Data sheet

PRO ECO 960W 24V 40A II

Weidmüller Interface GmbH & Co. KG
Klingenbergstraße 26
D-32758 Detmold
Germany

www.weidmueller.com

The new PROeco 2nd generation power supplies maximise the availability of automation applications. The twelve-part series offers standard functions: with high performance, efficiency and suitability for many systems. The three-colour LED makes service activities and the integration of PROeco devices particularly easy. The series is compatible with DC UPS, electronic load monitoring and diode modules and is suitable for setting up power management systems. The compact design suits space-contrained applications, such as flat control cabinets in the field.

General ordering data

Version	Power supply, switch-mode power supply unit, 24 V
Order No.	3025600000
Type	PRO ECO 960W 24V 40A II
GTIN (EAN)	4099986951983
Qty.	1 items

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Technical data

Approvals

Approvals	
ROHS	Conform
UL File Number Search	UL Website
Certificate No. (cURus)	E255651
Certificate no. (cULus)	E258476

Dimensions and weights

Depth	150 mm	Depth (inches)	5.9055 inch
Height	130 mm	Height (inches)	5.1181 inch
Width	112 mm	Width (inches)	4.4094 inch
Net weight	3110 g		

Temperatures

Storage temperature	-40 °C...85 °C	Operating temperature	-25 °C...70 °C
Start-up	≥ -40 °C	Humidity	5...95 % rel. humidity, no condensation

Environmental Product Compliance

RoHS Compliance Status	Compliant with exemption
RoHS Exemption (if applicable/known)	6c, 7a, 7cI
REACH SVHC	Lead 7439-92-1, Lead monoxide 1317-36-8
SCIP	cc530c6d-a7ac-41ec-a2b4-caa3b47dbe25

Rated data UL

Certificate No. (cURus)	E255651

Input

Connection system	Screw connection	
AC input voltage range	85...264 V AC (derating at 100 V AC)	
Recommended back-up fuse	15 A / DI, safety fuse 20 A, Char. B, circuit breaker 16...20 A, Char. C circuit breaker	
Frequency range AC	45...65 Hz	
Rated input voltage	100...240 V AC / 120...340 V DC	
Surge protection	Varistor	
Input fuse	internal	
Wire connection method	Screw connection	
DC input voltage range	110...370 V DC (derating at 120 V DC)	
Current consumption in relation to the input voltage	Voltage type	AC
	Input voltage	100 V
	Input current	10.78 A
	Voltage type	AC
	Input voltage	240 V
	Input current	4.28 A
	Voltage type	DC
	Input voltage	120 V
	Input current	8.7 A

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	Voltage type	DC
	Input voltage	370 V
	Input current	2.75 A
Line regulation (typ.)	1 %	
Nominal power consumption	1026.74 VA	
Inrush current (typ.)	10 A	
Load regulation (typ.)	2 %	
Start-up time, max.	1 s	

Output

Output power	960 W	
Max. residual ripple	<50 mVPP / bandwidth 20 MHz	
Connection system	Screw connection	
Rated output voltage	24 V DC	
Parallel connection option	yes, max. 3	
Overload protection	Yes	
Output voltage, max.	28 V	
Output voltage, min.	22 V	
Wire connection method	Screw connection	
Output voltage, note	(adjustable via potentiometer)	
Nominal output current for Unom	40 A @ 55 °C	
Line regulation (typ.)	1 %	
Capacitive load	unrestricted	
Mains failure bridge-over time	Mains failure bridge-over time, min.	26 ms
	Input voltage type	AC
	Input voltage	230 V
	Output current	40 A
	Output voltage	24 V
	Mains failure bridge-over time, min.	25 ms
	Input voltage type	AC
	Input voltage	120 V
	Output current	40 A
	Output voltage	24 V
Protection against inverse voltage	Yes	
Continuous output current @ UNominal	25 A @ 70 °C	
Load regulation (typ.)	2 %	
Ramp-up time	≤ 100 ms	

