

PRO TOP1 960W 48V 20A**Weidmüller Interface GmbH & Co. KG**

Klingenbergstraße 26

D-32758 Detmold

Germany

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.	2466920000
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		

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 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	PUSH IN	
DCL - peak load reserve	Multiple of the rated current	150 %
	Boost duration	5 s
	Multiple of the rated current	400 %
	Boost duration	15 ms
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, 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 _{pp}	

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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	Start-up	≥ -40 °C
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	
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.	4 AWG	Conductor cross-section, AWG/kcmil , min.	20 AWG
Conductor cross-section, flexible , min.	0.75 mm ²	Conductor cross-section, rigid , max.	16 mm ²
Conductor cross-section, rigid , min.	0.75 mm ²	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 ²		

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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 ²	Conductor cross-section, flexible , min.	0.75 mm ²
Conductor cross-section, rigid , max.	16 mm ²	Conductor cross-section, rigid , min.	0.75 mm ²
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 ²	Wire connection cross-section, flexible (signal), min.	0.14 mm ²
Wire connection method	PUSH IN	Wire cross-section, AWG/kcmil , max.	16
Wire cross-section, AWG/kcmil , min.	26 mm ²	Wire cross-section, solid , max.	1.5 mm ²
Wire cross-section, solid , min.	0.14 mm ²		

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

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Technical data**Approvals**

Approvals



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

Downloads

Approval/Certificate/Document of Conformity	Lloyds Register Certificate ABS Certificate BV Certificate.pdf DNV Certificate.pdf RINA Certificate.pdf UL 508_CSA C22.2 Certificate.pdf UL 121201_CSA C22.2 Certificate.pdf DoP EN54.4 Declaration of Conformity UK Conformity Assessed
Engineering Data	CAD data – STEP
User Documentation	Operating instruction IO-Link Register Description PROtop
Catalogues	Catalogues in PDF-format
Brochures	Produkt Information PROTOP DE Produkt Information PROTOP EN

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Drawings



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Accessories

Installation



Mounting accessory for Weidmüller Power Supplies.

General ordering data

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

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 IO-LINK	Version
Order No.	2587360000	Communication module
GTIN (EAN)	4050118599152	
Qty.	1 pc(s).	
Type	PRO COM DISPLAY 7S	Version
Order No.	2466960000	Communication module
GTIN (EAN)	4050118481808	
Qty.	1 pc(s).	
Type	PRO COM CAN OPEN EX	Version
Order No.	2467340000	Communication module
GTIN (EAN)	4050118481822	
Qty.	1 pc(s).	

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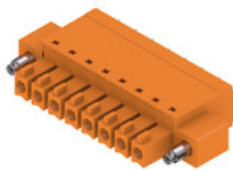
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Accessories

Type	PRO COM CAN OPEN	Version
Order No.	2467320000	Communication module
GTIN (EAN)	4050118482225	
Qty.	1 pc(s).	

BCF 3.81/180F



PUSH IN - Weidmüller's innovative connection system simplifies the wire connection process.

The benefits for users and applications:

- High packaging density due to very low component height. Simply insert the prepared wire - finished
- High component density with the compact SCDN / SCDN-THR two-tier pin header
- Simplified processing due to integrated push buttons for opening the clamping unit
- Intuitive handling – since the wire-entry area and handling area are clearly separated
- tool-free locking and releasing when using Weidmüller's patented release latch (LR)

The Weidmüller plug-in connectors, pitch 3.81 mm (0.15 inch), are compatible with the layout of customary plug-in connectors, can be coded and provide space for printing.

General ordering data

Type	BCF 3.81/03/180F SN BK ...	Version	Product data	Packaging
Order No.	1971570000	PCB plug-in connector, female plug, 3.81 mm, Number of poles: 3,	IEC: 320 V / 17.5 A / 0.14 - 1.5 mm ²	Box
GTIN (EAN)	4032248680504	180°, PUSH IN with actuator, Clamping range, max. : 1.5 mm ² , Box	UL: 300 V / 10 A / AWG 26 - AWG 16	
Qty.	50 pc(s).			

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

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www.weidmueller.com**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 pc(s).	