MINI-PS- 48- 60DC/24DC/1 - DC/DC converter

2866271

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Please use the following item in new systems: 1066708.
Primary-switched MINI DC/DC converter for DIN rail mounting, input: 48 - 60 V DC, output: 24 V DC/1 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

Commercial data

Item number	2866271
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	CMDM43
Product key	CMDM43
GTIN	4017918960919
Weight per piece (including packing)	226 g
Weight per piece (excluding packing)	200 g
Customs tariff number	85044095

Country of origin	CN

Technical data

Input data

DC operation

Nominal input voltage range	48 V DC ... 60 V DC
Input voltage range	36 V DC ... 75 V DC
Wide-range input	yes
Input voltage range DC	36 V DC ... 75 V DC
Voltage type of supply voltage	DC
Inrush current	< 15 A (typical)
Inrush current integral (I^2t)	1.8 A^2s
Frequency range DC	0 Hz
Mains buffering time	typ. 15 ms (48 V DC)
	typ. 20 ms (60 V DC)
Current consumption	0.6 A (48 V DC)
	0.5 A (60 V DC)
Typical response time	< 0.5 s
Input fuse	3.15 A (slow-blow, internal)

Output data

Efficiency	> 85 % (at 60 V DC and nominal values)
Output characteristic	U/I
Nominal output voltage	24 V DC ±1 %
Setting range of the output voltage (U_{Set})	22.5 V DC ... 28.5 V DC (> 24 V DC, constant capacity restricted)
Nominal output current (I_N)	1 A (-25 °C ... 60 °C)
Derating	60 °C ... 70 °C (2.5 %/K)
Residual ripple	< 40 mV_{PP}
Short-circuit-proof	yes
Output power	24 W
Peak switching voltages nominal load	< 50 mV_{PP} (20 MHz)
Maximum no-load power dissipation	< 1.2 W
Power loss nominal load max.	< 5 W
Connection in parallel	yes, for assembling redundant systems and increasing efficiency
Connection in series	yes
Fuse protection (secondary side)	electronic

Signal: 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

Connection data

Input

Connection method	Pluggable screw connection
Conductor cross-section, rigid min.	0.2 mm²
Conductor cross-section, rigid max.	2.5 mm²
Conductor cross-section flexible min.	0.2 mm²
Conductor cross-section flexible max.	2.5 mm²
Conductor cross-section AWG min.	24
Conductor cross-section AWG max.	14
Stripping length	7 mm
Screw thread	M3

Output

Connection method	Pluggable screw connection
Conductor cross-section, rigid min.	0.2 mm²
Conductor cross-section, rigid max.	2.5 mm²
Conductor cross-section flexible min.	0.2 mm²
Conductor cross-section flexible max.	2.5 mm²
Conductor cross-section AWG min.	24
Conductor cross-section AWG max.	14
Stripping length	7 mm
Screw thread	M3

Signal

Conductor cross-section, rigid min.	0.2 mm²
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Conductor cross-section flexible min.	0.2 mm²
Conductor cross-section flexible max.	2.5 mm²
Conductor cross-section AWG min.	24
Conductor cross-section AWG max.	14
Screw thread	M3
Tightening torque, min	0.5 Nm
Tightening torque max	0.6 Nm

Signaling

Types of signaling	LED
	Active switching output
Operating voltage display	Green LED

Signal output: DC OK active

Status display	"DC OK" LED green

Electrical properties

Number of phases	1
Insulation voltage input/output	1.5 kV (type test)
	1 kV (routine test)

Product properties

Product type	DC/DC converters
Product family	MINI POWER
MTBF (IEC 61709, SN 29500)	> 1147000 h (40 °C)

Insulation characteristics

Protection class	II

Dimensions

Width	22.5 mm
Height	99 mm
Depth	107 mm

Installation dimensions

Installation distance right/left	0 mm / 0 mm (≤ 70 °C)
Installation distance top/bottom	50 mm / 50 mm (≤ 70 °C)

Mounting

Assembly note	alignable: horizontally 0 mm, vertically 50 mm
Mounting position	horizontal DIN rail NS 35, EN 60715
With protective coating	no

Material specifications

Housing material	Plastic
Housing material	PA
Type of housing	Polyamide PA, color: green

