

DC/DC converters - MINI-PS- 12- 24DC/ 5-15DC/2 - 2320018

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Primary-switched MINI DC/DC converter for DIN rail mounting, input: 12 - 24 V DC, output: 5 - 15 V DC/2 A

Product Description

MINI DC/DC converter for MCR technology.


DC/DC converters alter the voltage level, regenerate the voltage at the end of long cables or enable the creation of independent supply systems by means of electrical isolation.

Your advantages

- ✓ Electrical isolation: for setting up independent supply systems
- ✓ Support conversion to various voltage levels
- ✓ Constant voltage: output voltage regenerated even at the end of long cables



Key Commercial Data

| | |
|--------------------------------------|---|
| Packing unit | 1 pc |
| GTIN |  4 046356 478519 |
| GTIN | 4046356478519 |
| Weight per Piece (excluding packing) | 200.000 g |
| Custom tariff number | 85044030 |
| Country of origin | China |

Technical data

Dimensions

| | |
|----------------------------------|---|
| Width | 22.5 mm |
| Height | 99 mm |
| Depth | 107 mm |
| Installation distance right/left | 0 mm / 0 mm ($\leq 70\text{ }^{\circ}\text{C}$) |
| Installation distance top/bottom | 50 mm / 50 mm ($\leq 70\text{ }^{\circ}\text{C}$) |

Ambient conditions

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Ambient conditions

| | |
|--|-------------------------------------|
| Degree of protection | IP20 |
| Ambient temperature (operation) | -25 °C ... 70 °C (> +60°C derating) |
| Ambient temperature (storage/transport) | -40 °C ... 85 °C |
| Max. permissible relative humidity (operation) | ≤ 95 % (At +25°C, non-condensing) |
| Climatic class | 3K3 (in acc. with EN 60721) |
| Degree of pollution | 2 |

Input data

| | |
|-----------------------------|---|
| Nominal input voltage range | 12 V DC ... 24 V DC |
| Input voltage range | 10 V DC ... 32 V DC (> 10.5 V DC start) |
| Frequency range DC | 0 Hz |
| Current consumption | 2.3 A (12 V DC) 1.1 A (24 V DC) |
| Inrush current | < 10 A (typical) |
| Mains buffering time | typ. 4 ms (12 V DC) typ. 18 ms (24 V DC) |
| Input fuse | 6.3 A (slow-blow, internal) |

Output data

| | |
|--|---|
| Nominal output voltage | 12 V DC ±1 % |
| Setting range of the output voltage (U_{Set}) | 5 V DC ... 15 V DC |
| Nominal output current (I_N) | 2 A (-25 °C ... 60 °C) |
| Derating | 60 °C ... 70 °C (2.5%/K) |
| Connection in parallel | Yes, for assembling redundant systems and increasing efficiency |
| Connection in series | yes |
| Feedback voltage resistance | 30 V DC |
| Protection against overvoltage at the output (OVP) | < 25 V DC |
| Residual ripple | < 20 mV _{PP} (20 MHz) |
| Typical response time | < 0.5 s |
| Peak switching voltages nominal load | < 10 mV _{PP} (20 MHz) |
| Maximum power dissipation in no-load condition | < 1 W |
| Power loss nominal load max. | < 4.2 W |

General

| | |
|---------------------------------|---|
| Net weight | 0.2 kg |
| Efficiency | > 88 % (at 24 V DC and nominal values) |
| MTBF (IEC 61709, SN 29500) | > 2072000 h (40 °C) |
| Insulation voltage input/output | 1.5 kV (type test) 1 kV (routine test) |
| Degree of protection | IP20 |
| Protection class | III |
| Housing material | Polyamide (PA) |

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Technical data

General

| | |
|-----------------------|--|
| Mounting position | horizontal DIN rail NS 35, EN 60715 |
| Assembly instructions | alignable: horizontally 0 mm, vertically 50 mm |

Connection data, input

| | |
|---------------------------------------|----------------------------|
| Connection method | Pluggable screw connection |
| Conductor cross section solid min. | 0.2 mm ² |
| Conductor cross section solid max. | 2.5 mm ² |
| Conductor cross section flexible min. | 0.2 mm ² |
| Conductor cross section flexible max. | 2.5 mm ² |
| Conductor cross section AWG min. | 24 |
| Conductor cross section AWG max. | 14 |
| Stripping length | 7 mm |
| Screw thread | M3 |

Connection data, output

| | |
|---------------------------------------|----------------------------|
| Connection method | Pluggable screw connection |
| Conductor cross section solid min. | 0.2 mm ² |
| Conductor cross section solid max. | 2.5 mm ² |
| Conductor cross section flexible min. | 0.2 mm ² |
| Conductor cross section flexible max. | 2.5 mm ² |
| Conductor cross section AWG min. | 24 |
| Conductor cross section AWG max. | 14 |
| Stripping length | 7 mm |
| Screw thread | M3 |

