

## DC/DC converters - MINI-PS- 12- 24DC/48DC/0.7 - 2320021

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Primary-switched MINI DC/DC converter for DIN rail mounting, input: 1-phase, output: 48 V DC/0.7 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.

### Product Features

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



### Key Commercial Data

Packing unit	1 pc
Weight per Piece (excluding packing)	240.0 g
Custom tariff number	85044030
Country of origin	China

### Technical data

#### Dimensions

Width	22.5 mm
Height	99 mm
Depth	107 mm

#### Ambient conditions

Degree of protection	IP20
Ambient temperature (operation)	-25 °C ... 70 °C (> +60°C derating)
Ambient temperature (storage/transport)	-40 °C ... 85 °C

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#### Ambient conditions

Max. permissible relative humidity (operation)	≤ 95 % (At +25°C, non-condensing)
Noise immunity	EN 61000-6-2:2005

#### 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
Inrush surge current	< 10 A (typical)
Power failure bypass	> 2 ms (12 V DC)
	> 12 ms (24 V DC)
Input fuse	6.3 A (slow-blow, internal)

#### Output data

Nominal output voltage	48 V DC ±1 %
Setting range of the output voltage ( $U_{Set}$ )	30 V DC ... 56 V DC (> 48 V DC, constant capacity restricted)
Nominal output current ( $I_N$ )	0.7 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
Residual ripple	< 20 mV <sub>pp</sub> (20 MHz)
Typical response time	< 0.5 s
Peak switching voltages nominal load	< 10 mV <sub>pp</sub> (20 MHz)
Maximum power dissipation in no-load condition	< 1.5 W
Power loss nominal load max.	< 4.5 W

#### General

Net weight	0.2 kg
Efficiency	> 87 % (at 24 V DC and nominal values)
Insulation voltage input/output	1.5 kV (type test)
	1 kV (routine test)
Protection class	III
	> 1993000 h (40°C)
Mounting position	horizontal DIN rail NS 35, EN 60715
Assembly instructions	Can be aligned: Horizontally 0 mm, vertically 50 mm

#### Connection data, input

Connection method	Pluggable screw connection
Conductor cross section solid min.	0.2 mm <sup>2</sup>
Conductor cross section solid max.	2.5 mm <sup>2</sup>

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### Technical data

#### Connection data, input

Conductor cross section flexible min.	0.2 mm <sup>2</sup>
Conductor cross section flexible max.	2.5 mm <sup>2</sup>
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 <sup>2</sup>
Conductor cross section solid max.	2.5 mm <sup>2</sup>
Conductor cross section flexible min.	0.2 mm <sup>2</sup>
Conductor cross section flexible max.	2.5 mm <sup>2</sup>
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	+ 24 V (Signal)
Continuous load current	$\leq 20$ 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 <sup>2</sup>
Conductor cross section solid max.	2.5 mm <sup>2</sup>
Conductor cross section flexible min.	0.2 mm <sup>2</sup>
Conductor cross section flexible max.	2.5 mm <sup>2</sup>
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 and Regulations

Electromagnetic compatibility	Conformance with EMC Directive 2004/108/EC
Shock	30g in each direction, according to IEC 60068-2-27
Noise emission	EN 55011 (EN 55022)

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#### Standards and Regulations

Noise immunity	EN 61000-6-2:2005
Connection in acc. with standard	CUL
Standards/regulations	EN 61000-4-3
	EN 61000-4-4
	EN 61000-4-6
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
	DIN VDE 0106-101
UL approvals	UL/C-UL listed UL 508
	UL/C-UL Recognized UL 60950
	UL ANSI/ISA-12.12.01 Class I, Division 2, Groups A, B, C, D (Hazardous Location)
Vibration (operation)	< 15 Hz, amplitude $\pm 2.5$ mm (according to IEC 60068-2-6)
Low Voltage Directive	Conformance with LV directive 2006/95/EC
Rail applications	EN 50121-4

### Classifications

#### eCl@ss

eCl@ss 4.0	27250311
eCl@ss 4.1	27250311
eCl@ss 5.0	27242213
eCl@ss 5.1	27210901
eCl@ss 6.0	27210901
eCl@ss 7.0	27210901
eCl@ss 8.0	27210901

#### ETIM

ETIM 3.0	EC001039
ETIM 4.0	EC002542
ETIM 5.0	EC002046

#### UNSPSC

UNSPSC 6.01	30211502
UNSPSC 7.0901	39121004
UNSPSC 11	39121004

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## Classifications

### UNSPSC

UNSPSC 12.01	39121004
UNSPSC 13.2	39121004

## Approvals

### Approvals

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#### Approvals

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

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#### Ex Approvals


UL Listed / cUL Listed / cULus Listed


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#### Approvals submitted


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### Approval details

UL Recognized 

UL Listed 

cUL Recognized 

cUL Listed 


GL

EAC

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## Approvals

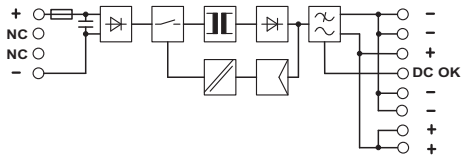
EAC

cULus Recognized 

cULus Listed 

## Drawings

Block diagram



Dimensional drawing

