

## PROeco PRO ECO 480W 24V 20A

**Weidmüller Interface GmbH & Co. KG**

Klingenbergstraße 26

D-32758 Detmold

Germany

Fon: +49 5231 14-0

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www.weidmueller.com



You are looking for a reliable power supply with basic functions.

With PROeco we can offer you low-cost switch-mode power supply units with high efficiency and system capability. Let's connect. In the series production of machines, in particular, switch-mode power supply units with above-average performance values can deliver genuine competitive advantages.

The low-cost PROeco series offers all the basic functions and delivers impressively high performance and flexibility.

Our PROeco switch-mode power supply units feature a compact design, high efficiency and are extremely easy to maintain. Thanks to temperature protection, short-circuit and overload resistance they can be universally used in all applications.

Wide-ranging safety functions and compatibility with our diode and capacitance modules, together with UPS components for setting up a redundant power supply, characterise solutions with PROeco.

### General ordering data

|            |                                                   |
|------------|---------------------------------------------------|
| Type       | PRO ECO 480W 24V 20A                              |
| Order No.  | <a href="#">1469510000</a>                        |
| Version    | Power supply, switch-mode power supply unit, 24 V |
| GTIN (EAN) | 4050118275483                                     |
| Qty.       | 1 pc(s).                                          |

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

|            |         |                 |            |
|------------|---------|-----------------|------------|
| Width      | 100 mm  | Width (inches)  | 3.937 inch |
| Height     | 125 mm  | Height (inches) | 4.921 inch |
| Depth      | 120 mm  | Depth (inches)  | 4.724 inch |
| Net weight | 1,557 g |                 |            |

**Temperatures**

|                             |                |                             |                |
|-----------------------------|----------------|-----------------------------|----------------|
| Operating temperature, max. | 70 °C          | Operating temperature, min. | -25 °C         |
| Storage temperature, max.   | 85 °C          | Storage temperature, min.   | -40 °C         |
| Operating temperature       | -25 °C...70 °C | Storage temperature         | -40 °C...85 °C |

**Environmental Product Compliance**

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

**Input**

|                          |                                                                                              |                        |                                       |
|--------------------------|----------------------------------------------------------------------------------------------|------------------------|---------------------------------------|
| AC current consumption   | 2,37 A @ 230 V AC / 5,2 A @ 110 V AC                                                         | AC input voltage range | 85...264 V AC (derating at 100 V AC)  |
| Connection system        | Screw connection                                                                             | DC current consumption | 1,55 A @ 370 V DC / 4,65 A @ 120 V DC |
| DC input voltage range   | 80...370 V DC (Derating @ 120 V DC)                                                          | Frequency range AC     | 47...63 Hz                            |
| Input frequency          | 47...63 Hz                                                                                   | Input fuse (internal)  | Yes                                   |
| Inrush current           | max. 5 A                                                                                     | Rated input voltage    | 100...240 V AC (wide-range input)     |
| Recommended back-up fuse | 6 A / DI, safety fuse<br>16 A, Char. B, circuit breaker<br>6...8 A, Char. C, circuit breaker | Surge protection       | Varistor                              |

**Output**

|                                                  |                                                 |                                             |                  |
|--------------------------------------------------|-------------------------------------------------|---------------------------------------------|------------------|
| Capacitive load                                  | unrestricted                                    | Connection system                           | Screw connection |
| Continuous output current @ U <sub>Nominal</sub> | 20 A @ 55 °C, 15 A @ 70 °C                      | Nominal output current for U <sub>nom</sub> | 20 A @ 55 °C     |
| Output power                                     | 480 W                                           | Output voltage                              | 24 V             |
| Output voltage                                   | 22...28 V (adjustable via potentiometer)        | Overload protection                         | Yes              |
| Parallel connection option                       | yes, max. 3                                     | Protection against inverse voltage          | Yes              |
| Ramp-up time                                     | ≤ 100 ms                                        | Rated output voltage                        | 24 V DC ± 1 %    |
| Residual ripple, breaking spikes                 | < 50 mV <sub>PP</sub> @ 24 V DC, I <sub>N</sub> |                                             |                  |

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**Technical data**
**General data**

|                                       |                                                                                                                                                                        |                                                   |                                                    |
|---------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------|----------------------------------------------------|
| AC failure bridging time @ $I_{nom}$  | > 20 ms @ 230 V AC / > 20 ms @ 115 V AC                                                                                                                                | Degree of efficiency                              | 91%                                                |
| Earth leakage current, max.           | 3.5 mA                                                                                                                                                                 | Housing version                                   | Metal, corrosion resistant                         |
| Indication                            | Green LED ( $U_{output} > 21.6$ V DC), Yellow LED ( $I_{output} > 90\% I_{Rated}$ typ. ), red LED (overload, overtemperature, short-circuit, $U_{output} < 20.4$ V DC) | MTBF                                              | > 500,000 h in accordance with IEC 61709 (SN29500) |
| Max. perm. air humidity (operational) | 5 %...95 % RH                                                                                                                                                          | Mounting position, installation notice            | on terminal rail TS 35                             |
| Operating temperature                 | -25 °C...70 °C                                                                                                                                                         | Power factor (approx.)                            | > 0.98...230 V AC / > 0.98...115 V AC              |
| Power loss, idling                    | 5 W                                                                                                                                                                    | Power loss, nominal load                          | 43 W                                               |
| Protection against over-heating       | Yes                                                                                                                                                                    | Protection against reverse voltages from the load | 30...35 V DC                                       |
| Protection degree                     | IP20                                                                                                                                                                   | Short-circuit protection                          | Yes                                                |

