

DC/DC converters - MINI-PS- 48- 60DC/24DC/1 - 2866271

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DC-DC converter, primary switched mode, narrow design, input: 48 - 60 V DC, output: 24 V DC / 1 A

Product Description

The DC/DC converter converts a DC voltage of 48 V DC ... 60 V DC to an adjustable, regulated, and electrically isolated 24 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

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



Key commercial data

package_quantity	1
GTIN	4017918960919

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	48 V DC ... 60 V DC
Input voltage range DC	36 V DC ... 75 V DC
Frequency range DC	0 Hz
Current consumption	0.6 A (48 V DC)

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Technical data

Input data

Current consumption	0.5 A (60 V DC)
Inrush surge current	< 15 A (typical)
Power failure bypass	> 15 ms (48 V DC)
Power failure bypass	> 20 ms (60 V DC)
Input fuse	3.15 A (slow-blow, internal)

Output data

Nominal output voltage	24 V DC \pm 1%
Setting range of the output voltage	22.5 V DC ... 28.5 V DC (> 24 V constant capacity)
Output current	1 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	< 40 mV _{PP}
Peak switching voltages nominal load	< 50 mV _{PP} (20 MHz)
Maximum power dissipation NO-Load	< 1.2 W
Power loss nominal load max.	< 5 W

General

Net weight	0.2 kg
Operating voltage display	Green LED
Efficiency	> 85 % (at 60 V DC and nominal values)
Insulation voltage input/output	1.5 kV (type test)
Insulation voltage input/output	1 kV (routine test)
Protection class	II
MTBF (IEC 61709, SN 29500)	> 1147000 h (According to EN 29500)
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
Low Voltage Directive	Conformance with LV directive 2006/95/EC
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
UL approvals	UL ANSI/ISA-12.12.01 Class I, Division 2, Groups A, B, C, D (Hazardous Location)

Connection data, input

Connection method	Pluggable screw connection
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Technical data

Connection data, input

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} > 21.5 V: High signal
Maximum switching voltage	≤ 24 V DC
Output voltage	+ 24 V (Signal)
Continuous load current	≤ 20 mA
Status display	"DC OK" LED green
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
Tightening torque, min	0.5 Nm
Tightening torque max	0.6 Nm
Screw thread	M3

classifications

eCl@ss

eCl@ss 4.0	27230209
eCl@ss 4.1	27230209
eCl@ss 5.0	27230209
eCl@ss 5.1	27230209

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classifications

eCl@ss

eCl@ss 6.0	27230209
eCl@ss 7.0	27230209
eCl@ss 8.0	27230209

ETIM

ETIM 2.0	EC001039
ETIM 3.0	EC001039
ETIM 4.0	EC000599
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 Listed / cUL Listed / UL Listed / cUL Listed / cULus Listed / UL Recognized / UL Listed / cUL Recognized / cUL Listed / UL Recognized / UL Listed / cUL Recognized / cUL Listed / cULus Recognized / cULus Listed /

Approval details

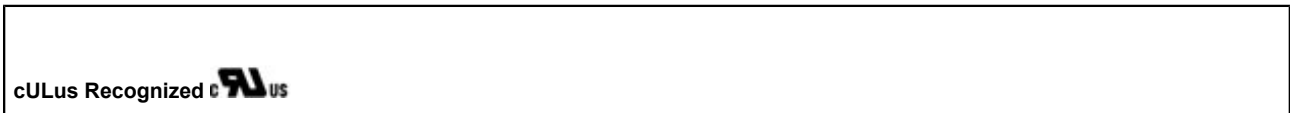
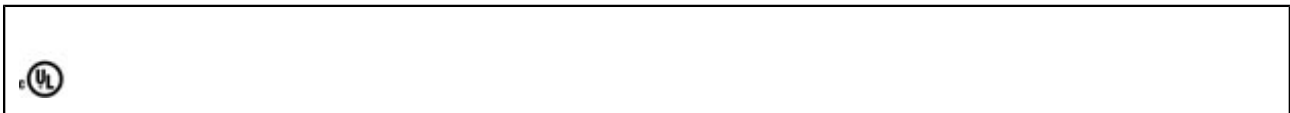
UL Listed

