

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

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DC/DC converter, primary-switched, slim design, input: 12 - 24 V DC, output: 5 - 15 V DC/2 A

Product description

The DC/DC converter converts the DC voltage of 12 V DC ... 24 V DC to an adjustable, controlled and electrically isolated 5 V DC ... 15 V DC output voltage.


Due to electrical isolation, the DC voltage circuits are electrically isolated from each other in a safe way. The active "DC-OK" switching output as well as an LED are available for signaling. With a design width of only 22.5 mm, the housing is extremely slim.

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 PCE
Catalog page	Page 610 (IF-2011)
GTIN	 4 046356 478519
Custom tariff number	85044082
Country of origin	CHINA

Technical data

Input data

Nominal input voltage	12 V DC ... 24 V DC
DC input voltage range	10 V DC ... 32 V DC (> 10.5 V DC start)
DC frequency range	0 Hz
Current consumption	2.3 A (12 V DC)

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Input data

Current consumption	1.1 A (24 V DC)
Inrush surge current	< 10 A (typical)
Power failure bypass	> 4 ms (12 V DC)
Power failure bypass	> 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	5 V DC ... 15 V DC
Output current	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)
Peak switching voltages nominal load	< 10 mV _{PP} (20 MHz)
Maximum power dissipation NO-Load	< 1 W
Power loss nominal load max.	< 4.2 W

General data

Width	22.5 mm
Height	99 mm
Depth	107 mm
Net weight	0.2 kg
Efficiency	> 88 % (at 24 V DC and nominal values)
Insulation voltage input/output	1.5 kV (type test)
Insulation voltage input/output	1 kV (routine test)
Degree of protection	IP20
Protection class	III
MTBF (IEC 61709, SN 29500)	> 2072000 h (According to EN 29500)
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)
Mounting position	horizontal DIN rail NS 35, EN 60715
Assembly instructions	Can be aligned: Horizontally 0 mm, vertically 50 mm
Electromagnetic compatibility	Conformance with EMC Directive 2004/108/EC
Noise emission	EN 50081-2
Noise immunity	EN 61000-6-2:2005
Low Voltage Directive	Conformance with LV directive 2006/95/EC

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General data

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
Standard - Safe isolation	DIN VDE 0106-101
UL approvals	UL/C-UL listed UL 508
UL approvals	UL/C-UL Recognized UL 60950

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 stranded min.	0.2 mm ²
Conductor cross section stranded max.	2.5 mm ²
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 ²
Conductor cross section solid max.	2.5 mm ²
Conductor cross section stranded min.	0.2 mm ²
Conductor cross section stranded max.	2.5 mm ²
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	(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 stranded min.	0.2 mm ²

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Signaling

Conductor cross section stranded max.	2.5 mm ²
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

ETIM

ETIM 3.0	EC001039
ETIM 4.0	EC002542
ETIM 5.0	EC002046

UNSPSC

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

eCl@ss

eCl@ss 4.0	27250311
eCl@ss 4.1	27250311
eCl@ss 5.0	27242213
eCl@ss 5.1	27242213
eCl@ss 6.0	27049005
eCl@ss 7.0	27049005

Approvals

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


Ex Approvals


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Approvals

Approvals submitted


Approval details

UL Recognized 

UL Listed 

cUL Recognized 

cUL Listed 

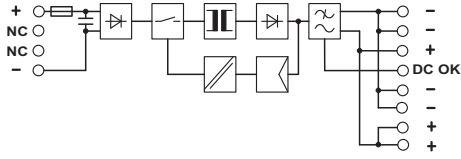
cULus Recognized 

cULus Listed 

Drawings

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Block diagram



Dimensioned drawing

