

## DC/DC converters - UNO-PS/350-900DC/24DC/60W - 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
- UL 1741-certified DC/DC converter
- Minimal space required in the control box
- Simplified startup



### Key Commercial Data

Packing unit	1 pc
GTIN	 4 055626 062648
GTIN	4055626062648
Weight per Piece (excluding packing)	320.000 g
Custom tariff number	85044030
Country of origin	Germany

### Technical data

#### Dimensions

Width	55 mm
Height	90 mm

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### Technical data

#### Dimensions

Depth	84 mm
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#### Ambient conditions

Degree of protection	IP20
Ambient temperature (operation)	-25 °C ... 70 °C (> 55 °C derating : 2.5%/K)
Ambient temperature (start-up type tested)	-40 °C
Ambient temperature (storage/transport)	-40 °C ... 85 °C
Max. permissible relative humidity (operation)	≤ 95 % (at 25 °C, non-condensing)
Climatic class	3K3 (in acc. with EN 60721)
Degree of pollution	2

#### Input data

Nominal input voltage range	350 V DC ... 900 V DC
Input voltage range	300 V DC ... 1000 V DC
Dielectric strength maximum	≤ 1050 V DC
Current consumption	0.19 A (350 V DC)
	0.07 A (1000 V DC)
Inrush current	< 1 A (typical)
Recommended breaker for input protection	1 A (Characteristic gPV or comparable)

#### Output data

Nominal output voltage	24 V DC ±1 %
Nominal output current (I <sub>N</sub> )	2.5 A (-25 °C ... 55 °C)
Derating	55 °C ... 70 °C (2.5%/K)
Connection in parallel	Yes, for redundancy and increased capacity
Connection in series	No
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 <sub>PP</sub> (with nominal values)
Output power	60 W
Typical response time	< 1 s
Maximum power dissipation in no-load condition	< 0.5 W
Power loss nominal load max.	< 6.5 W

#### General

Net weight	0.3 kg
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### Technical data

#### General

Efficiency	> 90 %
Insulation voltage input/output	8 kV DC (type test)
	3 kV DC (routine test)
Protection class	II
Degree of protection	IP20
MTBF (IEC 61709, SN 29500)	> 1160000 h (40 °C)
Mounting position	horizontal DIN rail NS 35, EN 60715
Assembly instructions	alignable: 0 mm horizontally, 30 mm vertically

#### Connection data, input

Connection method	Screw connection
Conductor cross section solid min.	0.2 mm <sup>2</sup>
Conductor cross section solid max.	2.5 mm <sup>2</sup>
Conductor cross section flexible min.	0.2 mm <sup>2</sup>
Conductor cross section flexible max.	2.5 mm <sup>2</sup>
Conductor cross section AWG min.	24
Conductor cross section AWG max.	14
Stripping length	8 mm
Screw thread	M3

#### Connection data, output

Connection method	Screw connection
Conductor cross section solid min.	0.2 mm <sup>2</sup>
Conductor cross section solid max.	2.5 mm <sup>2</sup>
Conductor cross section flexible min.	0.2 mm <sup>2</sup>
Conductor cross section flexible max.	2.5 mm <sup>2</sup>
Conductor cross section AWG min.	24
Conductor cross section AWG max.	14
Stripping length	8 mm
Screw thread	M3

#### Standards

EMC requirements for noise immunity	EN 61000-6-1
	EN 61000-6-2
EMC requirements for noise emission	EN 61000-6-3
	EN 61000-6-4
Standard - Safety of power converters for use in photovoltaic power systems	IEC 62109-1
Standard - Electrical safety	IEC 62109-1

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### Technical data

#### Standards

Standard – Safety extra-low voltage	IEC 60950-1 (SELV) and EN 60204-1 (PELV)
Standard - Safe isolation	DIN VDE 0100-410
Standard – Limitation of mains harmonic currents	EN 61000-3-2
Mains variation/undervoltage	EN 61000-4-11

#### Conformance/approvals

UL approvals	UL 1741
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#### EMC data

Electromagnetic compatibility	Conformance with EMC Directive 2014/30/EU
Low Voltage Directive	Conformance with LV directive 2006/95/EC
Electrostatic discharge	EN 61000-4-2
Contact discharge	6 kV (Test Level 3)
Discharge in air	8 kV (Test Level 3)
Electromagnetic HF field	EN 61000-4-3
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)	EN 61000-4-4
Input	4 kV (Test Level 4 - asymmetrical)
Output	2 kV (Test Level 3 - asymmetrical)
Comments	Criterion B
Surge voltage load (surge)	EN 61000-4-5
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	EN 61000-4-6
Frequency range	10 kHz ... 80 MHz
Voltage	10 V (Test Level 3)
Comments	Criterion A
Voltage dips	EN 61000-4-11
Criterion A	Normal operating behavior within the specified limits.

