

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: 1-phase, 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.

Product Features

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



Key Commercial Data

Packing unit	1 pc
Weight per Piece (excluding packing)	240.0 g
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
Max. permissible relative humidity (operation)	≤ 95 % (At +25°C, non-condensing)

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

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Ambient conditions

Noise immunity	EN 61000-6-2:2005
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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 surge current	< 10 A (typical)
Power failure bypass	> 4 ms (12 V DC)
	> 18 ms (24 V DC)
Input fuse	6.3 A (slow-blow, internal)

Output data

Nominal output voltage	12 V DC \pm 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
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)
Insulation voltage input/output	1.5 kV (type test)
	1 kV (routine test)
Protection class	III
	> 2072000 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 ²

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

Technical data

Connection data, input

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 and Regulations

Electromagnetic compatibility	Conformance with EMC Directive 2004/108/EC
Noise emission	EN 55011 (EN 55022)

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

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Standards and Regulations

Noise immunity	EN 61000-6-2:2005
Connection in acc. with standard	CUL
Standards/regulations	EN 61000-4-2
	EN 61000-4-3
	EN 61000-4-4
	EN 61000-4-5
	EN 61000-4-6
	EN 61000-4-11
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 ± 2.5 mm (according to IEC 60068-2-6)
	15 Hz ...150 Hz, 2.3g
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

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

Classifications

UNSPSC

UNSPSC 6.01	30211502
UNSPSC 7.0901	39121004
UNSPSC 11	39121004
UNSPSC 12.01	39121004
UNSPSC 13.2	39121004

Approvals

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

Ex Approvals

UL Listed / cUL Listed / cULus Listed

Approvals submitted

Approval details

UL Recognized

UL Listed

cUL Recognized

cUL Listed


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

Approvals

GL

EAC

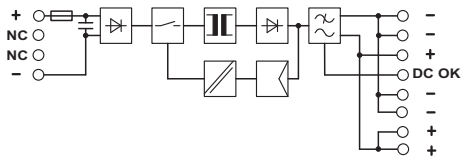
EAC

cULus Recognized 

cULus Listed 

Drawings

Block diagram



Dimensional drawing

