

**PRO TOPDC 24V/24V 20A EX****Weidmüller Interface GmbH & Co. KG**

Klingenbergstraße 26

D-32758 Detmold

Germany

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

PROtop DCDC converters are used for safe electrical isolation to avoid ground loops that can occur when supplying field devices in production or process plants. DCDC converters can be used on long supply lines to refresh the supply voltage. The integrated ORing MOSFET reliably decouples possible internal short circuits. It allows direct parallel connection of ACDC and DCDC converters of the PROtop series for redundancy purposes or to increase power. This makes the use of the otherwise common diode or redundancy modules obsolete. Furthermore, PROtop DCDC converters feature the powerful DCL technology – and their communication module allows full data transparency and remote control.

**General ordering data**

|            |                            |
|------------|----------------------------|
| Version    | DC/DC converter            |
| Order No.  | <a href="#">2467310000</a> |
| Type       | PRO TOPDC 24V/24V 20A EX   |
| GTIN (EAN) | 4050118482218              |
| 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      | 75 mm   | Width (inches)  | 2.953 inch |
| Net weight | 1,746 g |                 |            |

## Temperatures

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

## Input

|                                                      |                                                                                         |      |
|------------------------------------------------------|-----------------------------------------------------------------------------------------|------|
| Connection system                                    | Screw connection                                                                        |      |
| Current consumption in relation to the input voltage | Voltage type                                                                            | DC   |
|                                                      | Input voltage                                                                           | 24 V |
|                                                      | Input current                                                                           | 22 A |
|                                                      | Voltage type                                                                            | DC   |
|                                                      | Input voltage                                                                           | 18 V |
|                                                      | Input current                                                                           | 30 A |
| DC input voltage range                               | 14 V...31.2 V (linear Derating from 18 V...14 V, 60% rated load @ U <sub>in</sub> 14 V) |      |
| Input fuse (internal)                                | Yes                                                                                     |      |
| Input voltage, max.                                  | 31.2 V                                                                                  |      |
| Input voltage, min.                                  | 14 V                                                                                    |      |
| Inrush Current Limitation                            | Yes                                                                                     |      |
| Inrush current                                       | max. 15 A                                                                               |      |
| Nominal power consumption                            | 527.5 VA                                                                                |      |
| Rated input voltage                                  | 24 V DC                                                                                 |      |

## Output

|                                             |                                                       |                          |  |
|---------------------------------------------|-------------------------------------------------------|--------------------------|--|
| Connection system                           |                                                       | Clamping yoke connection |  |
| DCL - peak load reserve                     | Multiple of the rated current                         | 500 %                    |  |
|                                             | Boost duration                                        | 15 ms                    |  |
|                                             | Multiple of the rated current                         | 200 %                    |  |
|                                             | Boost duration                                        | 5 s                      |  |
| Mains failure bridge-over time              | Mains failure bridge-over time, min.                  | 10 ms                    |  |
|                                             | Input voltage type                                    | DC                       |  |
|                                             | Input voltage                                         | 24 V                     |  |
|                                             | Output current                                        | 20 A                     |  |
|                                             | Output voltage                                        | 24 V                     |  |
| Nominal output current for U <sub>nom</sub> | 20 A @ 60 °C                                          |                          |  |
| Output power                                | 480 W                                                 |                          |  |
| Output voltage, max.                        | 28.8 V                                                |                          |  |
| Output voltage, min.                        | 22.5 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                        | 24 V DC ± 1 %                                         |                          |  |
| Residual ripple, breaking spikes            | < 40 mV <sub>pp</sub> @25 °C                          |                          |  |

