

PRO DCDC 480W 24V 20A

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.	2001820000
Type	PRO DCDC 480W 24V 20A
GTIN (EAN)	4050118384000
Qty.	1 items

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Technical data

Approvals

Approvals



ROHS	Conform
UL File Number Search	UL Website
Certificate no. (cULus)	E258476
Certificate no. (cULusEX)	E470829

Dimensions and weights

Depth	120 mm	Depth (inches)	4.7244 inch
Height	130 mm	Height (inches)	5.1181 inch
Width	75 mm	Width (inches)	2.9527 inch
Net weight	1300 g		

Temperatures

Storage temperature	-40 °C...85 °C	Operating temperature	-25 °C...70 °C
Humidity at operating temperature	5...95 %, no condensation	Start-up	≥ -40 °C
Humidity	5...95 %, no condensation		

Environmental Product Compliance

RoHS Compliance Status	Compliant with exemption
RoHS Exemption (if applicable/known)	7a, 7cI
REACH SVHC	Lead 7439-92-1
SCIP	6d8cdf22-8230-4af8-86c8-3558c716666d

Input

Connection system	Screw connection	Recommended back-up fuse	40 A, Char. B circuit breaker, 40 A, Char. C circuit breaker
Rated input voltage	24 V DC	Wire connection method	Screw connection
Input fuse (internal)	Yes	DC input voltage range	14...32 V (during operation), 18...32 V (commissioning)
Inrush current	max. 30 A	Inrush Current Limitation	Yes
Nominal power consumption	516.1 VA		

Output

Output power	480 W
Connection system	Screw connection
Rated output voltage	24 V DC ± 1 %
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.	22.5 V

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Output current, max.	24 A	
Wire connection method	Screw connection	
Output voltage, note	(adjustable via potentiometer on front)	
Nominal output current for Unom	20 A @ 60 °C	
Output current	20A	
Capacitive load	unrestricted	
Mains failure bridge-over time	Mains failure bridge-over time, min.	10 ms
	Input voltage type	DC
	Input voltage	24 V
	Output current	20 A
	Output voltage	24 V
Protection against inverse voltage	Yes	
Continuous output current @ UNominal	20 A @ 60 °C, 24 A @ 45°C, 15 A @ 70°C	
DCL - peak load reserve	Boost duration	5 s
	Multiple of the rated current	150 %
	Boost duration	200 ms
	Multiple of the rated current	200 %
	Boost duration	100 ms
	Multiple of the rated current	300 %
	Boost duration	50 ms
	Multiple of the rated current	400 %
Ramp-up time	Boost duration	20 ms
	Multiple of the rated current	600 %
Ramp-up time	≤ 9 ms (Uout: 10%...90%)	

General data

Degree of efficiency	typ. > 93%	Humidity	5...95 %, no condensation
Protection degree	IP20	Surge voltage category	III
Mounting position, installation notice	Horizontal on TS35 mounting rail. 50 mm of clearance at top & bottom for air circ. Can mount side by side with no space in between., 50 mm clearance at top and bottom for free air circulation, mountable side by side without clearance, On TS 35 mounting rail, 50 mm clearance above and below for free air supply., Horizontal on DIN rail TS 35, top and bottom 50 mm clearance for free air flow, 10 mm clearance to neighbouring active subassemblies with full load, 5 mm with passive neighbouring subassemblies, direct row mounting with 90% rated load	Housing version	Metal, corrosion resistant
		Current limiting	150% Iout
Protection against reverse voltages from the load	33...34 V DC	Max. perm. air humidity (operational)	5 %...95 % RH
Adjacent	No	Clip-in foot	metal
Power loss, idling	3 W	Power loss, nominal load	40 W
Short-circuit protection	Yes		
Protection against over-heating	Yes		

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EMC / shock / vibration

Limiting of mains voltage harmonic currents	According to EN 61000-3-2	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 61000-4-2 (ESD), EN 61000-4-4 (burst), EN 61000-4-5 (surge), EN 61000-4-6 (conducted), EN61000-4-3 (HF field)
Vibration resistance IEC 60068-2-6	2.3 g (15 Hz...150 Hz)		

Insulation coordination

Surge voltage category	III	Pollution severity	2
Protection class	III	Insulation voltage, input/output	1.5 kV
Insulation voltage input / earth	1.5 kV	Insulation voltage output / earth	0.5 kV

Electrical safety (applied standards)

Electrical machine equipment	Acc. to EN60204	Safety extra-low voltage	SELV acc. to IEC 60950-1, PELV according to EN 60204-1
Safety transformers for switch-mode power supplies	According to EN 61558-2-16		

Connection data (input)

Connection system	Screw connection	Number of terminals	2 (+,-)
Reverse polarity protection	Yes	Conductor cross-section, AWG/kcmil , max.	8 AWG
Conductor cross-section, AWG/kcmil , min.	22 AWG	Wire connection cross section, flexible (input), max.	16 mm ²
Conductor cross-section, flexible , min.	0.5 mm ²	Conductor cross-section, rigid , max.	16 mm ²
Conductor cross-section, rigid , min.	0.5 mm ²	Tightening torque, min.	1.2 Nm
Tightening torque, max.	1.5 Nm		

