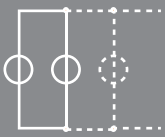


AC/DC**International use**

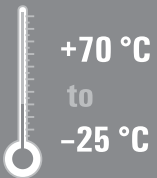
A wide-range input (both DC as well as AC voltages can be used; no switching required) and extensive approvals (UL/CSA and GL (EMC 1 – bridge)).

**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.

**Robust**

Wide temperature range from -25 °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.

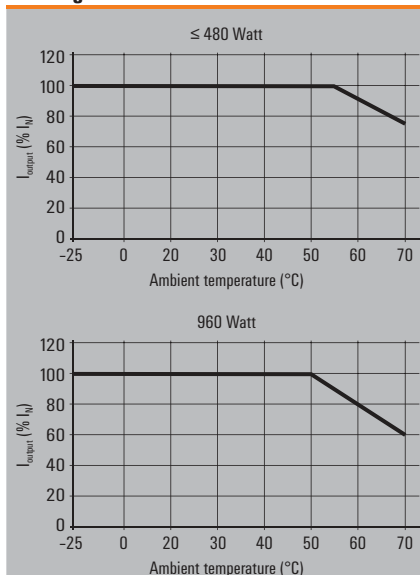
connectPower**connectPower PROeco****connectPower PROmax****connectPower PROtop****connectPower PRO-E****connectPower INSTAPOWER****connectPower DC/DC converters**

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



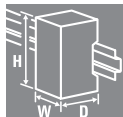
Derating curves



Technical data

General technical data	
Ambient temp. operating / storage temperature	-25 °C...+70 °C / -40 °C...+85 °C
Max. perm. air humidity (operation)	5 %...95 % RH
Degree of protection	IP 20
Class of protection	I, with PE connection
Pollution degree	2
Insulation voltage input/output	3 kV E/A / 2 kV E/earth / 0.5 kV A/earth
MTBF	> 500.000 h (25 °C, IEC 61709)
Parallel connection option	yes, max. 5 without diode module
Housing version	metal, corrosion resistant
Mounting position, installation notice	horizontal on mounting rail TS35, 50 mm spacing top and bottom for free air circulation
Short-circuit protection	Yes, automatic restart
Overload protection	Yes, IU characteristic curve
Overtemperature protection	Yes, automatic restart
EMC / shock / vibration	
Noise emission acc. to EN55022	Class B
Noise immunity tests acc. to	EN61000-4-2 (ESD), EN61000-4-3 and EN61000-4-8 (Fields), EN61000-4-4 (Burst), EN61000-4-5 (Surge), EN61000-4-6 (conducted), EN61000-4-11 (Dips)
Limiting of mains voltage harmonic currents	Acc. to EN61000-3-2
Resistance against vibration and shock	1 g acc. to EN50178, shock: 15 g in all directions
Electrical safety (applied standards)	
Electrical equipment of machines	Acc. to EN60204
Safety transformers for switched-mode power units	Acc. to EN61558-2-17
Machinery with electronic equipment	Acc. to EN50178 / VDE0160
Safety extra-low voltage	SELV acc. to EN60950-1, PELV acc. to EN60204-1
Protective separation / protection against electrical shock	VDE0100-410 / acc. to DIN57100-410
Protection against dangerous shock currents	Acc. to VDE0106-101

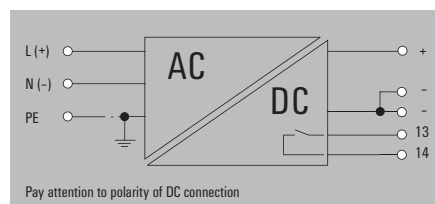
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PRO ECO 72W 24V 3A



