2122920000



topGUARD – Load monitoring class2

TGD ELM-4 CL2



Technical data

Input	
Input fuse (internal)	
DC input voltage range	
Rated input voltage	
max. admissible residual ripple at the input	
Output	
Connection system	
Triggering characteristic	
Capacitive load	
adjustable rated current	
Function key	
Function key	
General data	
Relay to activate the output	
Protection degree	
Surge protection input, output, bus	
Overvoltage category	
Signalling	
Yellow LED	
LED green	
Red LED	
Connection data	
Number of terminals	
Wire cross-section, AWG/kcmil min/max	
Wire cross-section, flexible min/max	
Wire cross-section, rigid min/max	
Screwdriver blade	
Approvals	
Approvals	
Note	

Ordering data

Rated current	4 A
Note	

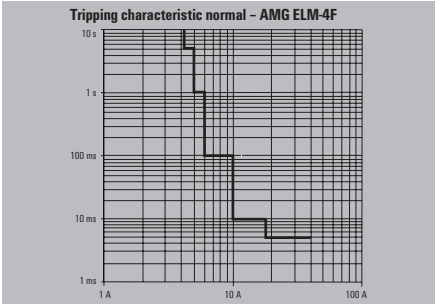
Accessories

Note	

Yes	
18...30 V DC	
24 V DC	
100 mVpp	
PUSH IN	
see characteristic curve	
4.700 µF	
Yes	
Activation time < 3s, Reset, ON	
No	
IP20	
Suppressor diode	
III	
Address is assigned, Address is being assigned (flashing)	
Operation (failure-free), Early warning: I Out > 90% I Rated (flashing)	
Load monitoring has disconnected, Load monitoring has triggered (flashing), Internal error (rapid flashing)	
2 (+ / -)	
26...12	
0.14...2.5 mm²	
0.14...2.5 mm²	
0.6 x 3.5	
cULus; CE	

Type	Qty.	Order No.
TGD ELM-4 CL2	1	2656670000

Type	Qty.	Order No.
AMG DIS	10	2123050000
AMG MD	10	2122930000
AMG OD	10	2122910000
AMG PD	10	2122920000



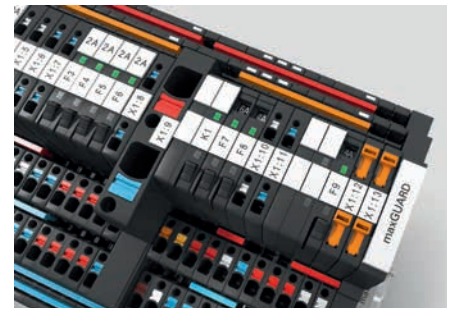
High level of modularity for optimal adaptability

Customised solutions made simple with maxGUARD

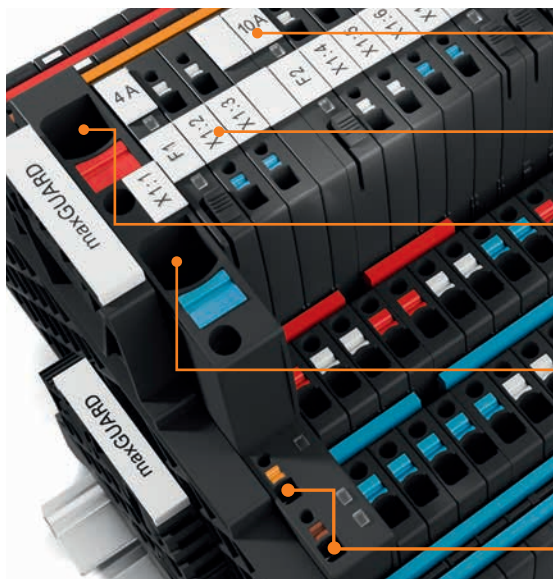
Fail-safe and maintenance-friendly control voltage distributions that can be installed in a time- and space-saving manner are a must for efficient machine and facility operation. With the new maxGUARD system, the terminal blocks (previously installed separately) for distributing potential to the outputs of the electronic load monitors become an integral part of a 24 V DC control voltage distribution solution. The new combination of load monitoring and potential distribution saves time during installation, increases safety against failure and reduces the amount of space required on the terminal rail by 50 %.

Extreme ease of servicing

Sophisticated operating, testing and connection elements permit safe access to all voltage potentials and load circuits during commissioning and maintenance.



Sophisticated arrangement of connections and markers ensures clarity



Markers for current strength

Continuous marker channel for equipment ID

Supply terminal (positive): 16 mm²

Supply terminal (negative): 16 mm²

Reset input and alarm output for connecting to the PLC

Integrated test point

Consistently integrated test points in the maxGUARD control voltage distribution's input and output speed up troubleshooting operations.



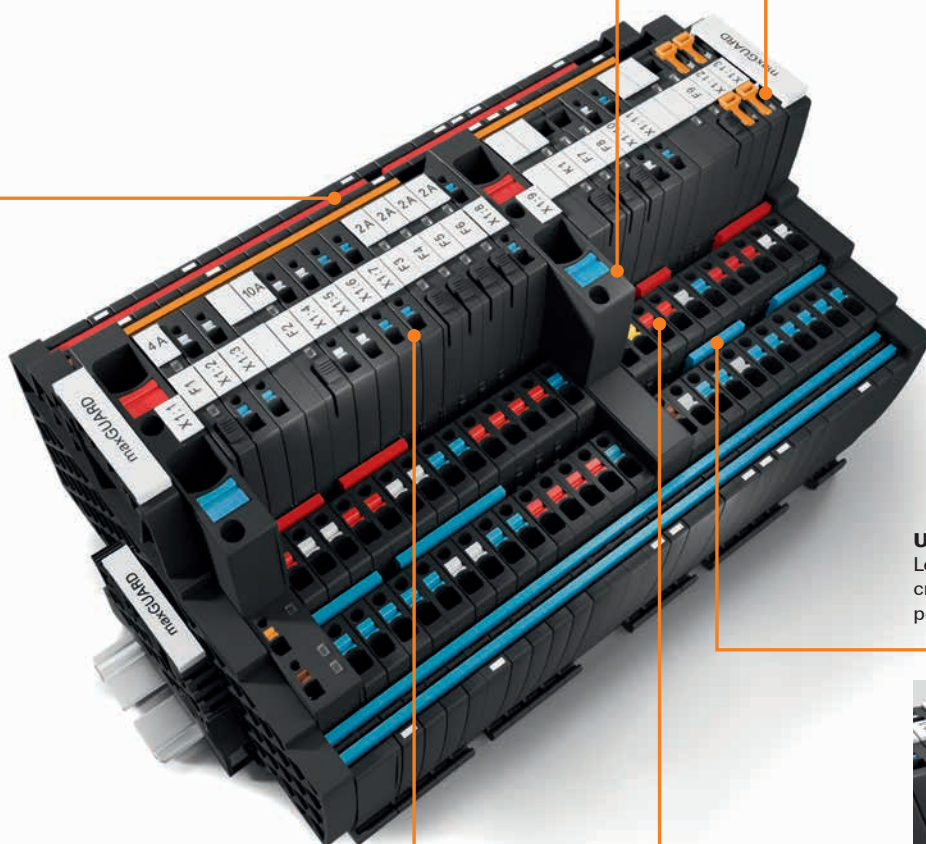
New approvals:
Marine,
Class 2, Ex

Practical disconnecting lever

Potential distributor with a disconnecting lever for simple galvanic isolation of the load circuit for testing and checking purposes.



B

**Unique cross-connectors**

Less time and effort needed for wiring due to cross-connections between load monitoring and potential distribution terminals.



Time saving
of up to
20 %

Particularly space-saving

Electronic load monitors and potential distributors with a 6.1 mm pitch.



Space saving
up to
50 %

Can be used in a customised way

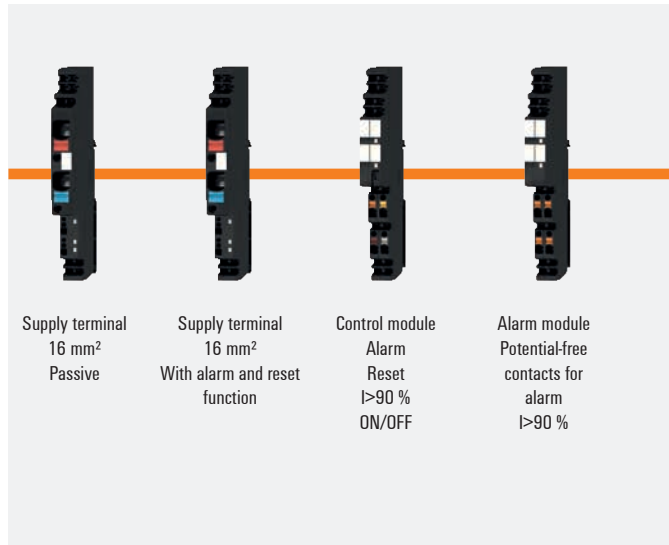
The sheer range of variants and the very different potential distribution terminals and additional components enable customised solutions at all times.

maxGUARD – product overview

Flexible and modular design

Supply terminals, control and alarm modules

Electronic load monitoring

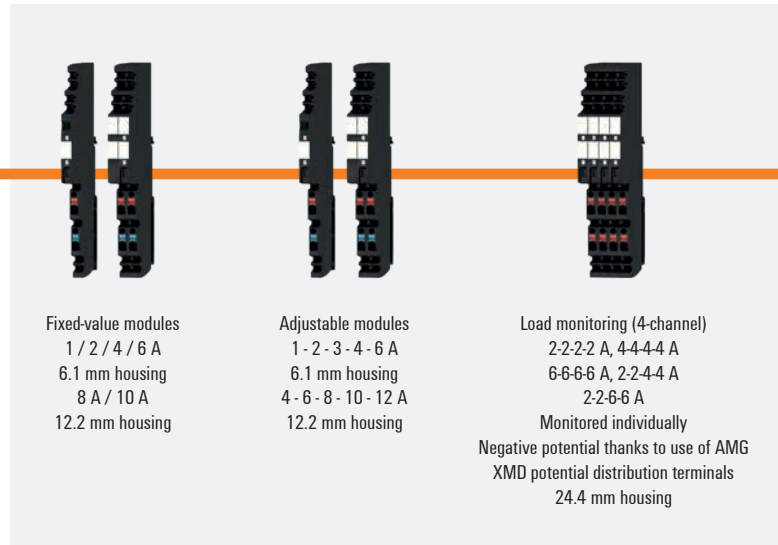


Supply terminal
16 mm²
Passive

Supply terminal
16 mm²
With alarm and reset
function

Control module
Alarm
Reset
>90 %
ON/OFF

Alarm module
Potential-free
contacts for
alarm
>90 %



Fixed-value modules
1 / 2 / 4 / 6 A
6.1 mm housing
8 A / 10 A
12.2 mm housing

Adjustable modules
1 - 2 - 3 - 4 - 6 A
6.1 mm housing
4 - 6 - 8 - 10 - 12 A
12.2 mm housing

Load monitoring (4-channel)
2-2-2-2 A, 4-4-4-4 A
6-6-6-6 A, 2-2-4-4 A
2-2-6-6 A
Monitored individually
Negative potential thanks to use of AMG
XMD potential distribution terminals
24.4 mm housing

Power-feed, control and alarm module

Alarm module with potential-free contacts for the "Alarm" and ">90%" signals. Control module with extended control function. Passive or active power-feed module with reset and alarm function

Load monitoring (fixed value)

Electronic load monitoring with fixed current (without I >90% function)

Load monitoring adjustable

Electronic load monitoring with adjustable triggering current and triggering characteristic (with I >90% function)

Load monitoring, 4 channels

4-channel electronic load monitoring with fixed triggering current (without I >90% function)

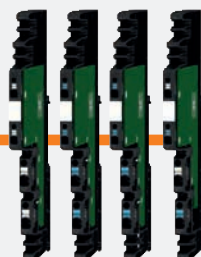
Type	Order No.
AMG FIM-O	2081870000
AMG FIM-C	2081880000
AMG FIM-O EX	2082530000
AMG FIM-C EX	2082540000
AMG CM	2081900000
AMG CM EX	2083360000
AMG AM	2081890000
AMG AM CO	2082770000

Type	Order No.
AMG ELM-1F	2080420000
AMG ELM-1F EX	2082040000
AMG ELM-2F	2080480000
AMG ELM-2F EX	2082050000
AMG ELM-4F	2080490000
AMG ELM-4F EX	2082060000
AMG ELM-6F	2080500000
AMG ELM-6F EX	2082310000
AMG ELM-8F	2080600000
AMG ELM-8F EX	2082320000
AMG ELM-10F	2080650000
AMG ELM-10F EX	2082430000

Type	Order No.
AMG ELM-6	2080360000
AMG ELM-6 EX	2082000000
AMG ELM-12	2080410000
AMG ELM-12 EX	2082010000

Type	Order No.
AMG ELM-Q2222	2080750000
AMG ELM-Q2244	2081650000
AMG ELM-Q2266	2081820000
AMG ELM-Q4444	2080880000
AMG ELM-Q6666	2080920000

B



Isolating plate, end plate
and bracket
for isolation, structuring and
proper fit
of the DC station

End plate and Separation plate

End plate for mechanical stabilization.
Separation plate for logical subdivision.

[illegible]

maxGUARD

maxGUARD – power-feed module

Passive power-feed module

Technical data

Input
Input fuse (internal)
DC input voltage range
Rated input voltage
max. admissible residual ripple at the input
General data
Protection degree
Control inputs
Overvoltage category
Connection data
Number of terminals
Wire cross-section, AWG/kcmil min/max
Wire cross-section, flexible min/max
Wire cross-section, rigid min/max
Screwdriver blade
Approvals
Approvals
Note

Ordering data

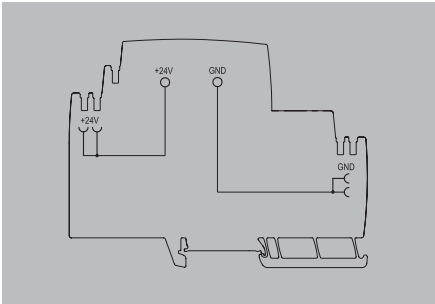
Rated current
Note

AMG FIM-0



No
18...30 V DC
24 V DC
100 mVpp
IP20
No
III
2 (+,-)
18...6
0.75...16 mm²
0.75...10 mm²
1.2 x 6.5
CE; cULus; EAC; TUEV

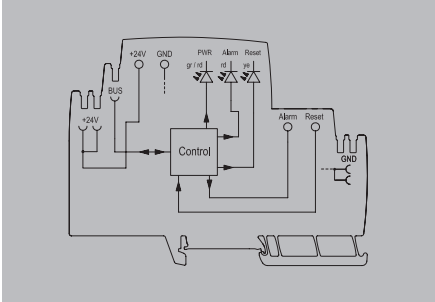
Type	Qty.	Order No.
AMG FIM-0	1	2081870000



maxGUARD – power-feed module

Active power-feed module with reset and alarm function

AMG FIM-C



Technical data

Input	
Input fuse (internal)	No
DC input voltage range	18...30 V DC
Rated input voltage	24 V DC
Current consumption (idle)	20 mA
Current consumption (full load)	120 mA
max. admissible residual ripple at the input	100 mVpp
General data	
Protection degree	IP20
Control inputs	Reset
Surge protection input, output, bus	Suppressor diode
Overvoltage category	III
Signalling	
Yellow LED	External reset is signalled, Alarm is signalled
LED green	Operating voltage OK
Red LED	Alarm
Transistor output, positive-switching	Alarm
Connection data	
Number of terminals	2 (+,-)
Wire cross-section, AWG/kcmil min/max	18...6
Wire cross-section, flexible min/max	0.75...16 mm ²
Wire cross-section, rigid min/max	0.75...10 mm ²
Screwdriver blade	1.2 x 6.5
Approvals	
Approvals	CE; cULus; EAC; TUEV
Note	

No		
18...30 V DC		
24 V DC		
20 mA		
120 mA		
100 mVpp		
IP20		
Reset		
Suppressor diode		
III		
External reset is signalled, Alarm is signalled		
Operating voltage OK		
Alarm		
Alarm		
2 (+,-)		
18...6		
0.75...16 mm ²		
0.75...10 mm ²		
1.2 x 6.5		
CE; cULus; EAC; TUEV		

Ordering data

Rated current
Note

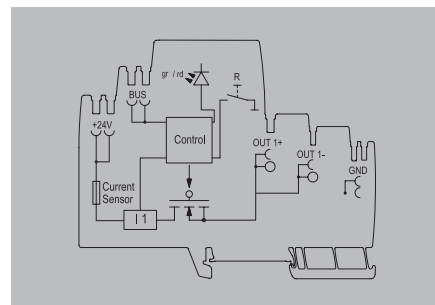
Type	Qty.	Order No.
AMG FIM-C	1	2081880000

maxGUARD

maxGUARD – load monitoring (fixed value)

Electronic load monitoring with fixed current (without I > 90% function > 90 %)

AMG ELM - xF



Technical data

Input	
Input fuse (internal)	Yes
DC input voltage range	18...30 V DC
Rated input voltage	24 V DC
Current consumption (idle) / Current consumption (full load)	25 mA / I _{OUT} +30 mA
max. admissible residual ripple at the input	100 mVpp
Output	
Connection system	PUSH IN
Triggering characteristic	see characteristic curve
Switch-on delay	1 s
Capacitive load	2080420000: 10,000 µF; 2080480000: 10,000 µF; 2080490000: 10,000 µF; 2080500000: 15,000 µF
Function key	
LED initial state	LED green, in operation
Pressing the button	> 0.1 to 2 s (manual disconnect)
LED, subsequent state	Red LED switched off
Output, subsequent state	Red LED switched off
General data	
Relay to activate the output	No
Surge protection input, output, bus	Suppressor diode
Protection degree / Overvoltage category	IP20 / III
Signalling	
LED green	Operation (failure-free)
Red LED	Load monitoring has disconnected, Load monitoring has triggered (flashing), Internal error (rapid flashing)
Connection data	
Number of terminals	2 (+ / -)
Wire cross-section, AWG/kcmil min/max	26...12
Wire cross-section, flexible min/max	0.14...2.5 mm ²
Wire cross-section, rigid min/max	0.14...2.5 mm ²
Screwdriver blade	0.6 x 3.5
Approvals	
Approvals	CE; cULus; EAC; TUEV
Note	

Ordering data

Rated current	
1 A	
2 A	
4 A	
6 A	
Note	

Accessories

Note	
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Tripping characteristic normal – AMG ELM-1F		
10 s	1 s	100 ms
10 A	10 A	100 A
Tripping characteristic normal – AMG ELM-2F		
10 s	1 s	100 ms
10 A	10 A	100 A
Tripping characteristic normal – AMG ELM-4F		
10 s	1 s	100 ms
10 A	10 A	100 A
Tripping characteristic normal – AMG ELM-6F		
10 s	1 s	100 ms
10 A	10 A	100 A

Type	Qty.	Order No.
AMG ELM-1F	1	2080420000
AMG ELM-2F	1	2080480000
AMG ELM-4F	1	2080490000
AMG ELM-6F	1	2080500000

Type	Qty.	Order No.
AMG DIS	10	2123050000
AMG MD	10	2122930000
AMG OD	10	2122910000
AMG PD	10	2122920000

maxGUARD – load monitoring (fixed value)

Electronic load monitoring with fixed rated current
(without I > 90 % pre warning > 90 %)

Technical data

Input	
Input fuse (internal)	
DC input voltage range	
Rated input voltage	
Current consumption (idle)	
Current consumption (full load)	
max. admissible residual ripple at the input	
Output	
Connection system	
Triggering characteristic	
Switch-on delay	
Capacitive load	
Function key	
LED initial state	
Pressing the button	
LED, subsequent state	
Output, subsequent state	
General data	
Relay to activate the output	
Protection degree	
Surge protection input, output, bus	
Overvoltage category	
Signalling	
LED green	
Red LED	
Connection data	
Number of terminals	
Wire cross-section, AWG/kcmil min/max	
Wire cross-section, flexible min/max	
Wire cross-section, rigid min/max	
Screwdriver blade	
Approvals	
Approvals	
Note	

Ordering data

Rated current	
8 A	
10 A	
Note	

Accessories

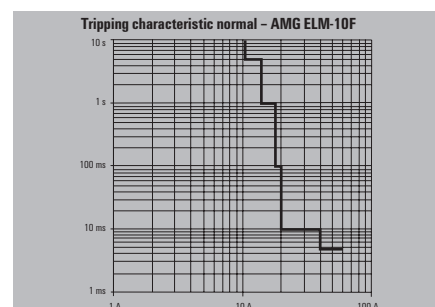
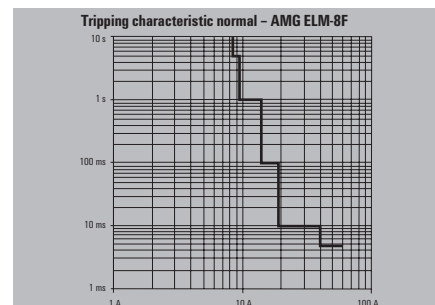
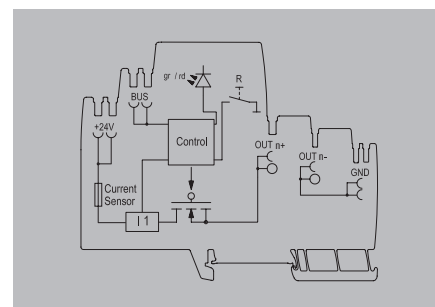
Note	

AMG ELM - xF

Yes		
18...30 V DC		
24 V DC		
25 mA		
I _{OUT} +30 mA		
100 mVpp		
PUSH IN		
see characteristic curve		
1 s		
2080600000: 15,000 µF;		
2080650000: 20,000 µF		
LED green, in operation	LED flashing red, load monitoring has triggered (disconnected)	LED red (permanently lit)
> 0.1 to 2 s (manual disconnect)	> 0.1 to 2 s (confirm and reset)	> 0.1 to 2 s (restart)
Red LED switched off	Red LED switched off	LED green switched on
No		
IP20		
Suppressor diode		
III		
Operation (failure-free)		
Load monitoring has disconnected, Load monitoring has triggered (flashing), Internal error (rapid flashing)		
4 (++) / -)		
26...12		
0.14...2.5 mm ²		
0.14...2.5 mm ²		
0.6 x 3.5		
CE; cULus; EAC; TUEV		

Type	Qty.	Order No.
AMG ELM-8F	1	2080600000
AMG ELM-10F	1	2080650000

Type	Qty.	Order No.
AMG DIS	10	2123050000
AMG MD	10	2122930000
AMG OD	10	2122910000
AMG PD	10	2122920000



maxGUARD

maxGUARD – load monitoring (fixed value),
Class 2

Electronic load monitoring with fixed rated current
(without $I > 90\%$ pre warning)

- Class 2 Approval

AMG ELM - xF CL2



Technical data

Input	
Input fuse (internal)	
DC input voltage range	
Rated input voltage	
Current consumption (idle)	
Current consumption (full load)	
max. admissible residual ripple at the input	
Output	
Connection system	
Triggering characteristic	
Switch-on delay	
Capacitive load	
Function key	
LED initial state	
Pressing the button	
LED, subsequent state	
Output, subsequent state	
General data	
Relay to activate the output	
Protection degree	
Surge protection input, output, bus	
Overvoltage category	
Signalling	
LED green	
Red LED	
Connection data	
Number of terminals	
Wire cross-section, AWG/kcmil min/max	
Wire cross-section, flexible min/max	
Wire cross-section, rigid min/max	
Screwdriver blade	
Approvals	
Approvals	
Note	

Ordering data

	1 A
	2 A
	4 A
Note	

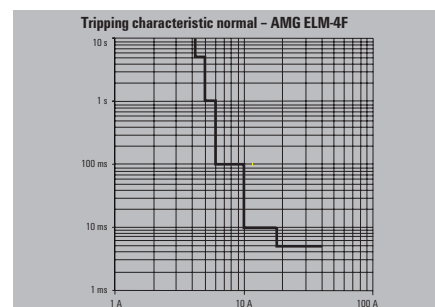
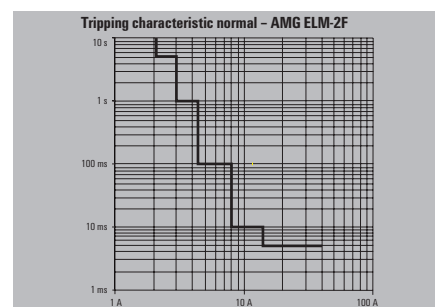
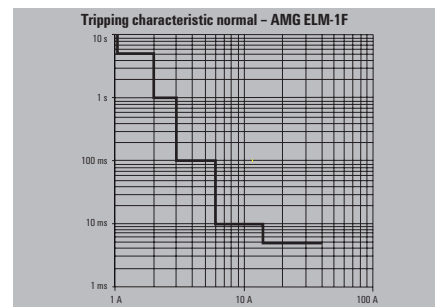
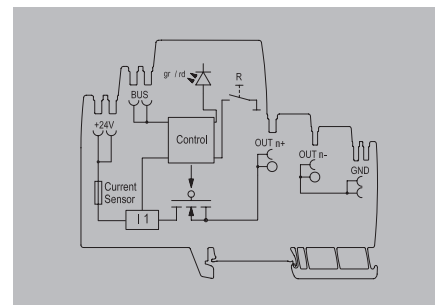
Accessories

Note	
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Input		
Yes		
18...30 V DC		
24 V DC		
25 mA		
$I_{OUT} + 30\text{ mA}$		
100 mVpp		
Output		
PUSH IN		
see characteristic curve		
1 s		
2491270000: 4.700 μF ;		
2491280000: 4.700 μF ;		
2491290000: 4.700 μF		
LED green, in operation	LED flashing red, load monitoring has triggered (disconnected)	LED red (permanently lit)
> 0.1 to 2 s (manual disconnect)	> 0.1 to 2 s (confirm and reset)	> 0.1 to 2 s (restart)
Red LED switched off	Red LED switched off	LED green switched on
General data		
No		
IP20		
Suppressor diode		
III		
Signalling		
Operation (failure-free)		
Load monitoring has disconnected, Load monitoring has triggered (flashing), Internal error (rapid flashing)		
Connection data		
2 (+ / -)		
26...12		
0.14...2.5 mm ²		
0.14...2.5 mm ²		
0.6 x 3.5		
Approvals		
CE; cULus; TUEV		

