Data sheet

PRO DCDC 240W 48V/48V 5A

Weidmüller Interface GmbH & Co. KG
Klingenbergstraße 26
D-32758 Detmold
Germany

www.weidmueller.com



The DC/DC converter compensates for voltage fluctuations, such as those that occur with unregulated power supplies or long cables. With galvanic isolation and protection class III for earth-free systems, the DC/DC converter is particularly suitable for use in independent supply systems. The space-saving module can optimally convert voltage levels, offers above-average power performance, comprehensive safety functions, and a high efficiency of up to 95 %.

General ordering data

Version	DC/DC converter
Order No.	2869060000
Type	PRO DCDC 240W 48V/48V 5A
GTIN (EAN)	4064675620884
Qty.	1 items

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Technical data

Approvals

Approvals	
ROHS	Conform
UL File Number Search	UL Website
Certificate no. (cULus)	E470829
Certificate no. (cULusEX)	E470829

Dimensions and weights

Depth	120 mm	Depth (inches)	4.7244 inch
Height	130 mm	Height (inches)	5.1181 inch
Width	43 mm	Width (inches)	1.6929 inch
Net weight	840 g		

Temperatures

Storage temperature	-45 °C...85 °C	Operating temperature	-25 °C...70 °C
Humidity at operating temperature	5 - 95% rel. humidity	Start-up	≥ -40 °C

Environmental Product Compliance

RoHS Compliance Status	Compliant with exemption
RoHS Exemption (if applicable/known)	7a, 7cI
REACH SVHC	Lead 7439-92-1
SCIP	832efd73-195b-4198-ad0c-1126d0bc238d

Input

Connection system	Screw connection	
Recommended back-up fuse	15 A (DI) / 10A...16A (Char. B, C)	
Rated input voltage	48 V DC	
Input voltage, max.	58 V	
Input voltage, min.	28 V	
Wire connection method	Screw connection	
Input fuse (internal)	20A T	
DC input voltage range	28 ... 58 V DC	
Inrush current	<4 A @ Nominal input voltage	
Current consumption in relation to the input voltage	Voltage type	DC
	Input voltage	48 V
	Input current	5.4 A
Nominal power consumption	260.9 VA	

Output

Output power	240 W
Connection system	Screw connection
Rated output voltage	48 V DC
Residual ripple, breaking spikes	≤ 50 mVPP @full load
Parallel connection option	yes, max. 3
Overload protection	Yes
Output voltage, max.	56 V
Output voltage, min.	28.5 V
Output current, max.	6 A

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Wire connection method	Screw connection	
Output voltage, note	(adjustable via potentiometer on front)	
Nominal output current for Unom	5 A @ 60 °C	
Capacitive load	unrestricted	
Mains failure bridge-over time	Mains failure bridge-over time, min.	10 ms
	Input voltage type	DC
	Input voltage	48 V
	Output current	5 A
	Output voltage	48 V
Protection against inverse voltage	Yes	
Continuous output current @ UNominal	5 A @ 60°C, 6.25 A @ 45°C, 3.75 A @ 70°C	
DCL - peak load reserve	Boost duration	15 ms
	Multiple of the rated current	600 %
Ramp-up time	≤ 100 ms	

General data

Degree of efficiency	> 92 %	
Protection degree	IP20	
Surge voltage category	II	
Mounting position, installation notice	On TS 35 mounting rail, 50 mm clearance above and below for free air supply., With a load ≥ 50 % of the rated current, keep at least 15 mm lateral spacing., The device should be mounted vertically. For other mounting directions, derating to 75% of the load must be considered.	
Protection against reverse voltages from the load	60 V DC	
Current limiting	150% Iout	
Adjacent	No	
MTBF	According to Standard	SN 29500
	Operating time (hours), min.	1100000 h
	Ambient temperature	25 °C
	Input voltage	48 V
	Output power	240 W
	Duty cycle	100 %
	According to Standard	SN 29500
	Operating time (hours), min.	750000 h
	Ambient temperature	40 °C
	Input voltage	48 V
	Output power	240 W
	Duty cycle	100 %
Short-circuit protection	Yes	

EMC / shock / vibration

Shock resistance IEC 60068-2-27	30 g in all directions	Noise emission in accordance with EN55032	Class B
Interference immunity test acc. to	EN 61000-6-1:2019, EN 61000-6-2:2019, EN 61000-6-3, EN 61000-6-4, EN 55032, EN 55035	Vibration resistance IEC 60068-2-6	0.7 g

Insulation coordination

Surge voltage category	II	Pollution severity	2
Protection class	III	Insulation voltage (input / output)	4 kV
Insulation voltage (input / earth)	2 kV	Insulation voltage (output / earth)	0.5 kV

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Electrical safety (applied standards)

Safety transformers for switch-mode power supplies	According to EN 61558-2-16

Connection data (input)

