Datasheet

connectPower PROeco

Single- and three-phase switched-mode power supply units

NEW

The new switch-mode power supply units of the PROeco series fit optimally in machine construction applications where space, ease of use and efficiency are top priorities. Direct parallel operation, a status relay and adjustable output voltage are basic features required for most every application. A visual display indicates the upper load limit from 90% and makes servicing and integrating the PROeco power supplies particularly easy. With an extremely low depth profile of only 100 mm, the supplies are ideal for use in the smallest of spaces, such as electrical cabinets and low profile distribution enclosures.

The efficiency levels of up to 93% level is considerably higher than conventional power supplies in this class and, thanks to the associated reduced heat generation, use in small cabinets is easy.

Features:

- Slim design with extremely narrow housing depth of 100 mm
- Wide operating temperature range: –25°C...+70°C
- The output voltage can be precisely adjusted via a potentiometer on supply front
- Remote monitoring via integrated status relay
- Three-colored LED indicators for simple error detection
- Advanced visual warning indication at 90% of rated output current
- High efficiency of up to 93% on selected models
- International approvals: CE, TÜV and cULus

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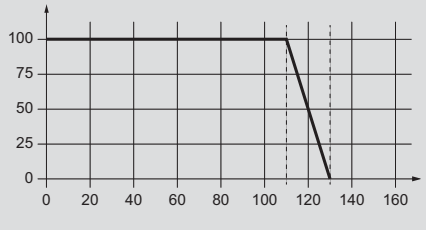
PROeco power supplies with basic functionality and a high level of reliability

- 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-colored LED indicators for simple error detection
- Advanced visual warning at 90% rated output current
- International approvals

Technical Data

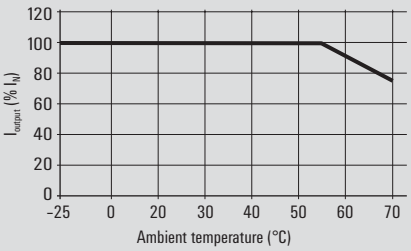
General data	
Ambient temp. operating / storage temperature	–25 °C...+70 °C / –40 °C...+85 °C
Max. perm. air humidity (operation)	5 %...95 % RH
Degree of protection	IP 20
Class of protection	I, with PE connection
Pollution degree	2
Insulation voltage input/output	3 kV I/O / 2 kV I/earth / 0.5 kV O/earth
MTBF	> 500.000 h acc. to IEC 1709 (SN29500)
Parallel connection option	yes, max. 5 without diode module
Housing version	metal, corrosion resistant
Mounting position, installation notice	horizontal on mounting rail TS 35, 50 mm spacing top and bottom for free air circulation, can be mounted side-by-side with 15 mm space between units.
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