General data

AC failure bridging time @ Inom	> 25 ms at 230 V AC / > 25 ms at 120 V AC	
Degree of efficiency	Typ.: 91,6% @ 120 V AC, Typ.: 93,9% @ 230 V AC	
Humidity	5...95 % rel. humidity, no condensation	
Protection degree	IP20	
Surge voltage category	II	
Mounting position, installation notice	on terminal rail TS 35	
Housing version	Metal, corrosion resistant	
Protection against reverse voltages from the load	30...35 V DC	
Power factor	Power factor typical	0.95
	Input voltage	120 V
	Ambient temperature	25 °C
	Output power	960 W
	Power factor typical	0.95
	Input voltage	230 V
	Ambient temperature	25 °C
	Output power	960 W

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Earth leakage current, max.	3.5 mA
Power loss, idling	5 W
Short-circuit protection	Yes
Power loss, nominal load	70 W
Protection against over-heating	Yes

EMC / shock / vibration

Shock resistance IEC 60068-2-27	30 g in all directions	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), EN 61000-4-11 (Dips), IEC 61000-6-1, IEC 61000-6-2, IEC 61000-6-3, IEC 61000-6-4	Vibration resistance IEC 60068-2-6	0.7 g

Insulation coordination

Surge voltage category	II	Pollution severity	2
Protection class	I, with PE connection	Insulation voltage, input/output	4 kV
Insulation voltage input / earth	3 kV	Insulation voltage output / earth	0.5 kV

Electrical safety (applied standards)

Electrical machine equipment	Acc. to EN60204	Safety extra-low voltage	SELV acc. to IEC 61010-1, PELV acc. to IEC 61010-2-201
Safety transformers for switch-mode power supplies	According to EN 61558-2-16		

Connection data (input)

Connection system	Screw connection	Number of terminals	3 for L/N/PE
Screwdriver blade	0.8 x 4.0	Conductor cross-section, AWG/kcmil , max.	10 AWG
Conductor cross-section, AWG/kcmil , min.	20 AWG	Wire connection cross section, flexible (input), max.	4 mm²
Conductor cross-section, flexible , min.	0.22 mm²	Conductor cross-section, rigid , max.	6 mm²
Conductor cross-section, rigid , min.	0.18 mm²	Tightening torque, min.	0.5 Nm
Stripping length (input)	8 mm	Tightening torque, max.	0.6 Nm

Connection data (output)

Connection system	Screw connection	Number of terminals	5 (+ + / - - -)
Conductor cross-section, AWG/kcmil , max.	8 AWG	Conductor cross-section, AWG/kcmil , min.	22 AWG
Conductor cross-section, flexible , max.	16 mm²	Conductor cross-section, flexible , min.	0.5 mm²
Conductor cross-section, rigid , max.	16 mm²	Conductor cross-section, rigid , min.	0.5 mm²
Stripping length (output)	12 mm	Tightening torque, min.	1.2 Nm
Screwdriver blade	1.0 x 5.5	Tightening torque, max.	2.2 Nm

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Connection data (signal)

Wire connection cross-section, flexible (signal), max.	1.5 mm²	Stripping length (Signal)	8 mm
Wire cross-section, AWG/kcmil , max.	14	Wire cross-section, solid , min.	0.2 mm²
Wire cross-section, solid , max.	1.5 mm²	Wire connection cross-section, flexible (signal), min.	0.2 mm²
Number of terminals	2	Wire cross-section, AWG/kcmil , min.	28 mm²

Signalling

Floating contact	Yes	LED green	Operating voltage OK
Contact load (NO contact)	max. 30 V DC / 1 A		

Classifications

ETIM 8.0	EC002540	ETIM 9.0	EC002540
ETIM 10.0	EC002540	ECLASS 14.0	27-04-07-01
ECLASS 15.0	27-04-07-01		

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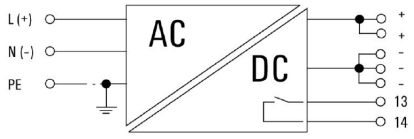
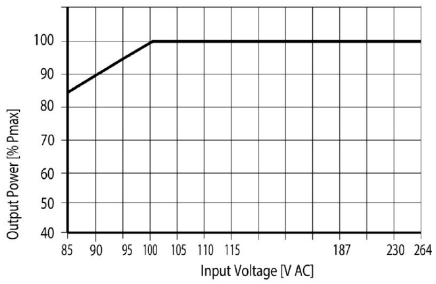
Drawings