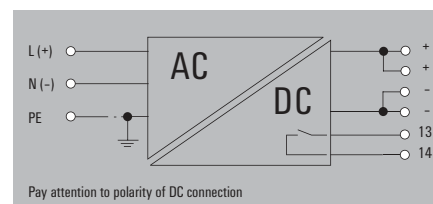
Similar to illustration



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 @ 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 _{SS} @ 24 V DC, I _N
Rated (nominal) output current @ U _{Nom}	3 A at 55 °C
Continuous output current @ U _{Rated}	3 A @ 55 °C, 2,25 A @ 70 °C
Capacitive load	unrestricted
Protection against inverse voltage	Yes
Signalling	
Indication	LED green (U _{output} > 21.6 V DC), LED yellow (I _{output} > 90% I _{Rated} typ.), LED red (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 / 576 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
Wire cross-section, flexible min/max	0.5 / 2.5
Wire cross-section, AWG/kcmil min/max	26 / 12
Tightening torque range	0.5 / 0.6
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.

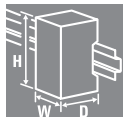
Input	
Rated input voltage	100...240 V AC (wide-range input)
Input voltage range AC	85...264 V AC (Derating @ 100 V AC)
Frequency range AC	47...63 Hz
DC input voltage range	80...370 V DC (Derating @ 120 V DC)
AC current consumption	1,26 A @ 230 V AC / 2,24 A @ 110 V AC
DC current consumption	0,39 A @ 370 V DC / 1,16 A @ 120 V DC
Input fuse (internal) / Inrush current	Yes / max. 40 A
Recommended back-up fuse	4 A / DI, safety 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...28 V (adjustable via potentiometer)
Ramp-up time / Residual ripple, breaking spikes	$\leq$ 100 ms / $<$ 50 mV _{SS} @ 24 V DC, I _N
Rated (nominal) output current @ U _{Nom}	5 A at 55 °C
Continuous output current @ U _{Rated}	5 A @ 55 °C, 3,75 A @ 70 °C
Capacitive load	unrestricted
Protection against inverse voltage	Yes
Signalling	
Indication	LED green (U _{output} > 21.6 V DC), LED yellow (I _{output} > 90% I _{Rated} typ.), LED red (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 / 15 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}	> 80 ms @ 230 V AC / > 20 ms @ 115 V AC
Parallel connection option	yes, max. 5
Depth x width x height / Net weight	100 / 40 / 125 mm / 675 g
Approvals	
Approvals	CE; cULus; EAC; TUEV
Connection data	
Connection system	Screw connection
Number of terminals	6 for L/N/PE
Wire cross-section, rigid min/max	0.5 / 6
Wire cross-section, flexible min/max	0.5 / 2.5
Wire cross-section, AWG/kcmil min/max	26 / 12
Tightening torque range	0.5 / 0.6
Note	

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	
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	
Rated (nominal) output current @ U_{Nom}	
Continuous output current @ U_{Rated}	
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	mm ²
Wire cross-section, flexible min/max	mm ²
Wire cross-section, AWG/kcmil min/max	
Tightening torque range	
Note	

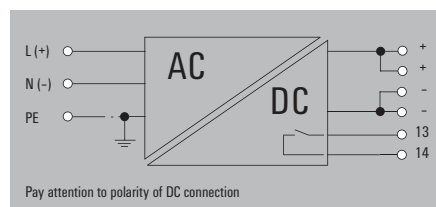
Ordering data

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 @ 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)
≤ 100 ms / < 50 mV _{SS} @ 24 V DC, I_N
10 A @ 55 °C
10 A @ 55 °C, 7.5 A @ 70 °C
unrestricted
Yes
LED green ($U_{output} > 21.6$ V DC), LED yellow ($I_{output} > 90\% I_{Rated}$ typ.), LED red (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%
3 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 / 1055 g
CE; cULus; EAC; TUEV

