

PRO TOP1 480W 24V 20A EX**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, 24 V |
| Order No. | 2467000000 |
| Type | PRO TOP1 480W 24V 20A EX |
| GTIN (EAN) | 4050118481907 |
| Qty. | 1 ST |

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Technical data

Approvals

Approvals



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

Dimensions and weights

| | | | |
|------------|--------|-----------------|-------------|
| Depth | 125 mm | Depth (inches) | 4.9212 inch |
| Height | 130 mm | Height (inches) | 5.1181 inch |
| Width | 68 mm | Width (inches) | 2.6772 inch |
| Net weight | 1520 g | | |

Temperatures

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

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 |

Input

| | | |
|--|--|-------|
| Connection system | Clamping yoke | |
| AC input voltage range | 85...277 V AC | |
| Recommended back-up fuse | 8 A (DI) / 10 A (Char. B), 8 A (Char. C) | |
| Frequency range AC | 45...65 Hz | |
| Rated input voltage | 110...240 V AC / 120...340 V DC | |
| Surge protection | Varistor | |
| Input fuse (internal) | Yes | |
| DC input voltage range | 80 ... 410 V DC | |
| Inrush current | max. 5 A | |
| Current consumption in relation to the input voltage | Voltage type | AC |
| | Input voltage | 100 V |
| | Input current | 6 A |
| | Voltage type | DC |
| | Input voltage | 120 V |
| | Input current | 6 A |
| Nominal power consumption | 516.1 VA | |

Output

| | |
|--------------|-------|
| Output power | 480 W |
|--------------|-------|

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| Mains failure bridge-over time | > 20 ms @ 115V AC/ 230 VAC | | |
| Connection system | Clamping yoke connection | | |
| Rated output voltage | 24 V DC ± 1 % | | |
| Residual ripple, breaking spikes | <50 mVss @ UNenn, Full Load | | |
| Parallel connection option | Yes, for redundancy and power increase (with ORing MOSFET) | | |
| Output voltage, max. | 28.8 V | | |
| Output voltage, min. | 22.5 V | | |
| Output current, max. | 20 A | | |
| Output voltage, note | adjustable with potentiometer or comunication module | | |
| Nominal output current for Unom | 20 A @ 60 °C | | |
| Protection against inverse voltage | Yes | | |
| DCL - peak load reserve | Boost duration | 5 s | |
| | Multiple of the rated current | 150 % | |
| | Boost duration | 15 ms | |
| | Multiple of the rated current | 500 % | |
| Ramp-up time | ≤ 100 ms | | |

General data

| | | | |
|-----------------------------|----------------------------|--|--|
| Power factor (approx.) | > 0.9 | AC failure bridging time @ Inom | > 20 ms @ 230 V AC / > 20 ms @ 115 V AC |
| Degree of efficiency | 93% | Protection degree | IP20 |
| Surge voltage category | II | Mounting position, installation notice | Horizontal on DIN rail TS 35, top and bottom 50 mm clearance for free air flow, 10 mm clearance to neighbouring subassemblies. |
| Housing version | Metal, corrosion resistant | Derating | > 60°C (2.5% / 1°C) |
| Earth leakage current, max. | 3.5 mA | Conformal coating | Yes |
| Power loss, idling | 10 W | Short-circuit protection | Yes, internal |
| Power loss, nominal load | 36.1 W | | |

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 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 | Vibration resistance IEC 60068-2-6 | 2.3 g (on DIN rail), 4 g (with direct mounting) |

Insulation coordination

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

Electrical safety (applied standards)

| | | | |
|---|---------------------------|------------------------------|--|
| For use with electronic equipment | Acc. to EN50178 / VDE0160 | Electrical machine equipment | Acc. to EN60204 |
| Protection against dangerous shock currents | Acc. to VDE0106-101 | Safety extra-low voltage | SELV acc. to IEC 60950-1, PELV according to EN 60204-1 |

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| Protective separation / protection against electrical shock | VDE0100-410 / acc. to DIN57100-410 | Safety transformers for switch-mode power supplies | According to EN 61558-2-16 |
|---|------------------------------------|--|----------------------------|

Connection data (input)

| | | | |
|---|----------------------|---|-------------------|
| Connection system | Clamping yoke | 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. | 26 AWG | Wire connection cross section, flexible (input), max. | 4 mm ² |
| Conductor cross-section, flexible , min. | 0.22 mm ² | Conductor cross-section, rigid , max. | 6 mm ² |
| Conductor cross-section, rigid , min. | 0.18 mm ² | | |