**EMC / shock / vibration**

|                                             |                           |                                           |                                                                                                                                                        |
|---------------------------------------------|---------------------------|-------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|
| Limiting of mains voltage harmonic currents | According to EN 61000-3-2 | Noise emission in accordance with EN55032 | Class B                                                                                                                                                |
| Vibration resistance IEC 60068-2-6          | 1 g according to EN 50178 | Interference immunity test acc. to        | EN 61000-4-2 (ESD), EN 61000-4-3 (RS), EN 61000-4-4 (burst), EN 61000-4-5 (surge), EN 61000-4-6 (conducted), EN61000-4-8 (Fields), EN61000-4-11 (Dips) |
| Shock resistance IEC 60068-2-27             | 15 g In all directions    |                                           |                                                                                                                                                        |

**Insulation coordination**

|                                  |                       |                                   |        |
|----------------------------------|-----------------------|-----------------------------------|--------|
| Insulation voltage input / earth | 2 kV                  | Insulation voltage output / earth | 0.5 kV |
| Insulation voltage, input/output | 3 kV                  | Pollution severity                | 2      |
| Protection class                 | I, with PE connection |                                   |        |

**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 according to EN 60950, PELV according to EN 60204 | Safety transformers for switch-mode power supplies          | According to EN 61558-2-16         |

**Connection data (input)**

|                                           |                     |                                                       |                     |
|-------------------------------------------|---------------------|-------------------------------------------------------|---------------------|
| Conductor cross-section, AWG/kcmil , max. | 12                  | Conductor cross-section, AWG/kcmil , min.             | 26                  |
| 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.     | 0.5 mm <sup>2</sup> | Connection system                                     | Screw connection    |
| Number of terminals                       | 3 for L/N/PE        | Tightening torque, max.                               | 0.6 Nm              |
| Tightening torque, min.                   | 0.5 Nm              | Wire connection cross section, flexible (input), max. | 2.5 mm <sup>2</sup> |

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**Technical data**
**Connection data (output)**

|                                           |                     |                                           |                     |
|-------------------------------------------|---------------------|-------------------------------------------|---------------------|
| Conductor cross-section, AWG/kcmil , max. | 10                  | Conductor cross-section, AWG/kcmil , min. | 26                  |
| Conductor cross-section, flexible , max.  | 2.5 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.     | 0.5 mm <sup>2</sup> |
| Connection system                         | Screw connection    | Number of terminals                       | 7 (+,-,13,14)       |
| Tightening torque, max.                   | 0.6 Nm              | Tightening torque, min.                   | 0.5 Nm              |

**Signalling**

|                           |                                                       |                  |     |
|---------------------------|-------------------------------------------------------|------------------|-----|
| Contact load (NO contact) | max. 30 V DC / 1 A                                    | Floating contact | Yes |
| Relay on/off              | Output voltage<br>>21.6 V DC/ <20.4 V DC,<br>overload |                  |     |

**Approvals**

Institute (cULus)



Certificate no. (cULus)

E258476

**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 |            |             |

**Approvals**

Approvals



ROHS

Conform

**Downloads**

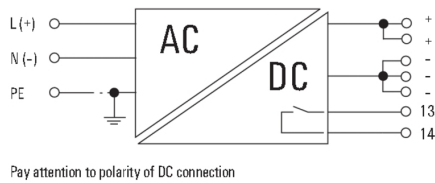
|                                             |                                           |
|---------------------------------------------|-------------------------------------------|
| Approval/Certificate/Document of Conformity | <a href="#">Declaration of Conformity</a> |
| Engineering Data                            | <a href="#">EPLAN, WSCAD</a>              |
| Engineering Data                            | <a href="#">STEP</a>                      |
| User Documentation                          | <a href="#">Operating instructions</a>    |

## PROeco PRO ECO 480W 24V 20A

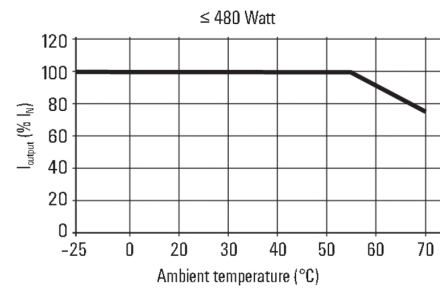
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## Drawings

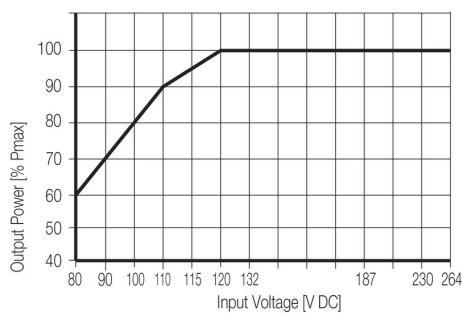
### Electric symbol



### Derating curve



### Derating curve



### Derating curve