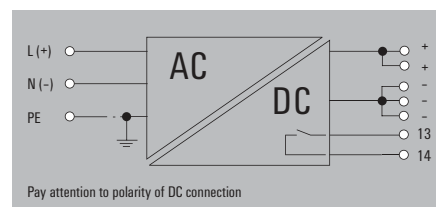
Input	Output
Screw connection	Screw connection
3 for L/N/PE	6 (+, -, 13, 14)
0.5 / 6	0.5 / 6
0.5 / 2.5	0.5 / 2.5
26 / 12	26 / 12
	0.5 / 0.6

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

PRO ECO 480W 24V 20A



Similar to illustration



100...240 V AC (wide-range input)
85...264 V AC (Derating @ 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 / 4,65 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)
≤ 100 ms / < 50 mV _{SS} @ 24 V DC, I_N
20 A @ 55 °C
20 A @ 55 °C, 15 A @ 70 °C
unrestricted
Yes
LED green ($U_{output} > 21.6$ V DC), LED yellow ($I_{output} > 90\% I_{Rated}$ typ.), LED red (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

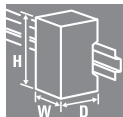
Input	Output
Screw connection	Screw connection
3 for L/N/PE	7 (+, -, 13, 14)
0.5 / 6	0.5 / 6
0.5 / 2.5	0.5 / 2.5
26 / 12	26 / 10
	0.5 / 0.6

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

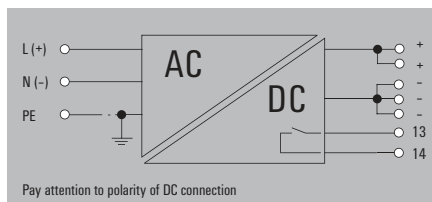
The internal varistor found in a switch-mode power supply does not replace the need for surge protection within a system.

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PRO ECO 960W 24V 40A



Similar to illustration



Technical data

Input	
Rated input voltage	100...240 V AC (wide-range input)
Input voltage range AC	85...264 V AC (Derating @ 100 V AC)
Frequency range AC	47...63 Hz
DC input voltage range	80...370 V DC (Derating @ 120 V DC)
AC current consumption	4,6 A @ 230 V AC / 9,9 A @ 110 V AC
DC current consumption	2,9 A @ 370 V DC / 9 A @ 120 V DC
Input fuse (internal) / Inrush current	Yes / max. 5 A
Recommended back-up fuse	16 A / DI, safety 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...28 V (adjustable via potentiometer)
Ramp-up time / Residual ripple, breaking spikes	$\leq$ 100 ms / $<$ 50 mV _{SS} @ 24 V DC, I _N
Rated (nominal) output current @ U _{Nom}	40 A @ 50 °C
Continuous output current @ U _{Rated}	40 A @ 50 °C, 24 A @ 70 °C
Capacitive load	unrestricted
Protection against inverse voltage	Yes
Signalling	
Indication	LED green (U _{output} > 21.6 V DC), LED yellow (I _{output} > 90% I _{Rated} typ.), LED red (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	93%
Power loss idling / nominal load / Power loss, nominal load	6 W / 76 W
Earth leakage current, max.	3.5 mA
Power factor (approx.)	> 0.98 @ 230 V AC / > 0.98 @ 115 V AC
AC failure bridging time @ I _{Nom}	> 20 ms @ 230 V AC / > 20 ms @ 115 V AC
Parallel connection option	yes, max. 3
Depth x width x height / Net weight	120 / 160 / 125 mm / 3019 g
Approvals	
Approvals	CE; cULus; EAC; TUEV
Connection data	
Connection system	Screw connection
Number of terminals	7 (+, -, 13, 14)
Wire cross-section, rigid min/max	0.5 / 6
Wire cross-section, flexible min/max	0.5 / 2.5
Wire cross-section, AWG/kcmil min/max	26 / 12
Tightening torque range	0.5 / 0.6
Note	

Ordering data

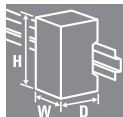
Type	Qty.	Order No.
PRO ECO 960W 24V 40A	1	1469520000