Type	Qty.	Order No.
AMG ELM-1F CL2	1	2491270000
AMG ELM-2F CL2	1	2491280000
AMG ELM-4F CL2	1	2491290000

Type	Qty.	Order No.
AMG DIS	10	2123050000
AMG MD	10	2122930000
AMG OD	10	2122910000
AMG PD	10	2122920000



maxGUARD – load monitoring adjustable

Electronic load monitoring with adjustable triggering current and triggering characteristic

Technical data

Input	
Input fuse (internal)	
DC input voltage range	
Rated input voltage	
Current consumption (idle)	
Current consumption (full load)	
max. admissible residual ripple at the input	
Output	
Connection system	
Triggering characteristic	
Adjustable range	
Switch-on delay	
Capacitive load	
adjustable rated current	
Function key	
LED initial state	
Pressing the button	
LED, subsequent state	
Output, subsequent state	
General data	
Relay to activate the output	
Protection degree	
Surge protection input, output, bus	
Overvoltage category	
Signalling	
LED green	
Red LED	
Connection data	
Number of terminals	
Wire cross-section, AWG/kcmil min/max	
Wire cross-section, flexible min/max	
Wire cross-section, rigid min/max	
Screwdriver blade	
Approvals	
Approvals	
Note	

Ordering data

Rated current	
	6 A
Note	

Accessories

Note	
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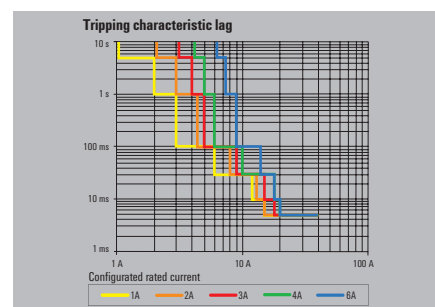
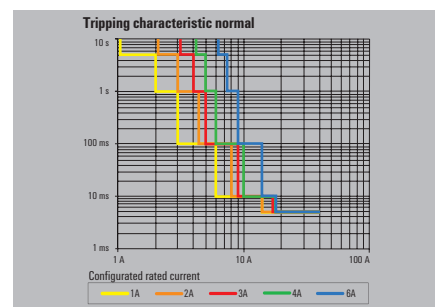
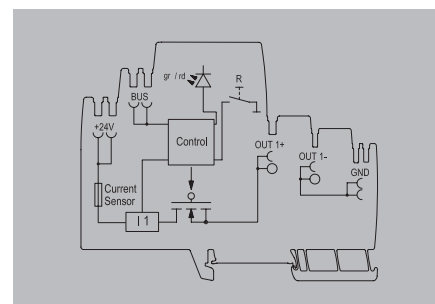
AMG ELM-6



Yes		
18...30 V DC		
24 V DC		
25 mA		
I _{OUT} +30 mA		
100 mVpp		
PUSH IN		
see characteristic curve		
1- 6 A		
1 s		
15,000 µF		
Yes		
LED green, in operation	LED flashing red, load monitoring has triggered (disconnected)	LED red (permanently lit)
> 0.1 to 2 s (manual disconnect)	> 0.1 to 2 s (confirm and reset)	> 0.1 to 2 s (restart)
Red LED switched off	Red LED switched off	LED green switched on
No		
IP20		
Suppressor diode		
III		
Operation (failure-free), Early warning: I Out > 90% I Rated (flashing)		
Load monitoring has disconnected, Load monitoring has triggered (flashing), Internal error (rapid flashing)		
2 (+ / -)		
26...12		
0.14...2.5 mm²		
0.14...2.5 mm²		
0.6 x 3.5		
CE; cULus; EAC; TUEV		

Type	Qty.	Order No.
AMG ELM-6	1	2080360000

Type	Qty.	Order No.
AMG DIS	10	2123050000
AMG MD	10	2122930000
AMG OD	10	2122910000
AMG PD	10	2122920000



maxGUARD

maxGUARD – load monitoring adjustable

Electronic load monitoring with adjustable trigger current and characteristic (with I > 90 % pre warning > 90 %)

Technical data

Input	
Input fuse (internal)	Yes
DC input voltage range	18...30 V DC
Rated input voltage	24 V DC
Current consumption (idle)	25 mA
Current consumption (full load)	I _{OUT} +30 mA
max. admissible residual ripple at the input	100 mVpp
Output	
Connection system	PUSH IN
Triggering characteristic	see characteristic curve
Adjustable range	4-12 A
Switch-on delay	1 s
adjustable rated current	Yes
Capacitive load	20,000 µF
Function key	
LED initial state	LED green, in operation
Pressing the button	> 0.1 to 2 s (manual disconnect)
LED, subsequent state	Red LED switched off
Output, subsequent state	Output switched off
General data	
Relay to activate the output	No
Protection degree	IP20
Surge protection input, output, bus	Suppressor diode
Overvoltage category	III
Signalling	
LED green	Operation (failure-free), Early warning: I Out > 90% I Rated (flashing)
Red LED	Load monitoring has disconnected, Load monitoring has triggered (flashing), Internal error (rapid flashing)
Connection data	
Number of terminals	4 (++) / -)
Wire cross-section, AWG/kcmil min/max	26...12
Wire cross-section, flexible min/max	0.14...2.5 mm ²
Wire cross-section, rigid min/max	0.14...2.5 mm ²
Screwdriver blade	0.6 x 3.5
Approvals	
Approvals	CE; cULus; EAC; TUEV
Note	

Ordering data

Rated current	12 A
Note	

Accessories

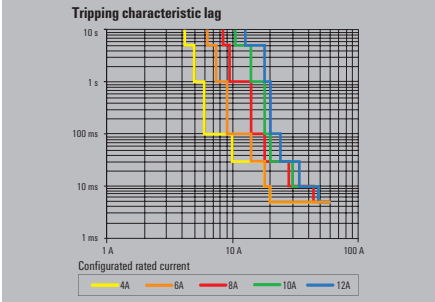
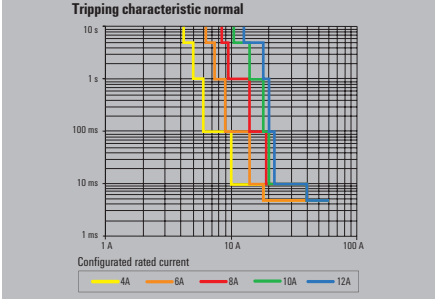
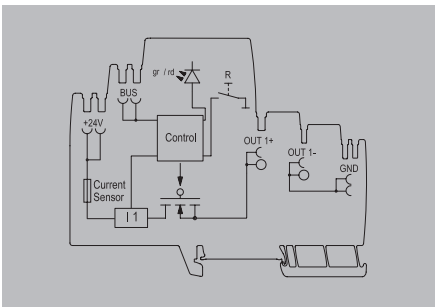
Type	Qty.	Order No.
AMG DIS	10	2123050000
AMG MD	10	2122930000
AMG OD	10	2122910000
AMG PD	10	2122920000
Note		

AMG ELM-12



Type	Qty.	Order No.
AMG ELM-12	1	2080410000
Note		

Type	Qty.	Order No.
AMG DIS	10	2123050000
AMG MD	10	2122930000
AMG OD	10	2122910000
AMG PD	10	2122920000
Note		



maxGUARD – load monitoring with relay

Electronic load monitoring with 2-pole output relay for all-pole load disconnection; triggering current and triggering characteristic adjustable.

Technical data

Input	
Input fuse (internal)	
DC input voltage range	
Rated input voltage	
Current consumption (idle)	
max. admissible residual ripple at the input	
Output	
Connection system	
Triggering characteristic	
Adjustable range	
Switch-on delay	
adjustable rated current	
Capacitive load	
Function key	
LED initial state	
Pressing the button	
LED, subsequent state	
Output, subsequent state	
General data	
Relay to activate the output	
Protection degree / Surge protection	
Conformal coating	
Surge protection input, output, bus	
Signalling	
LED green	
Red LED	
Connection data	
Number of terminals	
Wire cross-section, AWG/kcmil min/max	
Wire cross-section, flexible min/max	
Wire cross-section, rigid min/max	
Screwdriver blade	
Approvals	
Approvals	
Note	

Ordering data

Rated current	
6 A	
10 A	
Note	

Accessories

Note

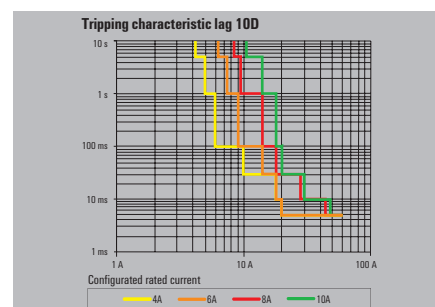
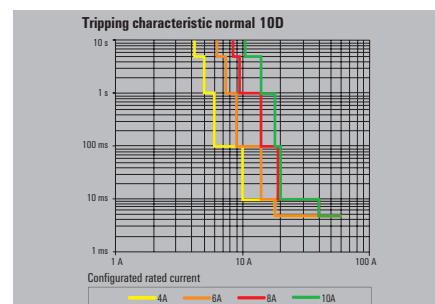
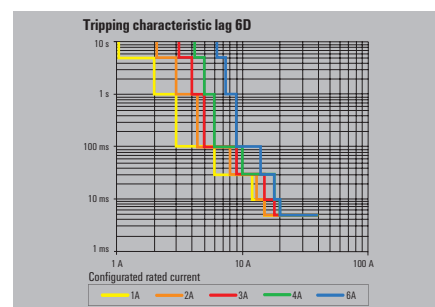
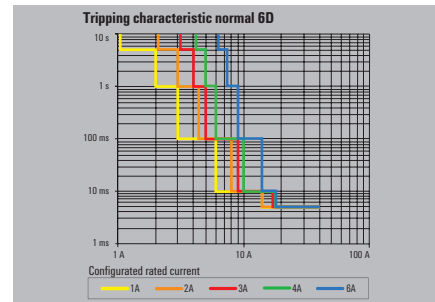
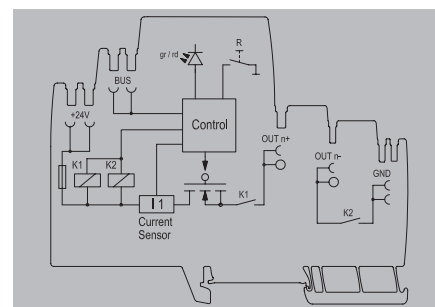
AMG ELM – adjustable with output relay



Yes		
18...30 V DC		
24 V DC		
40 mA		
100 mVpp		
PUSH IN		
see characteristic curve		
2082470000: 4- 10 A		
2082440000: 1- 6 A		
1 s		
Yes		
2082470000: 20,000 µF		
2082440000: 15,000 µF		
LED green, in operation	LED flashing red, load monitoring has triggered (disconnected)	LED red (permanently lit)
> 0.1 to 2 s (manual disconnect)	> 0.1 to 2 s (confirm and reset)	> 0.1 to 2 s (restart)
Red LED switched off	Red LED switched off	LED green switched on
Yes		
IP20 / Suppressor diode		
Yes		
Suppressor diode		
Operation (failure-free), Early warning: I Out > 90% I Rated (flashing)		
Load monitoring has disconnected, Load monitoring has triggered (flashing), Internal error (rapid flashing)		
6 (3x + / 3x -)		
26...12		
0.14...2.5 mm²		
0.14...2.5 mm²		
0.6 x 3.5		
ABS; BURVER; CE; cULus; DNVGL; EAC; LLOYDSREG; RINA; TUEV		

Type	Qty.	Order No.
AMG ELM-6D CD	1	2082440000
AMG ELM-10D CD	1	2082470000

Type	Qty.	Order No.
AMG DIS	10	2123050000
AMG MD	10	2122930000
AMG OD	10	2122910000
AMG PD	10	2122920000



maxGUARD

maxGUARD – Alarm module

Alarm module with potential-free contacts for the “Alarm” and “I>90%” signals > 90 %”.

Technical data

Input
Input fuse (internal)
DC input voltage range
Rated input voltage
Current consumption (idle)
Current consumption (full load)
max. admissible residual ripple at the input
General data
Protection degree
Surge protection input, bus
Overvoltage category
Signalling
Yellow LED
Red LED
Floating contact
Status relay (max. load)
Connection data
Number of terminals
Wire cross-section, AWG/kcmil min/max
Wire cross-section, flexible min/max
Wire cross-section, rigid min/max
Screwdriver blade
Approvals
Approvals
Note

Ordering data

Rated current
Note

Accessories

Plug-in cross-connection
50-pole
50-pole / red
50-pole / blue
2-pole
2-pole/ red
2-pole / blue
Note

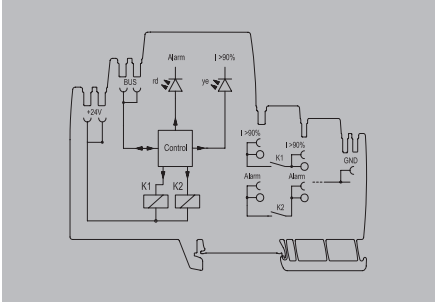
AMG AM



No
18...30 V DC
24 V DC
25 mA
30 mA
100 mVpp
IP20
Suppressor diode
III
Current > 90% Inom (flashing)
Alarm
Yes
Alarm (24 V / 0.1 A), I > 90 % (24 V / 0,1 A)
4 (2 x NO)
26...12
0.14...2.5 mm ²
0.14...2.5 mm ²
0.6 x 3.5
CE; cULus; EAC; TUEV

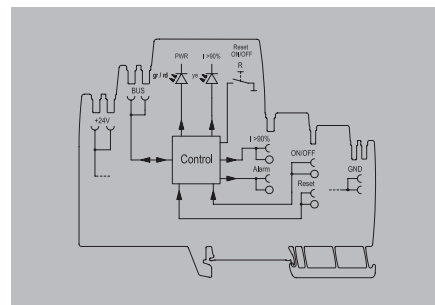
Type	Qty.	Order No.
AMG AM	1	2081890000

Type	Qty.	Order No.
ZQV 4N/50	5	1528130000
ZQV 4N/50 RD	5	2460730000
ZQV 4N/50 BL	5	1528240000
ZQV 4N/2	60	1527930000
ZQV 4N/2 RD	60	2460450000
ZQV 4N/2 BL	60	1528040000



maxGUARD – control module

Control module with extended control function: alarm, reset, I > 90% connection/disconnection

AMG CM**Technical data**

Input	
DC input voltage range	18...30 V DC
Rated input voltage	24 V DC
Current consumption (idle)	25 mA
Current consumption (full load)	225 mA
max. admissible residual ripple at the input	100 mVpp
Output	
Connection system	PUSH IN
General data	
Relay to activate the output	No
Protection degree	IP20
Control inputs	ON/ OFF, Reset
Surge protection input, output, bus	Suppressor diode
Overvoltage category	III
Signalling	
LED green	Operation (failure-free), Early warning: I Out > 90% I Rated (flashing)
Red LED	Load monitoring has disconnected, Load monitoring has triggered (flashing), Internal error (rapid flashing)
Transistor output, positive-switching	Pre-warning, Alarm
Connection data	
Number of terminals	2 (Reset / ON)
Wire cross-section, AWG/kcmil min/max	26...12
Wire cross-section, flexible min/max	0.14...2.5 mm ²
Wire cross-section, rigid min/max	0.14...2.5 mm ²
Screwdriver blade	0.6 x 3.5
Approvals	
Approvals	CE; cULus; EAC; TUEV
Note	

Ordering data

Rated current		
Note		

Accessories

Plug-in cross-connection		Type	Qty.	Order No.
	50-pole	ZQV 4N/50	5	1528130000
	50-pole / red	ZQV 4N/50 RD	5	2460730000
	50-pole / blue	ZQV 4N/50 BL	5	1528240000
	2-pole	ZQV 4N/2	60	1527930000
	2-pole/ red	ZQV 4N/2 RD	60	2460450000
	2-pole / blue	ZQV 4N/2 BL	60	1528040000
Note				

maxGUARD

maxGUARD – Potential distributor

Potential distribution in combination with the electronic load monitoring.

Technical data

General data
Protection degree
Total current load per potential
Current load per contact point
Connection data
Connection system
Number of terminals
Wire cross-section, AWG/kcmil min/max
Wire cross-section, flexible min/max
Wire cross-section, rigid min/max
Screwdriver blade
Approvals
Approvals
Note

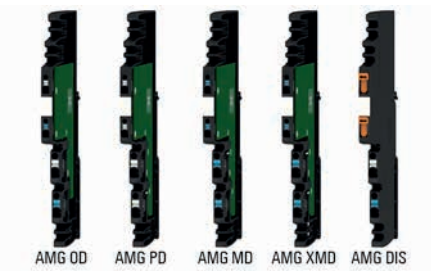
Ordering data

Type	Qty.	Order No.
AMG OD	10	2122910000
AMG PD	10	2122920000
AMG MD	10	2122930000
AMG XMD	10	2122940000
AMG DIS	10	2123050000

Accessories

Plug-in cross-connection
50-pole
50-pole / red
50-pole / blue
2-pole
2-pole/ red
2-pole / blue
Note

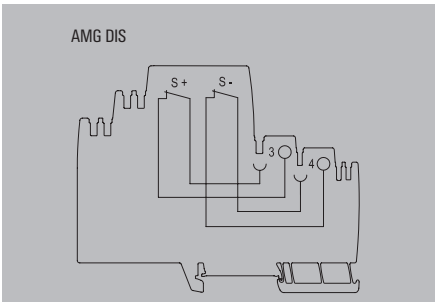
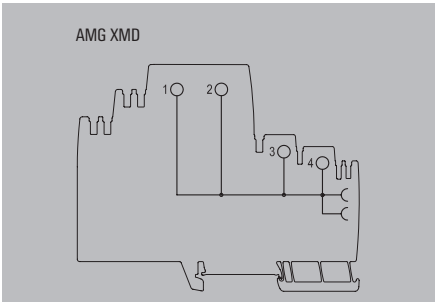
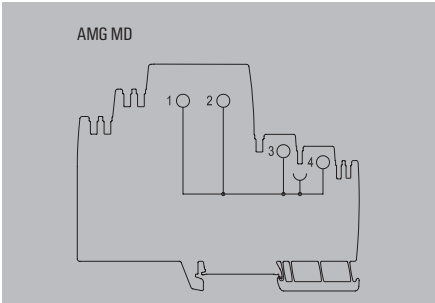
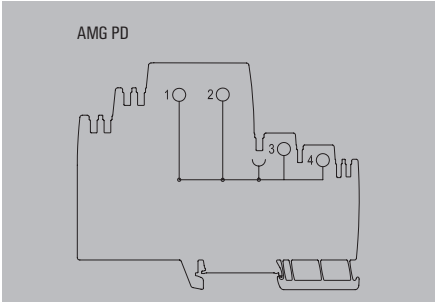
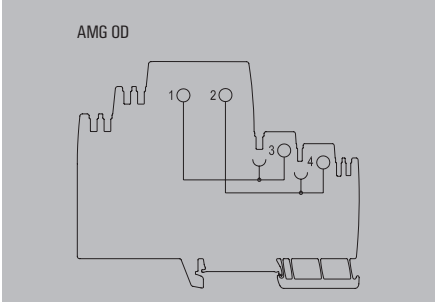
AMG



General data
IP20
2122910000: 12 A;
2122920000: 12 A;
2122930000: 12 A;
2122940000: 24 A;
2123050000: 12 A
12 A
Connection data
PUSH IN
4 (++) / -, 2 x 1.5 mm², 2 x 2.5 mm²
26...12
0.14...2.5 mm²
0.14...2.5 mm²
0.6 x 3.5
Approvals
CE; cULus; EAC; TUEV
Note

Type	Qty.	Order No.
AMG OD	10	2122910000
AMG PD	10	2122920000
AMG MD	10	2122930000
AMG XMD	10	2122940000
AMG DIS	10	2123050000

Type	Qty.	Order No.
ZQV 4N/50	5	1528130000
ZQV 4N/50 RD	5	2460730000
ZQV 4N/50 BL	5	1528240000
ZQV 4N/2	60	1527930000
ZQV 4N/2 RD	60	2460450000
ZQV 4N/2 BL	60	1528040000



maxGUARD – power-feed module

Passive power-feed module

Technical data

Input
Input fuse (internal)
DC input voltage range
Rated input voltage
max. admissible residual ripple at the input
General data
Protection degree
Control inputs
Overvoltage category
Connection data
Number of terminals
Wire cross-section, AWG/kcmil min/max
Wire cross-section, flexible min/max
Wire cross-section, rigid min/max
Screwdriver blade
Approvals
Approvals
Note

Ordering data

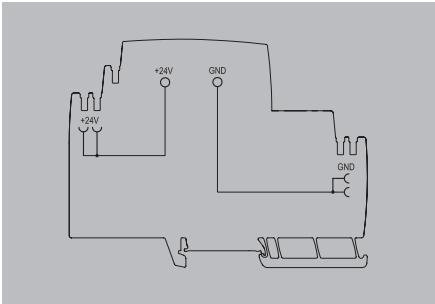
Rated current
Note

AMG FIM-0 Ex



No
18...30 V DC
24 V DC
100 mVpp
IP20
No
III
2 (+,-)
18...6
0.75...16 mm²
0.75...10 mm²
1.2 x 6.5
ABS; BURVER; CE; cULus; cULusEX; DEMKOATEX; DNVGL; EAC; IECEXULD; LLOYDSREG; RINA; TUEV

Type	Qty.	Order No.
AMG FIM-0 EX	1	2082530000



maxGUARD

maxGUARD – power-feed module

Active power-feed module with reset and alarm function

Technical data

Input
Input fuse (internal)
DC input voltage range
Rated input voltage
Current consumption (idle)
Current consumption (full load)
max. admissible residual ripple at the input
General data
Protection degree
Control inputs
Surge protection input, output, bus
Overvoltage category
Signalling
Yellow LED
LED green
Red LED
Transistor output, positive-switching
Connection data
Number of terminals
Wire cross-section, AWG/kcmil min/max
Wire cross-section, flexible min/max
Wire cross-section, rigid min/max
Screwdriver blade
Approvals
Approvals
Note

Ordering data

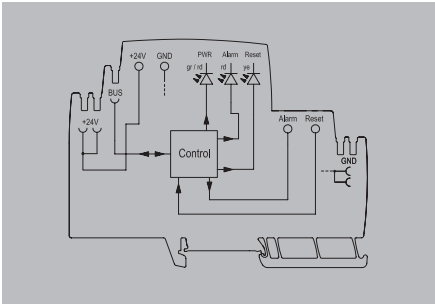
Rated current
Note

AMG FIM-C Ex



No
18...30 V DC
24 V DC
20 mA
120 mA
100 mVpp
IP20
Reset
Suppressor diode
III
External reset is signalled, Alarm is signalled
Operating voltage OK
Alarm
Alarm
2 (+,-)
18...6
0.75...16 mm²
0.75...10 mm²
1.2 x 6.5
ABS; BURVER; CE; cULus; cULusEX; DEMKOATEX; DNVGL; EAC; IECEXULD; LLOYDSREG; RINA; TUEV

Type	Qty.	Order No.
AMG FIM-C EX	1	2082540000



maxGUARD – load monitoring (fixed value)

Electronic load monitoring with fixed current (without I > 90% function)

Technical data

Input
Input fuse (internal)
DC input voltage range
Rated input voltage
Current consumption (idle) / Current consumption (full load)
max. admissible residual ripple at the input
Output
Connection system
Triggering characteristic
Switch-on delay
Capacitive load

Function key

LED initial state

Pressing the button

LED, subsequent state
Output, subsequent state

General data

Relay to activate the output
Surge protection input, output, bus
Protection degree / Overvoltage category

Signalling

LED green
Red LED

Connection data

Number of terminals
Wire cross-section, AWG/kcmil min/max
Wire cross-section, flexible min/max
Wire cross-section, rigid min/max
Screwdriver blade

Approvals

Approvals

Note**Ordering data**

Rated current	
1 A	
2 A	
4 A	
6 A	

Note**Accessories****Note****AMG ELM - xF Ex**

Yes
18...30 V DC
24 V DC
25 mA / I _{OUT} +30 mA
100 mVpp
PUSH IN
see characteristic curve
1 s
2082040000: 10,000 µF; 2082050000: 10,000 µF; 2082060000: 10,000 µF; 2082310000: 15,000 µF

LED green, in operation	LED flashing red, load monitoring has triggered (disconnected)	LED red (permanently lit)
> 0.1 to 2 s (manual disconnect)	> 0.1 to 2 s (confirm and reset)	> 0.1 to 2 s (restart)
Red LED switched off	Red LED switched off	LED green switched on

No

Suppressor diode
IP20 / III

Operation (failure-free)

Load monitoring has disconnected, Load monitoring has triggered (flashing), Internal error (rapid flashing)