IU Characteristic curve

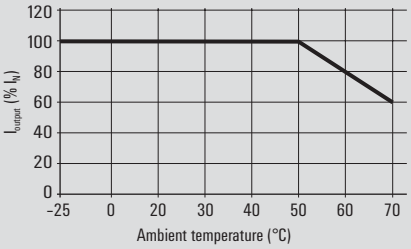


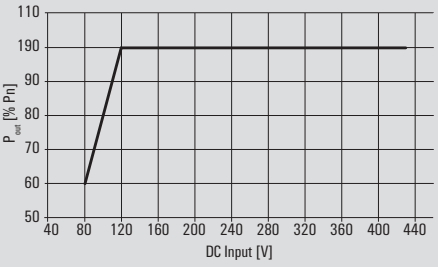
Derating curves

≤ 480 Watt



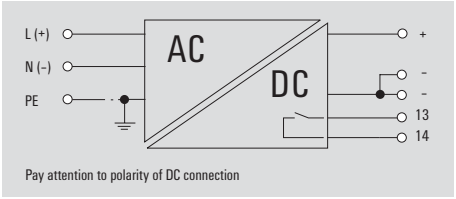
960 Watt





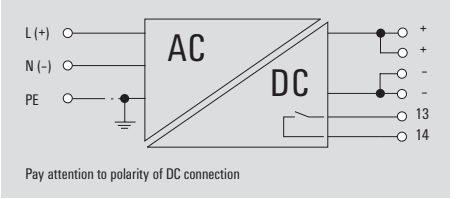
PROeco

PRO ECO 72W 24V 3A



Pay attention to polarity of DC connection

PRO ECO 120W 24V 5A



Pay attention to polarity of DC connection

Technical Data

Input			
Rated input voltage		100 ... 240 V AC	100 ... 240 V AC
AC input voltage range		85 ... 264 V AC (Derating @ 100 V AC)	85 ... 264 V AC (Derating @ 100 V AC)
AC frequency range		47 ... 63 Hz	47 ... 63 Hz
DC input voltage range		80 ... 370 DC (Derating @ 120 V DC)	80 ... 370 DC (Derating @ 120 V DC)
AC current consumption		0.55 A @ 230 V AC / 1.04 A @ 110 V AC	1.26 A @ 230 V AC / 2.24 A @ 110 V AC
DC current consumption		0.22 A @ 370 V DC / 0.68 A @ 120 V DC	0.39 A @ 370 V DC / 1.16 A @ 120 V DC
Input fuse (internal) / inrush current		Yes / max. 40	Yes / max. 40
Recommended back-up fuse		2 A / DI, Safety fuse 6 A, Char. B, Circuit breaker 2...4 A, Char. C, Circuit breaker	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 ± 1 %	24 V DC ± 1 %
Output voltage		22...28 V DC (adjustable via potentiometer on front)	22...28 V DC (adjustable via potentiometer on front)
Ramp-up time / residual ripple, switching peaks		< 100 ms / < 50 mVSS @ 24 V DC, I_R	< 100 ms / < 50 mVSS @ 24 V DC, I_R
Rated output current @ U_{rated}		3 A up to 55 °C	5 A up to 55 °C
Continuous output current @ 24 V DC		3 A @ 55 °C, 2.25 A @ 70 °C	5 A @ 55 °C, 3.75 A @ 70 °C
Capacitive load		Unrestricted	Unrestricted
Protection against reverse voltages from the load		30...35 V DC	30...35 V DC
Protection against internal surge voltage		35 V DC	35 V DC
Signalling			
DC OK		LED Green (U_{output} > 21.6 V DC)	LED Green (U_{output} > 21.6 V DC)
Alarm		LED Yellow (I_{output} > 90 % I_R)	LED Yellow (I_{output} > 90 % I_R)
Error		LED Red (Overload, overtemperature, short-circuit, U_{output} < 20.4 V DC)	LED Red (Overload, overtemperature, short-circuit, U_{output} < 20.4 V DC)
Voltage monitoring / no-voltage contact / contact load		Yes / NO contact / max. 30 V AC/DC 1 A	Yes / NO contact / max. 30 V AC/DC 1 A
On/Off relay		Output voltage > 21.6 V DC / < 20.4 V DC	Output voltage > 21.6 V DC / < 20.4 V DC
General data			
Efficiency		> 87 % @ 230 V AC & 3 A	> 87 % @ 230 V AC & 5 A
Power loss @ idling / nominal load		4 W / 9.5 W	4 W / 15 W
Earth discharge current		< 1 mA	< 1 mA
Power factor (approx.)		> 0.42 @ 230 V AC / > 0.45 @ 115 V AC	> 0.47 @ 230 V AC / > 0.56 @ 115 V AC
Mains buffering @ I_{rated}		> 100 ms @ 230 V AC / > 20 ms @ 115 V AC	> 80 ms @ 230 V AC / > 20 ms @ 115 V AC
Parallel connection option		yes, max. 5	yes, max. 5
Height x width x depth / weight		125 / 34 / 100 mm / 0.5 kg	125 / 40 / 100 mm / 0.6 kg
Approvals			
Approvals		CE, TÜV (EN/IEC 60950-1), cULus	CE, TÜV (EN/IEC 60950-1), cULus
Connection data		**Input** **Output**	**Input** **Output**
Conductor connection system		Screw connection Screw connection	Screw connection Screw connection
Number of terminals		3 for L/N/PE 5 (13,14,+, - -)	3 for L/N/PE 6 (13,14,+,+, - -)
Wire cross-section, rigid min/max	mm²	0.5/6 0.5/6	0.5/6 0.5/6
Wire cross-section, flexible min/max	mm²	0.5/2.5 0.5/2.5	0.5/2.5 0.5/2.5
Wire cross-section, AWG/kcmil	min/max	26/12 26/12	26/12 26/12
Min./max. tightening torque range	Nm	0.5/0.6 0.5/0.6	0.5/0.6 0.5/0.6
Stripping length	mm	6 6	6 6
Note			