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	
Rated (nominal) output current @ U_{Nom}	
Continuous output current @ U_{Rated}	
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	mm ²
Wire cross-section, flexible min/max	mm ²
Wire cross-section, AWG/kcmil min/max	
Tightening torque range	
Note	

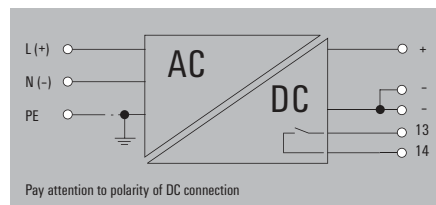
Ordering data

Type	Qty.	Order No.
PRO ECO 72W 12V 6A	1	1469570000
Note		
The internal varistor found in a switch-mode power supply does not replace the need for surge protection within a system.		

PRO ECO 72W 12V 6A



Similar to illustration



100...240 V AC (wide-range input)
85...264 V AC (Derating @ 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 @ 70 °C
unrestricted
Yes
LED green ($U_{output} > 21.6$ V DC), LED yellow ($I_{output} > 90\% I_{Rated}$ typ.), LED red (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
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 / 593 g
CE; cULus; EAC; TUEV

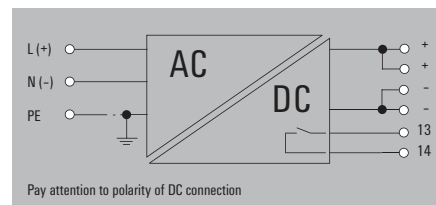
Input	Output
Screw connection	Screw connection
3 for L/N/PE	5 (+, -, 13, 14)
0.5 / 6	0.5 / 6
0.5 / 2.5	0.5 / 2.5
26 / 12	26 / 12
	0.5 / 0.6

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

PRO ECO 120W 12V 10A



Similar to illustration



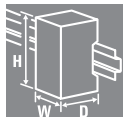
100...240 V AC (wide-range input)
85...264 V AC (Derating @ 100 V AC)
47...63 Hz
80...370 V DC (Derating @ 120 V DC)
1.25 A @ 230 V AC / 2.25 A @ 110 V AC
0.4 A @ 370 V DC / 1.2 A @ 120 V DC
Yes / max. 40 A
4 A / DI, safety fuse
6 A, Char. B, circuit breaker
3...5 A, Char. C, circuit breaker
12 V DC $\pm$ 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, 7.5 A @ 70 °C
unrestricted
Yes
LED green ($U_{output} > 21.6$ V DC), LED yellow ($I_{output} > 90\% I_{Rated}$ typ.), LED red (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 %
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 / 690 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
	0.5 / 0.6

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.

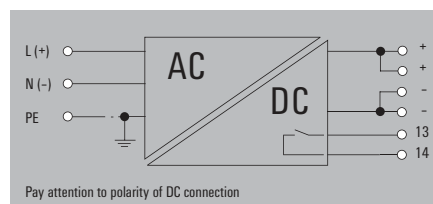
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PRO ECO 240W 48V 5A



