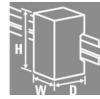


**PRO DCDC 480W 24V 20A****Weidmüller Interface GmbH & Co. KG**

Klingenbergstraße 26

D-32758 Detmold

Germany

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

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, 24 V      |
| Order No.  | <a href="#">2001820000</a> |
| Type       | PRO DCDC 480W 24V 20A      |
| GTIN (EAN) | 4050118384000              |
| Qty.       | 1 pc(s).                   |

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**Technical data****Dimensions and weights**

|                |            |                 |            |
|----------------|------------|-----------------|------------|
| Depth          | 120 mm     | Depth (inches)  | 4.724 inch |
| Height         | 130 mm     | Height (inches) | 5.118 inch |
| Net weight     | 1,300 g    | Width           | 75 mm      |
| Width (inches) | 2.953 inch |                 |            |

**Temperatures**

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

**Probability of failure**

|      |             |
|------|-------------|
| MTBF | 1,000,000 h |
|------|-------------|

**Environmental Product Compliance**

|            |                |
|------------|----------------|
| REACH SVHC | Lead 7439-92-1 |
|------------|----------------|

**Input**

|                          |                                                              |                           |                                                         |
|--------------------------|--------------------------------------------------------------|---------------------------|---------------------------------------------------------|
| Connection system        | Screw connection                                             | DC input voltage range    | 14...32 V (during operation), 18...32 V (commissioning) |
| Input fuse (internal)    | Yes                                                          | Inrush Current Limitation | Yes                                                     |
| Inrush current           | max. 30 A                                                    | Rated input voltage       | 24 V DC                                                 |
| Recommended back-up fuse | 40 A, Char. B circuit breaker, 40 A, Char. C circuit breaker |                           |                                                         |

**Output**

|                                    |                                                       |        |
|------------------------------------|-------------------------------------------------------|--------|
| Capacitive load                    | unrestricted                                          |        |
| DCL - peak load reserve            | Multiple of the rated current                         | 150 %  |
|                                    | Boost duration                                        | 5 s    |
|                                    | Multiple of the rated current                         | 200 %  |
|                                    | Boost duration                                        | 200 ms |
|                                    | Multiple of the rated current                         | 300 %  |
|                                    | Boost duration                                        | 100 ms |
|                                    | Multiple of the rated current                         | 400 %  |
|                                    | Boost duration                                        | 50 ms  |
|                                    | Multiple of the rated current                         | 600 %  |
|                                    | Boost duration                                        | 20 ms  |
| Output current                     | 20A                                                   |        |
| Output power                       | 480 W                                                 |        |
| Output voltage                     | 24 V                                                  |        |
| Output voltage                     | 22.5...29.5 V (adjustable via potentiometer on front) |        |
| Output voltage, max.               | 29.5 V                                                |        |
| Output voltage, min.               | 22.5 V                                                |        |
| Output voltage, note               | (adjustable via potentiometer on front)               |        |
| Overload protection                | Yes                                                   |        |
| Parallel connection option         | yes, max. 3                                           |        |
| Protection against inverse voltage | Yes                                                   |        |
| Ramp-up time                       | ≤ 9 ms (Uout: 10%...90%)                              |        |
| Rated output voltage               | 24 V DC ± 1 %                                         |        |
| Residual ripple, breaking spikes   | max. 20 mVpp @ 24 VDC, 1N                             |        |