Signaling

| | |
|---------------------------------------|--|
| Output name | DC OK active |
| Output description | $U_{OUT} > 0.9 \times U_N$: High signal |
| Output voltage | U_{out} |
| Continuous load current | ≤ 20 mA |
| Status display | "DC OK" LED green |
| Note on status display | $U_{OUT} > 0.9 \times U_N$: LED ON |
| Conductor cross section solid min. | 0.2 mm ² |
| Conductor cross section solid max. | 2.5 mm ² |
| Conductor cross section flexible min. | 0.2 mm ² |
| Conductor cross section flexible max. | 2.5 mm ² |
| Conductor cross section AWG min. | 24 |
| Conductor cross section AWG max. | 14 |
| Tightening torque, min | 0.5 Nm |
| Tightening torque max | 0.6 Nm |
| Screw thread | M3 |

Standards

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Technical data

Standards

| | |
|--|----------------------------|
| EMC requirements for noise immunity | EN 61000-6-1 |
| | EN 61000-6-2 |
| EMC requirements for noise emission | EN 61000-6-3 |
| | EN 61000-6-4 |
| Standard - Electrical safety | EN 60950-1/VDE 0805 (SELV) |
| Standard – Electronic equipment for use in electrical power installations and their assembly into electrical power installations | EN 50178/VDE 0160 (PELV) |
| Standard - Safe isolation | DIN VDE 0100-410 |
| Rail applications | EN 50121-4 |

Conformance/approvals

| | |
|--------------|--|
| UL approvals | UL/C-UL listed UL 508 |
| | UL/C-UL Recognized UL 60950-1 |
| | UL ANSI/ISA-12.12.01 Class I, Division 2, Groups A, B, C, D (Hazardous Location) |
| CSA | CSA-C22.2 No. 107.1-01 |

EMC data

| | |
|-------------------------------|---|
| Electromagnetic compatibility | Conformance with EMC Directive 2014/30/EU |
| Low Voltage Directive | Conformance with Low Voltage Directive 2014/35/EC |
| Electrostatic discharge | EN 61000-4-2 |
| Electromagnetic HF field | EN 61000-4-3 |
| Fast transients (burst) | EN 61000-4-4 |
| Surge voltage load (surge) | EN 61000-4-5 |
| Conducted interference | EN 61000-4-6 |
| Voltage dips | EN 61000-4-11 |

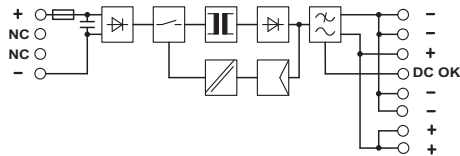
Environmental Product Compliance

| | |
|------------|---|
| REACH SVHC | Lead 7439-92-1 |
| China RoHS | Environmentally Friendly Use Period = 25; |
| | For details about hazardous substances go to tab "Downloads", Category "Manufacturer's declaration" |

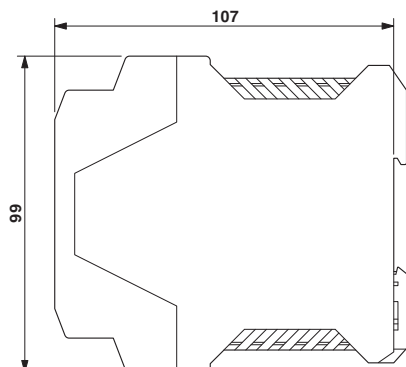
Drawings

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Block diagram



Dimensional drawing



Classifications

eCl@ss

| | |
|---------------|----------|
| eCl@ss 10.0.1 | 27210901 |
| eCl@ss 11.0 | 27210901 |
| eCl@ss 4.0 | 27210900 |
| eCl@ss 4.1 | 27210900 |
| eCl@ss 5.0 | 27210900 |
| eCl@ss 5.1 | 27210900 |
| eCl@ss 6.0 | 27210900 |
| eCl@ss 7.0 | 27210901 |
| eCl@ss 9.0 | 27210901 |

ETIM

| | |
|----------|----------|
| ETIM 3.0 | EC001039 |
| ETIM 4.0 | EC002542 |
| ETIM 6.0 | EC002046 |
| ETIM 7.0 | EC002046 |

UNSPSC

| | |
|---------------|----------|
| UNSPSC 6.01 | 30211502 |
| UNSPSC 7.0901 | 39121004 |
| UNSPSC 11 | 39121004 |
| UNSPSC 12.01 | 39121004 |
| UNSPSC 13.2 | 39121041 |
| UNSPSC 18.0 | 39121041 |
| UNSPSC 19.0 | 39121041 |
| UNSPSC 20.0 | 39121041 |
| UNSPSC 21.0 | 39121041 |

Approvals

Approvals

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Approvals

Approvals

DNV GL / UL Listed / UL Recognized / cUL Recognized / cUL Listed / EAC / EAC / cULus Recognized / cULus Listed

Ex Approvals

UL Listed / cUL Listed / cULus Listed

Approval details

| | | | |
|------------------|--|---|---------------------|
| DNV GL | | https://approvalfinder.dnvgl.com/ | TAA00001AX |
| UL Listed | | http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm | FILE E 123528 |
| UL Recognized | | http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm | FILE E 211944 |
| cUL Recognized | | http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm | FILE E 211944 |
| cUL Listed | | http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm | FILE E 123528 |
| EAC | | | EAC-Zulassung |
| EAC | | | RU*DE*08.B.01873/19 |
| cULus Recognized | | | |

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Approvals

cULus Listed



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