

**PRO TOP1 960W 48V 20A CO****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="#">2467050000</a>
Type	PRO TOP1 960W 48V 20A CO
GTIN (EAN)	4050118481952
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	139 mm	Width (inches)	5.472 inch
Net weight	3,382 g		

## Temperatures

Storage temperature	-40 °C...85 °C	Operating temperature	-40 °C...70 °C
Humidity at operating temperature	5...100 % no condensation		

## Input

AC input voltage range	85...277 V AC	
Connection system	Clamping yoke	
Current consumption in relation to the input voltage	Voltage type	AC
	Input voltage	100 V
	Input current	12 A
	Voltage type	DC
	Input voltage	120 V
	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		Clamping yoke connection	
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 <sub>nom</sub>	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 comunication module		
Parallel connection option	yes, max 10		
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	Yes
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 61000-6-1:2007, 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
Shock resistance IEC 60068-2-27	30 g in all directions	Vibration resistance IEC 60068-2-6	Class B 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.	10 AWG	Conductor cross-section, AWG/kcmil , min.	26 AWG
Conductor cross-section, flexible , min.	0.22 mm <sup>2</sup>	Conductor cross-section, rigid , max.	6 mm <sup>2</sup>
Conductor cross-section, rigid , min.	0.18 mm <sup>2</sup>	Connection system	Clamping yoke
Number of terminals	3 for L/N/PE	Screwdriver blade	0.8 x 4.0
Wire connection cross section, flexible (input), max.	4 mm <sup>2</sup>		

**Connection data (output)**

Conductor cross-section, AWG/kcmil , max.	6 AWG	Conductor cross-section, AWG/kcmil , min.	22 AWG
Conductor cross-section, flexible , max.	16 mm <sup>2</sup>	Conductor cross-section, flexible , min.	6 mm <sup>2</sup>
Conductor cross-section, rigid , max.	16 mm <sup>2</sup>	Conductor cross-section, rigid , min.	0.2 mm <sup>2</sup>
Connection system	Clamping yoke connection	Number of terminals	5 (+ + / - -)
Screwdriver blade	1.0 x 5.5		

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## Technical data

## Connection data (signal)

Wire connection cross-section, flexible (signal), max.	1.5 mm <sup>2</sup>	Wire connection cross-section, flexible (signal), min.	0.2 mm <sup>2</sup>
Wire connection method	Screw connection	Wire cross-section, AWG/kcmil, max.	16
Wire cross-section, AWG/kcmil, min.	28 mm <sup>2</sup>	Wire cross-section, solid, max.	1.5 mm <sup>2</sup>
Wire cross-section, solid, min.	0.2 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)	

## Approbations

Certificate no. (cULus)	E258476	Certificate no. (cULusEX)	E470829
Institute (cULus)	CULUS	Institute (cULusEX)	CULUSEX

## 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

## Environmental Product Compliance

REACH SVHC	Lead 7439-92-1
SCIP	6d8cdf22-8230-4af8-86c8-3558c716666d

## Approvals

Approvals



ROHS	Conform
UL File Number Search	UL Website
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[www.weidmueller.com](http://www.weidmueller.com)**Technical data****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="#">G3 Certificate.pdf</a>
	<a href="#">DoP EN54.4</a>
	<a href="#">Declaration of Conformity</a>
Engineering Data	<a href="#">CAD data – STEP</a>
User Documentation	<a href="#">Instruction sheet</a>
Catalogues	<a href="#">Catalogues in PDF-format</a>
Brochures	<a href="#">Produkt Information PROTOP DE</a>
	<a href="#">Produkt Information PROTOP EN</a>

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# Drawings



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[www.weidmueller.com](http://www.weidmueller.com)**Accessories****Installation**

Mounting accessory for Weidmüller Power Supplies.

**General ordering data**

Type	PRO TOP BRACKETS	Version
Order No.	<a href="#">2575900000</a>	Mounting foot
GTIN (EAN)	4050118683059	
Qty.	1 pc(s).	
Type	MTA 45 MF	Version
Order No.	<a href="#">1251310000</a>	Electronics housings, Mounting flange
GTIN (EAN)	4050118042719	
Qty.	1 pc(s).	
Type	CP A WALLADAPTER 30 MM	
Order No.	<a href="#">1461870000</a>	
GTIN (EAN)	4050118268225	
Qty.	1 pc(s).	

**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.	<a href="#">2749610000</a>	Mounting tool, Blade width (B): 3.5 mm, Blade length: 100 mm, Blade
GTIN (EAN)	4050118896350	thickness (A): 0.6 mm
Qty.	1 pc(s).	

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## Accessories

## W-Series

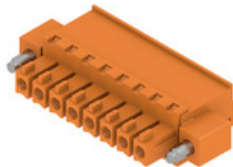


Weidmüller's range of products includes end brackets that guarantee a permanent, reliable mounting on the terminal rail and prevent sliding. Versions with and without screws are available. The end brackets include marking options, also for group markers, and also a test plug holder.

## General ordering data

Type	WEW 35/1 V0 GF SW	Version
Order No.	<a href="#">1478990000</a>	End bracket, Wemid, black, Rail: TS 35, when screwed in
GTIN (EAN)	4050118286892	
Qty.	50 pc(s).	
Type	WEW 35/2 V0 GF SW	Version
Order No.	<a href="#">1479000000</a>	End bracket, Wemid, black, Rail: TS 35, when screwed in
GTIN (EAN)	4050118286779	
Qty.	50 pc(s).	

## BCZ 3.81/270F



Female socket connectors with clamping-yoke screw system for connecting wires.

Three wire-outlet directions are available and provide flexible connection-level design options:

- 180° wire parallel to plugging direction
- 90° wire perpendicular and above plugging direction
- 270° wire perpendicular and below plugging direction

There are three housing shapes, covering many different requirements, to choose from:

- Standard housing without flange
- Flange with screw (F)
- Flange featuring Weidmüller's patented release latch (LR) for lock-and-release latching with no strain and no tools needed.

Weidmüller's 3.81-mm-pitch (0.15 inch) plug-in connectors are compatible with the layouts of customary connectors and offer space for labelling and coding.

## General ordering data

Type	BCZ 3.81/03/270F SN BK ...	Version	Product data	Packaging
Order No.	<a href="#">2569240000</a>	PCB plug-in connector, female plug, 3.81 mm, Number of poles: 3,	IEC: 320 V / 17.5 A / 0.2 - 1.5 mm <sup>2</sup>	Box
GTIN (EAN)	4050118592436	180°, Clamping yoke connection, Clamping range, max.: 1.5 mm <sup>2</sup> ,	UL: 300 V / 10 A / AWG 28 - AWG 16	
Qty.	50 pc(s).	Box		



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## Accessories

### Communication modules



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.

### General ordering data

Type	PRO COM CAN OPEN	Version
Order No.	<a href="#">2467320000</a>	Communication module
GTIN (EAN)	4050118482225	
Qty.	1 pc(s).	
Type	PRO COM IO-LINK	Version
Order No.	<a href="#">2587360000</a>	Communication module
GTIN (EAN)	4050118599152	
Qty.	1 pc(s).	
Type	PRO COM CAN OPEN EX	Version
Order No.	<a href="#">2467340000</a>	Communication module
GTIN (EAN)	4050118481822	
Qty.	1 pc(s).	
Type	PRO COM DISPLAY 7S	Version
Order No.	<a href="#">2466960000</a>	Communication module
GTIN (EAN)	4050118481808	
Qty.	1 pc(s).	