Creation date March 26, 2021 8:08:21 PM CET

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## Technical data

### General data

|                                                   |                            |                                        |                                                                                                                                                                                                                                           |
|---------------------------------------------------|----------------------------|----------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| AC failure bridging time @ $I_{nom}$              | > 10 ms @ 24 V DC          | Clip-in foot                           | metal                                                                                                                                                                                                                                     |
| Current limiting                                  | 150% $I_{out}$             | Degree of efficiency                   | typ. > 93%                                                                                                                                                                                                                                |
| Housing version                                   | Metal, corrosion resistant | Humidity                               | 5...95 %, no condensation                                                                                                                                                                                                                 |
| Max. perm. air humidity (operational)             | 5 %...95 % RH              | Mounting position, installation notice | Horizontal on TS35 mounting rail. 50 mm of clearance at top & bottom for air circ. Can mount side by side with no space in between., 50 mm clearance at top and bottom for free air circulation, mountable side by side without clearance |
| Operating temperature                             | -25 °C...70 °C             | Protection against over-heating        | Yes                                                                                                                                                                                                                                       |
| Protection against reverse voltages from the load | 33...34 V DC               | Short-circuit protection               | Yes                                                                                                                                                                                                                                       |
| Surge voltage category                            | III                        |                                        |                                                                                                                                                                                                                                           |

### EMC / shock / vibration

|                                           |                                                                                                                   |                                             |                           |
|-------------------------------------------|-------------------------------------------------------------------------------------------------------------------|---------------------------------------------|---------------------------|
| Interference immunity test acc. to        | EN 61000-4-2 (ESD), EN 61000-4-4 (burst), EN 61000-4-5 (surge), EN 61000-4-6 (conducted), EN 61000-4-3 (HF field) | Limiting of mains voltage harmonic currents | According to EN 61000-3-2 |
| 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 (15 Hz...150 Hz)                                                                                            |                                             |                           |

### Insulation coordination

|                                   |                           |                                  |                                          |
|-----------------------------------|---------------------------|----------------------------------|------------------------------------------|
| Humidity at operating temperature | 5...95 %, no condensation | Insulation voltage, input/output | 1.5 kV                                   |
| Pollution severity                | 2                         | Protection class                 | III, with no ground connection, for SELV |
| Surge voltage category            | 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 transformers for switch-mode power supplies | According to EN 61558-2-16 |                                                             |                                    |

### Connection data (input)

|                                           |                     |                                                       |                    |
|-------------------------------------------|---------------------|-------------------------------------------------------|--------------------|
| Conductor cross-section, AWG/kcmil , max. | 8 AWG               | Conductor cross-section, AWG/kcmil , min.             | 22 AWG             |
| Conductor cross-section, flexible , min.  | 0.5 mm <sup>2</sup> | Conductor cross-section, rigid , max.                 | 16 mm <sup>2</sup> |
| Conductor cross-section, rigid , min.     | 0.5 mm <sup>2</sup> | Connection system                                     | Screw connection   |
| Reverse polarity protection               | Yes                 | 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. | 10 AWG              | Conductor cross-section, AWG/kcmil , min. | 26 AWG               |
| Conductor cross-section, flexible , max.  | 6 mm <sup>2</sup>   | Conductor cross-section, flexible , min.  | 0.18 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> |
| Number of terminals                       | 10 (+ / - / signal) | Reverse polarity protection               | Yes                  |

### Signalling

|                           |                                    |                  |     |
|---------------------------|------------------------------------|------------------|-----|
| Contact load (NO contact) | max. 30 V DC / 0.5 A               | Floating contact | Yes |
| Relay on/off              | Output voltage > 21.6 V / < 20.4 V |                  |     |

### Approvals

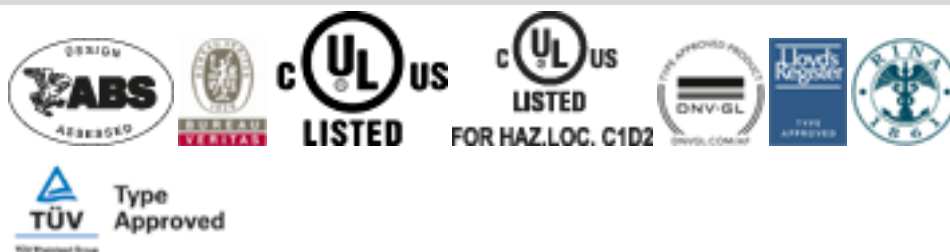
|                         |         |                           |         |
|-------------------------|---------|---------------------------|---------|
| Certificate no. (cULus) | E258476 | Certificate no. (cULusEX) | E470829 |
| Institute (cULus)       | CULUS   | Institute (cULusEX)       | CULUSEX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

