

## PRO TOP1 960W 48V 20A

**Weidmüller Interface GmbH & Co. KG**

Klingenbergstraße 26

D-32758 Detmold

Germany

[www.weidmueller.com](http://www.weidmueller.com)



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 spacesaving 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.

### General ordering data

Version	Power supply, switch-mode power supply unit, 48 V
Order No.	<a href="#">2466920000</a>
Type	PRO TOP1 960W 48V 20A
GTIN (EAN)	4050118481600
Qty.	1 pc(s).

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## Technical data

### Dimensions and weights

Depth	125 mm	Depth (inches)	4.921 inch
Height	130 mm	Height (inches)	5.118 inch
Width	124 mm	Width (inches)	4.882 inch
Net weight	3,215 g		

### Temperatures

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

### Input

AC input voltage range	85...277 V AC		
Connection system	PUSH IN		
Current consumption in relation to the input voltage	Voltage type	AC	
	Input voltage	100 V	
	Input current	12 A	
	Voltage type	DC	
	Input current	12 A	
DC input voltage range	80 ... 410 V DC		
Frequency range AC	45...65 Hz		
Input fuse (internal)	Yes		
Inrush current	max. 15 A		
Nominal power consumption	1,021 VA		
Rated input voltage	110...240 V AC / 120...340 V DC		
Recommended back-up fuse	16 A, DI / 16 A, Char. B / 16 A, Char C		
Surge protection	Varistor		

### Output

Connection system	PUSH IN		
DCL - peak load reserve	Boost duration	5 s	
	Multiple of the rated current	150 %	
	Boost duration	15 ms	
	Multiple of the rated current	400 %	
Mains failure bridge-over time	> 20 ms @ 115V AC/ 230 VAC		
Nominal output current for $U_{nom}$	20 A @ 60 °C		
Output power	960 W		
Output voltage, max.	56 V		
Output voltage, min.	45 V		
Output voltage, note	adjustable with potentiometer or communication module		
Parallel connection option	Yes, for redundancy and power increase (with ORing MOSFET)		
Protection against inverse voltage	Yes		
Ramp-up time	≤ 100 ms		
Rated output voltage	48 V DC ± 1 %		
Residual ripple, breaking spikes	<100 mV <sub>pp</sub>		

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### General data

AC failure bridging time @ $I_{nom}$	> 20 ms @ 230 V AC / > 20 ms @ 115 V AC	Conformal coating	No
Degree of efficiency	94%	Derating	> 60°C (2.5% / 1°C)
Earth leakage current, max.	3.5 mA	Housing version	Metal, corrosion resistant
Power factor (approx.)	> 0.9	Power loss, idling	10 W
Power loss, nominal load	61.3 W	Protection degree	IP20
Short-circuit protection	Yes, internal	Surge voltage category	III, II

### 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 61000-3-3:2013, EN 61000-6-1:2007, EN 61000-6-2:2005, EN 61000-6-3:2007/A1:2011, EN 61000-6-4:2007/A1:2011	Noise emission in accordance with EN55032	Class B
Shock resistance IEC 60068-2-27	30 g in all directions	Vibration resistance IEC 60068-2-6	2.3 g (on DIN rail), 4 g (with direct mounting)

### Insulation coordination

Insulation voltage input / earth	3.2 kV	Insulation voltage output / earth	0.5 kV
Insulation voltage, input/output	3.5 kV	Pollution severity	2
Protection class	I, with PE connection	Surge voltage category	III, II

### Electrical safety (applied standards)

Electrical machine equipment	Acc. to EN60204	For use with electronic equipment	Acc. to EN50178 / VDE0160
Protection against dangerous shock currents	Acc. to VDE0106-101	Protective separation / protection against electrical shock	VDE0100-410 / acc. to DIN57100-410
Safety extra-low voltage	SELV acc. to IEC 60950-1, PELV according to EN 60204-1	Safety transformers for switch-mode power supplies	According to EN 61558-2-16