Environmental and real-life conditions

Ambient conditions

Degree of protection	IP20
Ambient temperature (operation)	-25 °C ... 70 °C (> 60 °C Derating: 2,5 %/K)
Ambient temperature (storage/transport)	-40 °C ... 85 °C
Max. permissible relative humidity (operation)	≤ 95 % (at 25 °C, non-condensing)
Temp code	T4A ≤ 70 °C

Standards and regulations

Rail applications	EN 50121-4
Standard – Electronic equipment for use in electrical power installations and their assembly into electrical power installations	EN 50178/VDE 0160 (PELV)
Standard - Electrical safety	EN 60950-1/VDE 0805 (SELV)
Standard - Safe isolation	DIN VDE 0100-410
	DIN VDE 0106-101

Approvals

	UL/C-UL listed UL 508

UL approvals	UL/C-UL Recognized UL 60950-1
	UL ANSI/ISA-12.12.01 Class I, Division 2, Groups A, B, C, D (Hazardous Location)

EMC data

Electromagnetic compatibility	Conformance with EMC Directive 2014/30/EU
Low Voltage Directive	Conformance with Low Voltage Directive 2014/35/EC
EMC requirements for noise emission	EN 61000-6-3
	EN 61000-6-4
EMC requirements for noise immunity	EN 61000-6-1
	EN 61000-6-2

Noise emission

Standards/regulations	EN 55011 (EN 55022)

Electrostatic discharge

Standards/regulations	EN 61000-4-2
Housing	> Level 3

Electrostatic discharge

Contact discharge	8 kV (Contact discharge)
Discharge in air	8 kV (Air discharge)
Comments	Criterion B

Electromagnetic HF field

Standards/regulations	EN 61000-4-3

Electromagnetic HF field

Frequency range	80 MHz ... 3 GHz
Test field strength	10 V/m
Comments	Criterion A

Fast transients (burst)

Standards/regulations	EN 61000-4-4

Fast transients (burst)

Input	4 kV (level 4 - asymmetrical: conductor to ground)
Output	2 kV (level 3 - asymmetrical: conductor to ground)
Signal	1 kV
Comments	Level 2 - asymmetrical cable to ground

Surge voltage load (surge)

Standards/regulations	EN 61000-4-5

Surge voltage load (surge)

Input	2 kV (Level 3)
	1 kV (Level 3)

Conducted interference

Standards/regulations	EN 61000-4-6

Conducted interference

Input/Output	Level 3
Frequency range	0.15 MHz ... 80 MHz (10 V)