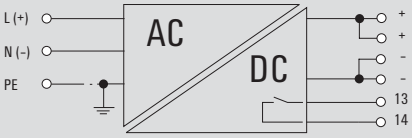
Ordering Data

	Type	**Qty.**	**Part No.**
	PRO ECO 72W 24V 3A	1	**1469470000**
Note	The internal varistor found in a switch-mode power unit does not replace the necessary surge protection in a system.		

	Type	**Qty.**	**Part No.**
	PRO ECO 120W 24V 5A	1	**1469480000**
	The internal varistor found in a switch-mode power unit does not replace the necessary surge protection in a system.		

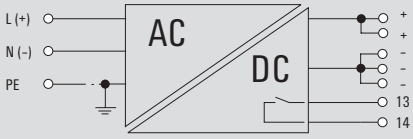
PROeco

PRO ECO 240W 24V 10A



Pay attention to polarity of DC connection

PRO ECO 480W 24V 20A



Pay attention to polarity of DC connection

Technical Data

Input		
Rated input voltage	100 ... 240 V AC	100 ... 240 V AC
AC input voltage range	85 ... 264 V AC (Derating @ 100 V AC)	85 ... 264 V AC (Derating @ 100 V AC)
AC frequency range	47 ... 63 Hz	47 ... 63 Hz
DC input voltage range	80 ... 370 DC (Derating @ 120 V DC)	80 ... 370 DC (Derating @ 120 V DC)
AC current consumption	1.23 A @ 230 V AC / 2.47 A @ 110 V AC	2.37 A @ 230 V AC / 5.2 A @ 110 V AC
DC current consumption	1.18 A @ 370 V DC / 2.4 A @ 120 V DC	1.55 A @ 370 V DC / 4.65 A @ 120 V DC
Input fuse (internal) / inrush current	Yes / max. 15 A	Yes / max. 3 A
Recommended back-up fuse	4 A / DI, Safety fuse 10 A, Char. B, Circuit breaker 3...4 A, Char. C, Circuit breaker	6 A / DI, Safety fuse 16 A, Char. B, Circuit breaker 6...8 A, Char. C, Circuit breaker
Output		
Rated output voltage	24 V DC ± 1 %	24 V DC ± 1 %
Output voltage	22...28 V DC (adjustable via potentiometer on front)	22...28 V DC (adjustable via potentiometer on front)
Ramp-up time / residual ripple, switching peaks	< 100 ms / < 50 mVSS @ 24 V DC, I_R	< 100 ms / < 50 mVSS @ 24 V DC, I_R
Rated output current @ U_{rated}	10 A up to 55 °C	20 A up to 55 °C
Continuous output current @ 24 V DC	10 A @ 55 °C, 7.5 A @ 70 °C	20 A @ 55 °C, 15 A @ 70 °C
Capacitive load	Unrestricted	Unrestricted
Protection against reverse voltages from the load	30...35 V DC	30...35 V DC
Protection against internal surge voltage	35 V DC	35 V DC
Signalling		
DC OK	LED Green (U_{output} > 21.6 V DC)	LED Green (U_{output} > 21.6 V DC)
Alarm	LED Yellow (I_{output} > 90 % I_R)	LED Yellow (I_{output} > 90 % I_R)
Error	LED Red (Overload, overtemperature, short-circuit, U_{output} < 20.4 V DC)	LED Red (Overload, overtemperature, short-circuit, U_{output} < 20.4 V DC)
Voltage monitoring / no-voltage contact / contact load	Yes / NO contact / max. 30 V AC/DC 1 A	Yes / NO contact / max. 30 V AC/DC 1 A
On/Off relay	Output voltage > 21.6 V DC / < 20.4 V DC	Output voltage > 21.6 V DC / < 20.4 V DC
General data		
Efficiency	> 90 % @ 230 V AC & 10 A	> 91 % @ 230 V AC & 20 A
Power loss @ idling / nominal load	3 W / 24 W	5 W / 43 W
Earth discharge current	< 1 mA	< 1 mA
Power factor (approx.)	> 0.93 @ 230 V AC / > 0.99 @ 115 V AC	> 0.97 @ 230 V AC / > 0.99 @ 115 V AC
Mains buffering @ I_{rated}	> 20 ms @ 230 V AC / > 20 ms @ 115 V AC	> 20 ms @ 230 V AC / > 20 ms @ 115 V AC
Parallel connection option	yes, max. 5	yes, max. 3
Height x width x depth / weight	125 / 60 / 100 mm / 1 kg	125 / 100 / 120 mm / 1.6 kg
Approvals		
Approvals	CE, TÜV (EN/IEC 60950-1), cULus	CE, TÜV (EN/IEC 60950-1), cULus