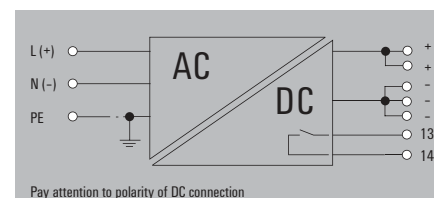
Similar to illustration



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 @ 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
Rated (nominal) output current @ U_{Nenn}	5 A at 55 °C
Continuous output current @ U_{Rated}	5 A @ 55 °C, 3.75 A @ 70 °C
Capacitive load	unrestricted
Protection against inverse voltage	Yes
Signalling	
Indication	LED green ($U_{output} > 21.6$ V DC), LED yellow ($I_{output} > 90\% I_{Rated}$ typ.), LED red (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	5 W / 50 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_{Nenn}	> 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 / 996 g
Approvals	
Approvals	CE; cULus; EAC
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
Tightening torque range	0.5 / 0.6
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	
Rated input voltage	100...240 V AC (wide-range input)
Input voltage range AC	85...264 V AC (Derating @ 100 V AC)
Frequency range AC	47...63 Hz
DC input voltage range	80...370 V DC (Derating @ 120 V DC)
AC current consumption	2.4 A @ 230 V AC / 5.2 A @ 110 V AC
DC current consumption	1.5 A @ 370 V DC / 4.6 A @ 120 V DC
Input fuse (internal) / Inrush current	Yes / max. 3 A
Recommended back-up fuse	6 A / DI, safety fuse 16 A, Char. B, circuit breaker 6...8 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
Rated (nominal) output current @ U_{Nenn}	10 A at 55 °C
Continuous output current @ U_{Rated}	10 A @ 55 °C, 7.5 A @ 70 °C
Capacitive load	unrestricted
Protection against inverse voltage	Yes
Signalling	
Indication	LED green ($U_{output} > 21.6$ V DC), LED yellow ($I_{output} > 90\% I_{Rated}$ typ.), LED red (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	93 %
Power loss idling / nominal load / Power loss, nominal load	3 W / 23 W
Earth leakage current, max.	3.5 mA
Power factor (approx.)	> 0.98 @ 230 V AC / > 0.98 @ 115 V AC
AC failure bridging time @ I_{Nenn}	> 20 ms @ 230 V AC / > 20 ms @ 115 V AC
Parallel connection option	yes, max. 3
Depth x width x height / Net weight	120 / 100 / 125 mm / 1570 g
Approvals	
Approvals	CE; cULus; EAC; TUEV
Connection data	
Connection system	Screw connection
Number of terminals	7 (+, -, 13, 14)
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 / 10
Tightening torque range	0.5 / 0.6
Note	

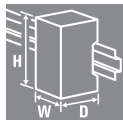
Type	Qty.	Order No.
PRO ECO 480W 48V 10A	1	1469610000
Note		
The internal varistor found in a switch-mode power supply does not replace the need for surge protection within a system.		

Input	
Rated input voltage	100...240 V AC (wide-range input)
Input voltage range AC	85...264 V AC (Derating @ 100 V AC)
Frequency range AC	47...63 Hz
DC input voltage range	80...370 V DC (Derating @ 120 V DC)
AC current consumption	2.4 A @ 230 V AC / 5.2 A @ 110 V AC
DC current consumption	1.5 A @ 370 V DC / 4.6 A @ 120 V DC
Input fuse (internal) / Inrush current	Yes / max. 3 A
Recommended back-up fuse	6 A / DI, safety fuse 16 A, Char. B, circuit breaker 6...8 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
Rated (nominal) output current @ U_{Nenn}	10 A at 55 °C
Continuous output current @ U_{Rated}	10 A @ 55 °C, 7.5 A @ 70 °C
Capacitive load	unrestricted
Protection against inverse voltage	Yes
Signalling	
Indication	LED green ($U_{output} > 21.6$ V DC), LED yellow ($I_{output} > 90\% I_{Rated}$ typ.), LED red (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	93 %
Power loss idling / nominal load / Power loss, nominal load	3 W / 23 W
Earth leakage current, max.	3.5 mA
Power factor (approx.)	> 0.98 @ 230 V AC / > 0.98 @ 115 V AC
AC failure bridging time @ I_{Nenn}	> 20 ms @ 230 V AC / > 20 ms @ 115 V AC
Parallel connection option	yes, max. 3
Depth x width x height / Net weight	120 / 100 / 125 mm / 1570 g
Approvals	
Approvals	CE; cULus; EAC; TUEV
Connection data	
Connection system	Screw connection
Number of terminals	7 (+, -, 13, 14)
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 / 10
Tightening torque range	0.5 / 0.6
Note	

Type	Qty.	Order No.
PRO ECO 480W 48V 10A	1	1469610000
Note		
The internal varistor found in a switch-mode power supply does not replace the need for surge protection within a system.		

