

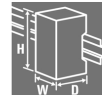
PRO DCDC 240W 24V 10A**Weidmüller Interface GmbH & Co. KG**

Klingenbergstraße 26

D-32758 Detmold

Germany

www.weidmueller.com



The DC/DC converter compensates for voltage fluctuations, such as those that occur with unregulated power supplies or long cables. With galvanic isolation and protection class III for earth-free systems, the DC/DC converter is particularly suitable for use in independent supply systems. The space-saving module can optimally convert voltage levels, offers above-average power performance, comprehensive safety functions, and a high efficiency of up to 95 %.

General ordering data

| | |
|------------|----------------------------|
| Version | DC/DC converter |
| Order No. | 2001810000 |
| Type | PRO DCDC 240W 24V 10A |
| GTIN (EAN) | 4050118383843 |
| Qty. | 1 pièce(s) |

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Caractéristiques techniques

Dimensions and weights

| | | | |
|------------|---------|-----------------|------------|
| Depth | 120 mm | Depth (inches) | 4,724 inch |
| Height | 130 mm | Height (inches) | 5,118 inch |
| Width | 43 mm | Width (inches) | 1,693 inch |
| Net weight | 1 088 g | | |

Temperatures

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

Input

| | | | |
|-----------------------|------------------|---------------------------|--|
| Connection system | | DC input voltage range | 14...32 V (during operation), 18...32 V (commissioning) |
| | Screw connection | | |
| Input fuse (internal) | Yes | Inrush Current Limitation | Yes |
| Inrush current | max. 15 A | Nominal power consumption | 260,9 VA |
| Rated input voltage | | Recommended back-up fuse | 25 A, Char.B circuit breaker, 25 A, Char.C circuit breaker |
| | 24 V DC | | |

Output

| | | |
|---|---|--------|
| Capacitive load | unrestricted | |
| Connection system | Screw connection | |
| Continuous output current @ $U_{Nominal}$ | 10 A @ 60 °C, 12 A @ 45°C, 7,5 A @ 70°C | |
| DCL - peak load reserve | Boost duration | 5 s |
| | Multiple of the rated current | 150 % |
| | Boost duration | 200 ms |
| | Multiple of the rated current | 200 % |
| | Boost duration | 100 ms |
| | Multiple of the rated current | 300 % |
| | Boost duration | 50 ms |
| | Multiple of the rated current | 400 % |
| Mains failure bridge-over time | Boost duration | 20 ms |
| | Multiple of the rated current | 600 % |
| | Mains failure bridge-over time, min. | 12 ms |
| | Input voltage type | DC |
| | Input voltage | 24 V |
| Nominal output current for U_{nom} | Output current | 10 A |
| | Output voltage | 24 V |
| Output current | 10A | |
| Output power | 240 W | |
| 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. 5 (without diode module) | |
| Protection against inverse voltage | Yes | |
| Ramp-up time | ≤ 9 ms (U_{out} : 10%...90%) | |
| Rated output voltage | 24 V DC ± 1 % | |
| Residual ripple, breaking spikes | ≤ 20 mVPP @full load | |

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General data

| | | | |
|---------------------------------------|----------------------------|---|---|
| Adjacent | No | Clip-in foot | metal |
| Current limiting | 150% I_{out} | Degree of efficiency | Typ.: 92 % |
| 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 |
| Power loss, idling | 2 W | Power loss, nominal load | 22 W |
| Protection against over-heating | Yes | Protection against reverse voltages from the load | 33...34 V DC |
| Protection degree | IP20 | 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), EN61000-4-3 (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

| | | | |
|----------------------------------|--------|-----------------------------------|--------|
| Insulation voltage input / earth | 1,5 kV | Insulation voltage output / earth | 0,5 kV |
| Insulation voltage, input/output | 1,5 kV | Pollution severity | 2 |
| Protection class | III | 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 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 61558-2-16 |

Connection data (input)

| | | | |
|---|----------------------|--|-------------------|
| Conductor cross-section, AWG/kcmil, max. | 12 AWG | Conductor cross-section, AWG/kcmil, min. | 30 AWG |
| Conductor cross-section, flexible, min. | 0,08 mm ² | Conductor cross-section, rigid, max. | 4 mm ² |
| Conductor cross-section, rigid, min. | 0,08 mm ² | Connection system | Screw connection |
| Number of terminals | 2 (+,-) | Reverse polarity protection | Yes |
| Tightening torque, max. | 0,5 Nm | Tightening torque, min. | 0,4 Nm |
| Wire connection cross section, flexible (input), max. | 4 mm ² | | |