Connection data (output)

Connection system	Screw connection	Number of terminals	10 (+ / - / signal)
Reverse polarity protection	Yes	Conductor cross-section, AWG/kcmil , max.	10 AWG
Conductor cross-section, AWG/kcmil , min.	26 AWG	Conductor cross-section, flexible , max.	6 mm ²
Conductor cross-section, flexible , min.	0.18 mm ²	Conductor cross-section, rigid , max.	6 mm ²
Conductor cross-section, rigid , min.	0.18 mm ²	Tightening torque, min.	0.4 Nm
Tightening torque, max.	0.5 Nm		

Connection data (signal)

Wire connection method	Screw connection	Number of terminals	5
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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	Relay on/off	Output voltage > 21.6 V / <20.4 V

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Technical data

Classifications

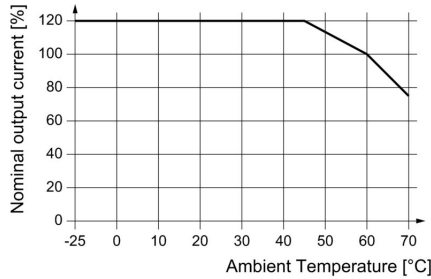
ETIM 8.0	EC002540	ETIM 9.0	EC002540
ETIM 10.0	EC002540	ECLASS 14.0	27-04-07-01
ECLASS 15.0	27-04-07-01		

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Drawings

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Derating curve

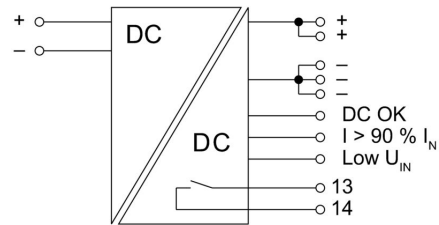
Event	LED (Gr/Ye/Rd)	LED (Ye)	Transistor status outputs			Status relay
			DC OK	$I > 90\% I_N$	Low U_{IN}	
$U_{IN} < 14\text{ V}$	OFF	ON	Low	Low	Low	OFF
$U_{IN} = 14...19.2\text{ V}$ *)	$I < 90\% I_N$	Gr	ON	High	Low	ON
	$I > 90\% I_N$	Ye	ON	High	High	ON
	$U < 20.4\text{ V}$	Rd	ON	Low	Low	OFF
$U_{IN} > 19.2\text{ V}$	$I < 90\% I_N$	Gr	OFF	High	Low	ON
	$I > 90\% I_N$	Ye	OFF	High	High	ON
	$U < 20.4\text{ V}$	Rd	OFF	Low	Low	OFF

Gr = grün / green / verde / verde / verde / 绿色
 Ye = gelb / yellow / jaune / giallo / amarillo / amarelo / 黄色
 Rd = rot / red / rouge / rosso / vermelho / 红色
 *) während des Betriebes / during operations / en cours de fonctionnement / durante l'esercizio / durante el servicio / durante a operação / 运行过程中

Signal states



UI characteristic curve



Switching symbol

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Accessories

End bracket



Weidmüller's range of products includes end brackets that guarantee a permanent, reliable mounting on the terminal rail and prevent sliding. Versions with and without screws are available. The end brackets include marking options, also for group markers, and also a test plug holder.

General ordering data

Type	WEW 35/1 V0 GF SW	Version	
Order No.	1478990000	End bracket, black, TS 35, V-0, Wemid, Width: 12 mm, 130 °C	
GTIN (EAN)	4050118286892		
Qty.	50 ST		
Type	WEW 35/2 V0 GF SW	Version	
Order No.	1479000000	End bracket, black, TS 35, V-0, Wemid, Width: 8 mm, 130 °C	
GTIN (EAN)	4050118286779		
Qty.	50 ST		

Crosshead screwdriver, Pozidrive



VDE insulated screwdriver sets, for working on live parts up to 1000 V AC and 1500 V DC, DIN EN 60900. IEC 900. Each piece is "GS" safety tested. Blade made from fully hardened, high-alloy chromium-vanadium-molybdenum steel, gun-metal finish.

General ordering data

Type	SDIK PZ1 SL	Version	
Order No.	1274730000	Screwdriver, Screwdriver	
GTIN (EAN)	4050118073225		
Qty.	1 ST		

Slotted screwdriver



VDE insulated screwdriver sets, for working on live parts up to 1000 V AC and 1500 V DC, DIN EN 60900. IEC 900. Each piece is "GS" safety tested. Blade made from fully hardened, high-alloy chromium-vanadium-molybdenum steel, gun-metal finish.

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Accessories

General ordering data

Type	SDIS SL 1.0X5.5X125	Version	
Order No.	1274680000	Screwdriver, Mounting tool	
GTIN (EAN)	4050118073263		
Qty.	1 ST		