UNO-PS/350-900DC/24DC/60W - DC/DC converter

2906300

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Primary-switched UNO DC/DC converter with wide range input, for DIN rail mounting, input: 350 ... 900 V DC, output: 24 V DC/60 W

Product description

UNO DC/DC converters with basic functionality
With the DC/DC converters from the UNO POWER range, the control cabinet is supplied directly from the photovoltaic system. This saves installation costs and increases the efficiency of the system.

Your advantages

- Wide input voltage range
- Direct field installation
- Minimal space required in the control box
- Simplified startup
- UL 1741-certified DC/DC converter

ELEKTROGERÄTE RÜCKNAHME

Commercial data

Item number	2906300
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	CM06
Product key	CMDU43
GTIN	4055626062648
Weight per piece (including packing)	312 g

Weight per piece (excluding packing)	317 g
Customs tariff number	85044095
Country of origin	VN

Technical data

Input data

DC operation

Nominal input voltage range	350 V DC ... 900 V DC
Input voltage range	300 V DC ... 1000 V DC
Wide-range input	yes
Electric strength, max.	≤ 1050 V DC
Voltage type of supply voltage	DC
Inrush current	< 1 A (typical)
Inrush current integral (I^2t)	< 0.38 A^2s
Current consumption	0.19 A (350 V DC)
	0.07 A (1000 V DC)
Nominal power consumption	69 VA
Typical response time	< 1 s
Recommended breaker for input protection	1 A (Characteristic gPV or comparable)
Recommended fuse for input protection	1000 V DC

Output data

Efficiency	> 90 %
Output characteristic	U/I
Nominal output voltage	24 V DC
Nominal output current (I_N)	2.5 A (-25 °C ... 55 °C)
Derating	55 °C ... 70 °C (2.5 %/K)
Feedback voltage resistance	< 35 V DC
Protection against overvoltage at the output (OVP)	< 35 V DC
Control deviation	< 1 % (change in load, static 10 % ... 90 %)
	< 3 % (Dynamic load change 10 % ... 90 %, 10 Hz)
	< 0.1 % (change in input voltage ±10 %)
Residual ripple	< 20 mV_{PP} (with nominal values)
Output power	60 W
Maximum no-load power dissipation	< 0.5 W
Power loss nominal load max.	< 6.5 W
Rise time	< 1 s (U_{OUT} (10 % ... 90 %))
Response time	< 2 ms
Connection in parallel	yes, for redundancy and increased capacity
Connection in series	no
Fuse protection (secondary side)	electronic

Signal: DC OK active

Output description	U_{OUT} > 0.9 x U_N: High signal

Connection data

Input

Connection method	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	8 mm
Screw thread	M3
Tightening torque, min	0.5 Nm
Tightening torque max	0.6 Nm

Output

Connection method	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	8 mm
Screw thread	M3
Tightening torque, min	0.5 Nm
Tightening torque max	0.6 Nm

Signaling

Types of signaling	LED

Signal output: DC OK active

Status display	"DC OK" LED green

Electrical properties

Number of phases	1
Insulation voltage input/output	8 kV DC (type test)
	3 kV DC (routine test)
	8 kV

Product properties

Product type	DC/DC converters
Product family	UNO POWER
MTBF (IEC 61709, SN 29500)	> 1160000 h (40 °C)

Insulation characteristics

Protection class	II

Overvoltage category (IEC 62109-1)	II
Degree of pollution	2

Dimensions

Width	55 mm
Height	90 mm
Depth	84 mm

Installation dimensions

Installation distance right/left	0 mm / 0 mm (≤ 70 °C)
Installation distance top/bottom	30 mm / 30 mm (≤ 70 °C)

Mounting

Mounting type	DIN rail mounting
Assembly note	alignable: 0 mm horizontally, 30 mm vertically
Mounting position	horizontal DIN rail NS 35, EN 60715
With protective coating	no

Material specifications

Flammability rating according to UL 94 (housing / terminal blocks)	V0
Housing material	Plastic
Housing material	PC
Foot latch material	POM (Polyoxymethylene)

Environmental and real-life conditions

Ambient conditions

Degree of protection	IP20
Ambient temperature (operation)	-25 °C ... 70 °C (> 55° C derating : 2.5%/K)
Ambient temperature (storage/transport)	-40 °C ... 85 °C
Ambient temperature (start-up type tested)	-40 °C
Climatic class	3K3 (in acc. with EN 60721)
Max. permissible relative humidity (operation)	≤ 95 % (at 25 °C, non-condensing)
Shock	18 ms, 30g, in each space direction (according to IEC 60068-2-27)
Vibration (operation)	< 15 Hz, amplitude ±2.5 mm (according to IEC 60068-2-6)
	15 Hz ... 150 Hz, 2.3g, 90 min.

