

PRO ECO3 960W 48V 20A II

Weidmüller Interface GmbH & Co. KG
 Klingenbergstraße 26
 D-32758 Detmold
 Germany

www.weidmueller.com



The new PROeco 2nd generation power supplies maximise the availability of automation applications. The twelve-part series offers standard functions: with high performance, efficiency and suitability for many systems. The three-colour LED makes service activities and the integration of PROeco devices particularly easy. The series is compatible with DC UPS, electronic load monitoring and diode modules and is suitable for setting up power management systems. The compact design suits space-constrained applications, such as flat control cabinets in the field.

General ordering data

| | |
|------------|---|
| Version | Power supply, switch-mode power supply unit, 48 V |
| Order No. | 3025670000 |
| Type | PRO ECO3 960W 48V 20A II |
| GTIN (EAN) | 4099986952065 |
| Qty. | 1 items |

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Technical data

Approvals

Approvals



| | |
|-------------------------|----------------------------|
| ROHS | Conform |
| UL File Number Search | UL Website |
| Certificate No. (cURus) | E255651 |
| Certificate no. (cULus) | E258476 |

Dimensions and weights

| | | | |
|------------|--------|-----------------|-------------|
| Depth | 150 mm | Depth (inches) | 5.9055 inch |
| Height | 130 mm | Height (inches) | 5.1181 inch |
| Width | 110 mm | Width (inches) | 4.3307 inch |
| Net weight | 2540 g | | |

Temperatures

| | | | |
|---------------------|----------------|-----------------------|---|
| Storage temperature | -40 °C...85 °C | Operating temperature | -25 °C...70 °C |
| Start-up | ≥ -40 °C | Humidity | 5...95 % rel. humidity, 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, Lead monoxide 1317-36-8 |
| SCIP | cc530c6d-a7ac-41ec-a2b4-caa3b47dbe25 |

Rated data UL

| | |
|-------------------------|---------|
| Certificate No. (cURus) | E255651 |
|-------------------------|---------|

Input

| | | |
|--|--|------------|
| Connection system | Screw connection | |
| AC input voltage range | 3 x 320...3 x 575 V AC / 2 x 360...2 x 575 V AC | |
| Recommended back-up fuse | 6 A / DI, safety fuse 10 A, Char. B, circuit breaker 6...8 A, Char. C, circuit breaker | |
| Frequency range AC | 45...65 Hz | |
| Rated input voltage | 3 x 400...3 x 500 V AC (wide-range input) | |
| Surge protection | Varistor | |
| Input fuse | internal | |
| Wire connection method | Screw connection | |
| DC input voltage range | 450...800 V DC | |
| Current consumption in relation to the input voltage | Voltage type | 3-phase AC |
| | Input voltage | 400 V |
| | Input current | 1.55 A |
| | Voltage type | 3-phase AC |
| | Input voltage | 500 V |
| | Input current | 1.26 A |
| | Voltage type | DC |
| | Input voltage | 450 V |
| | Input current | 2.26 A |

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| | Voltage type | DC |
| | Input voltage | 800 V |
| | Input current | 1.28 A |
| Line regulation (typ.) | 1 % | |
| Nominal power consumption | 1021.3 VA | |
| Inrush current (typ.) | 12 A | |
| Load regulation (typ.) | 1 % | |
| Start-up time, max. | 1 s | |

Output

| | | |
|---|--------------------------------------|-------|
| Output power | 960 W | |
| Max. residual ripple | <100 mVSS / 20 MHz bandwidth | |
| Connection system | Screw connection | |
| Rated output voltage | 48 V DC | |
| Parallel connection option | yes, max. 3 | |
| Overload protection | Yes | |
| Output voltage, max. | 56 V | |
| Output voltage, min. | 36 V | |
| Wire connection method | Screw connection | |
| Output voltage, note | (adjustable via potentiometer) | |
| Nominal output current for U_{nom} | 20 A @ 55 °C | |
| Line regulation (typ.) | 1 % | |
| Capacitive load | unrestricted | |
| Mains failure bridge-over time | Mains failure bridge-over time, min. | 25 ms |
| | Input voltage type | AC |
| | Input voltage | 400 V |
| | Output current | 20 A |
| | Output voltage | 48 V |
| | Mains failure bridge-over time, min. | 26 ms |
| | Input voltage type | AC |
| | Input voltage | 500 V |
| | Output current | 20 A |
| | Output voltage | 48 V |
| Protection against inverse voltage | Yes | |
| Continuous output current @ $U_{Nominal}$ | 12.5 A @ 70°C | |
| Load regulation (typ.) | 1 % | |
| Ramp-up time | ≤ 100 ms | |