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Connection data (output)

| | | | |
|---|---------------------|---|---------------------|
| Conductor cross-section, AWG/kcmil , max. | 14 AWG | Conductor cross-section, AWG/kcmil , min. | 24 AWG |
| Conductor cross-section, flexible , max. | 2,5 mm ² | Conductor cross-section, flexible , min. | 0,2 mm ² |
| Conductor cross-section, rigid , max. | 2,5 mm ² | Conductor cross-section, rigid , min. | 0,2 mm ² |
| Connection system | Screw connection | Number of terminals | 10 (+ / - / signal) |
| Reverse polarity protection | Yes | Tightening torque, max. | 0,5 Nm |
| Tightening torque, min. | 0,4 Nm | | |

Connection data (signal)

| | | | |
|---------------------|---|------------------------|------------------|
| Number of terminals | 5 | Wire connection method | Screw connection |
|---------------------|---|------------------------|------------------|

Signalling

| | | | |
|---------------------------|---|---------------------------------------|--|
| Contact load (NO contact) | max. 30 V DC / 0.5 A, max. 50 V AC / 0.3 A | Floating contact | Yes |
| Relay on/off | Output voltage > 21.6 V / <20.4 V | Transistor output, positive-switching | DC OK: 20 mA max., short-circuit-proof, I > 90%: 20 mA max., short-circuit-proof, Low U _{IN} : 20 mA max., short-circuit-proof |

Classifications

| | | | |
|-------------|-------------|-------------|-------------|
| ETIM 6.0 | EC002540 | ETIM 7.0 | EC002540 |
| ETIM 8.0 | EC002540 | ETIM 9.0 | 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 | 27-04-90-02 |
| ECLASS 14.0 | 27-04-07-01 | | |

Environmental Product Compliance

| | |
|--------------------------------------|--------------------------------------|
| RoHS Compliance Status | Compliant with exemption |
| RoHS Exemption (if applicable/known) | 7a, 7cl |
| REACH SVHC | Lead 7439-92-1 |
| SCIP | 6d8cdf22-8230-4af8-86c8-3558c716666d |

Approvals

Approvals



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

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Niveau du catalogue 26.11.2024 / Toutes modifications techniques réservées

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Caractéristiques techniques

Downloads

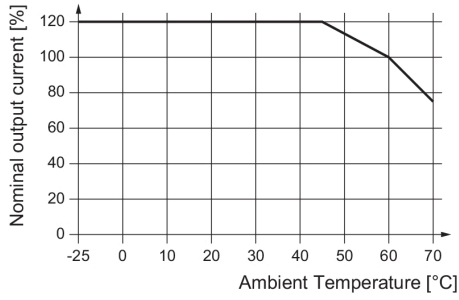
| | |
|---|---|
| Approval/Certificate/Document of Conformity | PRO DCDC 240W 24V 10A UL508 CSA C22.2.pdf ABS Certificate.pdf DNV Certificate.pdf LR Certificate.pdf PRO DCDC UL Class 1,Div.2.pdf BV Certificate Declaration of Conformity |
| Engineering Data | CAD data – STEP |
| User Documentation | Operating Instructions |
| Catalogues | Catalogues in PDF-format |

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Dessins

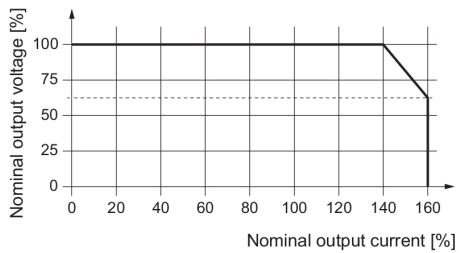


Derating curve

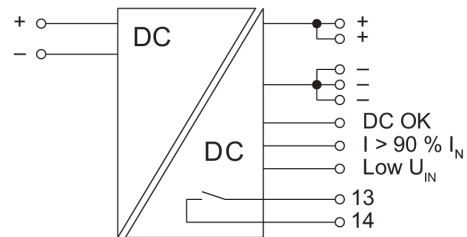
| Event | LED (Gr/Ye/Rd) | LED (Ye) | | Transistor status outputs | | | Status relay |
|--------------------------------------|------------------------|----------|------------------------|---------------------------|------------------------|-----------------------|--------------|
| | | DC OK | I > 90% I _N | I > 90% I _N | I > 90% I _N | I low U _{IN} | |
| U _{IN} < 14 V | OFF | ON | Low | Low | Low | OFF | |
| U _{IN} = 14...19.2 V *1) | I < 90% I _N | Gr | ON | High | Low | Low | ON |
| | I > 90% I _N | Ye | ON | High | High | Low | ON |
| | U < 20.4 V | Rd | ON | Low | Low | Low | OFF |
| U _{IN} > 19.2 V | I < 90% I _N | Gr | OFF | High | Low | High | ON |
| | I > 90% I _N | Ye | OFF | High | High | High | ON |
| | U < 20.4 V | Rd | OFF | Low | Low | High | OFF |

Gr = grün / green / verde / 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