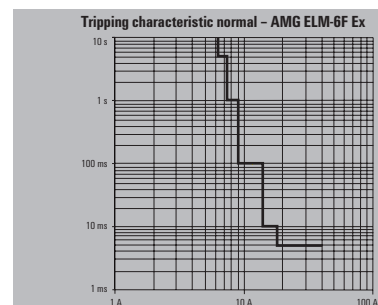
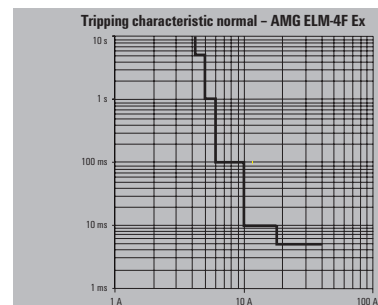
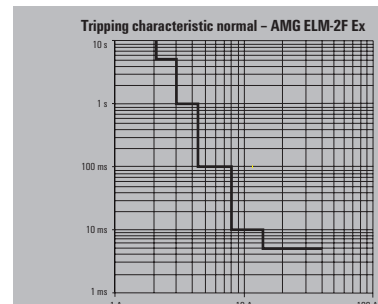
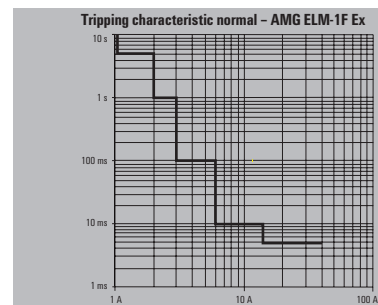
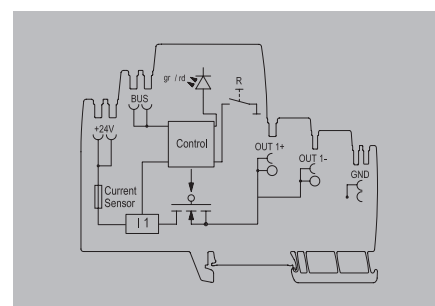
2 (+/-)

26...12
0.14...2.5 mm²
0.14...2.5 mm²
0.6 x 3.5

ABS; BURVER; CE; cULus; cULusEX; DEMKOATEX; DNVGL; EAC; IECEXULD; LLOYDSREG; RINA; TUEV

Type	Qty.	Order No.
AMG ELM-1F EX	1	2082040000
AMG ELM-2F EX	1	2082050000
AMG ELM-4F EX	1	2082060000
AMG ELM-6F EX	1	2082310000

Type	Qty.	Order No.
AMG DIS	10	2123050000
AMG MD	10	2122930000
AMG OD	10	2122910000
AMG PD	10	2122920000

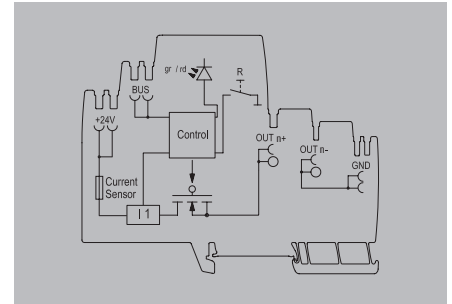


maxGUARD

maxGUARD – load monitoring (fixed value)

Electronic load monitoring with fixed rated current
(without $I > 90\%$ pre warning)

AMG ELM - xF Ex



Technical data

Input	
Input fuse (internal)	
DC input voltage range	
Rated input voltage	
Current consumption (idle)	
Current consumption (full load)	
max. admissible residual ripple at the input	
Output	
Connection system	
Triggering characteristic	
Switch-on delay	
Capacitive load	
Function key	
LED initial state	
Pressing the button	
LED, subsequent state	
Output, subsequent state	
General data	
Relay to activate the output	
Protection degree	
Surge protection input, output, bus	
Overvoltage category	
Signalling	
LED green	
Red LED	
Connection data	
Number of terminals	
Wire cross-section, AWG/kcmil min/max	
Wire cross-section, flexible min/max	
Wire cross-section, rigid min/max	
Screwdriver blade	
Approvals	
Approvals	
Note	

Ordering data

Rated current	
8 A	
10 A	
Note	

Accessories

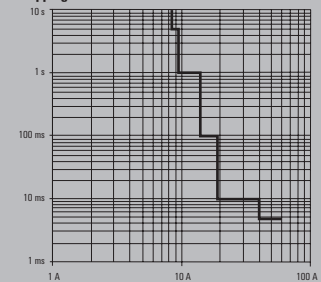
Note	

Yes		
18...30 V DC		
24 V DC		
25 mA		
$I_{OUT} + 30\text{ mA}$		
100 mVpp		
PUSH IN		
see characteristic curve		
1 s		
2082320000: 15,000 μF ;		
2082430000: 20,000 μF		
LED green, in operation	LED flashing red, load monitoring has triggered (disconnected)	LED red (permanently lit)
> 0.1 to 2 s (manual disconnect)	> 0.1 to 2 s (confirm and reset)	> 0.1 to 2 s (restart)
Red LED switched off	Red LED switched off	LED green switched on
No		
IP20		
Suppressor diode		
III		
Operation (failure-free)		
Load monitoring has disconnected, Load monitoring has triggered (flashing), Internal error (rapid flashing)		
4 (++) / -)		
26...12		
0.14...2.5 mm ²		
0.14...2.5 mm ²		
0.6 x 3.5		
ABS; BURVER; CE; cULus; cULusEX; DEMKOATEX; DNVGL; EAC; IECEXULD; LLOYDSREG; RINA; TUEV		

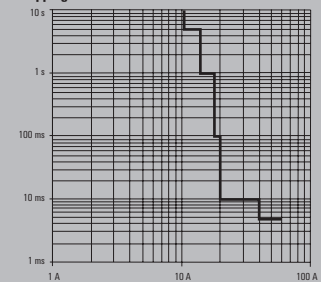
Type	Qty.	Order No.
AMG ELM-8F EX	1	2082320000
AMG ELM-10F EX	1	2082430000

Type	Qty.	Order No.
AMG DIS	10	2123050000
AMG MD	10	2122930000
AMG OD	10	2122910000
AMG PD	10	2122920000

Tripping characteristic normal – AMG ELM-8F Ex



Tripping characteristic normal – AMG ELM-10F Ex



maxGUARD – load monitoring adjustable

Electronic load monitoring with adjustable triggering current and triggering characteristic

Technical data

Input	
Input fuse (internal)	
DC input voltage range	
Rated input voltage	
Current consumption (idle)	
Current consumption (full load)	
max. admissible residual ripple at the input	
Output	
Connection system	
Triggering characteristic	
Adjustable range	
Switch-on delay	
Capacitive load	
adjustable rated current	
Function key	
LED initial state	
Pressing the button	
LED, subsequent state	
Output, subsequent state	
General data	
Relay to activate the output	
Protection degree	
Surge protection input, output, bus	
Overvoltage category	
Signalling	
LED green	
Red LED	
Connection data	
Number of terminals	
Wire cross-section, AWG/kcmil min/max	
Wire cross-section, flexible min/max	
Wire cross-section, rigid min/max	
Screwdriver blade	
Approvals	
Approvals	
Note	

Ordering data

Rated current	6 A
Note	

Accessories

Note	
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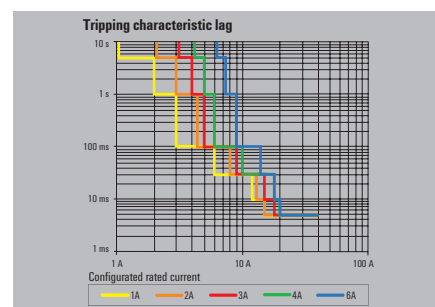
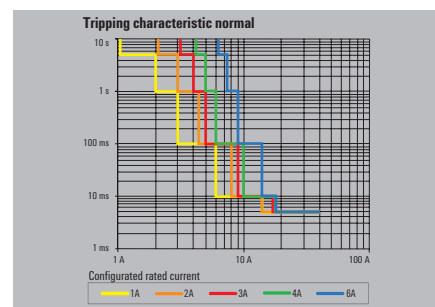
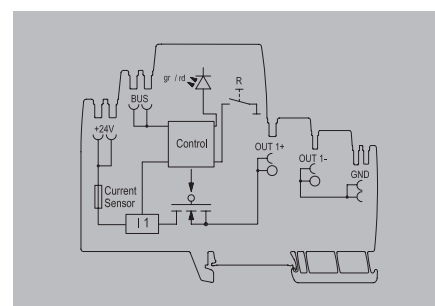
AMG ELM-6 Ex



Yes		
18...30 V DC		
24 V DC		
25 mA		
I _{OUT} +30 mA		
100 mVpp		
PUSH IN		
see characteristic curve		
1- 6 A		
1 s		
15,000 µF		
Yes		
LED green, in operation	LED flashing red, load monitoring has triggered (disconnected)	LED red (permanently lit)
> 0.1 to 2 s (manual disconnect)	> 0.1 to 2 s (confirm and reset)	> 0.1 to 2 s (restart)
Red LED switched off	Red LED switched off	LED green switched on
No		
IP20		
Suppressor diode		
III		
Operation (failure-free), Early warning: I Out > 90% I Rated (flashing)		
Load monitoring has disconnected, Load monitoring has triggered (flashing), Internal error (rapid flashing)		
2 (+ / -)		
26...12		
0.14...2.5 mm²		
0.14...2.5 mm²		
0.6 x 3.5		
ABS; BURVER; CE; cULus; cULusEX; DEMKOATEX; DNVGL; EAC; IECEXULD; LLOYDSREG; RINA; TUEV		

Type	Qty.	Order No.
AMG ELM-6 EX	1	2082000000

Type	Qty.	Order No.
AMG DIS	10	2123050000
AMG MD	10	2122930000
AMG OD	10	2122910000
AMG PD	10	2122920000

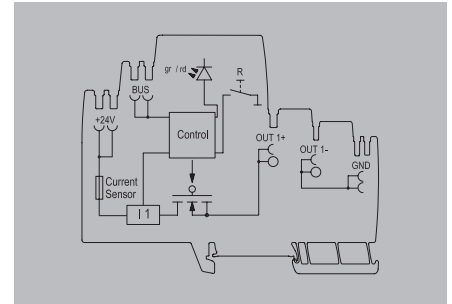


maxGUARD

maxGUARD – load monitoring adjustable

Electronic load monitoring with adjustable trigger current and characteristic (with $I > 90\%$ pre warning)

AMG ELM-12 Ex



Technical data

Input	
Input fuse (internal)	Yes
DC input voltage range	18...30 V DC
Rated input voltage	24 V DC
Current consumption (idle)	25 mA
Current consumption (full load)	$I_{OUT} + 30\text{ mA}$
max. admissible residual ripple at the input	100 mVpp
Output	
Connection system	PUSH IN
Triggering characteristic	see characteristic curve
Adjustable range	4-12 A
Switch-on delay	1 s
adjustable rated current	Yes
Capacitive load	20,000 μF
Function key	
LED initial state	LED green, in operation
Pressing the button	> 0.1 to 2 s (manual disconnect)
LED, subsequent state	Red LED switched off
Output, subsequent state	Red LED switched off
General data	
Relay to activate the output	No
Protection degree	IP20
Surge protection input, output, bus	Suppressor diode
Overvoltage category	III
Signalling	
LED green	Operation (failure-free), Early warning: $I_{OUT} > 90\%$ I_{Rated} (flashing)
Red LED	Load monitoring has disconnected, Load monitoring has triggered (flashing), Internal error (rapid flashing)
Connection data	
Number of terminals	4 (++) / -)
Wire cross-section, AWG/kcmil min/max	26...12
Wire cross-section, flexible min/max	0.14...2.5 mm ²
Wire cross-section, rigid min/max	0.14...2.5 mm ²
Screwdriver blade	0.6 x 3.5
Approvals	
Approvals	ABS; BURVER; CE; cULus; cULusEX; DEMKOATEX; DNVGL; EAC; IECEXULD; LLOYDSREG; RINA; TUEV
Note	

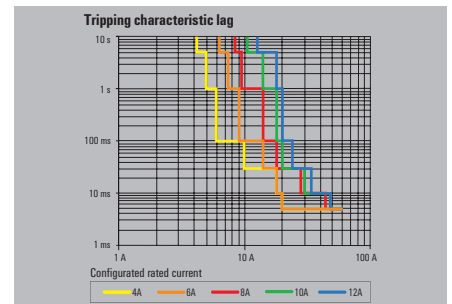
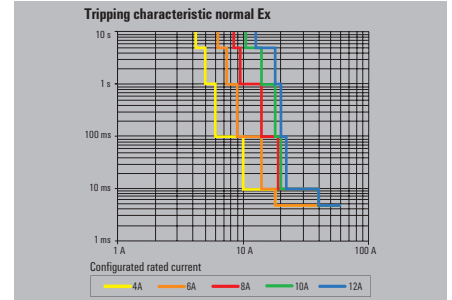
Ordering data

Rated current	12 A
Note	

Accessories

Note

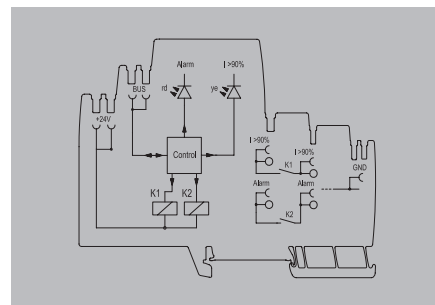
Type	Qty.	Order No.
AMG ELM-12 EX	1	2082010000
Type	Qty.	Order No.
AMG DIS	10	2123050000
AMG MD	10	2122930000
AMG OD	10	2122910000
AMG PD	10	2122920000



maxGUARD – Alarm module

Alarm module with potential-free contacts for the "Alarm" and "I>90%" signals.

AMG AM CO



Technical data

Input	
Input fuse (internal)	No
DC input voltage range	18...30 V DC
Rated input voltage	24 V DC
Current consumption (idle)	25 mA
Current consumption (full load)	30 mA
max. admissible residual ripple at the input	100 mVpp
General data	
Protection degree	IP20
Surge protection input, bus	Suppressor diode
Overvoltage category	III
Signalling	
Yellow LED	Current > 90% Inom (flashing)
Red LED	Alarm
Floating contact	Yes
Status relay (max. load)	Alarm (24 V / 0.1 A), I > 90 % (24 V / 0.1 A)
Connection data	
Number of terminals	4 (2 x NO)
Wire cross-section, AWG/kcmil min/max	26...12
Wire cross-section, flexible min/max	0.14...2.5 mm ²
Wire cross-section, rigid min/max	0.14...2.5 mm ²
Screwdriver blade	0.6 x 3.5
Approvals	
Approvals	ABS; BURVER; CE; cULus; DNVGL; EAC; LLOYDSREG; RINA; TUEV
Note	

Ordering data

Rated current	Type	Qty.	Order No.
	AMG AM CO	1	2082770000
Note			

Accessories

Plug-in cross-connection	Type	Qty.	Order No.
50-pole	ZQV 4N/50	5	1528130000
50-pole / red	ZQV 4N/50 RD	5	2460730000
50-pole / blue	ZQV 4N/50 BL	5	1528240000
2-pole	ZQV 4N/2	60	1527930000
2-pole/ red	ZQV 4N/2 RD	60	2460450000
2-pole / blue	ZQV 4N/2 BL	60	1528040000
Note			

maxGUARD

maxGUARD – control module

Control module with extended control function: Alarm, Reset, I>90%, ON/OFF

Technical data

Input

DC input voltage range	10-30V
Rated input voltage	24V
Current consumption (idle)	100mA
Current consumption (full load)	1.2A
max. admissible residual ripple at the input	100mV

Output

Connection system

General data

- Relay to activate the output
- Protection degree
- Surge protection input, output, bus
- Control inputs
- Overvoltage category

Signalling

LED green
Red LED

Transistor output, positive-switching

Connection data

Number of terminals
Wire cross-section, AWG/kcmil min/max
Wire cross-section, flexible min/max
Wire cross-section, rigid min/max
Screwdriver blade

Approvals

Approvals

Note

Ordering data

Rated current

Note

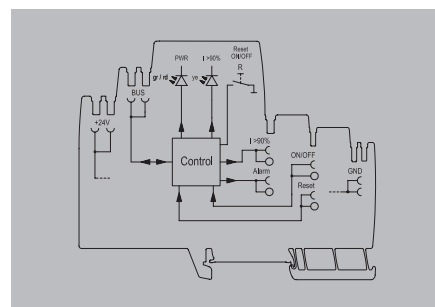
Accessories

Plug-in cross-connection

50-pole
50-pole / red
50-pole / blue
2-pole
2-pole/ red
2-pole / blue

Note

AMG CM Ex



18...30 V DC
24 V DC
25 mA
225 mA
100 mVpp
PUSH IN
No
IP20
Suppressor diode
ON/ OFF, Reset
III
Operation (failure-free), Early warning: I Out > 90% I Rated (flashing)
Load monitoring has disconnected, Load monitoring has triggered (flashing), Internal error (rapid flashing)
Pre-warning, Alarm
2 (Reset / ON)
26...12
0.14...2.5 mm ²
0.14...2.5 mm ²
0.6 x 3.5
ABS; BURVER; CE; cULus; cULusEX; DEMKOATEX; DNVGL; EAC; IECEXULD; LLOYDSREG; RINA; TUEV

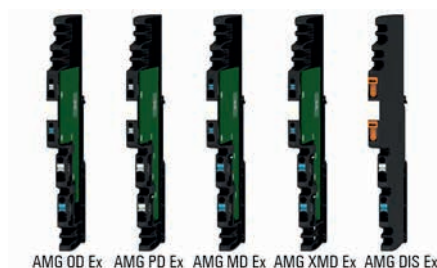
Type	Qty.	Order No.
AMG CM EX	1	2083360000

Type	Qty.	Order No.
ZQV 4N/50	5	1528130000
ZQV 4N/50 RD	5	2460730000
ZQV 4N/50 BL	5	1528240000
ZQV 4N/2	60	1527930000
ZQV 4N/2 RD	60	2460450000
ZQV 4N/2 BL	60	1528040000

maxGUARD – Potential distributor

Potential distribution in combination with the electronic load monitoring.

AMG



AMG OD Ex AMG PD Ex AMG MD Ex AMG XMD Ex AMG DIS Ex

Technical data

General data

Protection degree
Total current load per potential

Current load per contact point

Connection data

Connection system
Number of terminals
Wire cross-section, AWG/kcmil min/max
Wire cross-section, flexible min/max
Wire cross-section, rigid min/max
Screwdriver blade

Approvals

Approvals

Note

Ordering data

Note

Accessories

Plug-in cross-connection

50-pole
50-pole / red
50-pole / blue
2-pole
2-pole / red
2-pole / blue

Note

IP20

2495090000: 12 A;
2495070000: 12 A;
2495040000: 12 A;
2495080000: 24 A;
2495100000: 12 A

12 A

PUSH IN

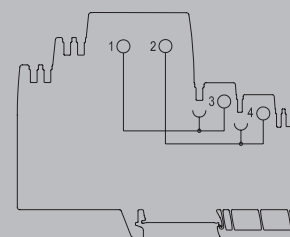
4 (++) / -, 2 x 1.5 mm², 2 x 2.5 mm²
26...12
0.14...2.5 mm²
0.14...2.5 mm²
0.6 x 3.5

ABS; BURVER; CE; cULus; cULusEX; DEMKOATEX; DNVGL; EAC;
IECEXULD; LLOYDSREG; RINA; TUEV

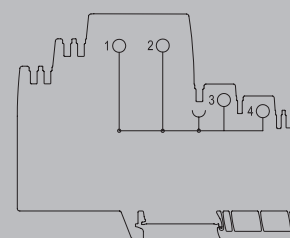
Type	Qty.	Order No.
AMG OD EX	10	2495090000
AMG PD EX	10	2495070000
AMG MD EX	10	2495040000
AMG XMD EX	10	2495080000
AMG DIS EX	10	2495100000

Type	Qty.	Order No.
ZQV 4N/50	5	1528130000
ZQV 4N/50 RD	5	2460730000
ZQV 4N/50 BL	5	1528240000
ZQV 4N/2	60	1527930000
ZQV 4N/2 RD	60	2460450000
ZQV 4N/2 BL	60	1528040000

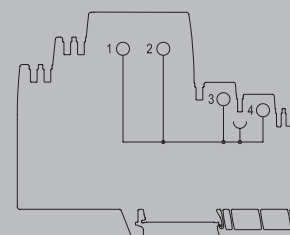
AMG OD Ex



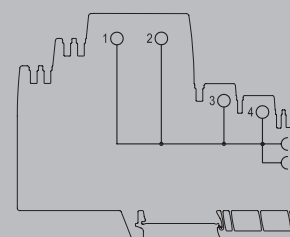
AMG PD Ex



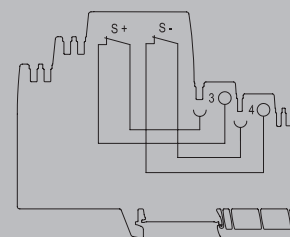
AMG MD Ex



AMG XMD



AMG DIS



maxGUARD

maxGUARD – accessories

	2-pole	
	3-pole	
	4-pole	
	5-pole	
	6-pole	
	7-pole	
	8-pole	
	9-pole	
	10-pole	
	50-pole	

Cross-connector orange



Type	Qty.	Order No.
ZQV 4N/2	60	1527930000
ZQV 4N/3	60	1527940000
ZQV 4N/4	60	1527970000
ZQV 4N/5	60	1527980000
ZQV 4N/6	20	1527990000
ZQV 4N/7	20	1528020000
ZQV 4N/8	20	1528030000
ZQV 4N/9	20	1528070000
ZQV 4N/10	20	1528090000
ZQV 4N/50	5	1528130000

Cross-connector blue



Type	Qty.	Order No.
ZQV 4N/2 BL	60	1528040000
ZQV 4N/3 BL	60	1528080000
ZQV 4N/4 BL	60	1528120000
ZQV 4N/5 BL	60	1528140000
ZQV 4N/6 BL	20	1528170000
ZQV 4N/7 BL	20	1528180000
ZQV 4N/8 BL	20	1528190000
ZQV 4N/9 BL	20	1528220000
ZQV 4N/10 BL	20	1528230000
ZQV 4N/50 BL	5	1528240000

Cross-connector red



Type	Qty.	Order No.
ZQV 4N/2 RD	60	2460450000
ZQV 4N/3 RD	60	2460810000
ZQV 4N/4 RD	60	2460800000
ZQV 4N/5 RD	60	2460790000
ZQV 4N/6 RD	20	2460780000
ZQV 4N/7 RD	20	2460770000
ZQV 4N/8 RD	20	2460760000
ZQV 4N/9 RD	20	2460750000
ZQV 4N/10 RD	20	2460740000
ZQV 4N/50 RD	5	2460730000

maxGUARD – accessories

Endplate and separation plate



Type	Qty.	Order No.
AMG PP	40	2123000000
AMG EP 2010	30	2495380000
AMG EP KIT	1	2500760000

End brackets



Type	Qty.	Order No.
WEW 35/2 SW	100	1061210000
WEW 35/2 V0 GF SW	100	1479000000

Cutting tool for ZQV



Type	Qty.	Order No.
KT 14	1	1157820000

Uninterruptible power supplies

Uninterruptible power supplies	Overview	C.2
	UPS control unit	C.4
	connectPower Battery modules	C.6
	connectPower Buffer modules	C.8

Uninterruptible power supplies

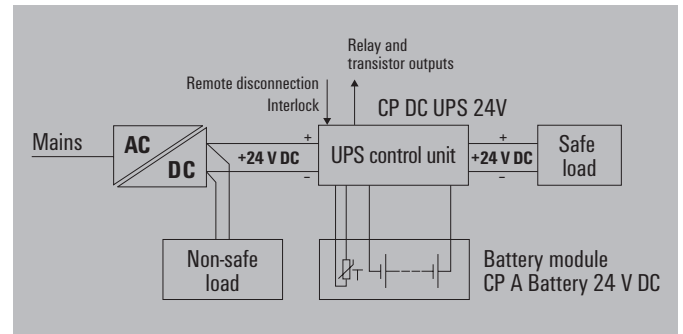
Weidmüller's uninterruptible power supplies reliably protect 24 V DC consumers from voltage drop-outs and dips, such as those that could occur as a result of mains faults. These products therefore play a key role in increasing systems availability.

The buffer module is the perfect solution for bridging short-term power supply failures or dips of up to 100 ms. The capacitor-based technology enables maintenance-free operation, depending on the application, of up to 10 years.

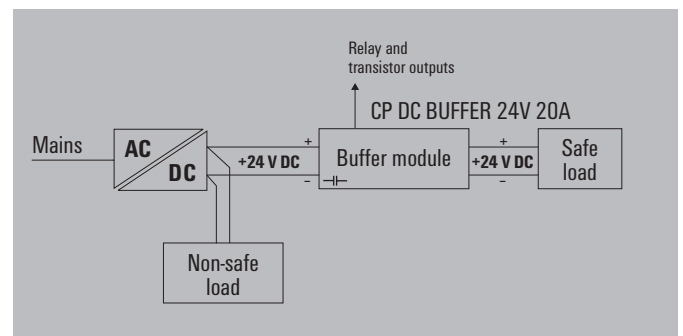
The UPS control unit, together with the accompanying battery module and the power supply, form a complete DC UPS system with support times in minutes or hours. The modular construction allows for the overall load to be distributed into non-safe and safe load circuits, such that often a smaller UPS can be designed.

A huge variety of operating types are available to suit the particular application precisely. A remote input to block battery operation, as well as multiple signal outputs, enable remote operation of the UPS.

UPS with battery module



UPS with buffer module



Space saving

The ability to mount the UPS components side-by-side in only 66 mm width saves space in the electronics cabinet.



Quick error analysis

The charging level indicator and the status and error indicators facilitate rapid error analysis.



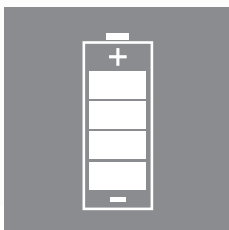
Usable around the globe

International approvals (cURus, cULus) and TÜV certification facilitate the use of these products around the world, and in different applications.



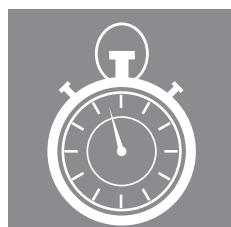
Long battery service life

The temperature-compensated characteristic charge curve ensures the best charge for the battery. This maintains the battery's long service life.



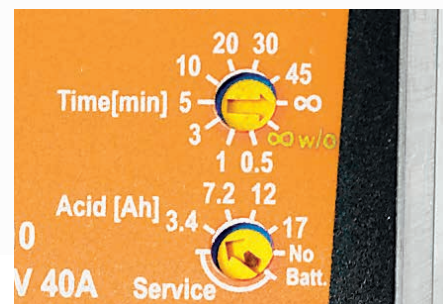
Time saving

The three additional active 24 V DC transistor outputs simplify cabling and save time.



Flexible application

Multiple operation modes optimise the use of battery power and facilitate its flexible application.