Connection data		**Input**	**Output**	**Input**	**Output**
Conductor connection system		Screw connection	Screw connection	Screw connection	Screw connection
Number of terminals		3 for L/N/PE	6 (13,14,+,+, - -)	3 for L/N/PE	7 (13,14,+,+, - ,-,-)
Wire cross-section, rigid min/max	mm²	0.5/6	0.5/6	0.5/6	0.18/6
Wire cross-section, flexible min/max	mm²	0.5/2.5	0.5/2.5	0.5/2.5	0.5/2.5
Wire cross-section, AWG/kcmil	min/max	26/12	26/12	26/12	26/10
Min./max. tightening torque range	Nm	0.5/0.6	0.5/0..6	0.5/0.6	0.5/0.6
Stripping length	mm	6	6	6	7
Note					

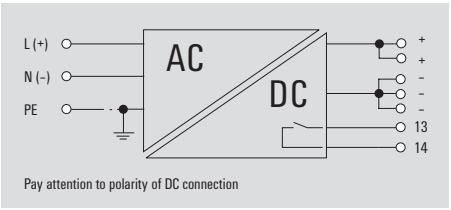
Ordering Data

	Type	Qty.	Part No.
	PRO ECO 240W 24V 10A	1	**1469490000**
Note	The internal varistor found in a switch-mode power unit does not replace the necessary surge protection in a system.		

	Type	Qty.	Part No.
	PRO ECO 480W 24V 20A	1	**1469510000**
Note	The internal varistor found in a switch-mode power unit does not replace the necessary surge protection in a system.		

PROeco

PRO ECO 960W 24V 40A



Pay attention to polarity of DC connection

Technical Data

Input	
Rated input voltage	100 ... 240 V AC
AC input voltage range	85 ... 264 V AC (Derating @ 100 V AC)
AC frequency range	47 ... 63 Hz
DC input voltage range	80 ... 370 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. 3 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 ± 1 %
Output voltage	22...28 V DC (adjustable via potentiometer on front)
Ramp-up time / residual ripple, switching peaks	< 100 ms / < 50 mVSS @ 24 V DC, I_R
Rated output current @ U_{rated}	40 A up to 50 °C
Continuous output current @ 24 V DC	40 A @ 50 °C, 24 A @ 70 °C
Capacitive load	Unrestricted
Protection against reverse voltages from the load	30...35 V DC
Protection against internal surge voltage	35 V DC
Signalling	
DC OK	LED Green (U_{output} > 21.6 V DC)
Alarm	LED Yellow (I_{output} > 90 % I_R)
Error	LED Red (Overload, overtemperature, short-circuit, U_{output} < 20.4 V DC)
Voltage monitoring / no-voltage contact / contact load	Yes / NO contact / max. 30 V AC/DC 1 A
On/Off relay	Output voltage > 21.6 V DC / < 20.4 V DC
General data	
Efficiency	> 93 % @ 230 V AC & 40 A
Power loss @ idling / nominal load	6 W / 76 W
Earth discharge current	< 1 mA
Power factor (approx.)	> 0.97 @ 230 V AC / > 0.99 @ 115 V AC
Mains buffering @ I_{rated}	> 20 ms @ 230 V AC / > 20 ms @ 115 V AC
Parallel connection option	yes, max. 3
Height x width x depth / weight	125 / 160 / 120 mm / 2.9 kg
Approvals	
Approvals	CE, TÜV (EN/IEC 60950-1), cULus

