

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: 12 - 24 V DC, 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.

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 479448
GTIN	4046356479448

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

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)
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	3.2 A (12 V DC)
	1.6 A (24 V DC)
Inrush current	< 10 A (typical)
Mains buffering time	typ. 2 ms (12 V DC)
	typ. 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
Feedback voltage resistance	60 V DC
Protection against overvoltage at the output (OVP)	< 60 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	< 1.5 W
Power loss nominal load max.	< 4.5 W

General

Net weight	0.2 kg
Efficiency	> 87 % (at 24 V DC and nominal values)
	> 1993000 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)
Mounting position	horizontal DIN rail NS 35, EN 60715
Assembly instructions	alignable: horizontally 0 mm, vertically 50 mm

Connection data, input

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

Technical data

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	+ 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 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

EMC requirements for noise immunity	EN 61000-6-1
	EN 61000-6-2
EMC requirements for noise emission	EN 61000-6-3

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

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Standards

	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

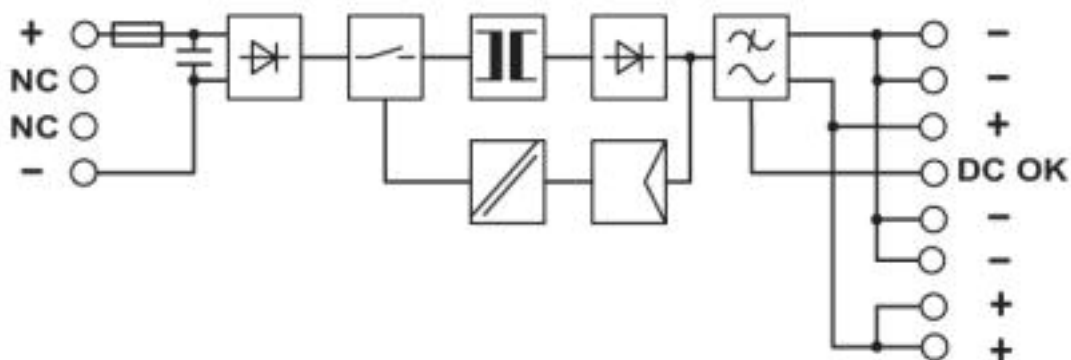
Electromagnetic compatibility	Conformance with EMC Directive 2014/30/EU
Low Voltage Directive	Conformance with Low Voltage Directive 2014/35/EC
Electrostatic discharge	EN 61000-4-2
Electromagnetic HF field	EN 61000-4-3
Fast transients (burst)	EN 61000-4-4
Surge voltage load (surge)	EN 61000-4-5
Voltage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

Environmental Product Compliance

REACH SVHC	Lead 7439-92-1
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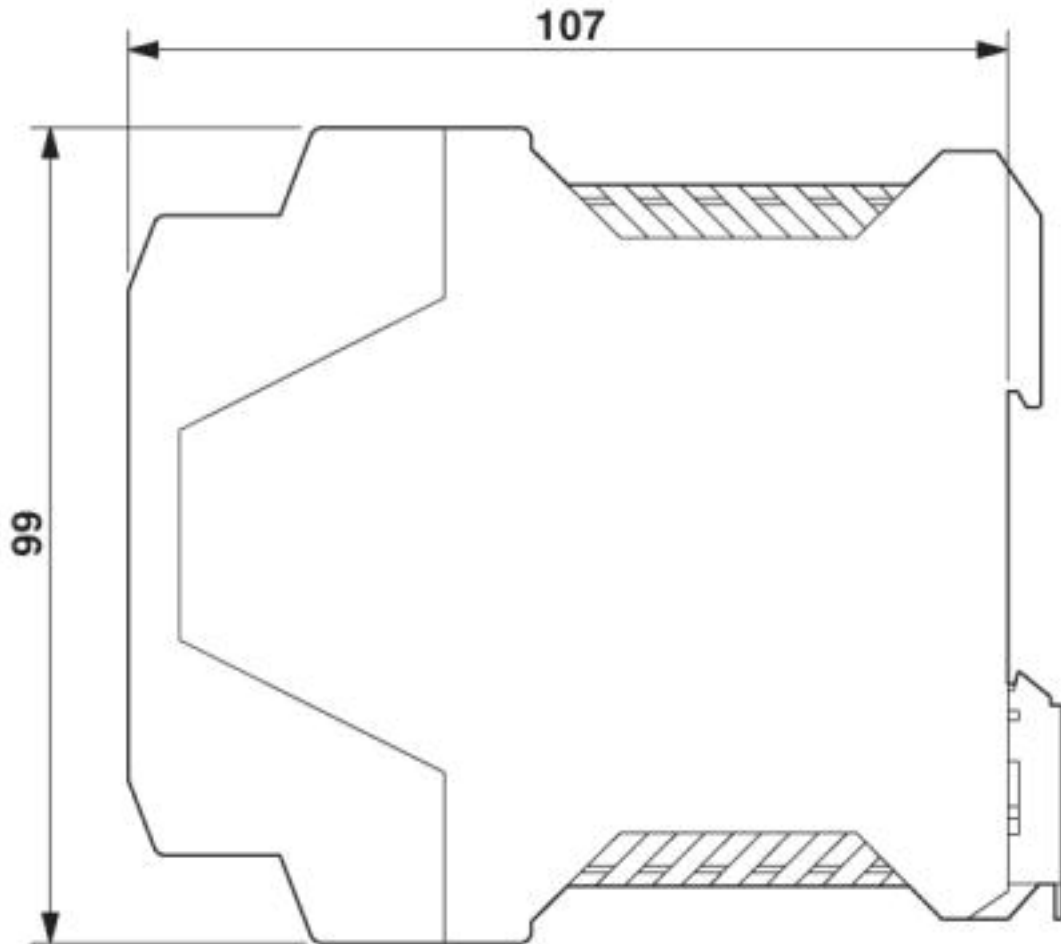
Drawings

Block diagram



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Dimensional drawing



Classifications

eCl@ss

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 8.0	27210901
eCl@ss 9.0	27210901

ETIM

ETIM 3.0	EC001039
ETIM 4.0	EC002542
ETIM 5.0	EC002046

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

Classifications

ETIM

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

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