cUL Listed

cULus Listed

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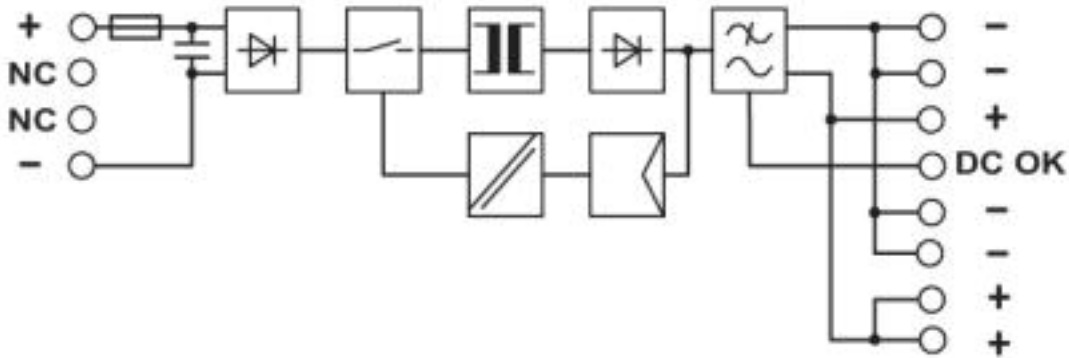
approvals



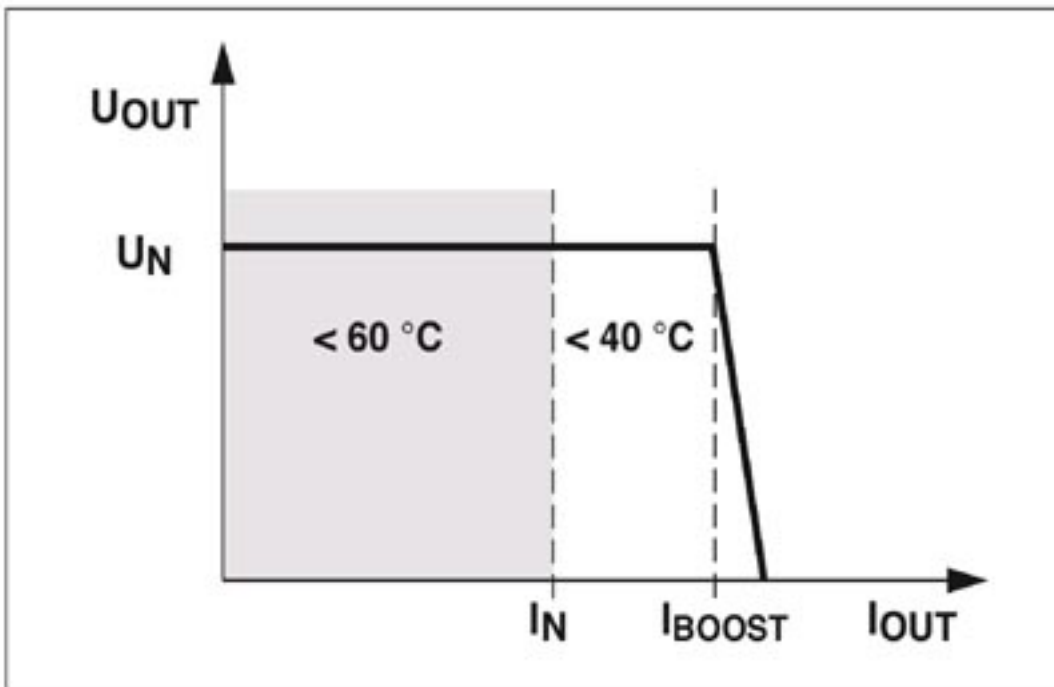
Drawings

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Block diagram



Diagram



POWER BOOST

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