UPS control unit

UPS control unit

- Two 24 V models in 10 A/20 A and 40 A
- Temperature-compensated charging feature for long battery life
- Integrated battery diagnostics including continuous availability test
- Status relay and additional transistor outputs for remote monitoring
- Convenient LED displays for easy error analysis



Technical data

Signalling

Status relay (max. load)	Fault (alarm) (30 V AC/DC 0.1 A), Battery operation (buff.) (30 V AC/DC 0.1 A), Laden (Charg.) (30V AC/DC 0,1A)
Transistor outputs (24...27 V DC max. load 150 mA)	Battery operation (buff.), Charging, Fault (alarm)
Status indicator	Green/yellow LED: normal / buffering, Yellow/red LED: temperature alarm / alarm, Yellow/red LED: switch-off / battery fault

General data

Ambient temperature (operational)	-25 °C...70 °C
Storage temperature	-40 °C...85 °C
Humidity	5...95 %, no condensation
Protection degree	IP20
Protection class	III, with no ground connection, for SELV
Pollution degree	2
Overvoltage category	III
Insulation voltage	1 kV DC
MTBF	> 500,000 h in accordance with IEC 61709 (SN29500)
Protection against reverse voltages from the load	32...34 V DC
Parallel connection option	Yes, max. 2, Yes, with diode module
Housing version	Metal, corrosion resistant
Mounting position, installation notice	Horizontal on TS35 mounting rail. 50 mm of clearance at top & bottom for air circ. Can mount side by side with no space in between.
Overload protection	Yes
Short-circuit protection	Yes

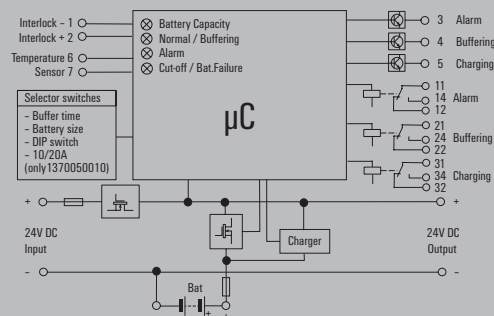
EMC / shock / vibration

Noise emission in accordance with EN55032	Class B
Interference immunity test acc. to	EN 61000-4-2 (ESD) EN 61000-4-3 and EN 61000-4-8 (fields) EN 61000-4-4 (burst) EN 61000-4-5 (surge) EN 61000-4-6 (conducted) EN 61000-4-11 (dips)
Resistance to vibration / Shock	2.3 g / 30 g in all directions

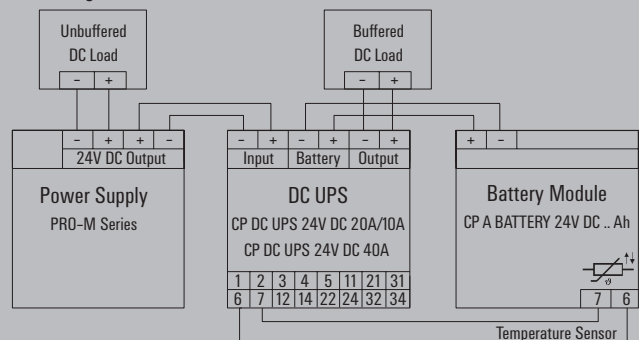
Electrical safety (applied standards)

Electrical machine equipment	Acc. to EN60204
Safety transformers for switch-mode power supplies	According to EN 61558-2-16
For use with electronic equipment	Acc. to EN50178 / VDE0160
Safety extra-low voltage	

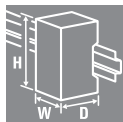
Blockschaltbild



Verdrahtung



UPS control unit



Technical data

Input	
Rated input voltage	
DC input voltage range	
Input current	
Input fuse (internal)	
DC current consumption	
Reverse polarity protection	
Output	
Rated output voltage	
Output voltage	
Nominal output current for U_{nom}	
Integrated battery charger	
Charging feature	
Charging voltage (temperature compensated)	
Temperature coefficient	
Charging current	
Battery availability test	
Battery module	
Rated voltage	
Storage medium	
Parallel connection option	
Operating elements and control inputs	
Output current selector switch	
Selector switch battery	
Selector switch buffer times	
DIP switch	
Remote disconnection (Interlock)	
Temperature probe	
General data	
Buffer times	
Degree of efficiency	
Power loss	
Depth x width x height / Net weight	
Approvals	
Approvals	

CP DC UPS 24V 20A/10A



24 V DC
20...30 V DC
$\leq 13A$ (for 10A), $\leq 23A$ (for 20A)
Yes
max. 200 mA (without battery), max. 0.5 A (with fully charged battery)
Yes
24 V DC $\pm 1\%$
$V_o = V_{in} - 0.2\text{ V}$ normal operation (I_{max}), $V_o = V_{in} - 0.3\text{ V}$ battery supply (I_{max})
20 A @ 60 °C
IU characteristic curve
27, 48 V @ 20°C
- 48 mV / °C
0.15 CA
every minute
24 V
1.3 Ah, 3.4 Ah, 7.2 Ah, 12 Ah, 17 Ah, Selectable with rotary switch
Yes, max. 2
20 A, 10 A
1.3 Ah, 3.4 Ah, 7.2 Ah, 12 Ah, 17 Ah, No Battery, Service
0.5 min, 1 min, 3 min, 5 min, 10 min, 20 min, 30 min, 45 min, ∞ , ∞ w/0
Inversion of transistor outputs, Operation without temperature probe
Yes
NTC 100 k Ω
Depending on the connected battery
$\geq 96\%$ normal mode, battery is being charged, $\geq 98\%$ normal mode, battery is charged, $\geq 98\%$ buffer mode
< 10 W
150 / 66 / 130 mm / 1146 g
CE; cULus; DNVGL; EAC; TUEV

CP DC UPS 24V 40A



24 V DC
20...30 V DC
$\leq 43 A$
Yes
max. 200 mA (without battery), max. 0.5 A (with fully charged battery)
Yes
24 V DC $\pm 1\%$
$V_o = V_{in} - 0.2\text{ V}$ normal operation (I_{max}), $V_o = V_{in} - 0.3\text{ V}$ battery supply (I_{max})
40 A @ 60 °C
IU characteristic curve
27, 48 V @ 20°C
- 48 mV / °C
0.15 CA
every minute
24 V
3.4 Ah, 7.2 Ah, 12 Ah, 17 Ah, Selectable with rotary switch
Yes, max. 2
3.4 Ah, 7.2 Ah, 12 Ah, 17 Ah, No Battery, Service
0.5 min, 1 min, 3 min, 5 min, 10 min, 20 min, 30 min, 45 min, ∞ , ∞ w/0
Inversion of transistor outputs, Operation without temperature probe
Yes
NTC 100 k Ω
Depending on the connected battery
$\geq 96\%$ normal mode, battery is being charged, $\geq 98\%$ normal mode, battery is charged, $\geq 98\%$ buffer mode
< 10 W
150 / 66 / 130 mm / 1051.8 g
CE; cULus; DNVGL; EAC; TUEV

Connection data	
Wire connection method	
Wire cross-section, rigid min/max	mm ²
Wire cross-section, flexible min/max	mm ²
Wire cross-section, AWG/kcmil min/max	
Tightening torque	Nm
Note	

Input/output/battery	Signal
Screw connection	Screw connection
0.5 / 16	0.2 / 1.5
0.5 / 16	0.2 / 1.5
26 / 6	30 / 15
1.2...1.5	

Input/output/battery	Signal
Screw connection	Screw connection
0.5 / 16	0.2 / 1.5
0.5 / 16	0.2 / 1.5
26 / 6	30 / 15
1.2...1.5	

Ordering data

Type	Qty.	Order No.
CP DC UPS 24V 20A/10A	1	1370050010
Note		

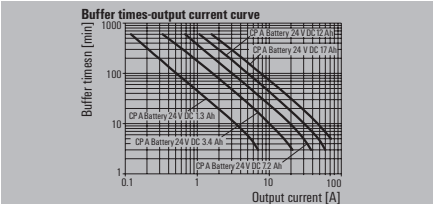
Type	Qty.	Order No.
CP DC UPS 24V 40A	1	1370040010
Note		

Type	Qty.	Order No.
CP DC UPS 24V 40A	1	1370040010
Note		

connectPower Battery modules

Battery modules

- Maintenance-free lead-acid batteries from 3.4 Ah to 17 Ah
- Integrated temperature sensor for optimal battery charging
- Capacity up to 40 A / 30 min or 1 A / 30 hrs
- Robust metal housing for wall mounting



Technical data

- Rated input voltage
- Nominal capacity
- Charging current, max.
- Overload and short circuit protection
- Buffer time 10A
- Buffer time 20A
- Output current, max.
- Parallel connection option
- Series switching capability
- Temperature probe

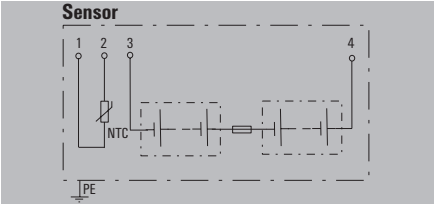
General data

- Battery type
- Operating life
- Ambient temperature
- Storage temperature
- Latest commissioning
- Max. perm. air humidity (operational)
- Protection class
- Protection degree
- Vibration DIN rail/wall in accordance with IEC 68-2-6
- Shock wall acc. to IEC 68227
- Depth x width x height / Net weight

Approvals

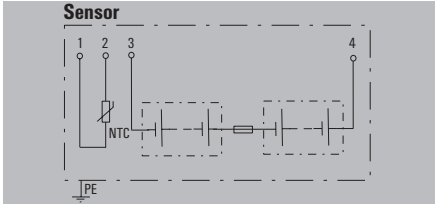
Approvals

CP A BATTERY 24V DC1.3AH



24 V DC
1.3 Ah
0.2 A
15 A fuse
15 A
Yes
No
NTC 100 kΩ
Maintenance-free AGM lead-acid battery
6...9 years at 20°C
0°...+40°C (Charging); -15°...+50°C (Discharging)
-15 °C...40 °C
9 months
5 %...95 % RH
III, with no ground connection, for SELV
IP20
0.7 / 0.7 g
30 g
124 / 52 / 148 mm / 1650 g
cULus; DNVGL; EAC

CP A BATTERY 24V DC3.4AH



24 V DC
3.4 Ah
0.51 A
25 A fuse
11.3 min
5 min
25 A
Yes
No
NTC 100 kΩ
Maintenance-free AGM lead-acid battery
6...9 years at 20°C
0°...+40°C (Charging); -15°...+50°C (Discharging)
-15 °C...40 °C
9 months
5 %...95 % RH
III, with no ground connection, for SELV
IP20
0.7 / 0.7 g
30 g
137 / 108 / 144 mm / 3478 g
cULus; DNVGL; EAC

Connection data

Wire connection method	
Wire cross-section, rigid min/max	mm²
Wire cross-section, flexible min/max	mm²
Wire cross-section, AWG/kcmil min/max	
Tightening torque	Nm

Note

Ordering data

Type	Qty.	Order No.
------	------	-----------

Note

Input/output/battery	Signal
	Pluggable screw connection
0.2 / 4	0.2 / 4
0.2 / 4	0.2 / 4
30 / 12	30 / 12
0.5...0.5	

Type	Qty.	Order No.
CP A BATTERY 24V DC1.3AH	1	1406930000

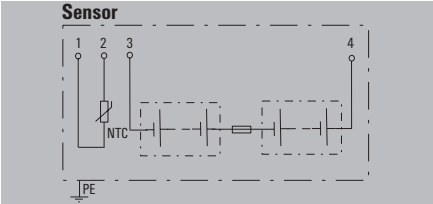
Input/output/battery	Signal
	Pluggable screw connection
0.2 / 6	0.2 / 1.5
0.5 / 6	0.2 / 1.5
22 / 10	28 / 16
0.5...0.6	

Type	Qty.	Order No.
CP A BATTERY 24V DC3.4AH	1	1251070000

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CP A BATTERY 24V DC7.2AH

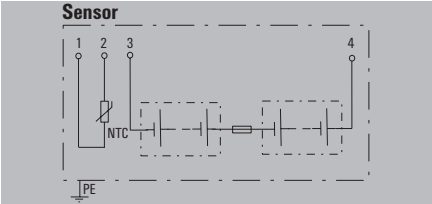


24 V DC
7.2 Ah
1.08 A
2x25 A fuse
26.5 min
11.5 min
50 A
Yes
No
NTC 100 kΩ
Maintenance-free AGM lead-acid battery
9...12 years at 20°C
0°...+40°C (Charging); -15°...+50°C (Discharging)
-15 °C...40 °C
9 months
5 %...95 % RH
III, with no ground connection, for SELV
IP20
- / 0.7 g
30 g
134 / 162 / 155 mm / 6200 g
cULus; DNVGL; EAC

Input/output/battery	Signal
0.2 / 16	0.2 / 1.5
0.5 / 16	0.2 / 1.5
22 / 6	28 / 16
1.2...1.5	

Type	Qty.	Order No.
CP A BATTERY 24V DC7.2AH	1	1251080000

CP A BATTERY 24V DC12AH

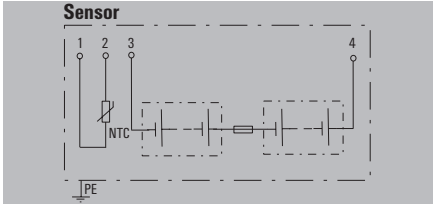


24 V DC
12 Ah
1.8 A
2x25 A fuse
51 min
22.7 min
50 A
Yes
No
NTC 100 kΩ
Maintenance-free AGM lead-acid battery
6...9 years at 20°C
0°...+40°C (Charging); -15°...+50°C (Discharging)
-15 °C...40 °C
9 months
5 %...95 % RH
III, with no ground connection, for SELV
IP20
- / 0.7 g
30 g
134 / 229 / 155 mm / 9120 g
cULus; DNVGL; EAC

Input/output/battery	Signal
0.2 / 16	0.2 / 1.5
0.5 / 16	0.2 / 1.5
22 / 6	28 / 16
1.2...1.5	

Type	Qty.	Order No.
CP A BATTERY 24V DC12AH	1	1251090000

CP A BATTERY 24V DC17AH



24 V DC
17 Ah
2.55 A
2x25 A fuse
81 min
34.2 min
50 A
Yes
No
NTC 100 kΩ
Maintenance-free AGM lead-acid battery
6...9 years at 20°C
0°...+40°C (Charging); -15°...+50°C (Discharging)
-15 °C...40 °C
9 months
5 %...95 % RH
III, with no ground connection, for SELV
IP20
- / 0.7 g
30 g
160 / 242 / 178 mm / 13330 g
cULus; EAC

Input/output/battery	Signal
0.2 / 16	0.2 / 1.5
0.5 / 16	0.2 / 1.5
22 / 6	28 / 16
1.2...1.5	

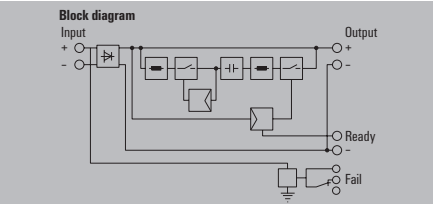
Type	Qty.	Order No.
CP A BATTERY 24V DC17AH	1	1251110000

connectPower Buffer modules

Buffer modules

- Maintenance-free UPS on a capacitor basis, with a capacity of 20 A / 260 ms
- Parallel switching to increase the output current or buffer time
- Status notification via LED and relay contact

CP DC BUFFER 24V 20A



Technical data

Input	
Rated input voltage	24 V DC
Input current	0...22 A
Max. approved input current	22 A
Surge protection	31 - 34 V (only at discharge)
Output	
Output voltage	24 V
Output current	20A
Output current, max.	22 A
Parallel connection option	Yes, without diode module
Overload protection	≥ 22 A (only at discharge)
Surge protection	31 - 34 V (only at discharge)
Status relay (max. load)	Input voltage OK (30 V AC/DC 2A), Ready for operation (24 V AC/DC 300 mA)
Display	
Status indicator	Green LED
General data	
Degree of efficiency	95 %
Insulation voltage, input/output	1 kV
Storage medium	Internal condenser
Buffer times	250 ms at 20 A, 6 s at 1 A
MTBF	> 500,000 h in accordance with IEC 61709 (SN29500)
Ambient temperature (operational)	-25 °C...70 °C
Storage temperature	-40 °C...85 °C
Humidity	5...95 %, no condensation
Depth x width x height / Net weight	150 / 66 / 130 mm / 1280 g
For use with electronic equipment	Acc. to EN50178 / VDE0160
Approvals	
Approvals	cURus; EAC

Input		Output	
Screw connection			
0.5 / 16		0.6 / 16	
0.5 / 16		0.5 / 16	
26 / 6		26 / 6	

Connection data	
Connection system	
Number of terminals	
Wire cross-section, rigid min/max	mm ²
Wire cross-section, flexible min/max	mm ²
Wire cross-section, AWG/kcmil min/max	
Note	

Ordering data

Type	Qty.	Order No.
CP DC BUFFER 24V 20A	1	1251220000
Note		

Type	Qty.	Order No.
CP DC BUFFER 24V 20A	1	1251220000
Note		

Small metal foot

Type	Order No.
MTA 30 MF	1251320000

Large metal foot

Type	Order No.
MTA 45 MF	1251310000

Small plastic foot

Type	Order No.
MTA 30 BK	1168970000

Large plastic foot

Type	Order No.
MTA 45 BK	1962250000

Small wall mounting

Type	Order No.
CP A WALLADAPTER 30 MM	1461870000

Large wall mounting

Type	Order No.
CP A WALLADAPTER 45 MM	1461850000

Temperature probe

Type	Kabellänge	Order No.
CP DC UPS TF25	2.5 m	1444540000
CP DC UPS TF05	0.5 m	1444480000

Small screwdriver

Type	Size/AF	a	b	c	Order No.
SDIS 0.5X3.0X100		0.5	3	100	2749800000

Large screwdriver

Type	Size/AF	a	b	c	Order No.
SDIS 1.0X5.5X125		1	5.5	125	2749850000

Markers

Type	Colour	Qty.	Order No.
SM 18/9.5 K MC NE WS	white	200	1248580000

End bracket

For DIN rail TS 35



Polyamide with fibre glass, screwable	Colour	Torque	Qty.	Order No.
WEW 35/1 SW	black	1.2 Nm	50	1162600000

DC/DC converters

DC/DC converters	Overview	D.2
	connectPower DC/DC converter	D.4

Stabilise control voltages in 24 V DC systems

Compact and powerful DC/DC converters for an everlasting supply

Maximum supply reliability and minimum downtimes indicate a good power supply system. However, the increasing complexity of supply solutions and the increased use of battery back-up systems can have a negative impact on the stability of the DC control voltage. Supply disruptions, e. g. voltage fluctuations as a result of different potentials or voltage drops as a result of long cables may occur as a result. These issues can often lead to cost-intensive production disruptions.

The DC/DC converter balances out voltage fluctuations, such as those arising as a result of unregulated voltage supplies. Voltage drops at the end of long cables are also balanced out. With protection class III for floating systems and galvanic isolation, the DC/DC converters are particularly well-suited for use with independent supply systems.

As well as having above-average performance characteristics, the DC/DC converter also stands out thanks to its slim design, ease of servicing and high degree of efficiency of up to 94 %. It also has a wide range of safety functions and can be combined with PROtop, PROeco or PROmax power supplies. It is also possible to combine UPS components, diode and redundancy modules with the DC/DC converter in order to establish a redundant power supply. All of these features make the DC converter a real all-rounder when it comes to 24 V DC supply voltages.

Your special advantages:

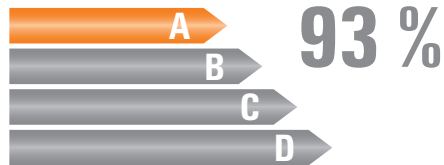
- Reliable and powerful
- The long-lasting Power Boost of up to 120 % and high peak currents of up to 600 % of the rated current for 16 ms guarantee reliable starting and safe operation even within limit ranges.



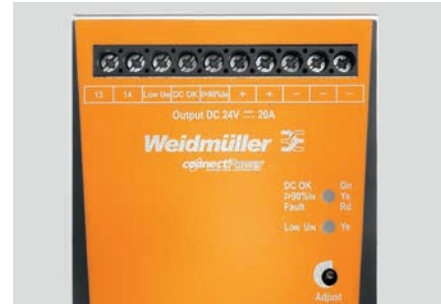
In floating voltage systems, e. g. with emergency power battery systems in marine engineering, the control voltage needs to be galvanically isolated from the battery voltage

Extremely compact and energy-efficient

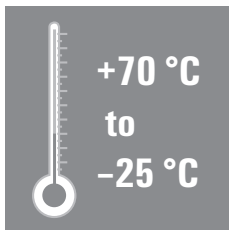
The compact design saves up to 30 % space in the control cabinet. The high degree of efficiency of up to 93 % ensures low energy costs.

**Quick status diagnostics and maintenance**

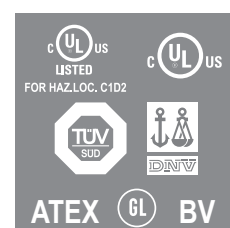
The preventative function monitoring via LED display, the status relay and transistor outputs make it easier to carry out status and error analyses during commissioning and operation.

**Robust and reliable**

Weidmüller DC/DC converters function reliably over a large temperature range of between -25 °C and +70 °C (start-up: -40 °C), and with a high MTBF value of over 1,000,000 hours.

**All-purpose usage**

Variants with 5 A, 10 A and 20 A and international approvals (e. g. cULus, Class I, Div. 2, ATEX, GL, DNV) allow for global use in a range of different applications.



ConnectPower DC/DC converter



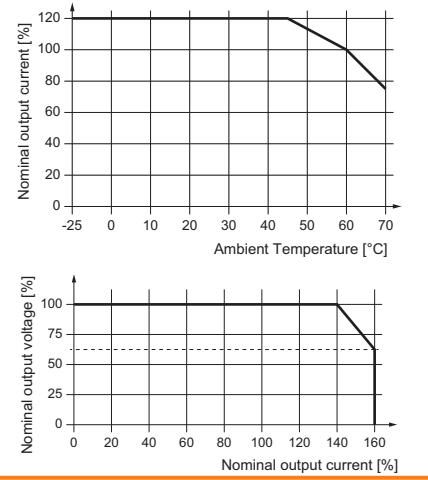
Derating curve

Event		LED (Gr/Ye/Rd)	LED (Ye)	Transistor status outputs			Status relay
Input	Output	gr = "DC OK" Ye = "i > 90% I _N " Rd = "Faul T"	"i ow u _N "	DC OK	i > 90% I _N	i ow u _N	
U _N < 14 V	—	OFF	ON	Low	Low	Low	OFF
U _N = 14...19.2 V (*)	i < 90 % I _N	Gr	ON	High	Low	Low	ON
	i > 90 % I _N	Ye	ON	High	High	Low	ON
	U < 20.4 V	Rd	ON	Low	Low	Low	OFF
U _N > 19.2 V	i < 90 % I _N	Gr	OFF	High	Low	High	ON
	i > 90 % I _N	Ye	OFF	High	High	High	ON
	U < 20.4 V	Rd	OFF	Low	Low	High	OFF

Gr = grün / green / verte / verde / verde / 绿色
Ye = gelb / yellow / jaune / giallo / amarillo / amarillo / 黄色
Rd = rot / red / rouge / rosso / rojo / vermelho / 红色

(*) während des Betriebes / during operations / en cours de fonctionnement / durante l'esercizio / durante el servicio / durante a operação / 运行过程中

Signal states



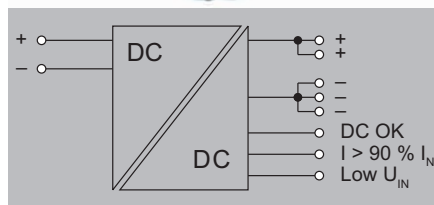
Technical data

General data	
Current limiting	150% I _{out}
Insulation voltage input / earth	1.5 kV
Insulation voltage output / earth	0.5 kV
Insulation voltage, input/output	1.5 kV
Ambient temperature (operational) / Storage temperature / Start-up	-25 °C...70 °C / -40 °C...85 °C / ≥ -40 °C
Humidity at operating temperature	5...95 %, no condensation
Protection class / Pollution degree	III, with no ground connection, for SELV / 2
MTBF	1250000
Housing version	Metal, corrosion resistant
Mounting position, installation notice	Horizontal on TS35 mounting rail. 50 mm of clearance at top & bottom for air circ. Can mount side by side with no space in between., 50 mm clearance at top and bottom for free air circulation, mountable side by side without clearance
EMC / shock / vibration	
Interference immunity test acc. to	EN 61000-4-2 (ESD), EN 61000-4-4 (burst), EN 61000-4-5 (surge), EN 61000-4-6 (conducted), EN61000-4-3 (HF field)
Shock	30 g in all directions
Resistance to vibration	2.3 g (15 Hz...150 Hz)
Electrical safety (applied standards)	
Electrical machine equipment	Acc. to EN60204
Safety transformers for switch-mode power supplies	According to EN 61558-2-16
For use with electronic equipment	Acc. to EN50178 / VDE0160
Protective separation / protection against electrical shock	VDE0100-410 / acc. to DIN57100-410
Protection against dangerous shock currents	Acc. to VDE0106-101