General data

| | | |
|---|---|-------|
| AC failure bridging time @ I_{nom} | > 25 ms at 3 x 500 V AC / > 25 ms at 3 x 400 V AC | |
| Degree of efficiency | Typ.: 94,1% @ 400 V AC, Typ.: 93,8% @ 480 V AC | |
| Humidity | 5...95 % rel. humidity, no condensation | |
| Protection degree | IP20 | |
| Surge voltage category | II | |
| Mounting position, installation notice | on terminal rail TS 35 | |
| Housing version | Metal, corrosion resistant | |
| Protection against reverse voltages from the load | 60 V DC | |
| Power factor | Power factor typical | 0.94 |
| | Input voltage | 400 V |
| | Ambient temperature | 25 °C |
| | Output power | 960 W |
| Earth leakage current, max. | 3.5 mA | |
| Power loss, idling | 5 W | |
| Short-circuit protection | Yes | |
| Power loss, nominal load | 65 W | |

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Protection against over-heating Yes

EMC / shock / vibration

| | | | |
|---|---------------------------|------------------------------------|---|
| Limiting of mains voltage harmonic currents | According to EN 61000-3-2 | 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 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), EN 61000-4-11 (Dips), IEC 61000-6-1, IEC 61000-6-2, IEC 61000-6-3, IEC 61000-6-4 |
| Vibration resistance IEC 60068-2-6 | 0.7 g | | |

Insulation coordination

| | | | |
|----------------------------------|-----------------------|-----------------------------------|--------|
| Surge voltage category | II | Pollution severity | 2 |
| Protection class | I, with PE connection | Insulation voltage, input/output | 4 kV |
| Insulation voltage input / earth | 3 kV | Insulation voltage output / earth | 0.5 kV |

Electrical safety (applied standards)

| | | | |
|--|----------------------------|--------------------------|--|
| Electrical machine equipment | Acc. to EN60204 | Safety extra-low voltage | SELV acc. to IEC 61010-1, PELV acc. to IEC 61010-2-201 |
| Safety transformers for switch-mode power supplies | According to EN 61558-2-16 | | |

Connection data (input)

| | | | |
|---|----------------------|---|-------------------|
| Connection system | Screw connection | Number of terminals | 4 for L1/L2/L3/PE |
| Screwdriver blade | 0.8 x 4.0 | Conductor cross-section, AWG/kcmil , max. | 10 AWG |
| Conductor cross-section, AWG/kcmil , min. | 20 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 | Tightening torque, min. | 0.5 Nm |
| Stripping length (input) | 8 mm | Tightening torque, max. | 0.6 Nm |

Connection data (output)

| | | | |
|---|--------------------|---|---------------------|
| Connection system | Screw connection | Number of terminals | 5 (+ + / ---) |
| Conductor cross-section, AWG/kcmil , max. | 8 AWG | Conductor cross-section, AWG/kcmil , min. | 22 AWG |
| Conductor cross-section, flexible , max. | 16 mm ² | Conductor cross-section, flexible , min. | 0.5 mm ² |
| Conductor cross-section, rigid , max. | 16 mm ² | Conductor cross-section, rigid , min. | 0.5 mm ² |
| Stripping length (output) | 12 mm | Tightening torque, min. | 1.2 Nm |
| Screwdriver blade | 1.0 x 5.5 | Tightening torque, max. | 2.2 Nm |

Connection data (signal)

| | | | |
|--|---------------------|----------------------------------|---------------------|
| Wire connection cross-section, flexible (signal), max. | 1.5 mm ² | Stripping length (Signal) | 8 mm |
| Wire cross-section, AWG/kcmil , max. | 14 | Wire cross-section, solid , min. | 0.2 mm ² |

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| Wire cross-section, solid , max. | 1.5 mm ² | Wire connection cross-section, flexible (signal), min. | 0.2 mm ² |
| Number of terminals | 2 | Wire cross-section, AWG/kcmil , min. | 28 mm ² |

Signalling

| | | | |
|---------------------------|--------------------|-----------|----------------------|
| Floating contact | Yes | LED green | Operating voltage OK |
| Contact load (NO contact) | max. 30 V DC / 1 A | | |

Classifications

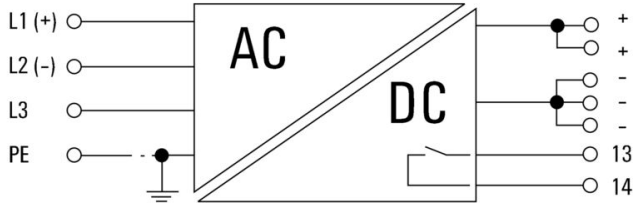
| | | | |
|-------------|-------------|-------------|-------------|
| ETIM 8.0 | EC002540 | ETIM 9.0 | EC002540 |
| ETIM 10.0 | EC002540 | ECLASS 14.0 | 27-04-07-01 |
| ECLASS 15.0 | 27-04-07-01 | | |

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Drawings

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Pay attention to polarity of DC connection

Status indicator and status relay

| Operational status | Status LED | Relay contact (NO) |
|--|------------|--------------------|
| Fault-free operation: $U_{OUT} > 90\%$ of the set voltage | green | closed |
| Fault: $U_{OUT} \leq 85\%$ of the set voltage | red | opened |
| Overload pre-warning: $I_{OUT} > 90\% I_N$ (tolerance: $\pm 5\%$) and $U_{OUT} > 90\%$ of the set voltage | yellow | closed |

