

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

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DC/DC converter, primary-switched, slim design, input: 12 - 24 V DC, output: 48 V DC/0.7 A

## Product Description

The DC/DC converter converts a DC voltage of 12 V DC ... 24 V DC to an adjustable, regulated, and electrically isolated 48 V DC output voltage. The DC voltage circuits involved are safely isolated from one another by means of electrical isolation. The "DC-OK" active switching output and an LED are available for signaling. With a design width of just 22.5 mm, the housing is particularly narrow.

## 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

package_quantity	1
GTIN	4046356479448

## 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
Max. permissible relative humidity (operation)	≤ 95 % (At +25°C, no condensation)
Noise immunity	EN 61000-6-2:2005

### Input data

Nominal input voltage range	12 V DC ... 24 V DC
Input voltage range DC	10 V DC ... 32 V DC (> 10.5 V DC start)
Frequency range DC	0 Hz
Current consumption	3.2 A (12 V DC)

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## Technical data

### Input data

<b>Current consumption</b>	1.6 A (24 V DC)
<b>Inrush surge current</b>	< 10 A (typical)
<b>Power failure bypass</b>	> 2 ms (12 V DC)
<b>Power failure bypass</b>	> 12 ms (24 V DC)
<b>Input fuse</b>	6.3 A (slow-blow, internal)

### Output data

<b>Nominal output voltage</b>	48 V DC $\pm$ 1%
<b>Setting range of the output voltage</b>	30 V DC ... 56 V DC (> 48 V constant capacity)
<b>Output current</b>	0.7 A (-25 °C ... 60 °C)
<b>Derating</b>	60 °C ... 70 °C (2.5%/K)
<b>Connection in parallel</b>	Yes, for assembling redundant systems and increasing efficiency
<b>Connection in series</b>	Yes
<b>Residual ripple</b>	< 20 mV <sub>PP</sub> (20 MHz)
<b>Peak switching voltages nominal load</b>	< 10 mV <sub>PP</sub> (20 MHz)
<b>Maximum power dissipation NO-Load</b>	< 1.5 W
<b>Power loss nominal load max.</b>	< 4.5 W

### General

<b>Net weight</b>	0.2 kg
<b>Efficiency</b>	> 87 % (at 24 V DC and nominal values)
<b>Insulation voltage input/output</b>	1.5 kV (type test)
<b>Insulation voltage input/output</b>	1 kV (routine test)
<b>Protection class</b>	III
<b>MTBF (IEC 61709, SN 29500)</b>	> 1993000 h (According to EN 29500)
<b>Mounting position</b>	horizontal DIN rail NS 35, EN 60715
<b>Assembly instructions</b>	Can be aligned: Horizontally 0 mm, vertically 50 mm
<b>Electromagnetic compatibility</b>	Conformance with EMC Directive 2004/108/EC
<b>Noise emission</b>	EN 50081-2
<b>Low Voltage Directive</b>	Conformance with LV directive 2006/95/EC
<b>Standard - Electrical safety</b>	EN 60950-1/VDE 0805 (SELV)
<b>Standard – Electronic equipment for use in electrical power installations and their assembly into electrical power installations</b>	EN 50178/VDE 0160 (PELV)
<b>Standard - Safe isolation</b>	DIN VDE 0100-410
<b>Standard - Safe isolation</b>	DIN VDE 0106-101
<b>UL approvals</b>	UL/C-UL listed UL 508
<b>UL approvals</b>	UL/C-UL Recognized UL 60950

### Connection data, input

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

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### Technical data

#### Connection data, input

Conductor cross section stranded max.	2.5 mm <sup>2</sup>
Conductor cross section AWG/kcmil min.	24
Conductor cross section AWG/kcmil 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 stranded min.	0.2 mm <sup>2</sup>
Conductor cross section stranded max.	2.5 mm <sup>2</sup>
Conductor cross section AWG/kcmil min.	24
Conductor cross section AWG/kcmil max	14
Stripping length	7 mm

#### 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	≤ 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 stranded min.	0.2 mm <sup>2</sup>
Conductor cross section stranded max.	2.5 mm <sup>2</sup>
Conductor cross section AWG/kcmil min.	24
Conductor cross section AWG/kcmil max	14
Tightening torque, min	0.5 Nm
Tightening torque max	0.6 Nm
Screw thread	M3

#### 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

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## classifications

### 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
UNSPSC 12.01	39121004
UNSPSC 13.2	39121004

## approvals

UL Recognized / UL Listed / cUL Recognized / cUL Listed / cULus Recognized / cULus Listed /

### Approval details

UL Recognized

UL Listed

cUL Recognized

cUL Listed

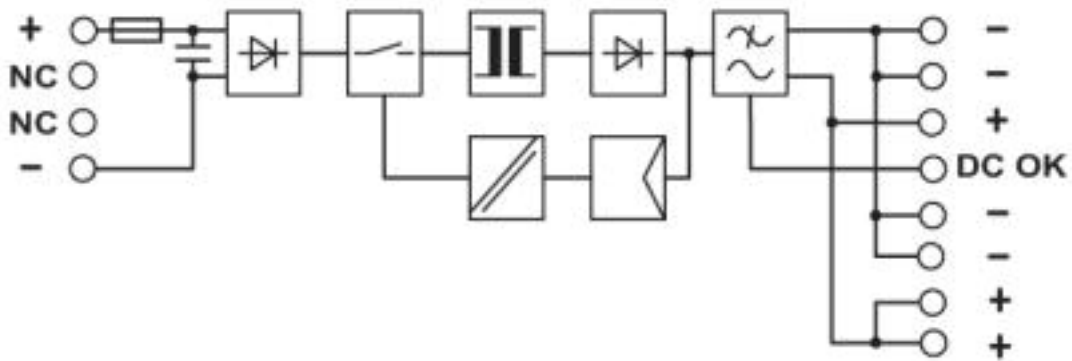
cULus Recognized

cULus Listed

## Drawings

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

Block diagram



Dimensioned drawing