connectPower PROeco

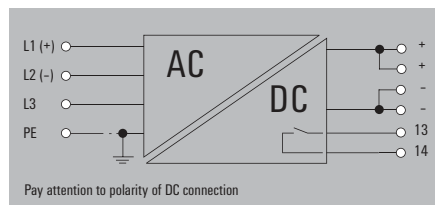
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PRO EC03 120W 24V 5A



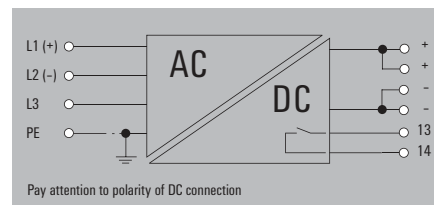
Similar to illustration



PRO EC03 240W 24V 10A



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

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

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

Output
Rated output voltage
Output voltage
Ramp-up time / Residual ripple, breaking spikes
Rated (nominal) output current @ U_{Nom}
Continuous output current @ U_{Rated}
Capacitive load
Protection against inverse voltage

24 V DC $\pm$ 1 %
22...28 V (adjustable via potentiometer)
≤ 100 ms / < 50 mV _{SS} @ 24 V DC, I_N
5 A at 55 °C
5 A @ 55 °C, 3.75 A @ 70 °C
unrestricted
Yes

24 V DC $\pm$ 1 %
22...28 V (adjustable via potentiometer)
≤ 100 ms / < 50 mV _{SS} @ 24 V DC, I_N
10 A @ 55 °C
10 A @ 55 °C, 7.5 A @ 70 °C
unrestricted
Yes

Signalling
Indication

LED green ($U_{output} > 21.6$ V DC), LED yellow ($I_{output} > 90\% I_{Rated}$ typ.), LED red (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

LED green ($U_{output} > 21.6$ V DC), LED yellow ($I_{output} > 90\% I_{Rated}$ typ.), LED red (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

87 %
6 W / 13 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 / 705 g

88%
6 W / 24 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

Approvals
Approvals

CE; cULus; EAC; TUEV

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
Tightening torque range

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
	0.5 / 0.6

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
	0.5 / 0.6

Note

Ordering data

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

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

Note

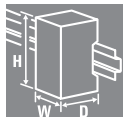
The internal varistor found in a switch-mode power supply does not replace the need for surge protection within a system.

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

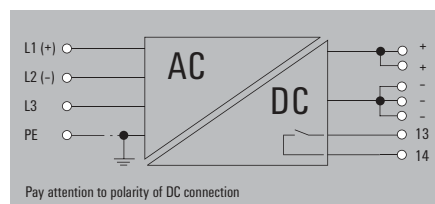
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PRO EC03 480W 24V 20A