Voltage dips

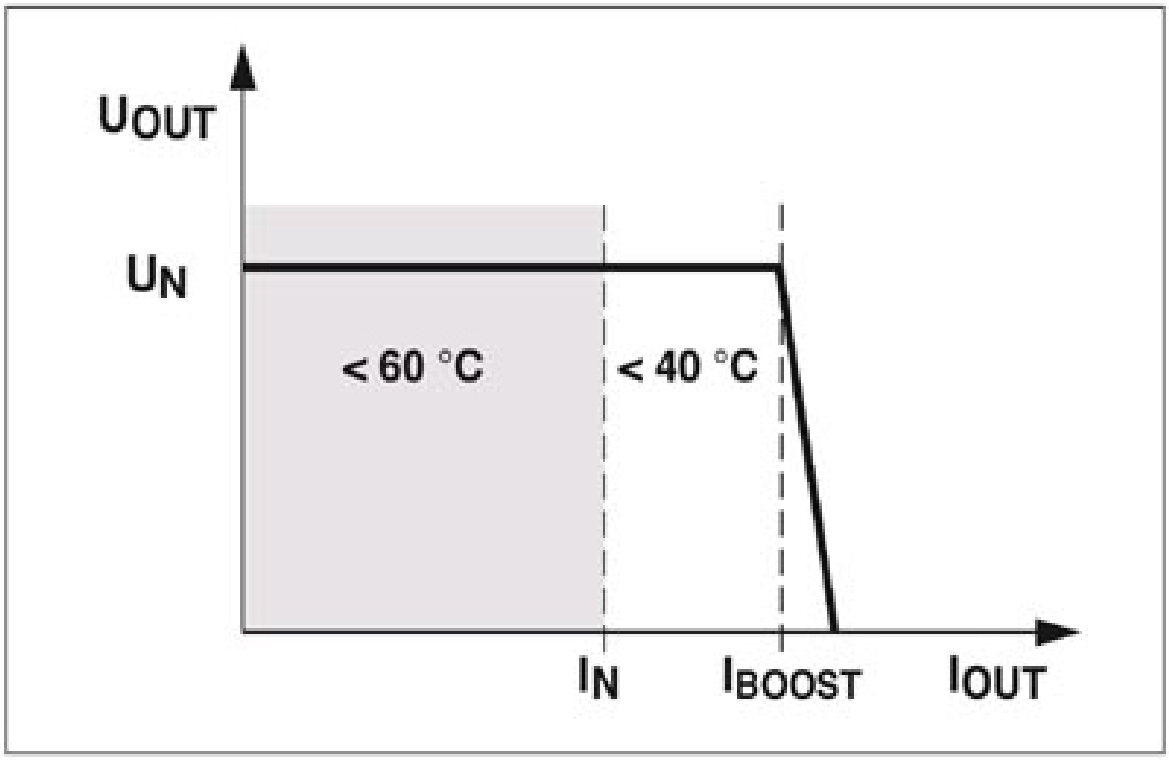
Standards/regulations	EN 61000-4-11

Emitted interference

Standards/regulations	EN 61000-6-3
Radio interference voltage in acc. with EN 55011	EN 55011 (EN 55022) Class B, area of application: Industry and residential
Emitted radio interference in acc. with EN 55011	EN 55011 (EN 55022) Class B, area of application: Industry and residential

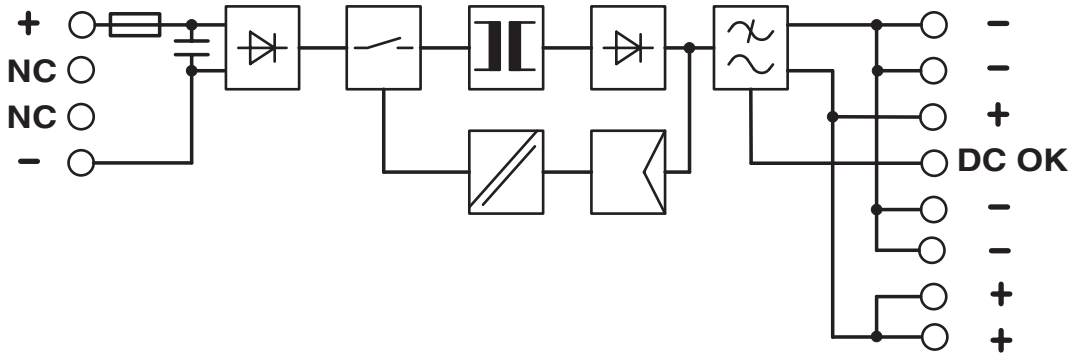
Drawings

Diagram



POWER BOOST

Block diagram



Approvals

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cUL Recognized
Approval ID: FILE E 211944

UL Recognized
Approval ID: E211944

EAC
Approval ID: RU S-DE.BL08.W.00764

EAC
Approval ID: RU S-DE.BL08.W.00764

UL Listed
Approval ID: E123528

cUL Listed
Approval ID: E123528

CoC / Compliance Statement
Approval ID: 19-049-00

EAC
Approval ID: KZ7500651 0101 12535

cUL Listed
Approval ID: E199827

UL Listed
Approval ID: E199827

Classifications

ECLASS

ECLASS-13.0	27040701
ECLASS-15.0	27040701

ETIM

ETIM 10.0	EC002540

UNSPSC

UNSPSC 21.0	39121000

Environmental product compliance

EU RoHS

Fulfills EU RoHS substance requirements	Yes
Exemption	7(a), 7(c)-I

China RoHS

Environment friendly use period (EFUP)	EFUP-25
	An article-related China RoHS declaration table can be found in the download area for the respective article under "Manufacturer declaration". For all articles with EFUP-E, no China RoHS declaration table issued and required.

EU REACH SVHC

REACH candidate substance (CAS No.)	Lead(CAS: 7439-92-1)
SCIP	e6ff8662-a591-48fd-a038-2a8ef5fde62b

EF3.1 Climate Change

CO2e kg	17.589 kg CO2e

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