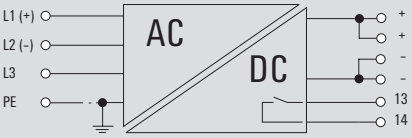
Connection data	**Input**	**Output**
Conductor connection system	Screw connection	Screw connection
Number of terminals	3 for L/N/PE	7 (13,14,+,+,+, - -)
Wire cross-section, rigid min/max mm²	0.18/6	0.5/16
Wire cross-section, flexible min/max mm²	0.5/2.5	2.5/10
Wire cross-section, AWG/kcmil min/max	26/10	22/8
Min./max. tightening torque range Nm	0.5/0.6	1.2/1.5
Stripping length mm	7	12
Note		

Ordering Data

	Type	**Qty.**	**Part No.**
	PRO ECO 960W 24V 40A	1	**1469520000**
Note	The internal varistor found in a switch-mode power unit does not replace the necessary surge protection in a system.		

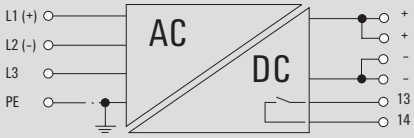
PROeco

PRO ECO3 120W 24V 5A



Pay attention to polarity of DC connection

PRO ECO3 240W 24V 10A



Pay attention to polarity of DC connection

Technical Data

Input		
Rated input voltage	3 x 400...3 x 500 V AC (Wide-range input)	3 x 400...3 x 500 V AC (Wide-range input)
AC input voltage range	3 x 340...3 x 575 V AC / 2 x 360...2 x 575 V AC	3 x 340...3 x 575 V AC / 2 x 360...2 x 575 V AC
AC frequency range	47...63 Hz	47...63 Hz
DC input voltage range	450...800 V DC (max. 500 V DC in accordance with UL 508)	450...800 V DC (max. 500 V DC in accordance with UL 508)
AC current consumption	0.3 A @ 3 x 500 V AC / 0.4 A @ 3 x 400 V AC	0.6 A @ 3 x 500 V AC / 0.8 A @ 3 x 400 V AC
DC current consumption	0.2 A @ 800 V DC / 0.4 A @ 450 V DC	0.4 A @ 800 V DC / 0.7 A @ 450 V DC
Input fuse (internal) / inrush current	Yes / max. 40 A	Yes / max. 50 A
Recommended back-up fuse	2 A / DI, Safety fuse 2...3 A, Char. C, Circuit breaker	2 A / DI, Safety fuse 2...3 A, Char. C, Circuit breaker
Output		
Rated output voltage	24 V DC ± 1 %	24 V DC ± 1 %
Output voltage	22...28 V DC (adjustable via potentiometer on front)	22...28 V DC (adjustable via potentiometer on front)
Ramp-up time / residual ripple, switching peaks	< 100 ms / < 50 mVSS @ 24 V DC, I_R	< 100 ms / < 50 mVSS @ 24 V DC, I_R
Rated output current @ U_{rated}	5 A up to 55 °C	10 A up to 55 °C
Continuous output current @ 24 V DC	5 A @ 55 °C, 3.75 A @ 70 °C	10 A @ 55 °C, 7.5 A @ 70 °C
Capacitive load	Unrestricted	Unrestricted
Protection against reverse voltages from the load	30...35 V DC	30...35 V DC
Protection against internal surge voltage	35 V DC	35 V DC
Signalling		
DC OK	LED Green (U_{output} > 21.6 V DC)	LED Green (U_{output} > 21.6 V DC)
Alarm	LED Yellow (I_{output} > 90 % I_R)	LED Yellow (I_{output} > 90 % I_R)
Error	LED Red (Overload, overtemperature, short-circuit, U_{output} < 20.4 V DC)	LED Red (Overload, overtemperature, short-circuit, U_{output} < 20.4 V DC)
Voltage monitoring / no-voltage contact / contact load	Yes / NO contact / max. 30 V AC/DC 1 A	Yes / NO contact / max. 30 V AC/DC 1 A
On/Off relay	Output voltage > 21.6 V DC / < 20.4 V DC	Output voltage > 21.6 V DC / < 20.4 V DC
General data		
Efficiency	87 % @ 3 x 500 V AC / 88 % @ 3 x 400 V AC	88 % @ 3 x 500 V AC / 89 % @ 3 x 400 V AC
Power loss @ idling / nominal load	6 W / 13 W	8 W / 26 W
Earth discharge current	< 1 mA	< 0.5 mA
Power factor (approx.)	> 0.4 @ 3 x 500 V AC / > 0.45 @ 3 x 400 V AC	> 0.45 @ 3 x 500 V AC / > 0.5 @ 3 x 400 V AC
Mains buffering @ I_{rated}	> 40 ms @ 3 x 500 V AC / > 20 ms @ 3 x 400 V AC	> 40 ms @ 3 x 500 V AC / > 20 ms @ 3 x 400 V AC
Parallel connection option	yes, max. 5	yes, max. 5
Height x width x depth / weight	125 / 40 / 100 mm / 0.6 kg	125 / 60 / 100 mm / 1 kg
Approvals		
Approvals	CE, TÜV (EN/IEC 60950-1), cULus	CE, TÜV (EN/IEC 60950-1), cULus