ConnectPower DC/DC converter

PRO DCDC 120W 24V 5A

PRO DCDC 240W 24V 10A



Technical data

Input	
Rated input voltage	24 V DC
DC input voltage range	14...32 V (during operation), 18...32 V (commissioning)
Input fuse (internal)	Yes
Inrush current / Inrush Current Limitation	Max. 10 A / Yes
Recommended back-up fuse	10 A, Char. B circuit breaker, 10 A, Char. C circuit breaker
Output	
Rated output voltage	24 V DC $\pm$ 1 %
Output voltage	22.5...29.5 V (adjustable via potentiometer on front)
Continuous output current @ U_{Nomin}	5 A @ 40 °C, 6 A @ 45°C, 3,75 A @ 70°C
Output power	120 W
Ramp-up time	$\leq$ 9 ms (U_{out} : 10%...90%)
Capacitive load	unrestricted
Parallel connection option	yes, max. 5 (without diode module)
Reserve capacity @ U_{Nomin}	600% IN for 16 ms
Residual ripple, breaking spikes	max. 20 mVpp @ 24 VDC, IN
Protection against inverse voltage / Overload protection	Yes / Yes
General data	
AC failure bridging time @ I_{load}	$>$ 10 ms @ 24 V DC
Protection against reverse voltages from the load	33...34 V DC
Start-up	$\geq$ -40 °C
Current limiting	150% I_{out}
Power loss idling / nominal load	2 W / 11 W
Degree of efficiency	Typ.: 92 %
Signalling	
Transistor output, positive-switching	DC OK: 20 mA max., short-circuit-proof, $I > 90\%$: 20 mA max., short-circuit-proof, Low U_{IN} : 20 mA max., short-circuit-proof
Floating contact	/
Relay on/off / Contact load	
Approvals	
Approvals	ABS; BURVER; cULus; cULusEX; DNVGL; LLOYDSREG; RINA

Input	
Rated input voltage	24 V DC
DC input voltage range	14...32 V (during operation), 18...32 V (commissioning)
Input fuse (internal)	Yes
Inrush current / Inrush Current Limitation	max. 15 A / Yes
Recommended back-up fuse	25 A, Char.B circuit breaker, 25 A, Char.C circuit breaker
Output	
Rated output voltage	24 V DC $\pm$ 1 %
Output voltage	22.5...29.5 V (adjustable via potentiometer on front)
Continuous output current @ U_{Nomin}	10 A @ 60 °C, 12 A @ 45°C, 7,5 A @ 70°C
Output power	240 W
Ramp-up time	$\leq$ 9 ms (U_{out} : 10%...90%)
Capacitive load	unrestricted
Parallel connection option	yes, max. 5 (without diode module)
Reserve capacity @ U_{Nomin}	600% IN for 16 ms
Residual ripple, breaking spikes	max. 20 mVpp @ 24 VDC, IN
Protection against inverse voltage / Overload protection	Yes / Yes
General data	
AC failure bridging time @ I_{load}	$>$ 12 ms @ 24 V DC
Protection against reverse voltages from the load	33...34 V DC
Start-up	$\geq$ -40 °C
Current limiting	150% I_{out}
Power loss idling / nominal load	2 W / 22 W
Degree of efficiency	Typ.: 92 %
Signalling	
Transistor output, positive-switching	DC OK: 20 mA max., short-circuit-proof, $I > 90\%$: 20 mA max., short-circuit-proof, Low U_{IN} : 20 mA max., short-circuit-proof
Floating contact	Yes
Relay on/off / Contact load	Output voltage $>$ 21.6 V / $<$ 20.4 V / max. 30 V DC / 0.5 A
Approvals	
Approvals	ABS; BURVER; cULus; cULusEX; DNVGL; LLOYDSREG; RINA

Input	
Rated input voltage	24 V DC
DC input voltage range	14...32 V (during operation), 18...32 V (commissioning)
Input fuse (internal)	Yes
Inrush current / Inrush Current Limitation	max. 15 A / Yes
Recommended back-up fuse	25 A, Char.B circuit breaker, 25 A, Char.C circuit breaker
Output	
Rated output voltage	24 V DC $\pm$ 1 %
Output voltage	22.5...29.5 V (adjustable via potentiometer on front)
Continuous output current @ U_{Nomin}	10 A @ 60 °C, 12 A @ 45°C, 7,5 A @ 70°C
Output power	240 W
Ramp-up time	$\leq$ 9 ms (U_{out} : 10%...90%)
Capacitive load	unrestricted
Parallel connection option	yes, max. 5 (without diode module)
Reserve capacity @ U_{Nomin}	600% IN for 16 ms
Residual ripple, breaking spikes	max. 20 mVpp @ 24 VDC, IN
Protection against inverse voltage / Overload protection	Yes / Yes
General data	
AC failure bridging time @ I_{load}	$>$ 12 ms @ 24 V DC
Protection against reverse voltages from the load	33...34 V DC
Start-up	$\geq$ -40 °C
Current limiting	150% I_{out}
Power loss idling / nominal load	2 W / 22 W
Degree of efficiency	Typ.: 92 %
Signalling	
Transistor output, positive-switching	DC OK: 20 mA max., short-circuit-proof, $I > 90\%$: 20 mA max., short-circuit-proof, Low U_{IN} : 20 mA max., short-circuit-proof
Floating contact	Yes
Relay on/off / Contact load	Output voltage $>$ 21.6 V / $<$ 20.4 V / max. 30 V DC / 0.5 A
Approvals	
Approvals	ABS; BURVER; cULus; cULusEX; DNVGL; LLOYDSREG; RINA

Connection data	
Connection system	Screw connection: pluggable
Number of terminals	2 for (+, -)
Wire cross-section, rigid min/max	0.2 / 4 mm ²
Wire cross-section, flexible min/max	0.2 / 4 mm ²
Wire cross-section, AWG/kcmil min/max	30 / 12
Note	

Input	Output
Screw connection: pluggable	8 (+ / - / signal)
2 for (+, -)	0.2 / 2.5
0.2 / 4	0.2 / 2.5
0.2 / 4	24 / 14

Input	Output
Screw connection: pluggable	10 (+ / - / signal)
2 for (+, -)	0.2 / 2.5
0.08 / 4	0.2 / 2.5
0.08 / 4	24 / 14

Ordering data

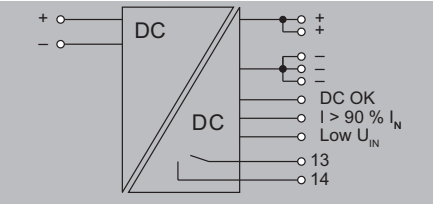
Type	Qty.	Order No.
PRO DCDC 120W 24V 5A	1	2001800000

Type	Qty.	Order No.
PRO DCDC 120W 24V 5A	1	2001800000

Type	Qty.	Order No.
PRO DCDC 240W 24V 10A	1	2001810000

ConnectPower DC/DC converter

PRO DCDC 480W 24V 20A



Technical data

Input
Rated input voltage
DC input voltage range
Input fuse (internal)
Inrush current / Inrush Current Limitation
Recommended back-up fuse

Output
Rated output voltage
Output voltage
Continuous output current @ U_{Nomin}
Output power
Ramp-up time
Capacitive load
Parallel connection option
Reserve capacity @ U_{Nomin}
Residual ripple, breaking spikes
Protection against inverse voltage / Overload protection

General data
AC failure bridging time @ I_{load}
Protection against reverse voltages from the load
Start-up
Current limiting
Power loss idling / nominal load
Degree of efficiency

Signalling
Transistor output, positive-switching

Floating contact
Relay on/off / Contact load

Approvals
Approvals

24 V DC
14...32 V (during operation), 18...32 V (commissioning)
Yes
max. 30 A / Yes
40 A, Char. B circuit breaker, 40 A, Char. C circuit breaker

24 V DC $\pm$ 1 %
22.5...29.5 V (adjustable via potentiometer on front)
20 A @ 60 °C, 24 A @ 45°C, 15 A @ 70°C
480 W
$\leq$ 9 ms (U_{out} : 10%...90%)
unrestricted
yes, max. 3
600% IN for 16 ms
max. 20 mVpp @ 24 VDC, IN
Yes / Yes

> 10 ms @ 24 V DC
33...34 V DC
$\geq$ -40 °C
150% I_{load}
3 W / 40 W
typ. > 93%

DC OK: 20 mA max., short-circuit-proof, I > 90%: 20 mA max., short-circuit-proof, Low U_{in} : 20 mA max., short-circuit-proof
Yes
Output voltage > 21.6 V / < 20.4 V / max. 30 V DC / 0.5 A

ABS; BURVER; cULus; cULusEX; DNVGL; LLOYDSREG; RINA

Connection data
Connection system
Number of terminals
Wire cross-section, rigid min/max
Wire cross-section, flexible min/max
Wire cross-section, AWG/kcmil min/max

Note

Input	Output
Screw connection	
2 for (+, -)	10 (+ / - / signal)
0.5 / 16	0.18 / 6
0.5 / 16	0.18 / 6
22 / 8	26 / 10

Ordering data

--

Type	Qty.	Order No.
PRO DCDC 480W 24V 20A	1	2001820000

Note

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Redundancy, diode and capacity modules

Redundancy, diode and capacity modules	Overview	E.2
	connectPower redundancy modules	E.4
	connectPower diode modules	E.6
	connectPower capacity module	E.7



Reliable protection of sensitive system components

Redundancy, diode and capacity modules

In many automation applications, power supply systems are required that function reliably even if a power supply unit fails. With our optimally coordinated supplementary modules, a permanent supply concept is created. Weidmüller's diodes and redundancy modules connect two power supplies to each other in order to compensate for the failure of one device. In addition, Weidmüller has a capacity module that has sufficient energy reserves to, for example, connect a miniature circuit breaker to the power supply. quickly and purposefully.

Diode modules

The diode modules allow with 20 A or 40 A output current to the construction of safe power supply systems.



Redundancy modules

Redundancy modules increase system availability is decisive. Each redundant branch is able to supply full output load. The 24-V control voltage remains stable in the event of a power supply failure. The use of MOSFETs in our redundancy modules allows for a optimum efficiency.



Capacity module

The capacity modules provide sufficient energy reserves ready, for example, to meet the demand for a motor start. and I'll cover for you. In addition, the reserve enables the selective circuit breaker tripping in the case of an Short-circuit.

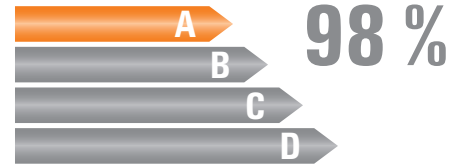


Redundancy module

- Up to 40 A per input
- Individually adjustable current warning for Overload directly at the device
- Suitable for EX areas

The space- and energy-saving system solution

- The compact design saves up to 30 % space in the switch cabinet
- The high degree of efficiency of up to 98 % ensures for low energy costs



Capacity module

- Integrated alarm relay for monitoring the input voltage
- Optical status monitoring by red/green LEDs
- Remote messages via potential-free contact

Diode module

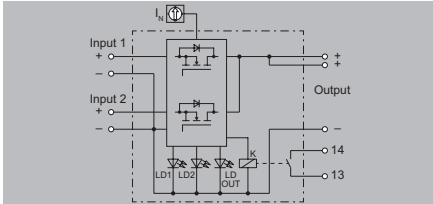
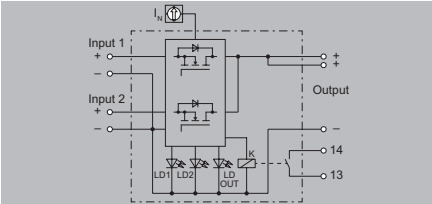
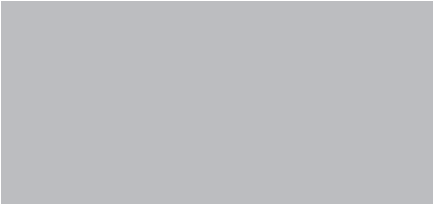
- Ideal for setting up trouble-free systems
- In versions with 20 or 40 A output current obtainable
- Also suitable for small systems

connectPower redundancy modules

connectPower redundancy modules

PRO RM 10

PRO RM 20



Technical data

Input	
DC input voltage range	
Input current	
Output	
Rated output voltage	
Continuous output current @ $U_{Nominall}$	
General data	
Ambient temperature (operational)	
Storage temperature	
Derating	
Degree of efficiency	
Mounting position, installation notice	
Depth x width x height / Net weight	
Approvals	

10 ... 32 V DC
2 × 12 A (-40 °C ~ +45 °C), 2 × 10 A (+45 °C ~ +60 °C), 2 × 7.5 A (+70 °C)
$V_{INPUT-typ. 0.13 V}$
1 × 24 A (-40 °C ~ +45 °C), 1 × 20 A (+45 °C ~ +60 °C), 1 × 15 A (+70 °C)
-40 °C...70 °C
-40 °C...85 °C
> 60°C / 75% @ 70°C
> 98%
Horizontal on TS35 mounting rail. 50 mm of clearance at top & bottom for air circ. Can mount side by side with no space in between.
125 / 30 / 130 mm / 497 g
cULus; DNVGL; EAC

10 ... 32 V DC
2 × 24 A (-40 °C ~ +45 °C), 2 × 20 A (+45 °C ~ +60 °C), 2 × 15 A (+70 °C)
$V_{INPUT-typ. 0.2 V}$
1 × 48 A (-40 °C ~ +45 °C), 1 × 40 A (+45 °C ~ +60 °C), 1 × 30 A (+70 °C)
-40 °C...70 °C
-40 °C...85 °C
> 60°C / 75% @ 70°C
> 98%
Horizontal on TS35 mounting rail. 50 mm of clearance at top & bottom for air circ. Can mount side by side with no space in between.
125 / 38 / 130 mm / 558 g
cULus; DNVGL; EAC

Connection data	
Connection system	
Number of terminals	
Wire cross-section, rigid min/max	mm²
Wire cross-section, flexible min/max	mm²
Wire cross-section, AWG/kcmil min/max	
Note	

Input	Output
PUSH IN	PUSH IN
4 (+,+,--)	2 (+/-)
0.2 / 2.5	0.2 / 10
0.2 / 2.5	0.2 / 6
26 / 12	24 / 8

Input	Output
PUSH IN	PUSH IN
4 (+,+,--)	2 (+/-)
0.2 / 10	0.75 / 16
0.2 / 6	0.75 / 16
24 / 8	20 / 4

Ordering data

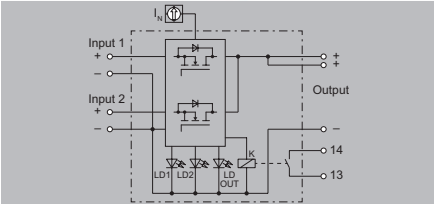
Screw connection
Note

Type	Qty.	Order No.
PRO RM 10	1	2486090000
</		

Type	Qty.	Order No.
PRO RM 20	1	2486100000

connectPower redundancy modules

PRO RM 40



Technical data

Input	
DC input voltage range	
Input current	
Output	
Rated output voltage	
Continuous output current @ $U_{Nominall}$	
General data	
Ambient temperature (operational)	
Storage temperature	
Derating	
Degree of efficiency	
Mounting position, installation notice	
Depth x width x height / Net weight	
Approvals	

10 ... 32 V DC
2 × 48 A (-40 °C ~ +45 °C), 2 × 40 A (+45 °C ~ +60 °C), 2 × 30 A (+70 °C)
$V_{NPUT-typ. 0.27 V}$
1 × 96 A (-40 °C ~ +45 °C), 1 × 80 A (+45 °C ~ +60 °C), 1 × 60 A (+70 °C)
-40 °C...70 °C
-40 °C...85 °C
> 60°C / 75% @ 70°C
> 98%
Horizontal on TS35 mounting rail. 50 mm of clearance at top & bottom for air circ. Can mount side by side with no space in between.
125 / 52 / 130 mm /
cULus; DNVGL; EAC

Connection data	
Connection system	
Number of terminals	
Wire cross-section, rigid min/max	mm ²
Wire cross-section, flexible min/max	mm ²
Wire cross-section, AWG/kcmil min/max	
Note	

Input	Output
Screw connection	Screw connection
4 (+,+,--)	2 (+/-)
0.2 / 16	0.5 / 16
0.5 / 16	0.5 / 35
22 / 6	20 / 1

Ordering data

Screw connection
Note

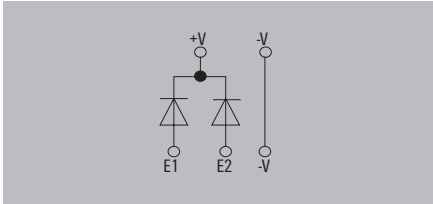
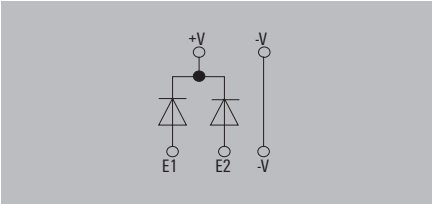
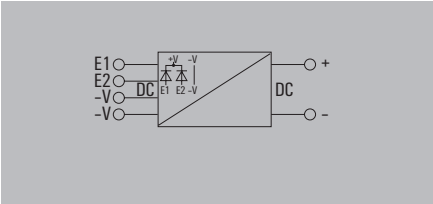
Type	Qty.	Order No.
PRO RM 40	1	2486110000
Note		

connectPower diode module

connectPower diode modules

PRO DM 10

PRO DM 20



Technical data

Input	
DC input voltage range	
Input current	
Output	
Rated output voltage	
Continuous output current @ $U_{Nominale}$	
General data	
Ambient temperature (operational)	
Storage temperature	
Derating	
Degree of efficiency	
Mounting position, installation notice	
Depth x width x height / Net weight	
Approvals	

0...60 V DC
2 × 12 A (-40 °C ~ +45 °C), 2 × 10 A (+45 °C ~ +60 °C), 2 × 7.5 A (+70 °C)
$V_{INPUT-typ. 0.7 V}$
1 × 24 A (-40 °C ~ +45 °C), 1 × 20 A (+45 °C ~ +60 °C), 1 × 15 A (+70 °C)
-40 °C...70 °C
-40 °C...85 °C
> 60 °C / 75% load @ 70 °C
> 97% @ 24 V Input voltage
Horizontal on TS35 mounting rail. 50 mm of clearance at top & bottom for air circ. Can mount side by side with no space in between.
125 / 32 / 125 mm / 502 g
cULus

0...60 V DC
2 × 24 A (-40 °C ~ +45 °C), 2 × 20 A (+45 °C ~ +60 °C), 2 × 15 A (+70 °C)
$V_{INPUT-typ. 0.7 V}$
1 × 48 A (-40 °C ~ +45 °C), 1 × 40 A (+45 °C ~ +60 °C), 1 × 30 A (+70 °C)
-40 °C...70 °C
-40 °C...85 °C
> 60 °C / 75% load @ 70 °C
> 97% @ 24 V Input voltage
Horizontal on TS35 mounting rail. 50 mm of clearance at top & bottom for air circ. Can mount side by side with no space in between.
125 / 32 / 125 mm / 568 g
cULus

Connection data	
Connection system	
Number of terminals	
Wire cross-section, rigid min/max	mm ²
Wire cross-section, flexible min/max	mm ²
Wire cross-section, AWG/kcmil min/max	
Note	

Input	Output
Screw connection	Screw connection
4 (1+, 2+, 1-, 2-)	4 (++, --)
0.18 / 6	0.18 / 6
0.22 / 4	0.22 / 6
26 / 10	26 / 10

Input	Output
Screw connection	Screw connection
4 (1+, 2+, 1-, 2-)	4 (++, --)
0.18 / 6	0.5 / 16
0.22 / 4	0.5 / 16
26 / 10	22 / 8

Ordering data

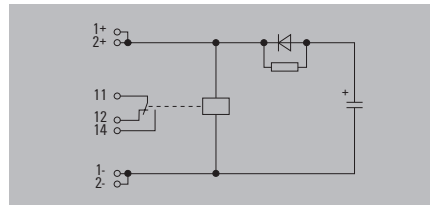
Screw connection
Note

Type	Qty.	Order No.
PRO DM 10	1	2486070000

Type	Qty.	Order No.
PRO DM 20	1	2486080000

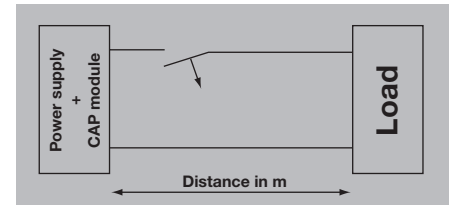
connectPower capacity modules

CP M CAP

Pulse triggering for circuit breakers:
with the Weidmüller capacitance module

The following conditions apply to the table entries:

- Ambient temperature of 20 °C
- Inner resistance of the circuit breakers is taken into account
- Half of the rated current flows to a neighbouring circuit before the short circuit is formed
- DC-compatible circuit breakers: Siemens 5SY series



Technical data

Input	
Rated input voltage / DC input voltage range	
Output	
Peak current output / Recovery time for the capacitor	
Switching thresholds	
Floating contact	
General data	
Depth x width x height / Net weight	
Ambient temperature (operational) / Storage temperature	
Humidity	
Protection degree	
Protection class	
Pollution degree	
Insulation voltage	
MTBF	
Mounting position, installation notice	
EMC / shock / vibration	
Noise emission in accordance with EN55032	
Interference immunity test acc. to	
Resistance to vibration / Shock	
Electrical safety (applied standards)	
Electrical machine equipment	
For use with electronic equipment	
Approvals	
Approvals	

24 V DC / 18...30 V DC
load dependent (typ. 40 A for 1 ms) / Approx. 1 sec.
21.6 V DC, relay is on for Power Good, 20.4 V DC, relay is off for Power Fail
Yes
/ 150 / 34 / 130 mm / 725 g
-25 °C...70 °C 40 °C...85 °C
5...95 %, no condensation
IP20
III, with no ground connection, for SELV
2
0.5 kV Input / output - Box
> 500,000 h in accordance with IEC 61709 (SN29500)
Horizontal on TS35 mounting rail. 50 mm of clearance at top & bottom for air circ. Can mount side by side with no space in between.
Class B
EN 61000-4-2 (ESD) EN 61000-4-3 and EN 61000-4-8 (fields) EN 61000-4-4 (burst) EN 61000-4-5 (surge) EN 61000-4-6 (conducted) EN 61000-4-11 (dips)
1 g according to EN 50178 / 15 g in all directions
Acc. to EN60204
Acc. to EN50178 / VDE0160
CE; cULus; DNVGL; EAC

Fuse tripping

Conductor cross section	B6	B10
0.75 mm ²	10 m	
1.0 mm ²	14 m	6 m
1.5 mm ²	20 m	9 m
2.5 mm ²	30 m	15 m
4 mm ²	50 m	24 m
6 mm ²		
B16		
0.75 mm ²		
1.0 mm ²		
1.5 mm ²	4 m	
2.5 mm ²	6 m	
4 mm ²	10 m	
6 mm ²	16 m	
C2 C4		
0.75 mm ²	11 m	6 m
1.0 mm ²	14 m	8 m
1.5 mm ²	21 m	12 m
2.5 mm ²	34 m	19 m
4 mm ²		32 m
6 mm ²		
C6 C10		
0.75 mm ²	3 m	
1.0 mm ²	3.5 m	2 m
1.5 mm ²	5.5 m	3 m
2.5 mm ²	9 m	5 m
4 mm ²	14 m	8 m
6 mm ²		12 m

Connection data	
Wire connection method	
Number of terminals	
Wire cross-section, rigid min/max	mm ²
Wire cross-section, flexible min/max	mm ²
Wire cross-section, AWG/kcmil min/max	
Note	

Input	Output
Screw connection	Screw connection
4 (++-)	3 (CO contacts)
0.5 / 6	0.5 / 6
0.5 / 4	0.5 / 2.5
26 / 12	26 / 12
For low-impedance connections we recommend 2.5 mm ² .	

Ordering data

	Plastic clip-in foot
	Metal clip-in foot
Note	

Type	Qty.	Order No.
CP M CAP	1	1222240000
CP M CAP	1	1222240010

Communication modules

Communication modules	Overview	F.2
	CANopen	F.4
	IO-Link	F.5

Exploiting the potential of industry 4.0

Communication modules for continuous networking of your components

The communication capability of machines, plant components and IT systems is a basic prerequisite for exploiting the potential of industry 4.0 and increasing the future security of plants.

Weidmüller's plug-in communication modules enable individual components to exchange relevant data with the cloud. This lays the foundation for targeted process optimization using condition monitoring and remote controllability - factors that play a decisive role in increasing efficiency, quality, process stability and availability can contribute.

The communication modules are designed according to IP20 protected, can be operated without tools and can be flexibly adapted to different customisable communication protocols.

**Available
in IO-Link
or
CANopen**

F



ProCom CANopen

ProCom CANopen connects the device-internal interface of a Weidmüller basic unit (e.g. PROtop) with the CAN bus system of a plant control system.

The CANopen fieldbus protocol is used for this purpose. The communication module is equipped with two RJ45-sockets (CAN 1-1 and 1-2) and is connected via the Basic unit supplied with power.

Range of functions:

- Read out device data and identification
- Read out process data and process alarms
- Reading event and status data
- Configuring the Base Device
- Specify operating modes and setpoints
- Display operating states



ProCom IO-Link

ProCom IO-Link connects the device-internal interface of a Weidmüller basic device (e.g. PROtop or topGUARD) to the communication system of a plant control system using the IO-Link communication protocol. The communication module has a three-pole connection socket for the communication cable and is supplied with power via IO-Link Master.

Range of functions:

- Read out device data and identification
- Read out process data and process alarms
- Reading event and status data
- Configuring the Base Device
- Specify operating modes and setpoints
- Display operating states



CANopen

PRO COM CANopen

PRO COM CAN OPEN



Technical data

System data
Connection type
Field bus protocol
Module type
Interface
General data
Ambient temperature (operational)
Protection degree
Weight
Depth x width x height
Approvals
Approvals

2 x RJ45 plug-in connectors
CANopen
plug-on module
PROtop interconnection interface
-25 °C...70 °C
IP20
36 g
33.6 / 35 / 74.4 mm
ABS; BURVER; DNVGL; LLOYDSREG; RINA

Note

Ordering data

||
||
||

Type	Qty.	Order No.
PRO COM CAN OPEN	1	2467320000

Note

||
||
||

PRO COM IO-LINK

PRO COM IO-LINK



Technical data

System data
Connection type
IO link standard
Compatible IO-Link Master
Module type
Interface
General data
Ambient temperature (operational)
Protection degree
Weight
Depth x width x height
Approvals
Approvals

IO-Link
IEC 61131-9
Beckhoff, GE, Rockwell, Siemens, Weidmüller
plug-on module
topGUARD interconnection interface, PROtop interconnection interface
-25 °C...70 °C
IP20
29 g
33.6 / 35 / 74.4 mm
cULus

Note

Ordering data

|--|

Type	Qty.	Order No.
PRO COM IO-LINK	1	2587360000

Note

|--|

Service and support

Service and support	Our expertise for your requirements	V.2
	Engineering support and customised assembly	V.3
	Personal Support	V.4

Our expertise for your requirements

Service connects – worldwide



Automation technology functions are becoming more complex in a globally-oriented world facing ambitious targets in terms of energy efficiency and smart production. We are your equal partners for the best connections in Industrial Connectivity.

