

PRO DCDC 120W 12V/24V 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.	2869030000
Type	PRO DCDC 120W 12V/24V 5A
GTIN (EAN)	4064675620853
Qty.	1 items

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Technical data
Approvals

Approvals



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

Dimensions and weights

Depth	120 mm	Depth (inches)	4.7244 inch
Height	130 mm	Height (inches)	5.1181 inch
Width	32 mm	Width (inches)	1.2598 inch
Net weight	640 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	20 A (DI) / 16 A ... 20 A (Char. B, C)		
Rated input voltage	12 V DC		
Input voltage, max.	18 V		
Input voltage, min.	9 V		
Wire connection method	Screw connection		
Input fuse (internal)	40A T		
DC input voltage range	9 ... 18 V DC		
Inrush current	<4 A @ Nominal input voltage		
Current consumption in relation to the input voltage	Voltage type	DC	
	Input voltage	12 V	
	Input current	11.8 A	
Nominal power consumption	139.5 VA		

Output

Output power	120 W		
Connection system	Screw connection		
Rated output voltage	24 V DC		
Residual ripple, breaking spikes	≤ 20 mVPP @full load		
Parallel connection option	yes, max. 3		
Overload protection	Yes		
Output voltage, max.	29.5 V		
Output voltage, min.	22 V		
Output current, max.	6 A		
Wire connection method	Screw connection		

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Output voltage, note	(adjustable via potentiometer on front)	
Nominal output current for I_{nom}	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	12 V
	Output current	5 A
	Output voltage	24 V
Protection against inverse voltage	Yes	
Continuous output current @ $I_{Nominale}$	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	> 86 %	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	32 V DC	Current limiting	150% I _{out}
Adjacent	No	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

Electrical safety (applied standards)

Safety transformers for switch-mode power supplies	According to EN 61558-2-16
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Connection data (input)

Connection system	Screw connection	Number of terminals	2 (+,-)
Screwdriver blade	0.6 x 3.5, PH 1, PZ 1	Conductor cross-section, AWG/kcmil, max.	12 AWG

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Conductor cross-section, AWG/kcmil , min.	30 AWG	Wire connection cross section, flexible (input), max.	4 mm ²
Conductor cross-section, flexible , min.	0.2 mm ²	Conductor cross-section, rigid , max.	4 mm ²
Conductor cross-section, rigid , min.	0.2 mm ²	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/kcmil , max.	14 AWG	Conductor cross-section, AWG/kcmil , min.	24 AWG
Conductor cross-section, flexible , max.	2.5 mm ²	Conductor cross-section, flexible , min.	0.2 mm ²
Conductor cross-section, rigid , max.	2.5 mm ²	Conductor cross-section, rigid , min.	0.2 mm ²
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 mm ²	Wire connection method	PUSH IN
Wire cross-section, AWG/kcmil , max.	14	Wire cross-section, solid , min.	0.2 mm ²
Wire cross-section, solid , max.	1.5 mm ²	Wire connection cross-section, flexible (signal), min.	0.2 mm ²
Number of terminals	5	Wire cross-section, AWG/kcmil , min.	28 mm ²

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

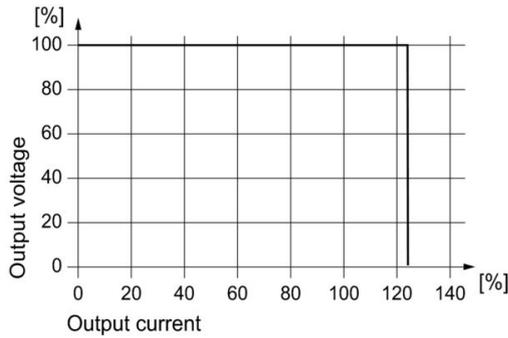
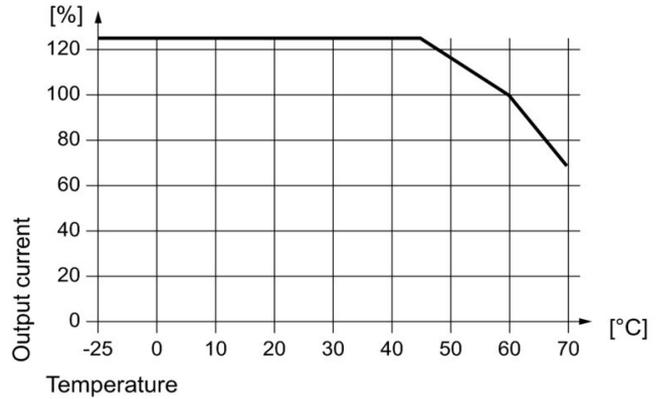
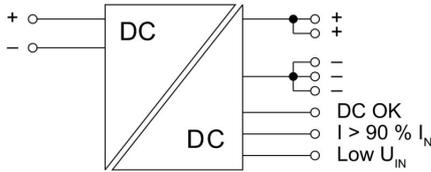
ETIM 8.0	EC002540	ETIM 9.0	EC002540
ETIM 10.0	EC002540	ECLASS 14.0	27-04-07-01
ECLASS 15.0	27-04-07-01		

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Drawings

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Display elements and status outputs

Event Input (typ.)	Output (typ.)	LED (Gr/Ye/Rd) Gr = DC OK Ye = I > 90% IN Rd = FAULT	Transistor status outputs		Status relay
			DC OK	I > 90%	
A: U _{IN} < 6.1 V B: U _{IN} < 22.6 V	-	OFF	Low	Low	OFF
A: U _{IN} = 6.1 ... 18 V ¹⁾ B: U _{IN} = 22.6 ... 58 V ¹⁾	U > 90% U _{OUT} I < 90% I _N	Gr	High	Low	ON
	U > 90% U _{OUT} I > 90% I _N	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} = 6.2 ... 9 V B: U _{IN} = 22.6 ... 36 V ¹⁾	ON		Low		
A: U _{IN} = 9 ... 18 V ¹⁾ B: U _{IN} = 36 ... 58 V ¹⁾	OFF		High		

A: PRO DCDC 120W 12V/24V 5A
 B: PRO DCDC 120W 48V/24V 5A
 Gr = green
 Ye = yellow
 Rd = red
 1) during operation

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Accessories**BLZP 5.08HC/180 SN**

Female plug with clamping-yoke screw system for connecting wires with straight (180°) outlet direction. The female connectors provide space for labelling and can be coded. Fastened by means of a flange or release latch. They also provide an integrated plus/minus screw, protection against faulty insertion of the wire, and they are delivered with open clamping yokes. HC = High Current.

General ordering data

Type	BLZP 5.08HC/02/180 SN B...	Version
Order No.	1943810000	PCB plug-in connector, female plug, 5.08 mm, Number of poles: 2,
GTIN (EAN)	4032248617821	180°, Clamping yoke connection, Clamping range, max. : 4 mm², Box
Qty.	180 ST	