Connection data (output)

| | | | |
|---|--------------------------|---|---------------------|
| Connection system | Clamping yoke connection | Number of terminals | 5 (+ + / - - -) |
| Conductor cross-section, AWG/kcmil , max. | 8 AWG | Conductor cross-section, AWG/kcmil , min. | 24 AWG |
| Conductor cross-section, flexible , max. | 6 mm ² | Conductor cross-section, flexible , min. | 0.5 mm ² |
| Conductor cross-section, rigid , max. | 6 mm ² | Conductor cross-section, rigid , min. | 0.2 mm ² |
| Screwdriver blade | 0.6 x 3.5 | | |

Connection data (signal)

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

Signalling

| | | | |
|--------------------------|-----------------------------------|---------------|---|
| Floating contact | Yes | 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) | Output voltage OK (30 V DC / 1 A) | | |

Classifications

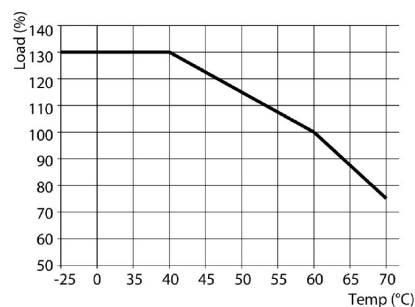
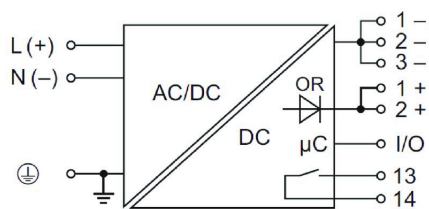
| | | | |
|-------------|-------------|-------------|-------------|
| ETIM 6.0 | EC002540 | ETIM 7.0 | EC002540 |
| ETIM 8.0 | EC002540 | ETIM 9.0 | EC002540 |
| ETIM 10.0 | EC002540 | ECLASS 9.0 | 27-04-07-01 |
| ECLASS 9.1 | 27-04-07-01 | ECLASS 10.0 | 27-04-07-01 |
| ECLASS 11.0 | 27-04-07-01 | ECLASS 12.0 | 27-04-07-01 |
| ECLASS 13.0 | 27-04-07-01 | ECLASS 14.0 | 27-04-07-01 |
| ECLASS 15.0 | 27-04-07-01 | | |

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Drawings



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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. | 1478990000 | End bracket, black, TS 35, V-0, Wemid, Width: 12 mm, 130 °C |
| GTIN (EAN) | 4050118286892 | |
| Qty. | 50 ST | |
| 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 | |

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 | |

Installation



Mounting accessory for Weidmüller Power Supplies.

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General ordering data

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

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. | 2467320000 | Communication module |
| GTIN (EAN) | 4050118482225 | |
| Qty. | 1 ST | |
| Type | PRO COM CAN OPEN EX | Version |
| Order No. | 2467340000 | Communication module |
| GTIN (EAN) | 4050118481822 | |
| Qty. | 1 ST | |
| Type | PRO COM DISPLAY 7S | Version |
| Order No. | 2466960000 | Communication module |
| GTIN (EAN) | 4050118481808 | |
| Qty. | 1 ST | |
| Type | PRO COM IO-LINK | Version |
| Order No. | 2587360000 | Communication module |
| GTIN (EAN) | 4050118599152 | |
| Qty. | 1 ST | |

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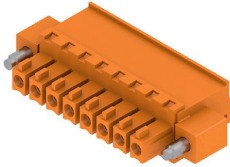
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Accessories

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:

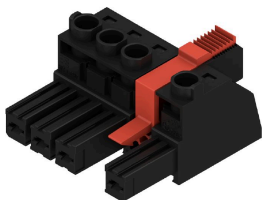
- Standard housing without flange
- Flange with screw (F)
- Flange featuring Weidmüller's patented release latch (LR) for lock-and-release latching with no strain and no tools needed.

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 |
| Order No. | 2569240000 | PCB plug-in connector, female plug, 3.81 mm, Number of poles: 3, |
| GTIN (EAN) | 4050118592436 | 180°, Clamping yoke connection, Clamping range, max. : 1.5 mm ² , |
| Qty. | 50 ST | Box |

BVZ 7.62IT 180MF SN



180° female plug with a 7.62 pitch for IT power networks. Meets the requirements of UL1059 600 V class C. In combination with male header SV 7.62 IT.. with leading contact.

Meets the extended requirements on 5.5 mm touch safety for IT power networks as per IEC 61800-5-1 for 400 V to earth.

The self-locking (optionally also screwable) middle flange reduces the space requirements by one pitch width in comparison with conventional solutions.

On request also available without middle flange interlock.

General ordering data

| | | |
|------------|----------------------------|---|
| Type | BVZ 7.62IT/04/180MF3 SN... | Version |
| Order No. | 1312730000 | PCB plug-in connector, female plug, 7.62 mm, Number of poles: 4, |
| GTIN (EAN) | 4050118115635 | 180°, Clamping yoke connection, Clamping range, max. : 10 mm ² , |
| Qty. | 32 ST | Box |