Our personal support can answer any questions reliably and expertly. Our online services are available 365 day a year around the clock to provide answers to your questions on our products – from user documentation through software to planning tools.

V

In short: Weidmüller's global service combines our expertise with your requirements.

Engineering support and customised assembly

Automation engineering and connectivity consulting belongs to our services as well as assembly of engineered products. We also support the process from the idea to the product with our Weidmüller Configurator and the Configure-to-Order process.



Consulting and engineering

The challenge for you is reducing costs and increasing efficiency. This requires intelligent, individual solutions. Whether it is modified products, pre-fitted mounting rails or complete small cabinets – our application centres provide a highly qualified custom-made engineering and production service.



Connectivity Consulting

Alongside our product offering, we support you with our range of services through all the phases of machine construction. The result of this collaboration is a reduction of up to 30% in cycle times, up to 20% more space in the control cabinet and significant fault reduction. Our experienced Connectivity Consulting team delivers a practical impetus rather than just abstract theories.



Fitted mounting rails

Your processes in panel building have to be fast, flexible and productive. This is the only way you can cut your costs and increase efficiency. Depending on the application in question, you will have different requirements with respect to the engineering service, delivery speed and flexibility to be provided.



Processed and assembled enclosures

To compete internationally, your plants need to satisfy high standards of safety, quality and performance. The smart combination of consultation, application expertise and industry know-how is our key to finding a custom-fit solution for your application. Reduce costs and increase efficiency.



Technical downloads

All information, such as technical data, manuals, certificates and much more for the appropriate use of our products and solutions in your application.



Engineering data

For the quick integration of our products into your design, there are a lot of digital product data for engineering systems like EPLAN, Zuken E3.series, WSCAD and many others available for download.



Product software

Our software makes using and configuration of our products easier for you when it comes to operation, configuration and monitoring.



Approvals, certificates & declaration of conformity

We supply product- or company-related approvals and certificates for your documentation.



Security advisory board

Our Product Security Incident Response Team (PSIRT) continuously informs you about possible security-related vulnerabilities of our products.

Glossary/Technical appendix

Glossary/Technical appendix	Power Supplies - Overview	W.2
	Standards and approvals	W.4
	Glossary	W.6

Power Supplies – Overview

Power supplies are important links in the energy supply chain of automation systems. Unregulated power supplies or regulated switched-mode power supplies are at the heart of every electrical cabinet. 24 V DC has emerged as the standard control voltage for the supply of electrical sub-assemblies and systems. But other control voltages are also required. The correct power supply is a critical factor for the reliable operation of the supplied components. Thus it must be chosen with particular attention.

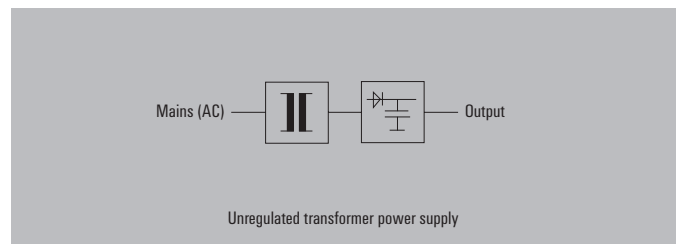
Regulated power supplies from Weidmüller have proven themselves reliable over many years in the supply of electrical sub-assemblies and systems. They perform reliably and safely – even under harsh industrial conditions – in all sectors of machine construction, industrial automation, and the power and process industries.

Weidmüller offers custom-fit solutions for practically all of your requirements:

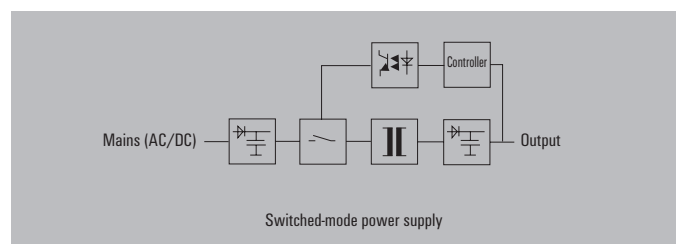
- Switch-mode power supplies
- DC/DC converters
- Diode and redundancy modules
- UPS control modules
- Electronic load monitoring

How they work

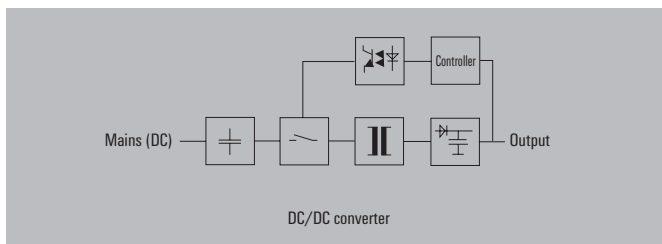
Unregulated power supply units consist of a mains power transformer that transforms the input voltage into a different AC voltage. The units then make use of a rectifier and a filter circuit to smooth out the DC output voltage.



Regulated power supply units in the range up to 1,000 W are usually designed as primary switched-mode power units. The mains AC voltage is then rectified and transformed in high frequency to the secondary side using switching transistors and power transformers. This is followed by the rectifier and filter circuit in order to generate the DC output voltage. A control circuit compares the current and voltage on the output side to the specified target values and then generates a control signal for the switching transistors. This permits compensation for load changes and mains voltage fluctuations. As a result, the output voltage remains stable. These power supply units are increasingly being operated with DC input voltages (e.g. the Weidmüller PROtop, PROeco, PROmax, etc.).



A DC/DC converter is a variation of the classic switched mode power supply. The switching strategy is similar but there is no input rectifier. Starting with a specified DC input voltage, DC/DC converters generate a different DC voltage at a similar or different level. They are used to adapt different voltage levels and also for isolating potentials.



In use around the globe

Weidmüller's power supply units have been designed for use around the world. They can be used in practically all applications throughout the world because of their CE label and many other national and international approvals. Their wide input voltage ranges and compatibility with various mains power connections increases their global appeal.

Temperature range

During operation, power supply units generate power losses. In Weidmüller's switched-mode power supplies, the resulting heat is dispersed using natural air currents only. The design, which does not make use of a ventilation fan, is an example of our uncompromised durability standard. Weidmüller's power supply units, depending on the model, can be used in temperatures ranging from -40 °C to +70 °C.

Compact and efficient design

Weidmüller's switched-mode power supplies are extra small because they take advantage of the above-average degree of efficiency offered by the latest technologies. The power supplies from Weidmüller – whether they are book-shaped with minimised base surface, or variants with reduced height for use in distributor boxes – always provide the proper cost-saving solution.

Standards and approvals

Standard/Approval	Description
DIN EN 50178 (VDE 0160)	Electronic equipment for use in power installations
DIN EN 60950-1 (VDE 0805-1)	IT Equipment – Safety – Part 1: General requirements
DIN EN 61558-1 (VDE 0570-1)	Safety of transformers, power supply units, throttles and similar devices Part 1: General requirements and tests
DIN EN 61558-2-17 (VDE 0570 Part 2-17)	Safety of transformers, power supply units and similar devices Part 2-17: Special requirements for switch-mode power supply transformers
DIN EN 60204-1 (VDE 0113-1)	Safety of machinery – Electrical equipment of machinery – Part 1: General requirements
DIN VDE 0100-410	Construction of power installations with rated voltages up to 1,000 V Part 4: Protective measures Chapter 41: Protection against electrical shock
DIN EN 61204-1	Power supply units for low voltages, with direct-current-output – properties
DIN EN 60947-1	Low-voltage switching devices – Part 1: General definitions
DIN EN 61140	Protection against electrical shock - common requirements for facilities and operating equipment
IEC 38	Supplementary notes relating to status of international standards and European harmonisation of mains voltages 230/400 V
73/23 EWG	Electrical equipment for use within specific voltage limits (Low Voltage Directive)
2004/108/EG (89/336 EWG)	Electromagnetic compatibility (EMC Directive)
2006/42/EG (98/37 EG)	Safety of machines (directive covering mechanical equipment)
UL	Safety approval for the United States market
CSA	Safety approval for the Canadian market
GL	Test specifications for electrical/electronic devices and systems for use in marine technology
UL1310	Class 2 power supplies (limited energy)
UL1604	Electrical equipment for use in dangerous surroundings

Standard/Approval	Description
SEMI F47	Resistance of electronic devices against voltage drops
2006/95/EG (72/23/EWG)	Low Voltage Directive
EN 60721-3-2	Classification of surrounding conditions
EN 60664-1 (VDE0110-1)	Insulation coordination for electrical equipment
C22.2 No. 107.1	General standards for power supplies (Canadian standard)
EN 61000-3-2	Limiting of mains voltage harmonic currents
EN 61000-4-x	Interference immunity tests

Glossary

A

AC/DC converter	Conventional switched-mode power supplies generate a DC voltage from an AC voltage. For this reason they are sometimes also called AC/DC converters. Such devices are increasingly compatible for use with DC input voltages. The primary and secondary sides are typically electrically isolated.
Ambient temperature (operational)	The ambient operating temperature (the min. and max. values) together with the output current and voltage ratings can be used to describe the power capabilities of a power supply unit.

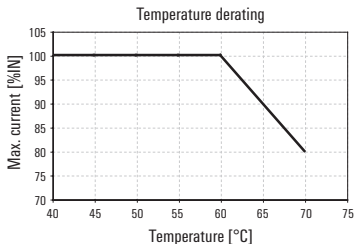
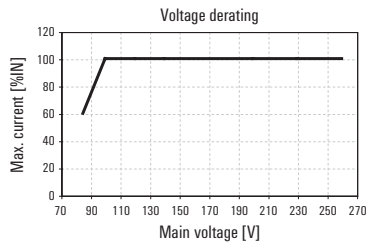
B

Burst	A burst is a quick low-power burst pulse which can, for example, simulate welding equipment phenomena. Similar phenomena can also result from switching operations on the mains supply. This test can be used to demonstrate immunity against quick transients.
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C

Class of protection	Electrical equipment is classified according to varying classes of protection. These classes define the particular safety measures that are required to avoid an electrical shock. The most widely used power supplies correspond with protection class I. The basic requirement of protection class I is for a basic insulation and for the earthing of all conductive housing parts. If the basic insulation fails, then the earthed conductive housing serves to prevent an electrical shock. For this reason, devices in protection class I are equipped with an earth (PE) connection.
Connecting power supply units in parallel	Power supplies can only be connected in parallel when this is clearly permitted by the manufacturer. Parallel connections are then normally tied to certain conditions. This is a typical way to increase the output power (for example, when extending a facility). Power supplies are also wired in parallel in order to design in redundant power supply systems. The parallel circuit is not wired straight though but connects using decoupling diodes. → Redundancy
Cooling	Cooling is used by components or devices to prevent them from overheating. A variety of cooling strategies are available – two of the most common are natural and forced-air cooling. Natural (convection-based) cooling takes advantage of the natural air currents. Manufacturers must then ensure that there is sufficient air flow by specifying the clearance gaps and mounting positions that are required above and below the ventilation openings. Forced-air cooling normally uses a fan to dissipate any heat that has been generated. When fans are used in a device, they have the effect of increasing the likelihood of device outages. For this reason, a power supply with natural cooling methods is generally preferred.

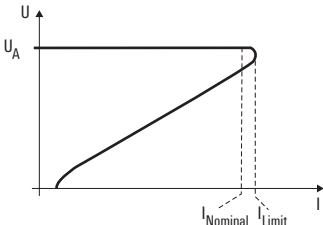
D

DC/DC converter	DC/DC converters are switched-mode power supplies that convert a specific DC voltage into another voltage. They are a variant of the AC/DC converter. DC/DC converters, in their simplest implementation, do not isolate voltage potentials. They are used only for adapting voltages. Improved DC/DC converters have isolated voltages. A safety isolating transformer in the power element ensures the required electrical isolation. Besides the voltage adaptation, the isolation of the voltage potentials is an important factor.
Derating	For power supply devices, derating generally refers to the reduction in power as influenced by the surrounding temperature and the input voltage. A temperature derating often occurs starting at a surrounding temperature of 50 °C. The rated power is guaranteed up to this temperature. The available power continually declines as the temperature heats up above this level. This is typically specified in %/K. A voltage-dependent specification is another form of derating. For switched-mode power supplies, the derating begins below a specific input voltage. So a switched-mode power supply with a wide input range can typically work under full power with 115 V AC input voltage. However at 85 V AC it can only produce 60 % of the power rating. The coefficient is usually specified in %/V.  
Diode modules	Diode modules are used to construct a redundant power supply system. They are important for decoupling the power supply unit. Thus, a short circuit that occurs on the output of a power supply unit will not influence the output voltage.

E

Efficiency	The degree of efficiency is equal to the ratio of output power to input power and is expressed in percent. The degree of efficiency can be between 70 and 90 %, depending on the dimensions and type of technology in use.
EMC (electromagnetic compatibility)	Electromagnetic compatibility describes the interference emissions caused by an electronic device and the level of immunity against external electrical influences. Interference emissions can be caused by cabling and wires or by radiated emissions. Immunity measures the resistance against such wire-based emissions and against radiated emissions such as electrostatic fields and magnetic fields. Electric devices must also be protected against electrostatic discharges.

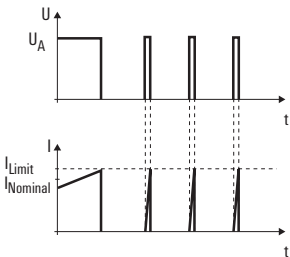
F

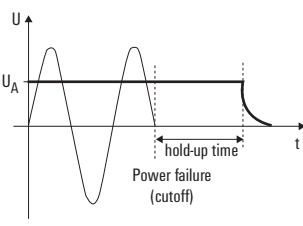
Foldback characteristic curve	The foldback characteristic curve is a special type of output curve that protects the power supply unit from overloads. When a specific current limit is exceeded (for example, by 110 or 120 % of the nominal level), the current is limited electronically and lowered to a very low, safe value. This downward-sloping characteristic curve means that it is not sufficient to simply eliminate the overload. The load must be reduced significantly more so that the adjustment control can return to the normal voltage control. Thus this solution is not suitable for many applications and is becoming less popular. 
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G

Galvanic isolation	Galvanic (electrical) isolation ensures that no electrical connections can exist between the primary and the secondary sides. Opto modules and transformers are the typical components used.
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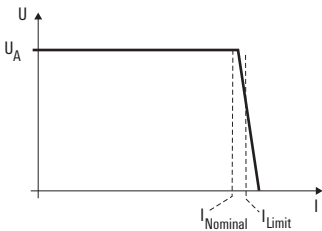
H

Hiccup mode	The hiccup mode is a special output characteristic curve that protects power supply units from overloads and short circuits. The unit switches off at a specified current limit (for example, 110 or 120 % on the nominal rating) and then switches back on after a certain delay. This leads to a pulsating mode of operations which can only revert to continual operations after the overload has been eliminated. The main disadvantage here is that the connected consumer load must be restarted after every pause. A restart may not be possible with motors or large capacitive loads since the restart current peak may once again exceed the defined limit. 
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Hold-up time (mains-failure bridging time)	The hold-up time (also known as the mains-failure bridging time) is the interval from the start of the mains outage to the point in time when the output voltage can no longer be maintained at its original level. The hold-up time indicates how long a mains outage may last before it influences the output voltage. For DC power supplies, EN 61204 requires a bridging time of at least 20 ms. 
I	
Input voltage range	This refers to the minimum and maximum input voltage at which the rated output specifications can be maintained.
Inrush current	The inrush current refers to the peak current that occurs when turning on a consumer load. Switched-mode power supplies have storage capacitors in the input which can cause significant current peaks while the mains power is being switched on. A variety of circuitry solutions can be used to attenuate these current peaks. In the simplest solution, an inrush limiter is used. Active switching can be used in other cases. The peak current specification indicates which upstream fuse should be used in the circuit. If a fuse is selected which is too sensitive, it can trigger when the mains power is switched on.

IU characteristic curve

The IU characteristic curve is a special output characteristic curve that protects power supply units from overloads and short circuits. It offers the best performance with regards to overload and short circuit capabilities. A current limit is activated at a specific current level (for example, 110 or 120 % on the nominal rating). As the load continues to increase, the output voltage is reduced according to the current limit curve until it reaches a level approaching zero volts. Thus a pulsating mode of operations is avoided for short-term overloads. Large capacitive loads or motors are brought back up along the slope of the current-limit characteristic curve. After a short circuit or overload is fixed, the IU characteristic curve offers the advantage of immediately returning to the normal voltage control mechanism. The full output voltage is then immediately available. The IU characteristic curve is becoming the established standard for modern power supplies. Additional variants are available which pertain to the peak current capacity and the slope of the current-limit characteristic curve.



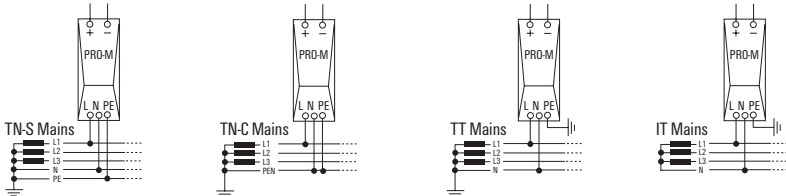
M

Mains harmonics

Power supplies can experience harmonics caused by mains rectification on the input side. These harmonics are multiples of the mains frequencies. Existing standards define specific limit values since such harmonics can significantly lower the mains quality.

Mains system types

This refers to the types of mains supply systems. Systems differ in their method of earthing and the implementation of the phase wire, PE wire and central-point wire. Common mains systems include the TN, IT and TT networks. The individual mains types can also differ in their voltage levels and frequencies.



W

MTBF (mean time between failure)

The MTBF is a statistical value that specifies the probability that a product will fail. It is typically specified in hours and normally assumes a temperature of 25 °C. The probability of failure depends largely on the ambient surroundings. The key variables are the type of load and the ambient temperature.

O

Output characteristic curves	The output characteristic curves of power supply devices are determined by current and voltage. Unregulated devices do not have a current limit. In the case of an overload or short circuit, fuses or temperature switches are used to protect the device. Regulated devices are protected against overload and short circuits by means of various output characteristic curves. In this case, the system attempts to prevent any activation of fuses or temperature switches. The mandatory manual reset which follows an overload or short circuit can then be avoided. Common output characteristic curves include the hiccup mode, the foldback characteristic curve or the IU characteristic curve. → Hiccup mode, foldback characteristic curve, IU characteristic curve
Overvoltage category	Power supply units are classified into overvoltage categories according to the immunity against mains surges and transient voltages.

P

PELV (protective extra-low voltage)	This is a functional DC voltage with secure isolation according to EN 50178. As with SELV, a reinforced or double insulation is used between the primary and secondary sides. However, the secondary side is earthed.
PFC (power factor correction)	The power factor correction can be either passive or active in relation to power supply devices. The reactive power resulting from the bridge rectification puts a significant strain on the power supply network. The relatively poor power efficiency factor that results can be improved by using passive components (such as filters) or an active electronic mechanism. For switched-mode power supplies, PFC usually refers to the active variant of the power factor correction. Power factors of almost 1 can be reached when using an active PFC. Practically no reactive power is drawn from the mains supply network; therefore the strain on the mains network is relatively low.
Pollution severity	Pollution severity describes the environment and ambient conditions that a device requires in order for it to function smoothly. Significant environmental variables include condensation or air containing dust and oil.
Power-boost or boost	The power-boost function is the surge current handling capacity in the seconds to minutes range. This function is often required for starting up DC motors. DC motors have a high start-up current and often require several seconds before they have achieved their rated rotational speed. The power-boost function helps to optimise this start-up phase.
Power factor	The power factor is the ratio of reactive power to apparent power. It is an indicator of the device performance with respect to the load on the mains power network. Depending on the technology in use, the power factor for power supplies can be between 0.45 and nearly 1.

W

Power loss	For power supply units, the power loss specification indicates the thermal output emitted during nominal (rated) operations. This is a key specification used by engineers when designing the climate control systems within electrical cabinets. It is calculated as the difference between the input and output power and can also take the degree of efficiency into account.
Power rating	The continual output permitted under the rated conditions.
Power supply units connected in series	Power supplies can only be connected in series when this is clearly permitted by the manufacturer. Such series connections are then normally tied to certain conditions. They can be used to increase the output voltage. This is not widely implemented.
Protection degree	According to DIN EN 60529, devices can be classified according to their protection degrees. The numeric code (for example, IP 20) defines two protection degrees: protection against touch or penetration by external objects (the first digit) and protection against water penetration (the second digit). Switched-mode power supplies intended for use in electrical cabinets or similar enclosures are often designed with IP 20 protection. The first digit (in this case, 2) ensures finger protection. The second digit (0) indicates that no protection against water is provided.
Pulsed current capacity	The pulsed current capacity describes the dynamic performance of a switched-mode power supply. Capacitive consumer loads, with their high inrush currents, put a particular strain on a switched-mode power supply. Peak values are reached (in the ms range) which amount to levels many times higher than the mains current. If the current control mechanism reacts too quickly, this can lead to voltage drops and can cause problems for loads which are connected in parallel. For this reason, power supplies are often equipped with a surge current limiting factor based on time. This allows a high current output for only a few ms which can be much higher than the rated current.

R

Rated control voltage	The nominal value of the sparkover voltage for the relay.
Rated input voltage	The input voltage required at which, under the normal mains voltage fluctuations, the output levels can be kept stable. It usually corresponds to the rated voltage for the electric utility's power grid.
Rated output current	The long-term current permitted under the rated conditions.
Rated output voltage	The nominal output voltage used for the rated specifications. It usually corresponds to the factory default output voltage.

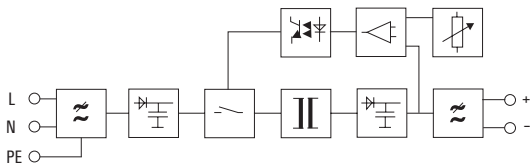
Redundancy	A power supply system is considered redundant if it is constructed so that it has partial power supplies which are independent of each other and each of these can individually deliver the output load. When a fault occurs, therefore, it is still possible to continue to supply the connected rated load. In reality, at least two power supplies are connected in parallel using decoupling diodes. In this way, a short circuit in the output of one power supply will not lead to the failure of the entire power supply system. → Diode modules
Regulated power supply units	Switched-mode power supplies, as opposed to more common power supply units, have become established as the standard for the 10–1,000 W power range. They produce a stable output voltage with minimal residual ripple, even when influenced by fluctuations in the mains voltage, mains frequency or load. Their small size and weight is a result of their superior efficiency degree. The electronic control mechanism typically ensures a constant output voltage that varies $\pm 1\%$.
Residual ripple	The residual ripple describes the ratio of superimposed AC voltage to DC voltage on the output side of the power supplies. In addition to a percent specification, the superimposed ripple is often specified in mV_{ss} for switched-mode power supplies.
Resistance to shock	Resistance to shock refers to mechanical immunity against impacts in any direction. This is a key factor while the product is being transported.
Response time	The response time is the time that a power supply unit needs to compensate for a disturbance (for example, a load fluctuation).

S

Switching frequency	Switched-mode power supplies are normally operated with switching frequencies from 20 to 200 kHz. The HF or power transformer is switched on and off using transistors at this switching frequency. Small, compact units can be built with this method in comparison with the traditional 50/60 Hz transformers.
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Switched-mode power supply units

The switching pulse can be either primary or secondary. Thus there are primary switched-mode and secondary switched-mode power supply units. Secondary switched-mode power supply units are no longer of much significance. The primary switched-mode power supplies are now the focus of attention. The pulse refers to the high-frequency on and off switching of the transformer or transmitter in order to transmit energy. The high frequency allows the use of extra small inductive and capacitive components, particularly for the transmitter. In comparison to transformer-based power supply units, the weight and volume required are much reduced.



Selectivity

When surge protection equipment is connected in series, selectivity refers to the ability of only one upstream fuse to trigger selectively in the event of an overload. The differentiation can take into account current or also time. With DC power supply systems, selectivity refers to the separate fusing of load circuits on the DC side. In this case as well, only the proper series fuse should trigger in the event of an overload. Fuses in DC circuits play a critical role since the power supplies must react to upcoming short circuits with a speedy cut-off or by limiting the current. Usually electronic fuses are used for this purpose.



SELV (safety extra low voltage)

SELV refers to extra-low safety voltages according to IEC/EN 60950. Reinforced or doubled insulation between the primary and secondary sides is used to prevent electric shock. The output voltage here is sufficiently low so that it does not pose an injury risk if a person comes into direct contact.

Surge

A surge is a high-power voltage pulse which can be caused by, for example, a lightning strike. The switching operations from large consumer loads can also generate such voltage surges on the mains network. The surge test is used to demonstrate the immunity against high-power voltage pulses.

T

Temperature range

The temperature range specifies the minimum and maximum ambient temperatures for which a device can start up and run continuously.

U

Unregulated power supply units

Unregulated power supplies consist mainly of a transformer, a rectifier and an Elkos filter. Since no controlling system is in place, mains voltage fluctuations influence the DC voltage side. Unregulated power supply units are very sturdy; they can be used in applications where a stabilised DC voltage is not necessary (for example, power supply to contactors).

V

Vibration resistance

Vibration resistance describes the resistance against constant mechanical vibrations that occur during operations. Rail and ship applications place stricter demands for vibration resistance on the device.

W

Wide-range input

Modern switched-mode power supplies often feature a wide input range. They can be run under a wide range of voltages: from min. to max. rated voltages including the tolerance limits. They do not require any manual range switching.