Connection data		**Input**	**Output**	**Input**	**Output**
Conductor connection system		Screw connection	Screw connection	Screw connection	Screw connection
Number of terminals		4 for L1/L2/L3/PE	6 (13,14,+,+, - -)	4 for L1/L2/L3/PE	6 (13,14,+,+, - -)
Wire cross-section, rigid min/max	mm²	0.18/6	0.5/6	0.18/6	0.5/6
Wire cross-section, flexible min/max	mm²	0.5/2.5	0.5/2.5	0.5/2.5	0.5/2.5
Wire cross-section, AWG/kcmil	min/max	26/10	26/12	26/10	26/12
Min./max. tightening torque range	Nm	0.5/0.6	0.5/0.6	0.5/0.6	0.5/0.6
Stripping length	mm	8	6	7	6
Note					

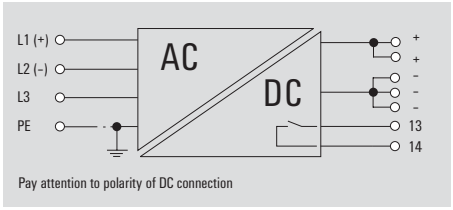
Ordering Data

	Type	**Qty.**	**Part No.**
	PRO ECO3 120W 24V 5A	1	**1469530000**
Note	The internal varistor found in a switch-mode power unit does not replace the necessary surge protection in a system.		

Type	**Qty.**	**Part No.**
PRO ECO3 240W 24V 10A	1	**1469540000**
The internal varistor found in a switch-mode power unit does not replace the necessary surge protection in a system.		