Standards and regulations

Standard – Limitation of mains harmonic currents	EN 61000-3-2
Standard - Electrical safety	IEC 62109-1
Standard – Safety extra-low voltage	IEC 60950-1 (SELV) and EN 60204-1 (PELV)
Standard - Safe isolation	DIN VDE 0100-410
Standard - Safety of power converters for use in photovoltaic power systems	IEC 62109-1

Approval - requirement of the semiconductor industry with regard to mains voltage dips	EN 61000-4-11

Approvals

UL approvals	UL 1741

Conformity/Approvals

SIL in accordance with IEC 61508	0

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

Electrostatic discharge

Standards/regulations	EN 61000-4-2

Electrostatic discharge

Contact discharge	6 kV (Test Level 3)
Discharge in air	8 kV (Test Level 3)
Comments	Criterion B

Electromagnetic HF field

Standards/regulations	EN 61000-4-3

Electromagnetic HF field

Frequency range	80 MHz ... 1 GHz
Test field strength	10 V/m
Frequency range	1 GHz ... 2 GHz
Test field strength	10 V/m
Frequency range	2 GHz ... 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 (Test Level 4 - asymmetrical)
Output	2 kV (Test Level 3 - asymmetrical)
Comments	Criterion B

Surge voltage load (surge)

Standards/regulations	EN 61000-4-5

Surge voltage load (surge)

Input	2 kV (Test Level 3 - symmetrical)
	4 kV (Test Level 4 - asymmetrical)
Output	1 kV (Test Level 2 - symmetrical)
	2 kV (Test Level 3 - asymmetrical)
Comments	Criterion B

Conducted interference

Standards/regulations	EN 61000-4-6

Conducted interference

Frequency range	10 kHz ... 80 MHz
Comments	Criterion A
Voltage	10 V (Test Level 3)

Voltage dips

Standards/regulations	EN 61000-4-11

Emitted interference

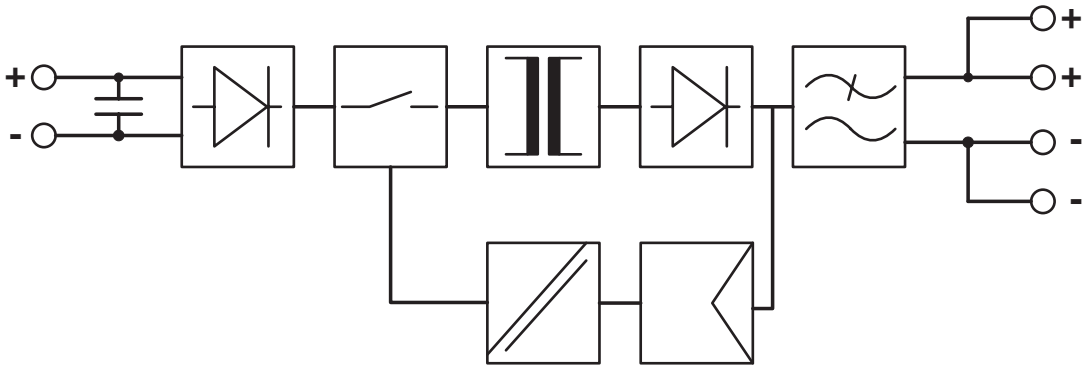
Standards/regulations	EN 61000-6-3
Radio interference voltage in acc. with EN 55011	EN 55011 (EN 55022) Class B, area of application: Industry and residential
Emitted radio interference in acc. with EN 55011	EN 55011 (EN 55022) Class B, area of application: Industry and residential

Criteria

Criterion A	Normal operating behavior within the specified limits.
Criterion B	Temporary impairment to operational behavior that is corrected by the device itself.

Drawings

Block diagram



Approvals

To download certificates, visit the product detail page: https://www.phoenixcontact.com/us/products/2906300

IECEE CB Scheme
Approval ID: US-27376-M1-UL

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

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

cULus Listed
Approval ID: E476951-20160420

EAC
Approval ID: KZ7500651 0101 12535

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	6(c), 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	21ec55f9-c700-47d5-9399-546a8bea5814

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