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## General data

|                                        |                                                                                                                                                                                                                                               |                          |                            |
|----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|----------------------------|
| Conformal coating                      | Yes                                                                                                                                                                                                                                           | Degree of efficiency     | 91%                        |
| Derating                               | > 60°C (2.5% / 1°C)                                                                                                                                                                                                                           | Housing version          | Metal, corrosion resistant |
| Mounting position, installation notice | Horizontal on DIN rail TS 35, top and bottom<br>50 mm clearance for free air flow, 10 mm clearance to neighbouring active subassemblies with full load, 5 mm with passive neighbouring subassemblies, direct row mounting with 90% rated load | Power loss, idling       | 5 W                        |
| Protection degree                      | IP20                                                                                                                                                                                                                                          | Short-circuit protection | Yes                        |
| Start-up                               | ≥ -40 °C                                                                                                                                                                                                                                      | Surge voltage category   | I, II, III                 |

## EMC / shock / vibration

|                                    |                                                                                                                                                                                                                               |                                           |                                                            |
|------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------|------------------------------------------------------------|
| Interference immunity test acc. to | EN 55032:2015, EN 55035:2017, EN 61000-6-1:2007, EN 61000-6-2:2005, EN 61000-6-3:2007/A1:2011, EN 61000-6-4:2007/A1:2011, IEC 61000-4-2, IEC 61000-4-3, DIN EN 61000-4-4, EN 61000-4-5:2005, EN 61000-4-6:2008, IEC 61000-4-8 | 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<br>2.3 g (on DIN rail), 4 g (with direct mounting) |

## Insulation coordination

|                                  |            |                                   |                                          |
|----------------------------------|------------|-----------------------------------|------------------------------------------|
| Insulation voltage input / earth | 1.41 kV    | Insulation voltage output / earth | 0.7 kV                                   |
| Insulation voltage, input/output | 1.41 kV    | Protection class                  | III, with no ground connection, for SELV |
| Surge voltage category           | I, II, III |                                   |                                          |

## 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 61558-2-17         |

## Connection data (input)

|                                                       |                      |                                          |                   |
|-------------------------------------------------------|----------------------|------------------------------------------|-------------------|
| Conductor cross-section, AWG/kcmil, max.              | 10                   | Conductor cross-section, AWG/kcmil, min. | 26                |
| 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                        | Screw connection  |
| Wire connection cross section, flexible (input), max. | 4 mm <sup>2</sup>    |                                          |                   |

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Catalogue status 18.08.2023 / We reserve the right to make technical changes.

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## Technical data

### Connection data (output)

|                                           |                          |                                           |                     |
|-------------------------------------------|--------------------------|-------------------------------------------|---------------------|
| Conductor cross-section, AWG/kcmil , max. | 8                        | Conductor cross-section, AWG/kcmil , min. | 24                  |
| Conductor cross-section, flexible , max.  | 6 mm <sup>2</sup>        | Conductor cross-section, flexible , min.  | 0.5 mm <sup>2</sup> |
| Conductor cross-section, rigid , max.     | 6 mm <sup>2</sup>        | Conductor cross-section, rigid , min.     | 0.2 mm <sup>2</sup> |
| Connection system                         | Clamping yoke connection | Number of terminals                       | 4 (++) / -)         |

### Connection data (signal)

|                                      |                     |                                      |                     |
|--------------------------------------|---------------------|--------------------------------------|---------------------|
| Wire connection method               | Screw connection    | Wire cross-section, AWG/kcmil , max. | 16                  |
| Wire cross-section, AWG/kcmil , min. | 28                  | 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<br>Output voltage OK (30 V DC / 1 A) |                                                                                                                                                                 |

### Approbations

|                       |          |                 |     |
|-----------------------|----------|-----------------|-----|
| Certificate No. (CSA) | 80043367 | Institute (CSA) | CSA |
|-----------------------|----------|-----------------|-----|

### Classifications

|             |             |             |             |
|-------------|-------------|-------------|-------------|
| ETIM 6.0    | EC002540    | ETIM 7.0    | EC002540    |
| ETIM 8.0    | 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 |

### Environmental Product Compliance

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

### Approvals

Approvals



|      |         |
|------|---------|
| ROHS | Conform |
|------|---------|

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### Downloads

|                                             |                                           |
|---------------------------------------------|-------------------------------------------|
| Approval/Certificate/Document of Conformity | <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>  |

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# Drawings