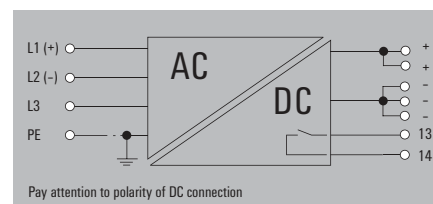
PRO EC03 960W 24V 40A



Similar to illustration



Similar to illustration



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 _{SS} @ 24 V DC, I _N
Rated (nominal) output current @ U _{Nom}	20 A @ 55 °C
Continuous output current @ U _{Rated}	20 A @ 55 °C, 15 A @ 70 °C
Capacitive load	unrestricted
Protection against inverse voltage	Yes
Signalling	
Indication	LED green (U _{output} > 21.6 V DC), LED yellow (I _{output} > 90% I _{Rated} typ.), LED red (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 / 1490 g
Approvals	
Approvals	CE; cULus; 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
Wire cross-section, flexible min/max	0.5 / 2.5
Wire cross-section, AWG/kcmil min/max	26 / 12
Tightening torque range	0.5 / 0.6
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		Rated output voltage	
3 x 400...3 x 500 V AC (wide-range input)		24 V DC $\pm$ 1 %	
3 x 320...3 x 575 V AC / 2 x 360...2 x 575 V AC		22...28 V (adjustable via potentiometer)	
47...63 Hz		$\leq$ 100 ms / $<$ 50 mV _{SS} @ 24 V DC, I _N	
450...800 V DC (max. 500 V DC acc. to UL508)		20 A @ 55 °C	
1.2 A @ 3 x 500 V AC / 1.5 A @ 3 x 400 V AC		20 A @ 55 °C, 15 A @ 70 °C	
47...63 Hz		unrestricted	
450...800 V DC (max. 500 V DC acc. to UL508)		Yes	
2,15 A @ 3 x 500 V AC / 2,68 A @ 3 x 400 V AC		LED green (U _{output} > 21.6 V DC), LED yellow (I _{output} > 90% I _{Rated} typ.), LED red (overload, overtemperature, short-circuit, U _{output} < 20.4 V DC)	
1,37 A @ 800 V DC / 2,37 A @ 450 V DC		Yes / max. 30 V DC / 1 A	
Yes / max. 40 A		Output voltage >21.6 V DC / <20.4 V DC, Overload	
6 A / DI, safety fuse		89%	
10 A, Char. B, circuit breaker		8 W / 48 W	
6...8 A, Char. C, circuit breaker		3.5 mA	
		> 0.55 @ 3 x 500 V AC / > 0.65 @ 3 x 400 V AC	
		> 30 ms @ 3 x 500 V AC / > 20 ms @ 3 x 400 V AC	
		yes, max. 3	
		120 / 100 / 125 mm / 1490 g	
		CE; cULus; 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
	0.5 / 0.6

Input		Output	
Rated input voltage		Rated output voltage	
3 x 400...3 x 500 V AC (wide-range input)		24 V DC $\pm$ 1 %	
3 x 320...3 x 575 V AC / 2 x 360...2 x 575 V AC		22...28 V (adjustable via potentiometer)	
47...63 Hz		$\leq$ 100 ms / $<$ 50 mV _{SS} @ 24 V DC, I _N	
450...800 V DC (max. 500 V DC acc. to UL508)		40 A @ 50 °C	
2,15 A @ 3 x 500 V AC / 2,68 A @ 3 x 400 V AC		40 A @ 50 °C, 24 A @ 70 °C	
47...63 Hz		unrestricted	
450...800 V DC (max. 500 V DC acc. to UL508)		Yes	
2,15 A @ 3 x 500 V AC / 2,68 A @ 3 x 400 V AC		LED green (U _{output} > 21.6 V DC), LED yellow (I _{output} > 90% I _{Rated} typ.), LED red (overload, overtemperature, short-circuit, U _{output} < 20.4 V DC)	
1,37 A @ 800 V DC / 2,37 A @ 450 V DC		Yes / max. 30 V DC / 1 A	
Yes / max. 40 A		Output voltage >21.6 V DC / <20.4 V DC, Overload	
6 A / DI, safety fuse		90%	
10 A, Char. B, circuit breaker		5 W / 95 W	
6...8 A, Char. C, circuit breaker		3.5 mA	
		> 0.55 @ 3 x 500 V AC / > 0.65 @ 3 x 400 V AC	
		> 25 ms @ 3 x 500 V AC / > 20 ms @ 3 x 400 V AC	
		yes, max. 3	
		120 / 160 / 125 mm / 2899 g	
		CE; cULus; EAC; TUEV	

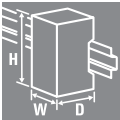
Input	Output
Screw connection	Screw connection
4 for L1/L2/L3/PE	7 (+, -, 13, 14)
0.5 / 6	0.5 / 16
0.5 / 2.5	2.5 / 10
26 / 12	22 / 8
	0.5 / 0.6

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

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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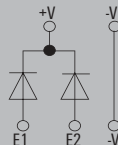
connectPower PROeco diode module