### Classifications

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

### Approvals

Approvals



|                       |         |
|-----------------------|---------|
| ROHS                  | Conform |
| UL File Number Search | E258476 |

### Downloads

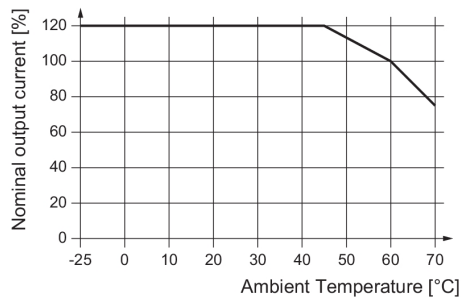
|                                             |                                          |
|---------------------------------------------|------------------------------------------|
| Approval/Certificate/Document of Conformity | <a href="#">DE_PA5200_160310_002.pdf</a> |
| Engineering Data                            | <a href="#">STEP</a>                     |
| Engineering Data                            | <a href="#">EPLAN_WSCAD</a>              |
| User Documentation                          | <a href="#">Operating Instructions</a>   |

## PRO DCDC 480W 24V 20A

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## Drawings



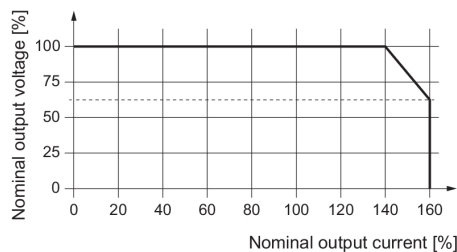
Derating curve

| Event                                |                        | LED (Gr/Ye/Rd) |  | LED (Ye)                       |  | Transistor status outputs |                        |                       | Status relay |
|--------------------------------------|------------------------|----------------|--|--------------------------------|--|---------------------------|------------------------|-----------------------|--------------|
| Input                                | Output                 | gr = "DC OK"   |  | Ye = "I > 90% I <sub>N</sub> " |  | DC OK                     | I > 90% I <sub>N</sub> | I low U <sub>IN</sub> |              |
| U <sub>IN</sub> < 14 V               | –                      | OFF            |  | ON                             |  | Low                       | Low                    | Low                   | OFF          |
| U <sub>IN</sub> = 14...19.2 V<br>*1) | I < 90% I <sub>N</sub> | Gr             |  | ON                             |  | High                      | Low                    | Low                   | ON           |
|                                      | I > 90% I <sub>N</sub> | Ye             |  | ON                             |  | High                      | High                   | Low                   | ON           |
|                                      | U < 20.4 V             | Rd             |  | ON                             |  | Low                       | Low                    | Low                   | OFF          |
| U <sub>IN</sub> > 19.2 V             | I < 90% I <sub>N</sub> | Gr             |  | OFF                            |  | High                      | Low                    | High                  | ON           |
|                                      | I > 90% I <sub>N</sub> | Ye             |  | OFF                            |  | High                      | High                   | High                  | ON           |
|                                      | U < 20.4 V             | Rd             |  | OFF                            |  | Low                       | Low                    | High                  | OFF          |

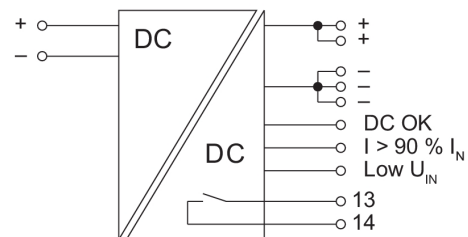
Gr = grün / green / verde / verde / verde / 绿色  
 Ye = gelb / yellow / jaune / giallo / amarillo / amarillo / 黄色  
 Rd = rot / red / rouge / rosso / rojo / vermelho / 红色

\*1) während des Betriebes / during operations / en cours de fonctionnement / durante l'esercizio / durante el servicio / durante a operação / 运行过程中

Signal states



UI characteristic curve



Switching symbol