Connection system	Screw connection	Number of terminals	2 (+,–)
Screwdriver blade	0.6 x 3.5	Conductor cross-section input (AWG), max.	12 AWG
Conductor cross-section (AWG) (input), min.	28 AWG	Wire connection cross-section, flexible (input), max.	4 mm²
Conductor cross-section, flexible , min.	0.08 mm²	Conductor cross-section, rigid , max.	4 mm²
Conductor cross-section, rigid , min.	0.08 mm²	Tightening torque, min.	0.4 Nm
Tightening torque, max.	0.5 Nm		

Connection data (output)

Connection system	Screw connection	Number of terminals	4 (++ / –)
Conductor cross-section (AWG) (output), max.	14 AWG	Conductor cross-section (AWG) (output) , min.	24 AWG
Conductor cross-section, flexible , max.	2.5 mm²	Conductor cross-section, flexible , min.	0.2 mm²
Conductor cross-section, rigid , max.	2.5 mm²	Conductor cross-section, rigid , min.	0.2 mm²
Tightening torque, min.	0.4 Nm	Screwdriver blade	0.6 x 3.5
Tightening torque, max.	0.5 Nm		

Connection data (signal)

Wire connection cross-section, flexible (signal), max.	1.5 mm²	Wire connection method (signal)	PUSH IN
Wire cross-section (AWG) (signal), max.	14	Wire cross-section, solid (signal), min.	0.2 mm²
Wire cross-section, solid (signal), max.	1.5 mm²	Wire connection cross-section, flexible (signal), min.	0.2 mm²
Number of terminals (signal)	5	Wire cross-section (AWG) (signal), min.	28 mm²

Signalling

Transistor output, positive-switching	DC OK: 20 mA max., short-circuit-proof, I > 90%: 20 mA max., short-circuit-proof, Low UIN: 20 mA max., short-circuit-proof	Floating contact	Yes
Contact load (NO contact)	max. 30 V DC / 0.5 A, max. 50 V AC / 0.3 A		

Classifications

ETIM 8.0	EC002540	ETIM 9.0	EC002540
ETIM 10.0	EC002540	ECLASS 14.0	27-04-07-01
ECLASS 15.0	27-04-07-01		

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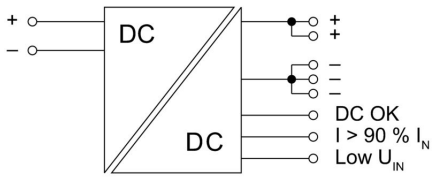
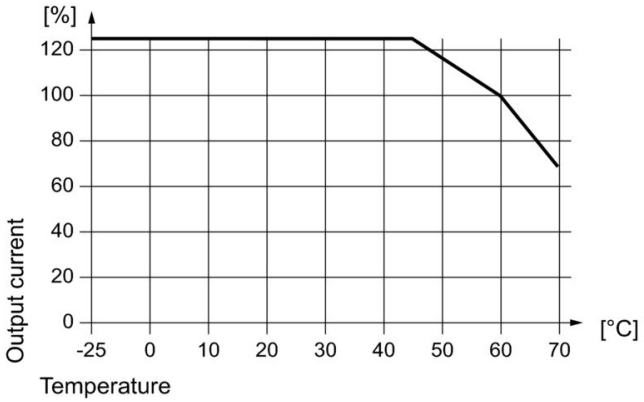
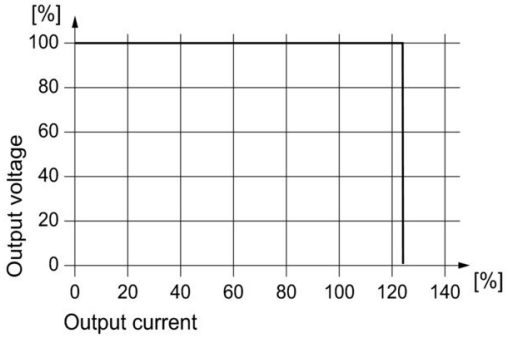
Drawings







Display elements and status outputs

Event		LED (Gr/Ye/Rd) Gr = DC OK Ye = I > 90% IN Rd = FAULT	Transistor status outputs		Status relay
Input (typ.)	Output (typ.)		DC OK	I > 90%	
A: U_{IN} < 12.2 V B: U_{IN} < 17.7 V	–	OFF	Low	Low	OFF
A: U_{IN} = 12.2 ... 34 V [1] B: U_{IN} = 17.7 ... 58 V [1]	U > 90 % U_{OUT} I < 90 % I_{nom}	Gr	High	Low	ON
	U > 90 % U_{OUT} I > 90 % I_{nom}	Ye	High	High	ON
	U < 90 % U_{OUT}	Rd	Low	Low	OFF

Input (typ.)	LED (Ye) Low U_{IN}	Transistor output Low U_{IN}
A: U_{IN} = 12.2 ... 18 V B: U_{IN} = 17.7 ... 36 V [1]	ON	Low
A: U_{IN} = 18 ... 34 V [1] B: U_{IN} = 36 ... 58 V [1]	OFF	High

A: PRO DCDC 240W 24V/48V 5A
B: PRO DCDC 240W 48V/48V 5A

Gr = green
Ye = yellow
Rd = red

1) during operation