Index

Index	Index Type	X.2
	Index Order No.	X.4
	Addresses worldwide	X.6

Type	Order No.	Page
------	-----------	------

A

AMG AM	2081890000	B.11
AMG AM	2081890000	B.20
AMG AM CO	2082770000	B.11
AMG AM CO	2082770000	B.29
AMG CM	2081900000	B.11
AMG CM	2081900000	B.21
AMG CM EX	2083360000	B.11
AMG CM EX	2083360000	B.30
AMG DIS	2123050000	B.11
AMG DIS	2123050000	B.14
AMG DIS	2123050000	B.15
AMG DIS	2123050000	B.16
AMG DIS	2123050000	B.17
AMG DIS	2123050000	B.18
AMG DIS	2123050000	B.19
AMG DIS	2123050000	B.22
AMG DIS	2123050000	B.25
AMG DIS	2123050000	B.26
AMG DIS	2123050000	B.27
AMG DIS	2123050000	B.28
AMG DIS	2123050000	B.5
AMG DIS	2123050000	B.6
AMG DIS	2123050000	B.7
AMG DIS EX	2495100000	B.11
AMG DIS EX	2495100000	B.31
AMG ELM-10D CO	2082470000	B.11
AMG ELM-10D CO	2082470000	B.11
AMG ELM-10F	2080650000	B.11
AMG ELM-10F	2080650000	B.15
AMG ELM-10F EX	2082430000	B.11
AMG ELM-10F EX	2082430000	B.26
AMG ELM-12	2080410000	B.11
AMG ELM-12	2080410000	B.18
AMG ELM-12 EX	2082010000	B.11
AMG ELM-12 EX	2082010000	B.28
AMG ELM-1F	2080420000	B.11
AMG ELM-1F	2080420000	B.14
AMG ELM-1F CL2	2491270000	B.11
AMG ELM-1F CL2	2491270000	B.16
AMG ELM-1F EX	2082040000	B.11
AMG ELM-1F EX	2082040000	B.25
AMG ELM-2F	2080480000	B.11
AMG ELM-2F	2080480000	B.14
AMG ELM-2F CL2	2491280000	B.11
AMG ELM-2F CL2	2491280000	B.16
AMG ELM-2F EX	2082050000	B.11
AMG ELM-2F EX	2082050000	B.25
AMG ELM-4F	2080490000	B.11
AMG ELM-4F	2080490000	B.14
AMG ELM-4F CL2	2491290000	B.11
AMG ELM-4F CL2	2491290000	B.16
AMG ELM-4F EX	2082060000	B.11
AMG ELM-4F EX	2082060000	B.25
AMG ELM-6	2080360000	B.11
AMG ELM-6	2080360000	B.17
AMG ELM-6 EX	2082000000	B.11
AMG ELM-6 EX	2082000000	B.27
AMG ELM-6D CO	2082440000	B.11
AMG ELM-6D CO	2082440000	B.19
AMG ELM-6F	2080500000	B.11
AMG ELM-6F	2080500000	B.14
AMG ELM-6F EX	2082310000	B.11
AMG ELM-6F EX	2082310000	B.25
AMG ELM-8F	2080600000	B.11
AMG ELM-8F	2080600000	B.15
AMG ELM-8F EX	2082320000	B.11
AMG ELM-8F EX	2082320000	B.26
AMG ELM-Q2222	2080750000	B.11
AMG ELM-Q2244	2081650000	B.11
AMG ELM-Q2266	2081820000	B.11
AMG ELM-Q4444	2080880000	B.11
AMG ELM-Q6666	2080920000	B.11
AMG EP 2010	2495380000	B.11
AMG EP 2010	2495380000	B.32
AMG EP KIT	2500760000	B.11
AMG EP KIT	2500760000	B.32
AMG FIM-0	2081870000	B.11
AMG FIM-0	2081870000	B.12
AMG FIM-0 EX	2082530000	B.11
AMG FIM-0 EX	2082530000	B.23
AMG FIM-C	2081880000	B.11
AMG FIM-C	2081880000	B.13
AMG FIM-C EX	2082540000	B.11
AMG FIM-C EX	2082540000	B.24
AMG MD	2122930000	B.11
AMG MD	2122930000	B.14
AMG MD	2122930000	B.16
AMG MD	2122930000	B.17
AMG MD	2122930000	B.18
AMG MD	2122930000	B.19
AMG MD	2122930000	B.22
AMG MD	2122930000	B.25
AMG MD	2122930000	B.26
AMG MD	2122930000	B.27
AMG MD	2122930000	B.28
AMG MD	2122930000	B.29
AMG MD	2122930000	B.32
AMG MD	2122930000	B.5

X

Type	Order No.	Page
------	-----------	------

K

AMG MD	2122930000	B.6
AMG MD	2122930000	B.7
AMG MD EX	2495040000	B.11
AMG MD EX	2495040000	B.31
AMG OD	2122910000	B.11
AMG OD	2122910000	B.14
AMG OD	2122910000	B.15
AMG OD	2122910000	B.16
AMG OD	2122910000	B.17
AMG OD	2122910000	B.18
AMG OD	2122910000	B.19
AMG OD	2122910000	B.22
AMG OD	2122910000	B.25
AMG OD	2122910000	B.26
AMG OD	2122910000	B.27
AMG OD	2122910000	B.28
AMG OD	2122910000	B.5
AMG OD	2122910000	B.6
AMG OD	2122910000	B.7
AMG OD EX	2495090000	B.11
AMG OD EX	2495090000	B.31
AMG PD	2122920000	B.11
AMG PD	2122920000	B.14
AMG PD	2122920000	B.15
AMG PD	2122920000	B.16
AMG PD	2122920000	B.17
AMG PD	2122920000	B.18
AMG PD	2122920000	B.19
AMG PD	2122920000	B.22
AMG PD	2122920000	B.25
AMG PD	2122920000	B.26
AMG PD	2122920000	B.27
AMG PD	2122920000	B.28
AMG PD	2122920000	B.5
AMG PD	2122920000	B.6
AMG PD EX	2495070000	B.11
AMG PD EX	2495070000	B.31
AMG PP	2123000000	B.11
AMG PP	2123000000	B.32
AMG XMD	2122940000	B.11
AMG XMD	2122940000	B.22
AMG XMD EX	2495080000	B.11
AMG XMD EX	2495080000	B.31

C

CP A BATTERY 24V DC1.3AH	1406930000	C.6
CP A BATTERY 24V DC1.3AH	1406930000	C.7
CP A BATTERY 24V DC12AH	1251090000	VIII
CP A BATTERY 24V DC12AH	1251090000	VIII
CP A BATTERY 24V DC17AH	1251110000	C.7
CP A BATTERY 24V DC17AH	1251110000	VIII
CP A BATTERY 24V DC3.4AH	1251070000	C.6
CP A BATTERY 24V DC3.4AH	1251070000	VIII
CP A BATTERY 24V DC7.2AH	1251080000	C.7
CP A BATTERY 24V DC7.2AH	1251080000	VIII
CP A WALLADAPTER 30 MM	1461870000	A.38
CP A WALLADAPTER 30 MM	1461870000	A.51
CP A WALLADAPTER 30 MM	1461870000	A.62
CP A WALLADAPTER 30 MM	1461870000	C.9
CP A WALLADAPTER 45MM	1461850000	A.38
CP A WALLADAPTER 45MM	1461850000	A.51
CP A WALLADAPTER 45MM	1461850000	A.62
CP A WALLADAPTER 45MM	1461850000	C.9
CP DC BUFFER 24V 20A	1251220000	C.8
CP DC BUFFER 24V 20A	1251220000	VIII
CP DC UPS 24V 20A/10A	1370050010	C.5
CP DC UPS 24V 20A/10A	1370050010	VIII
CP DC UPS 24V 40A	1370040010	C.5
CP DC UPS 24V 40A	1370040010	VIII
CP DC UPS TF05	1444480000	C.9
CP DC UPS TF25	1444540000	C.9
CP M CAP	1222240000	E.7
CP M CAP	1222240010	E.7
CP M CAP	1222240000	VIII
CP M CAP	1222240010	VIII

K

KT 14	1157820000	B.32
-------	------------	------

M

MTA 30 BK	1168970000	A.38
MTA 30 BK	1168970000	A.51
MTA 30 BK	1168970000	A.62
MTA 30 BK	1168970000	C.9
MTA 30 MF	1251320000	A.38
MTA 30 MF	1251320000	A.51
MTA 30 MF	1251320000	A.62
MTA 30 MF	1251320000	C.9
MTA 45 BK	1962250000	A.38
MTA 45 BK	1962250000	A.51
MTA 45 BK	1962250000	A.62
MTA 45 BK	1962250000	C.9
MTA 45 MF	1251310000	A.38
MTA 45 MF	1251310000	A.51
MTA 45 MF	1251310000	A.62

Type	Order No.	Page
------	-----------	------

P

MTA 45 MF	1251310000	C.9
-----------	------------	-----

PRO COM CAN OPEN

2467320000	F.4
------------	-----

PRO COM IO-LINK

2587360000	B.4
------------	-----

PRO COM IO-LINK

2587360000	F.5
------------	-----

PRO DCDC 120W 24V 5A

2001800000	D.5
------------	-----

PRO DCDC 120W 24V 5A

2001800000	VIII
------------	------

PRO DCDC 240W 24V 10A

2001810000	D.5
------------	-----

PRO DCDC 240W 24V 10A

2001810000	VIII
------------	------

PRO DCDC 480W 24V 20A

2001820000	D.6
------------	-----

PRO DCDC 480W 24V 20A

2001820000	VIII
------------	------

PRO DM 10

2486070000	E.6
------------	-----

PRO DM 10

2486070000	VIII
------------	------

PRO DM 20

2486080000	E.6
------------	-----

PRO DM 20

2486080000	VIII
------------	------

PRO ECO 240W 48V 5A

1469590000	A.59
------------	------

PRO ECO 240W 48V 5A

1469590000	VII
------------	-----

PRO ECO 480W 48V 10A

1469610000	A.59
------------	------

PRO ECO 480W 48V 10A

1469610000	VII
------------	-----

PRO ECO 72W 12V 6A

1469570000	A.58
------------	------

PRO ECO 72W 12V 6A

1469570000	VII
------------	-----

PRO ECO 120W 12V 10A

1469580000	A.58
------------	------

PRO ECO 120W 12V 10A

1469580000	VII
------------	-----

PRO ECO 120W 24V 5A

1469480000	A.55
------------	------

PRO ECO 120W 24V 5A

1469480000	VII
------------	-----

PRO ECO 240W 24V 10A

1469490000	A.56
------------	------

PRO ECO 240W 24V 10A

1469490000	VII
------------	-----

PRO ECO 240W 24V 20A

1469510000	A.56
------------	------

PRO ECO 480W 24V 20A

1469510000	VII
------------	-----

PRO ECO 72W 24V 3A

1469470000	A.55
------------	------

PRO ECO 72W 24V 3A

1469470000	VII
------------	-----

PRO ECO 960W 24V 40A

1469520000	A.57
------------	------

PRO ECO 960W 24V 40A

1469520000	VII
------------	-----

PRO ECO3 120W 24V 5A

1469530000	A.60
------------	------

PRO ECO3 120W 24V 5A

1469530000	VII
------------	-----

PRO ECO3 240W 24V 10A

1469540000	A.60
------------	------

PRO ECO3 240W 24V 10A

1469540000	VII
------------	-----

PRO ECO3 480W 24V 20A

1469550000	A.61
------------	------

PRO ECO3 480W 24V 20A

1469550000	VII
------------	-----

PRO ECO3 960W 24V 40A

1469560000	A.61
------------	------

PRO ECO3 960W 24V 40A

1469560000	VII
------------	-----

PRO INSTA 16W 24V 0.7A

2580180000	A.81
------------	------

PRO INSTA 16W 24V 0.7A

2580180000	VII
------------	-----

PRO INSTA 16W 24V 0.7A

2580180000	VIII
------------	------

PRO INSTA 30W 12V 2.6A

2580220000	A.82
------------	------

PRO INSTA 30W 12V 2.6A

2580220000	VII
------------	-----

PRO INSTA 30W 12V 2.6A

2580220000	VIII
------------	------

PRO INSTA 30W 24V 1.3A

2580190000	A.82
------------	------

PRO INSTA 30W 24V 1.3A

2580190000	VII
------------	-----

PRO INSTA 30W 24V 1.3A

2580190000	VIII
------------	------

PRO INSTA 30W 5V 6A

2580210000	A.81
------------	------

PRO INSTA 30W 5V 6A

2580210000	VII
------------	-----

PRO INSTA 30W 5V 6A

2580210000	VIII
------------	------

PRO INSTA 60W 12V 5A

2580240000	A.83
------------	------

PRO INSTA 60W 12V 5A

2580240000	VII
------------	-----

PRO INSTA 60W 12V 5A

2580240000	VIII
------------	------

PRO INSTA 60W 24V 3.8A

2580250000	A.84
------------	------

PRO INSTA 60W 24V 3.8A

2580250000	VII
------------	-----

PRO INSTA 60W 24V 3.8A

2580250000	VIII
------------	------

PRO INSTA 96W 24V 4A

2580260000	A.87
------------	------

PRO INSTA 96W 24V 4A

2580260000	VII
------------	-----

PRO INSTA 96W 24V 4A

2580260000	VIII
------------	------

PRO INSTA 96W 48V 2A

2580270000	A.85
------------	------

PRO INSTA 96W 48V 2A

2580270000	VII
------------	-----

PRO INSTA 96W 48V 2A

2580270000	VIII
------------	------

PRO MAX 120W 12V 10A

1478230000	A.47
------------	------

PRO MAX 120W 12V 10A

1478230000	VII
------------	-----

PRO MAX 120W 24V 5A

1478110000	A.43
------------	------

PRO MAX 120W 24V 5A

1478110000	VII
------------	-----

PRO MAX 180W 24V 7.5A

1478120000	A.44
------------	------

PRO MAX 180W 24V 7.5A

1478120000	VII
------------	-----

PRO MAX 240W 24V 10A

1478130000	A.44
------------	------

PRO MAX 240W 24V 10A

1478130000	VII
------------	-----

PRO MAX 240W 48V 5A

1478240000	A.47
------------	------

PRO MAX 240W 48V 5A

1478240000	VII
------------	-----

PRO MAX 480W 24V 20A

1478140000	A.45
------------	------

PRO MAX 480W 24V 20A

1478140000	VII
------------	-----

PRO MAX 480W 48V 10A

1478250000	A.48
------------	------

PRO MAX 70W 5V 14A

1478210000	A.46
------------	------

PRO MAX 70W 5V 14A

1478210000	VII
------------	-----

PRO MAX 72W 12V 6A

1478220000	A.46
------------	------

PRO MAX 72W 12V 6A

1478220000	VII
------------	-----

PRO MAX 72W 24V 3A

1478100000	A.43
------------	------

PRO MAX 72W 24V 3A

1478100000	VII
------------	-----

PRO MAX 960W 24V 40A

1478150000	A.45
------------	------

PRO MAX 960W 24V 40A

1478150000	VII
------------	-----

PRO MAX 960W 48V 20A

1478270000	A.48
------------	------

PRO MAX 960W 48V 20A

1478270000	VII
------------	-----

PRO MAX3 120W 24V 5A

1478170000	A.49
------------	------

PRO MAX3 240W 24V 10A

1478180000	A.49
------------	------

PRO MAX3 240W 24V 10A

1478180000	VII
------------	-----

PRO MAX3 480W 24V 20A

1478190000	A.50
------------	------

PRO MAX3 480W 24V 20A

1478190000	VII
------------	-----

Type	Order No.	Page
------	-----------	------

P

PRO PM 100W 12V 8.5A	2660200285	A.70
PRO PM 100W 12V 8.5A	2660200285	VII
PRO PM 100W 24V 4.5A	2660200286	A.70
PRO PM 100W 24V 4.5A	2660200286	VII
PRO PM 100W 48V 2.3A	2660200287	A.71
PRO PM 100W 48V 2.3A	2660200287	VII
PRO PM 150W 12V 12.5A	2660200288	A.72
PRO PM 150W 12V 12.5A	2660200288	VII
PRO PM 150W 24V 6.5A	2660200289	A.72
PRO PM 150W 24V 6.5A	2660200289	VII
PRO PM 150W 48V 3.3A	2660200290	A.73
PRO PM 150W 48V 3.3A	2660200290	VII
PRO PM 250W 12V 21A	2660200291	A.74
PRO PM 250W 12V 21A	2660200291	VII
PRO PM 250W 24V 10.5A	2660200292	A.74
PRO PM 250W 24V 10.5A	2660200292	VII
PRO PM 250W 48V 5.2A	2660200293	A.75
PRO PM 250W 48V 5.2A	2660200293	VII
PRO PM 350W 24V 14.6A	2660200294	A.76
PRO PM 350W 24V 14.6A	2660200294	VII
PRO PM 350W 48V 7.3A	2660200295	A.76
PRO PM 350W 48V 7.3A	2660200295	VII
PRO PM 35W 12V 3A	2660200278	A.66
PRO PM 35W 12V 3A	2660200278	VII
PRO PM 35W 24V 1.5A	2660200279	A.67
PRO PM 35W 24V 1.5A	2660200279	VII
PRO PM 35W 48V 0.75A	2660200280	A.67
PRO PM 35W 48V 0.75A	2660200280	VII
PRO PM 35W 5V 7A	2660200277	A.66
PRO PM 35W 5V 7A	2660200277	VII
PRO PM 75W 12V 6A	2660200282	A.68
PRO PM 75W 12V 6A	2660200282	VII
PRO PM 75W 24V 3.2A	2660200283	A.69
PRO PM 75W 24V 3.2A	2660200283	VII
PRO PM 75W 48V 1.6A	2660200284	A.69
PRO PM 75W 48V 1.6A	2660200284	VII
PRO PM 75W 5V 14A	2660200281	A.68
PRO PM 75W 5V 14A	2660200281	VII
PRO RM 10	2486090000	E.4
PRO RM 10	2486090000	VII
PRO RM 20	2486100000	E.4
PRO RM 20	2486100000	VII
PRO RM 40	2486110000	E.5
PRO RM 40	2486110000	VIII
PRO TOP1 120W 12V 10A	2466910000	A.9
PRO TOP1 120W 12V 10A	2466910000	VII
PRO TOP1 120W 12V 10A EX	2467020000	A.20
PRO TOP1 120W 12V 10A EX	2467020000	VII
PRO TOP1 120W 12V 10A F	2569000000	A.11
PRO TOP1 120W 12V 10A F	2569000000	VII
PRO TOP1 120W 24V 5A	2466870000	A.7
PRO TOP1 120W 24V 5A	2466870000	VII
PRO TOP1 120W 24V 5A EX	2466980000	A.17
PRO TOP1 120W 24V 5A EX	2466980000	VII
PRO TOP1 120W 24V 5A F	2568980000	A.12
PRO TOP1 120W 24V 5A F	2568980000	VII
PRO TOP1 240W 24V 10A	2466880000	A.8
PRO TOP1 240W 24V 10A	2466880000	VII
PRO TOP1 240W 24V 10A EX	2466990000	A.18
PRO TOP1 240W 24V 10A EX	2466990000	VII
PRO TOP1 240W 24V 10A F	2568990000	A.12
PRO TOP1 240W 24V 10A F	2568990000	VII
PRO TOP1 480W 24V 20A	2466890000	A.8
PRO TOP1 480W 24V 20A	2466890000	VII
PRO TOP1 480W 24V 20A EX	2467000000	A.18
PRO TOP1 480W 24V 20A EX	2467000000	VII
PRO TOP1 480W 48V 10A	2467030000	A.10
PRO TOP1 480W 48V 10A	2467030000	VII
PRO TOP1 480W 48V 10A EX	2467040000	A.19
PRO TOP1 480W 48V 10A EX	2467040000	VII
PRO TOP1 72W 24V 3A	2466850000	A.7
PRO TOP1 72W 24V 3A	2466850000	VII
PRO TOP1 72W 24V 3A CO	2466870000	A.17
PRO TOP1 72W 24V 3A CO	2466870000	VII
PRO TOP1 72W 24V 3A F	2568970000	A.11
PRO TOP1 72W 24V 3A F	2568970000	VII
PRO TOP1 960W 24V 40A	2466900000	A.9
PRO TOP1 960W 24V 40A	2466900000	VII
PRO TOP1 960W 24V 40A EX	2467010000	A.20
PRO TOP1 960W 24V 40A EX	2467010000	VII
PRO TOP1 960W 48V 20A	2466920000	A.10
PRO TOP1 960W 48V 20A	2466920000	VII
PRO TOP1 960W 48V 20A CO	2467050000	A.19
PRO TOP1 960W 48V 20A CO	2467050000	VII
PRO TOP2 120W 24V 5A UW EX	2467240000	A.37
PRO TOP2 120W 24V 5A UW EX	2467240000	VII
PRO TOP3 120W 24V 5A	2467060000	A.13
PRO TOP3 120W 24V 5A	2467060000	VII
PRO TOP3 120W 24V 5A CO	2467070000	A.21
PRO TOP3 120W 24V 5A CO	2467070000	VII
PRO TOP3 240W 24V 10A	2467080000	A.13
PRO TOP3 240W 24V 10A	2467080000	VII
PRO TOP3 240W 24V 10A CO	2467090000	A.21
PRO TOP3 240W 24V 10A CO	2467090000	VII
PRO TOP3 480W 24V 20A	2467100000	A.14
PRO TOP3 480W 24V 20A	2467100000	VII
PRO TOP3 480W 24V 20A CO	2467110000	A.22

Type	Order No.	Page
PRO TOP3 480W 24V 20A CO	2467110000	VI
PRO TOP3 480W 48V 10A	2467150000	A.15
PRO TOP3 480W 48V 10A	2467150000	VI
PRO TOP3 480W 48V 10A CO	2467160000	A.23
PRO TOP3 480W 48V 10A CO	2467160000	VI
PRO TOP3 960W 24V 40A	2467120000	A.14
PRO TOP3 960W 24V 40A	2467120000	VI
PRO TOP3 960W 24V 40A CO	2467130000	A.22
PRO TOP3 960W 24V 40A CO	2467130000	VI
PRO TOP3 960W 36V 26.6A CO	2467140000	A.23
PRO TOP3 960W 36V 26.6A CO	2467140000	VI
PRO TOP3 960W 48V 20A	2467170000	A.15
PRO TOP3 960W 48V 20A	2467170000	VI
PRO TOP3 960W 48V 20A CO	2467180000	A.24
PRO TOP3 960W 48V 20A CO	2467180000	VI
PRO TOPDC 24V/24V 10A	2627640000	A.29
PRO TOPDC 24V/24V 10A	2627640000	VI
PRO TOPDC 24V/24V 10A EX	2467300000	A.31
PRO TOPDC 24V/24V 10A EX	2467300000	VI
PRO TOPDC 24V/24V 20A	2627630000	A.30
PRO TOPDC 24V/24V 20A	2627630000	VI
PRO TOPDC 24V/24V 20A EX	2467310000	A.32
PRO TOPDC 24V/24V 20A EX	2467310000	VI
PRO TOPDC 24V/24V 5A	2627650000	A.29
PRO TOPDC 24V/24V 5A	2627650000	VI
PRO TOPDC 24V/24V 5A EX	2467290000	A.31
PRO TOPDC 24V/24V 5A EX	2467290000	VI
PRO TOPDC 24V/48V 10A	2627660000	A.30
PRO TOPDC 24V/48V 10A	2627660000	VI

S

SDIK PH1 X 80	2749890000	A.38
SDIK PH1 X 80	2749890000	A.51
SDIK PH1 X 80	2749890000	A.62
SDIS 0.5X3.0X100	2749800000	A.38
SDIS 0.5X3.0X100	2749800000	A.51
SDIS 0.5X3.0X100	2749800000	A.62
SDIS 0.5X3.0X100	2749800000	A.86
SDIS 0.5X3.0X100	2749800000	C.9
SDIS 1.0X5.5X125	2749850000	A.51
SDIS 1.0X5.5X125	2749850000	C.9
SM 18/9.5 K MC NE WS	1248580000	A.38
SM 18/9.5 K MC NE WS	1248580000	A.51
SM 18/9.5 K MC NE WS	1248580000	A.62
SM 18/9.5 K MC NE WS	1248580000	A.86
SM 18/9.5 K MC NE WS	1248580000	C.9

T

TGD ELM-12	2624990000	B.5
TGD ELM-4 CL2	2656670000	B.7
TGD ELM-6	2624980000	B.6
TGD FIM-C	2625000000	B.4

W

WEW 35/1 SW	1162600000	A.38
WEW 35/1 SW	1162600000	A.51
WEW 35/1 SW	1162600000	A.62
WEW 35/1 SW	1162600000	A.86
WEW 35/1 SW	1162600000	C.9
WEW 35/2 SW	1061210000	B.32
WEW 35/2 V0 GF SW	1479000000	B.32

Z

ZQV 4N/10	1528090000	B.32
ZQV 4N/10 BL	1528230000	B.32
ZQV 4N/10 RD	2460740000	B.32
ZQV 4N/2	1527930000	B.20
ZQV 4N/2	1527930000	B.21
ZQV 4N/2	1527930000	B.22
ZQV 4N/2	1527930000	B.29
ZQV 4N/2	1527930000	B.30
ZQV 4N/2	1527930000	B.31
ZQV 4N/2	1527930000	B.32
ZQV 4N/2 BL	1528040000	B.20
ZQV 4N/2 BL	1528040000	B.21
ZQV 4N/2 BL	1528040000	B.22
ZQV 4N/2 BL	1528040000	B.29
ZQV 4N/2 BL	1528040000	B.30
ZQV 4N/2 BL	1528040000	B.31
ZQV 4N/2 BL	1528040000	B.32
ZQV 4N/2 RD	2460450000	B.20
ZQV 4N/2 RD	2460450000	B.21
ZQV 4N/2 RD	2460450000	B.22
ZQV 4N/2 RD	2460450000	B.29
ZQV 4N/2 RD	2460450000	B.30
ZQV 4N/2 RD	2460450000	B.31
ZQV 4N/2 RD	2460450000	B.32
ZQV 4N/3	1527940000	B.32
ZQV 4N/3 BL	1528080000	B.32
ZQV 4N/3 RD	2460810000	B.32
ZQV 4N/4	1527970000	B.32
ZQV 4N/4 BL	1528120000	B.32
ZQV 4N/4 RD	2460800000	B.32
ZQV 4N/5	1527980000	B.32
ZQV 4N/5 BL	1528140000	B.32