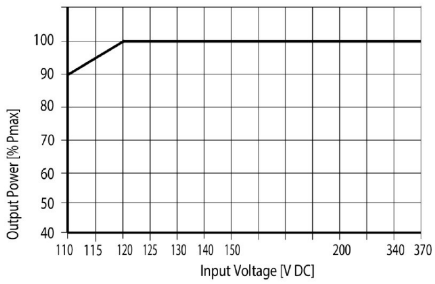


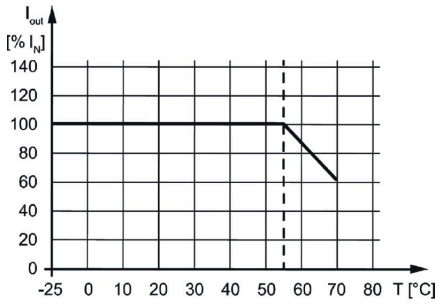
Pay attention to polarity of DC connection

Status indicator and status relay

Operational status	Status LED	Relay contact (NO)
Fault-free operation: U_{OUT} > 90 % of the set voltage	green	closed
Fault: U_{OUT} ≤ 85 % of the set voltage	red	opened
Overload pre-warning: I_{OUT} > 90 % I_N (tolerance: ± 5 %) and U_{OUT} > 90 % of the set voltage	yellow	closed







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Accessories

Slotted screwdriver

VDE insulated screwdriver sets, for working on live parts up to 1000 V AC and 1500 V DC, DIN EN 60900. IEC 900. Each piece is "GS" safety tested. Blade made from fully hardened, high-alloy chromium-vanadium-molybdenum steel, gun-metal finish.

General ordering data

Type	SDIS SLIM 0.6X3.5X100	Version
Order No.	2749610000	Mounting tool, Blade width (B): 3.5 mm, Blade length: 100 mm, Blade
GTIN (EAN)	4050118896350	thickness (A): 0.6 mm
Qty.	1 ST	

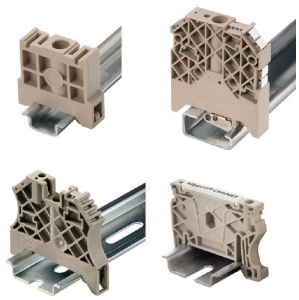
Crosshead screwdriver, Pozidrive

VDE insulated screwdriver sets, for working on live parts up to 1000 V AC and 1500 V DC, DIN EN 60900. IEC 900. Each piece is "GS" safety tested. Blade made from fully hardened, high-alloy chromium-vanadium-molybdenum steel, gun-metal finish.

General ordering data

Type	SDIK SLIM PZ1 X 80	Version
Order No.	2749670000	Screwdriver, Blade width (B): 1 mm, 80 mm, Blade thickness (A): 1
GTIN (EAN)	4050118896411	
Qty.	1 ST	

End bracket



Weidmüller's range of products includes end brackets that guarantee a permanent, reliable mounting on the terminal rail and prevent sliding. Versions with and without screws are available. The end brackets include marking options, also for group markers, and also a test plug holder.

General ordering data

Type	WEW 35/1 V0 GF SW	Version
Order No.	1478990000	End bracket, black, TS 35, V-0, Wemid, Width: 12 mm, 130 °C
GTIN (EAN)	4050118286892	
Qty.	50 ST	

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Accessories

Type	WEW 35/2 V0 GF SW	Version
Order No.	1479000000	End bracket, black, TS 35, V-0, Wemid, Width: 8 mm, 130 °C
GTIN (EAN)	4050118286779	
Qty.	50 ST	

Type	WEW 35/1 SW	Version
Order No.	1162600000	End bracket, black, TS 35, V-2, Wemid, Width: 12 mm, 100 °C
GTIN (EAN)	4032248972630	
Qty.	50 ST	

Installation

Mounting accessory for Weidmüller Power Supplys.

General ordering data

Type	MTA 45 MF	Version
Order No.	1251310000	Electronics housings, Mounting flange
GTIN (EAN)	4050118042719	
Qty.	1 ST	