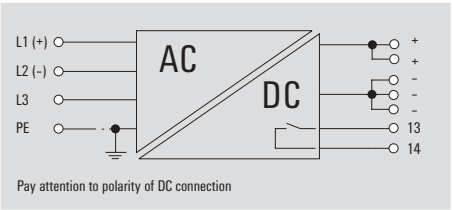
PROeco

PRO ECO3 480W 24V 20A



Pay attention to polarity of DC connection

PRO ECO3 960W 24V 40A



Pay attention to polarity of DC connection

Technical Data

Input		
Rated input voltage	3 x 400...3 x 500 V AC (Wide-range input)	3 x 400...3 x 500 V AC (Wide-range input)
AC input voltage range	3 x 340...3 x 575 V AC / 2 x 360...2 x 575 V AC	3 x 340...3 x 575 V AC / 2 x 360...2 x 575 V AC
AC frequency range	47...63 Hz	47...63 Hz
DC input voltage range	450...800 V DC (max. 500 V DC in accordance with UL 508)	450...800 V DC (max. 500 V DC in accordance with UL 508)
AC current consumption	1.2 A @ 3 x 500 V AC / 1.5 A @ 3 x 400 V AC	2.15 A @ 3 x 500 V AC / 2.68 A @ 3 x 400 V AC
DC current consumption	0.7 A @ 800 V DC / 1.2 A @ 450 V DC	1.37 A @ 800 V DC / 2.37 A @ 450 V DC
Input fuse (internal) / inrush current	Yes / max. 50 A	Yes / max. 40 A
Recommended back-up fuse	4 A / DI, Safety fuse 3...5 A, Char. C, Circuit breaker	6 A / DI, Safety fuse 10 A, Char. B, Circuit breaker 6...8 A, Char. C, Circuit breaker
Output		
Rated output voltage	24 V DC ± 1 %	24 V DC ± 1 %
Output voltage	22...28 V DC (adjustable via potentiometer on front)	22...28 V DC (adjustable via potentiometer on front)
Ramp-up time / residual ripple, switching peaks	< 100 ms / < 50 mVSS @ 24 V DC, I_R	< 100 ms / < 50 mVSS @ 24 V DC, I_R
Rated output current @ U_{rated}	20 A up to 55 °C	40 A up to 50 °C
Continuous output current @ 24 V DC	20 A @ 55 °C, 15 A @ 70 °C	40 A @ 50 °C, 24 A @ 70 °C
Capacitive load	Unrestricted	Unrestricted
Protection against reverse voltages from the load	30...35 V DC	30...35 V DC
Protection against internal surge voltage	35 V DC	35 V DC
Signalling		
DC OK	LED Green (U_{output} > 21.6 V DC)	LED Green (U_{output} > 21.6 V DC)
Alarm	LED Yellow (I_{output} > 90 % I_R)	LED Yellow (I_{output} > 90 % I_R)
Error	LED Red (Overload, overtemperature, short-circuit, U_{output} < 20.4 V DC)	LED Red (Overload, overtemperature, short-circuit, U_{output} < 20.4 V DC)
Voltage monitoring / no-voltage contact / contact load	Yes / NO contact / max. 30 V AC/DC 1 A	Yes / NO contact / max. 30 V AC/DC 1 A
On/Off relay	Output voltage > 21.6 V DC / < 20.4 V DC	Output voltage > 21.6 V DC / < 20.4 V DC
General data		
Efficiency	89 % @ 3 x 500 V AC / 90 % @ 3 x 400 V AC	90 % @ 3 x 500 V AC / 91 % @ 3 x 400 V AC
Power loss @ idling / nominal load	8 W / 48 W	5 W / 95 W
Earth discharge current	< 0.5 mA	< 1 mA
Power factor (approx.)	> 0.41 @ 3 x 500 V AC / > 0.43 @ 3 x 400 V AC	> 0.56 @ 3 x 500 V AC / > 0.56 @ 3 x 400 V AC
Mains buffering @ I_{rated}	> 30 ms @ 3 x 500 V AC / > 20 ms @ 3 x 400 V AC	> 25 ms @ 3 x 500 V AC / > 20 ms @ 3 x 400 V AC
Parallel connection option	yes, max. 3	yes, max. 3
Height x width x depth / weight	125 / 100 / 120 mm / 1.3 kg	125 / 160 / 120 mm / 2.5 kg
Approvals		
Approvals	CE, TÜV (EN/IEC 60950-1), cULus	CE, TÜV (EN/IEC 60950-1), cULus
Connection data	**Input** / **Output**	**Input** / **Output**
Conductor connection system	Screw connection / Screw connection	Screw connection / Screw connection
Number of terminals	4 for L1/L2/L3/PE / 7 (13,14,+,+, - ,-,-)	4 for L1/L2/L3/PE / 7 (13,14,+,+, - ,-,-)
Wire cross-section, rigid min/max mm²	0.18/6 / 0.18/6	0.18/6 / 0.5/16
Wire cross-section, flexible min/max mm²	0.5/2.5 / 0.5/2.5	0.5/2.5 / 2.5/10
Wire cross-section, AWG/kcmil min/max	26/10 / 26/10	26/10 / 22/8
Min./max. tightening torque range Nm	0.5/0.6 / 0.5/0.6	0.5/0.6 / 1.2/1.5
Stripping length mm	7 / 7	7 / 12
Note		

Ordering Data

Type	**Qty.**	**Part No.**	
PRO ECO3 480W 24V 20A	1	**1469550000**	
Note	The internal varistor found in a switch-mode power unit does not replace the necessary surge protection in a system.		

Type	**Qty.**	**Part No.**	
PRO ECO3 960W 24V 40A	1	**1469560000**	
The internal varistor found in a switch-mode power unit does not replace the necessary surge protection in a system.			