Type	Order No.	Page
ZQV 4N/5 RD	2460790000	B.32
ZQV 4N/50	1528130000	B.20
ZQV 4N/50	1528130000	B.21
ZQV 4N/50	1528130000	B.22
ZQV 4N/50	1528130000	B.29
ZQV 4N/50	1528130000	B.30
ZQV 4N/50	1528130000	B.31
ZQV 4N/50	1528130000	B.32
ZQV 4N/50 BL	1528240000	B.20
ZQV 4N/50 BL	1528240000	B.21
ZQV 4N/50 BL	1528240000	B.22
ZQV 4N/50 BL	1528240000	B.29
ZQV 4N/50 BL	1528240000	B.30
ZQV 4N/50 BL	1528240000	B.31
ZQV 4N/50 BL	1528240000	B.32
ZQV 4N/50 RD	2460730000	B.20
ZQV 4N/50 RD	2460730000	B.21
ZQV 4N/50 RD	2460730000	B.22
ZQV 4N/50 RD	2460730000	B.29
ZQV 4N/50 RD	2460730000	B.30
ZQV 4N/50 RD	2460730000	B.31
ZQV 4N/50 RD	2460730000	B.32
ZQV 4N/6	1527990000	B.32
ZQV 4N/6 BL	1528170000	B.32
ZQV 4N/6 RD	2460780000	B.32
ZQV 4N/7	1528020000	B.32
ZQV 4N/7 BL	1528180000	B.32
ZQV 4N/7 RD	2460770000	B.32
ZQV 4N/8	1528030000	B.32
ZQV 4N/8 BL	1528190000	B.32
ZQV 4N/8 RD	2460760000	B.32
ZQV 4N/9	1528070000	B.32
ZQV 4N/9 BL	1528220000	B.32
ZQV 4N/9 RD	2460750000	B.32

Order No.	Type	Page
-----------	------	------

1060000000

1061210000	WEW 35/2 SW	B.32
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1150000000

1157820000	KT 14	B.32
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1160000000

1162600000	WEW 35/1 SW	A.38
1162600000	WEW 35/1 SW	A.51
1162600000	WEW 35/1 SW	A.62
1162600000	WEW 35/1 SW	A.86
1162600000	WEW 35/1 SW	C.9
1168970000	MTA 30 BK	A.38
1168970000	MTA 30 BK	A.51
1168970000	MTA 30 BK	A.62
1168970000	MTA 30 BK	C.9

1220000000

1222240000	CP M CAP	E.7
1222240000	CP M CAP	VIII
1222240010	CP M CAP	E.7
1222240010	CP M CAP	VIII

1240000000

1248580000	SM 18/9.5 K MC NE WS	A.38
1248580000	SM 18/9.5 K MC NE WS	A.51
1248580000	SM 18/9.5 K MC NE WS	A.62
1248580000	SM 18/9.5 K MC NE WS	A.86
1248580000	SM 18/9.5 K MC NE WS	C.9

1250000000

1251070000	CP A BATTERY 24V DC3.4AH	C.6
1251070000	CP A BATTERY 24V DC3.4AH	VIII
1251080000	CP A BATTERY 24V DC7.2AH	C.7
1251080000	CP A BATTERY 24V DC7.2AH	VIII
1251090000	CP A BATTERY 24V DC12AH	C.7
1251090000	CP A BATTERY 24V DC12AH	VIII
1251110000	CP A BATTERY 24V DC17AH	C.7
1251110000	CP A BATTERY 24V DC17AH	VIII
1251220000	CP DC BUFFER 24V 20A	C.8
1251220000	CP DC BUFFER 24V 20A	VIII
1251310000	MTA 45 MF	A.38
1251310000	MTA 45 MF	A.51
1251310000	MTA 45 MF	A.62
1251310000	MTA 45 MF	C.9
1251320000	MTA 30 MF	A.38
1251320000	MTA 30 MF	A.51
1251320000	MTA 30 MF	A.62
1251320000	MTA 30 MF	C.9

1370000000

1370040010	CP DC UPS 24V 40A	C.5
1370040010	CP DC UPS 24V 40A	VIII
1370050010	CP DC UPS 24V 20A/10A	C.5
1370050010	CP DC UPS 24V 20A/10A	VIII

1400000000

1406930000	CP A BATTERY 24V DC1.3AH	C.6
1406930000	CP A BATTERY 24V DC1.3AH	VIII

1440000000

1444480000	CP DC UPS Tf05	C.9
1444540000	CP DC UPS Tf25	C.9

1460000000

1461850000	CP A WALLADAPTER 45MM	A.38
1461850000	CP A WALLADAPTER 45MM	A.51
1461850000	CP A WALLADAPTER 45MM	A.62
1461850000	CP A WALLADAPTER 45MM	C.9
1461870000	CP A WALLADAPTER 30 MM	A.38
1461870000	CP A WALLADAPTER 30 MM	A.51
1461870000	CP A WALLADAPTER 30 MM	A.62
1461870000	CP A WALLADAPTER 30 MM	C.9
1469470000	PRO ECO 72W 24V 3A	A.55
1469470000	PRO ECO 72W 24V 3A	VII
1469480000	PRO ECO 120W 24V 5A	A.55
1469480000	PRO ECO 120W 24V 5A	VII
1469490000	PRO ECO 240W 24V 10A	A.56
1469490000	PRO ECO 240W 24V 10A	VII
1469510000	PRO ECO 480W 24V 20A	A.56
1469510000	PRO ECO 480W 24V 20A	VII
1469520000	PRO ECO 960W 24V 40A	A.57
1469520000	PRO ECO 960W 24V 40A	VII
1469530000	PRO ECO3 120W 24V 5A	A.60
1469530000	PRO ECO3 120W 24V 5A	VII
1469540000	PRO ECO3 240W 24V 10A	A.60
1469540000	PRO ECO3 240W 24V 10A	VII
1469550000	PRO ECO3 480W 24V 20A	A.61
1469550000	PRO ECO3 480W 24V 20A	VII

Order No.	Type	Page
-----------	------	------

1469560000	PRO ECO3 960W 24V 40A	A.61
1469560000	PRO ECO3 960W 24V 40A	VII
1469570000	PRO ECO 72W 12V 6A	A.58
1469570000	PRO ECO 72W 12V 6A	VII
1469580000	PRO ECO 120W 12V 10A	A.58
1469580000	PRO ECO 120W 12V 10A	VII
1469590000	PRO ECO 240W 48V 5A	A.59
1469590000	PRO ECO 240W 48V 5A	VII
1469610000	PRO ECO 480W 48V 10A	A.59
1469610000	PRO ECO 480W 48V 10A	VII

1470000000

1478100000	PRO MAX 72W 24V 3A	A.43
1478100000	PRO MAX 72W 24V 3A	VII
1478110000	PRO MAX 120W 24V 5A	A.43
1478110000	PRO MAX 120W 24V 5A	VII
1478120000	PRO MAX 180W 24V 7.5A	A.44
1478120000	PRO MAX 180W 24V 7.5A	VII
1478130000	PRO MAX 240W 24V 10A	A.44
1478130000	PRO MAX 240W 24V 10A	VII
1478140000	PRO MAX 480W 24V 20A	A.45
1478140000	PRO MAX 480W 24V 20A	VII
1478150000	PRO MAX 960W 24V 40A	A.45
1478150000	PRO MAX 960W 24V 40A	VII
1478170000	PRO MAX3 120W 24V 5A	A.49
1478170000	PRO MAX3 120W 24V 5A	VII
1478180000	PRO MAX3 240W 24V 10A	A.49
1478180000	PRO MAX3 240W 24V 10A	VII
1478190000	PRO MAX3 480W 24V 20A	A.50
1478190000	PRO MAX3 480W 24V 20A	VII
1478200000	PRO MAX3 960W 24V 40A	A.50
1478200000	PRO MAX3 960W 24V 40A	VII
1478210000	PRO MAX 70W 5V 14A	A.46
1478210000	PRO MAX 70W 5V 14A	VII
1478220000	PRO MAX 72W 12V 6A	A.46
1478220000	PRO MAX 72W 12V 6A	VII
1478230000	PRO MAX 120W 12V 10A	A.47
1478230000	PRO MAX 120W 12V 10A	VII
1478240000	PRO MAX 240W 48V 5A	A.47
1478240000	PRO MAX 240W 48V 5A	VII
1478250000	PRO MAX 480W 48V 10A	A.48
1478270000	PRO MAX 960W 48V 20A	A.48
1478270000	PRO MAX 960W 48V 20A	VII
1479000000	WEW 35/2 VO GF SW	B.32

1520000000

1527930000	Z0V 4N/2	B.20
1527930000	Z0V 4N/2	B.21
1527930000	Z0V 4N/2	B.22
1527930000	Z0V 4N/2	B.29
1527930000	Z0V 4N/2	B.30
1527930000	Z0V 4N/2	B.31
1527930000	Z0V 4N/2	B.32
1527940000	Z0V 4N/3	B.32
1527970000	Z0V 4N/4	B.32
1527980000	Z0V 4N/5	B.32
1527990000	Z0V 4N/6	B.32
1528020000	Z0V 4N/7	B.32
1528030000	Z0V 4N/8	B.32
1528040000	Z0V 4N/2 BL	B.20
1528040000	Z0V 4N/2 BL	B.21
1528040000	Z0V 4N/2 BL	B.22
1528040000	Z0V 4N/2 BL	B.29
1528040000	Z0V 4N/2 BL	B.30
1528040000	Z0V 4N/2 BL	B.31
1528040000	Z0V 4N/2 BL	B.32
1528070000	Z0V 4N/9	B.32
1528080000	Z0V 4N/3 BL	B.32
1528090000	Z0V 4N/10	B.32
1528120000	Z0V 4N/4 BL	B.32
1528130000	Z0V 4N/50	B.20
1528130000	Z0V 4N/50	B.21
1528130000	Z0V 4N/50	B.22
1528130000	Z0V 4N/50	B.29
1528130000	Z0V 4N/50	B.30
1528130000	Z0V 4N/50	B.31
1528130000	Z0V 4N/50	B.32
1528140000	Z0V 4N/5 BL	B.32
1528170000	Z0V 4N/6 BL	B.32
1528180000	Z0V 4N/7 BL	B.32
1528190000	Z0V 4N/8 BL	B.32
1528220000	Z0V 4N/9 BL	B.32
1528230000	Z0V 4N/10 BL	B.32
1528240000	Z0V 4N/50 BL	B.20
1528240000	Z0V 4N/50 BL	B.21
1528240000	Z0V 4N/50 BL	B.22
1528240000	Z0V 4N/50 BL	B.29
1528240000	Z0V 4N/50 BL	B.30
1528240000	Z0V 4N/50 BL	B.31
1528240000	Z0V 4N/50 BL	B.32

1960000000

1962250000	MTA 45 BK	A.38
1962250000	MTA 45 BK	A.51
1962250000	MTA 45 BK	A.62
1962250000	MTA 45 BK	C.9

Order No.	Type	Page
-----------	------	------

2000000000

2001800000	PRO DCDC 120W 24V 5A	D.5
2001800000	PRO DCDC 120W 24V 5A	VIII
2001810000	PRO DCDC 240W 24V 10A	D.5
2001810000	PRO DCDC 240W 24V 10A	VIII
2001820000	PRO DCDC 480W 24V 20A	D.6
2001820000	PRO DCDC 480W 24V 20A	VIII

2080000000

2080360000	AMG ELM-6	B.11
2080360000	AMG ELM-6	B.17
2080410000	AMG ELM-12	B.11
2080410000	AMG ELM-12	B.18
2080420000	AMG ELM-1F	B.11
2080420000	AMG ELM-1F	B.14
2080490000	AMG ELM-2F	B.11
2080480000	AMG ELM-2F	B.14
2080490000	AMG ELM-4F	B.11
2080490000	AMG ELM-4F	B.14
2080500000	AMG ELM-6F	B.11
2080500000	AMG ELM-6F	B.14
2080600000	AMG ELM-8F	B.11
2080600000	AMG ELM-8F	B.15
2080650000	AMG ELM-10F	B.11
2080650000	AMG ELM-10F	B.15
2080750000	AMG ELM-Q2222	B.11
2080880000	AMG ELM-Q4444	B.11
2080920000	AMG ELM-Q6666	B.11
2081650000	AMG ELM-Q2244	B.11
2081820000	AMG ELM-Q2266	B.11
2081870000	AMG FIM-0	B.11
2081870000	AMG FIM-0	B.12
2081880000	AMG FIM-C	B.11
2081880000	AMG FIM-C	B.13
2081890000	AMG AM	B.11
2081890000	AMG AM	B.20
2081900000	AMG CM	B.11
2081900000	AMG CM	B.21
2082000000	AMG ELM-6 EX	B.11
2082000000	AMG ELM-6 EX	B.27
2082010000	AMG ELM-12 EX	B.11
2082010000	AMG ELM-12 EX	B.28
2082040000	AMG ELM-1F EX	B.11
2082040000	AMG ELM-1F EX	B.25
2082050000	AMG ELM-2F EX	B.11
2082050000	AMG ELM-2F EX	B.25
2082060000	AMG ELM-4F EX	B.11
2082060000	AMG ELM-4F EX	B.25
2082310000	AMG ELM-6F EX	B.11
2082310000	AMG ELM-6F EX	B.25
2082320000	AMG ELM-8F EX	B.11
2082320000	AMG ELM-8F EX	B.26
2082430000	AMG ELM-10F EX	B.11
2082430000	AMG ELM-10F EX	B.26
2082440000	AMG ELM-60 CO	B.11
2082440000	AMG ELM-60 CO	B.19
2082470000	AMG ELM-100 CO	B.11
2082470000	AMG ELM-100 CO	B.19
2082530000	AMG FIM-0 EX	B.11
2082530000	AMG FIM-0 EX	B.23
2082540000	AMG FIM-C EX	B.11
2082540000	AMG FIM-C EX	B.24
2082770000	AMG AM CO	B.11
2082770000	AMG AM CO	B.29
2083360000	AMG CM EX	B.11
2083360000	AMG CM EX	B.30

2120000000

2122910000	AMG OD	B.11
2122910000	AMG OD	B.14
2122910000	AMG OD	B.15
2122910000	AMG OD	B.16
2122910000	AMG OD	B.17
2122910000	AMG OD	B.18
2122910000	AMG OD	B.19
2122910000	AMG OD	B.22
2122910000	AMG OD	B.25
2122910000	AMG OD	B.26
2122910000	AMG OD	B.27
2122910000	AMG OD	B.28
2122910000	AMG OD	B.5
2122910000	AMG OD	B.6
2122910000	AMG OD	B.7
2122920000	AMG PD	B.11
2122920000	AMG PD	B.14
2122920000	AMG PD	B.15
2122920000	AMG PD	B.16
2122920000	AMG PD	B.17
2122920000	AMG PD	B.18
2122920000	AMG PD	B.19
2122920000	AMG PD	B.22
2122920000	AMG PD	B.25
2122920000	AMG PD	B.26
2122920000	AMG PD	B.27
2122920000	AMG PD	B.28
2122920000	AMG PD	B.5

Order No.	Type	Page
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2122920000	AMG PD	B.6
2122920000	AMG PD	B.7
2122930000	AMG MD	B.11
2122930000	AMG MD	B.14
2122930000	AMG MD	B.15
2122930000	AMG MD	B.16
2122930000	AMG MD	B.17
2122930000	AMG MD	B.18
2122930000	AMG MD	B.19
2122930000	AMG MD	B.22
2122930000	AMG MD	B.25
2122930000	AMG MD	B.26
2122930000	AMG MD	B.27
2122930000	AMG MD	B.28
2122930000	AMG MD	B.5
2122930000	AMG MD	B.6
2122930000	AMG MD	B.7
2122940000	AMG XMD	B.11
2122940000	AMG XMD	B.22
2123000000	AMG PP	B.11
2123000000	AMG PP	B.32
2123050000	AMG DIS	B.11
2123050000	AMG DIS	B.14
2123050000	AMG DIS	B.15
2123050000	AMG DIS	B.16
2123050000	AMG DIS	B.17
2123050000	AMG DIS	B.18
2123050000	AMG DIS	B.19
2123050000	AMG DIS	B.22
2123050000	AMG DIS	B.25
2123050000	AMG DIS	B.26
2123050000	AMG DIS	B.27
2123050000	AMG DIS	B.28
2123050000	AMG DIS	B.5
2123050000	AMG DIS	B.6
2123050000	AMG DIS	B.7

Order No.	Type	Page
2467090000	PRO TOP3 240W 24V 10A CO	A.21
2467090000	PRO TOP3 240W 24V 10A CO	VI
2467100000	PRO TOP3 480W 24V 20A	A.14
2467100000	PRO TOP3 480W 24V 20A	VI
2467110000	PRO TOP3 480W 24V 20A CO	A.22
2467110000	PRO TOP3 480W 24V 20A CO	VI
2467120000	PRO TOP3 960W 24V 40A	A.14
2467120000	PRO TOP3 960W 24V 40A	VI
2467130000	PRO TOP3 960W 24V 40A CO	A.22
2467130000	PRO TOP3 960W 24V 40A CO	VI
2467140000	PRO TOP3 960W 36V 26.6A CO	A.23
2467140000	PRO TOP3 960W 36V 26.6A CO	VI
2467150000	PRO TOP3 480W 48V 10A	A.15
2467150000	PRO TOP3 480W 48V 10A	VI
2467160000	PRO TOP3 480W 48V 10A CO	A.23
2467160000	PRO TOP3 480W 48V 10A CO	VI
2467170000	PRO TOP3 960W 48V 20A	A.15
2467170000	PRO TOP3 960W 48V 20A	VI
2467180000	PRO TOP3 960W 48V 20A CO	A.24
2467180000	PRO TOP3 960W 48V 20A CO	VI
2467240000	PRO TOP2 120W 24V 5A UW EX	A.37
2467240000	PRO TOP2 120W 24V 5A UW EX	VI
2467290000	PRO TOPDC 24V/24V 5A EX	A.31
2467290000	PRO TOPDC 24V/24V 5A EX	VI
2467300000	PRO TOPDC 24V/24V 10A EX	A.31
2467300000	PRO TOPDC 24V/24V 10A EX	VI
2467310000	PRO TOPDC 24V/24V 20A EX	A.32
2467310000	PRO TOPDC 24V/24V 20A EX	VI
2467320000	PRO COM CAN OPEN	F.4

2480000000

2486070000	PRO DM 10	E.6
2486070000	PRO DM 10	VIII
2486080000	PRO DM 20	E.6
2486080000	PRO DM 20	VIII
2486090000	PRO RM 10	E.4
2486090000	PRO RM 10	VIII
2486100000	PRO RM 20	E.4
2486100000	PRO RM 20	VIII
2486110000	PRO RM 40	E.5
2486110000	PRO RM 40	VIII

2490000000

2491270000	AMG ELM-1F CL2	B.11
2491270000	AMG ELM-1F CL2	B.16
2491280000	AMG ELM-2F CL2	B.11
2491280000	AMG ELM-2F CL2	B.16
2491290000	AMG ELM-4F CL2	B.11
2491290000	AMG ELM-4F CL2	B.16
2495040000	AMG MD EX	B.11
2495040000	AMG MD EX	B.31
2495070000	AMG PD EX	B.11
2495070000	AMG PD EX	B.31
2495080000	AMG XMD EX	B.11
2495080000	AMG XMD EX	B.31
2495090000	AMG OD EX	B.11
2495090000	AMG OD EX	B.31
2495100000	AMG DIS EX	B.11
2495100000	AMG DIS EX	B.31
2495380000	AMG EP 2010	B.11
2495380000	AMG EP 2010	B.32

2500000000

2500760000	AMG EP KIT	B.11
2500760000	AMG EP KIT	B.32

2560000000

2568970000	PRO TOP1 72W 24V 3A F	A.11
2568970000	PRO TOP1 72W 24V 3A F	VI
2568980000	PRO TOP1 120W 24V 5A F	A.12
2568980000	PRO TOP1 120W 24V 5A F	VI
2568990000	PRO TOP1 240W 24V 10A F	A.12
2568990000	PRO TOP1 240W 24V 10A F	VI
2569000000	PRO TOP1 120W 12V 10A F	A.11
2569000000	PRO TOP1 120W 12V 10A F	VI

2580000000

2580180000	PRO INSTA 16W 24V 0.7A	A.81
2580180000	PRO INSTA 16W 24V 0.7A	VII
2580180000	PRO INSTA 16W 24V 0.7A	VIII
2580190000	PRO INSTA 30W 24V 1.3A	A.82
2580190000	PRO INSTA 30W 24V 1.3A	VII
2580190000	PRO INSTA 30W 24V 1.3A	VIII
2580210000	PRO INSTA 30W 5V 6A	A.81
2580210000	PRO INSTA 30W 5V 6A	VII
2580210000	PRO INSTA 30W 5V 6A	VIII
2580220000	PRO INSTA 30W 12V 2.6A	A.82
2580220000	PRO INSTA 30W 12V 2.6A	VII
2580220000	PRO INSTA 30W 12V 2.6A	VIII
2580230000	PRO INSTA 60W 24V 2.5A	A.83
2580230000	PRO INSTA 60W 24V 2.5A	VII
2580230000	PRO INSTA 60W 24V 2.5A	VIII
2580240000	PRO INSTA 60W 12V 5A	A.83
2580240000	PRO INSTA 60W 12V 5A	VII

Order No.	Type	Page
2580240000	PRO INSTA 60W 12V 5A	VIII
2580250000	PRO INSTA 90W 24V 3.8A	A.84
2580250000	PRO INSTA 90W 24V 3.8A	VII
2580250000	PRO INSTA 90W 24V 3.8A	VIII
2580260000	PRO INSTA 96W 24V 4A	A.84
2580260000	PRO INSTA 96W 24V 4A	VII
2580260000	PRO INSTA 96W 24V 4A	VIII
2580270000	PRO INSTA 96W 48V 2A	A.85
2580270000	PRO INSTA 96W 48V 2A	VII
2580270000	PRO INSTA 96W 48V 2A	VIII
2587360000	PRO COM IO-LINK	B.4
2587360000	PRO COM IO-LINK	F.5

2620000000

2624980000	TGD ELM-6	B.6
2624990000	TGD ELM-12	B.5
2625000000	TGD FIM-C	B.4
2627630000	PRO TOPDC 24V/24V 20A	A.30
2627630000	PRO TOPDC 24V/24V 20A	VI
2627640000	PRO TOPDC 24V/24V 10A	A.29
2627640000	PRO TOPDC 24V/24V 10A	VI
2627650000	PRO TOPDC 24V/24V 5A	A.29
2627650000	PRO TOPDC 24V/24V 5A	VI
2627660000	PRO TOPDC 24V/48V 10A	A.30
2627660000	PRO TOPDC 24V/48V 10A	VI

2650000000

2656670000	TGD ELM-4 CL2	B.7
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2660000000

2660200277	PRO PM 35W 5V 7A	A.66
2660200277	PRO PM 35W 5V 7A	VII
2660200278	PRO PM 35W 12V 3A	A.66
2660200278	PRO PM 35W 12V 3A	VII
2660200279	PRO PM 35W 24V 1.5A	A.67
2660200279	PRO PM 35W 24V 1.5A	VII
2660200280	PRO PM 35W 48V 0.75A	A.67
2660200280	PRO PM 35W 48V 0.75A	VII
2660200281	PRO PM 75W 5V 14A	A.68
2660200281	PRO PM 75W 5V 14A	VII
2660200282	PRO PM 75W 12V 6A	A.68
2660200282	PRO PM 75W 12V 6A	VII
2660200283	PRO PM 75W 24V 3.2A	A.69
2660200283	PRO PM 75W 24V 3.2A	VII
2660200284	PRO PM 75W 48V 1.6A	A.69
2660200284	PRO PM 75W 48V 1.6A	VII
2660200285	PRO PM 100W 12V 8.5A	A.70
2660200285	PRO PM 100W 12V 8.5A	VII
2660200286	PRO PM 100W 24V 4.5A	A.70
2660200286	PRO PM 100W 24V 4.5A	VII
2660200287	PRO PM 100W 48V 2.3A	A.71
2660200287	PRO PM 100W 48V 2.3A	VII
2660200288	PRO PM 150W 12V 12.5A	A.72
2660200288	PRO PM 150W 12V 12.5A	VII
2660200289	PRO PM 150W 24V 6.5A	A.72
2660200289	PRO PM 150W 24V 6.5A	VII
2660200290	PRO PM 150W 48V 3.3A	A.73
2660200290	PRO PM 150W 48V 3.3A	VII
2660200291	PRO PM 250W 12V 21A	A.74
2660200291	PRO PM 250W 12V 21A	VII
2660200292	PRO PM 250W 24V 10.5A	A.74
2660200292	PRO PM 250W 24V 10.5A	VII
2660200293	PRO PM 250W 48V 5.2A	A.75
2660200293	PRO PM 250W 48V 5.2A	VII
2660200294	PRO PM 350W 24V 14.6A	A.76
2660200294	PRO PM 350W 24V 14.6A	VII
2660200295	PRO PM 350W 48V 7.3A	A.76
2660200295	PRO PM 350W 48V 7.3A	VII

2740000000

2749800000	SDIS 0.5X3.0X100	A.38
2749800000	SDIS 0.5X3.0X100	A.51
2749800000	SDIS 0.5X3.0X100	A.62
2749800000	SDIS 0.5X3.0X100	A.86
2749800000	SDIS 0.5X3.0X100	C.9
2749850000	SDIS 1.0X5.5X125	A.51
2749850000	SDIS 1.0X5.5X125	C.9
2749890000	SDIK PH1 X 80	A.38
2749890000	SDIK PH1 X 80	A.51
2749890000	SDIK PH1 X 80	A.62

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