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### Technical data

#### EMC data

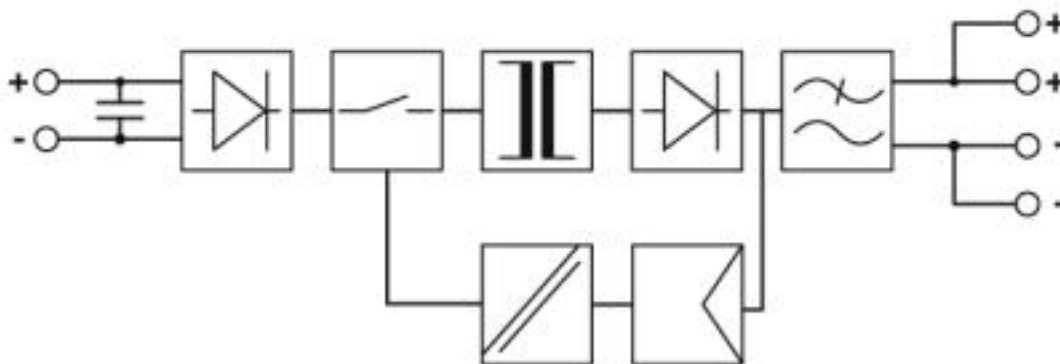
Criterion B	Temporary impairment to operational behavior that is corrected by the device itself.
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#### Environmental Product Compliance

REACH SVHC	Lead 7439-92-1
China RoHS	Environmentally Friendly Use Period = 25;
	For details about hazardous substances go to tab "Downloads", Category "Manufacturer's declaration"

### Drawings

Block diagram



### Classifications

#### eCl@ss

eCl@ss 4.0	27210900
eCl@ss 4.1	27210900
eCl@ss 5.0	27210900
eCl@ss 5.1	27210900
eCl@ss 6.0	27210900
eCl@ss 7.0	27210901
eCl@ss 8.0	27210901
eCl@ss 9.0	27210901

#### ETIM

ETIM 5.0	EC002540
ETIM 6.0	EC002046
ETIM 7.0	EC002046

## DC/DC converters - UNO-PS/350-900DC/24DC/60W - 2906300

### Classifications

#### UNSPSC

UNSPSC 13.2	39121004
UNSPSC 18.0	39121041
UNSPSC 19.0	39121041
UNSPSC 20.0	39121041
UNSPSC 21.0	39121041

### Approvals


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UL Recognized / cUL Recognized / IECEE CB Scheme / EAC / UL Recognized / IECEE CB Scheme / cUL Recognized / EAC

#### Ex Approvals


#### Approval details

UL Recognized		<a href="http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm</a>	FILE E 476951
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cUL Recognized		<a href="http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm</a>	FILE E 476951
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IECEE CB Scheme		<a href="http://www.iecee.org/">http://www.iecee.org/</a>	US-27376-M1-UL
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EAC			RU C- DE.A*30.B.01082
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EAC			RU C- DE.A*30.B.01082
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### Accessories

#### Accessories

#### Device protection

Type 3 surge protection device - PLT-SEC-T3-24-FM-UT - 2907916



Type 3 surge protection, consisting of protective plug and base element, with integrated status indicator and remote signaling for single-phase power supply networks. Nominal voltage 24 V AC/DC.

#### Fuse terminal block

Fuse modular terminal block - UK 10,3-HESI 1000V - 3211236



Fuse modular terminal block, fuse type: Glass / ceramics / ..., connection method: Screw connection, cross section: 1.5 mm<sup>2</sup>- 25 mm<sup>2</sup>, AWG: 16 - 3, nominal current: 30 A, nom. voltage: 1000 V, width: 18 mm, fuse type: 10:3 x 38 mm, mounting type: NS 35/7,5, NS 35/15, color: black

#### Redundancy module

## DC/DC converters - UNO-PS/350-900DC/24DC/60W - 2906300

### Accessories

Redundancy module - UNO-DIODE/5-24DC/2X10/1X20 - 2905489



Redundancy module, 5 V - 24 V DC, 2 x 10 A, 1 x 20 A.