Technical data

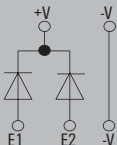
Input	
DC input voltage range	
DC current consumption	
Output	
Rated output voltage	
Continuous output current @ U_{Rated}	
General data	
Ambient temperature (operational)	
Storage temperature	
Derating	
Degree of efficiency	
Mounting position, installation notice	
Depth x width x height / Net weight	
Approvals	

PRO DM 10



Input	
DC input voltage range	0...60 V DC
DC current consumption	2 × 12 A (-40 °C ~ +45 °C), 2 × 10 A (+45 °C ~ +60 °C), 2 × 7.5 A (+70 °C)
Output	
Rated output voltage	24 V DC ± 1 %
Continuous output current @ U_{Rated}	1 × 24 A (-40 °C ~ +45 °C), 1 × 20 A (+45 °C ~ +60 °C), 1 × 15 A (+70 °C)
General data	
Ambient temperature (operational)	-40 °C...70 °C
Storage temperature	-40 °C...85 °C
Derating	> 60 °C / 75% load @ 70 °C
Degree of efficiency	> 97% @ 24 V input voltage
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.
Depth x width x height / Net weight	125 / 32 / 125 mm / 518 g

PRO DM 20



Input	
DC input voltage range	0...60 V DC
DC current consumption	2 × 24 A (-40 °C ~ +45 °C), 2 × 20 A (+40 °C ~ +60 °C), 2 × 15 A (+70 °C)
Output	
Rated output voltage	24 V DC ± 1 %
Continuous output current @ U_{Rated}	1 × 48 A (-40 °C ~ +45 °C), 1 × 40 A (+45 °C ~ +60 °C), 1 × 30 A (+70 °C)
General data	
Ambient temperature (operational)	-40 °C...70 °C
Storage temperature	-40 °C...85 °C
Derating	> 60 °C / 75% load @ 70 °C
Degree of efficiency	> 97% @ 24 V input voltage
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.
Depth x width x height / Net weight	125 / 32 / 125 mm / 568 g

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	
Tightening torque range	
Note	

Ordering data

Type	Qty.	Order No.
PRO DM 10	1	2486070000
Note		

Input		Output	
Connection system		Connection system	
Number of terminals		Number of terminals	
Wire cross-section, rigid min/max	mm ²	Wire cross-section, rigid min/max	mm ²
Wire cross-section, flexible min/max	mm ²	Wire cross-section, flexible min/max	mm ²
Wire cross-section, AWG/kcmil min/max		Wire cross-section, AWG/kcmil min/max	
Tightening torque range		Tightening torque range	
Note			

Input		Output	
Connection system		Connection system	
Number of terminals		Number of terminals	
Wire cross-section, rigid min/max	mm ²	Wire cross-section, rigid min/max	mm ²
Wire cross-section, flexible min/max	mm ²	Wire cross-section, flexible min/max	mm ²
Wire cross-section, AWG/kcmil min/max		Wire cross-section, AWG/kcmil min/max	
Tightening torque range		Tightening torque range	
Note			

Type	Qty.	Order No.
PRO DM 10	1	2486070000
Note		

Type	Qty.	Order No.
PRO DM 20	1	2486080000
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



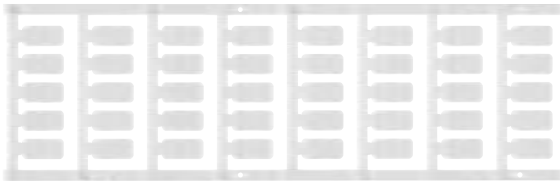
Type	Order No.
CP A WALLADAPTER 45 MM	1461850000

Small screwdriver



Type	Blade type	Size/AF	a	b	c	Order No.
SDIK PH1		1.00			80	9008570000
SDIS 0.5X3.0X100	B		0.5	3	100	9008380000

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