### Connection data (input)

Conductor cross-section, AWG/kcmil, max.	4 AWG	Conductor cross-section, AWG/kcmil, min.	20 AWG
Conductor cross-section, flexible, min.	0.75 mm <sup>2</sup>	Conductor cross-section, rigid, max.	16 mm <sup>2</sup>
Conductor cross-section, rigid, min.	0.75 mm <sup>2</sup>	Connection system	PUSH IN
Number of terminals	3 for L/N/PE	Screwdriver blade	0.6 x 3.5
Wire connection cross section, flexible (input), max.	16 mm <sup>2</sup>		

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**Technical data**
**Connection data (output)**

Conductor cross-section, AWG/kcmil , max.	4 AWG	Conductor cross-section, AWG/kcmil , min.	20 AWG
Conductor cross-section, flexible , max.	16 mm <sup>2</sup>	Conductor cross-section, flexible , min.	0.75 mm <sup>2</sup>
Conductor cross-section, rigid , max.	16 mm <sup>2</sup>	Conductor cross-section, rigid , min.	0.75 mm <sup>2</sup>
Connection system	PUSH IN	Number of terminals	5 (+ + / - -)
Screwdriver blade	0.6 x 3.5		

**Connection data (signal)**

Wire connection cross-section, flexible (signal), max.	1.5 mm <sup>2</sup>	Wire connection cross-section, flexible (signal), min.	0.14 mm <sup>2</sup>
Wire connection method	PUSH IN	Wire cross-section, AWG/kcmil , max.	16
Wire cross-section, AWG/kcmil , min.	26 mm <sup>2</sup>	Wire cross-section, solid , max.	1.5 mm <sup>2</sup>
Wire cross-section, solid , min.	0.14 mm <sup>2</sup>		

**Signalling**

Floating contact	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
Status relay (max. load)	Yes Output voltage OK (30 V DC / 1 A)	

**Classifications**

ETIM 6.0	EC002540	ETIM 7.0	EC002540
ETIM 8.0	EC002540	ETIM 9.0	EC002540
ECLASS 9.0	27-04-07-01	ECLASS 9.1	27-04-07-01
ECLASS 10.0	27-04-07-01	ECLASS 11.0	27-04-07-01
ECLASS 12.0	27-04-07-01	ECLASS 13.0	27-04-07-01
ECLASS 14.0	27-04-07-01		

**Environmental Product Compliance**

RoHS Compliance Status	Compliant with exemption
RoHS Exemption (if applicable/known)	6c, 7a, 7cl
REACH SVHC	Lead 7439-92-1
SCIP	6d8cdf22-8230-4af8-86c8-3558c716666d

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## Technical data

### Approvals

Approvals



ROHS	Conform
UL File Number Search	UL Website
Certificate no. (cULus)	E258476
Certificate no. (cULusEX)	E470829

### Downloads

Approval/Certificate/Document of Conformity	<a href="#">Lloyds Register Certificate</a> <a href="#">ABS Certificate</a> <a href="#">BV Certificate.pdf</a> <a href="#">DNV Certificate.pdf</a> <a href="#">RINA Certificate.pdf</a> <a href="#">UL 508 CSA C22.2 Certificate.pdf</a> <a href="#">UL 121201 CSA C22.2 Certificate.pdf</a> <a href="#">DoP EN54.4</a> <a href="#">Declaration of Conformity</a> <a href="#">UK Conformity Assessed</a>
Engineering Data	<a href="#">CAD data – STEP</a> <a href="#">Application notes – PROtop-topGUARD_IO-Link_CODESYS</a> <a href="#">Application notes – PROtop_topGUARD_IO-Link_Twincat</a>
User Documentation	<a href="#">Operating instruction</a> <a href="#">IO-Link Register Description PROtop</a>
Catalogues	<a href="#">Catalogues in PDF-format</a>
Brochures	<a href="#">Produkt Information PROTOP DE</a> <a href="#">Produkt Information PROTOP EN</a>

**Data sheet**

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**Drawings**

