



powerMELA DC-DC

Power Converter

KEY FEATURES

- The powerMELA DC-DC is a 3 kW DC/DC converter
- It converts the high voltage from a traction network to a low voltage (board network)
- The converter can be parameterized and controlled via CAN bus
- The status and measured values can be queried via CAN

TECHNICAL DATA

- 8 A max. input current
- CAN bus for programming and diagnosis
- 3 kW rated power
- 650 VDC input
- 12 VDC / 24 VDC / 48 VDC output
- Protection class IP6K9K
- Typ. 95 % efficiency

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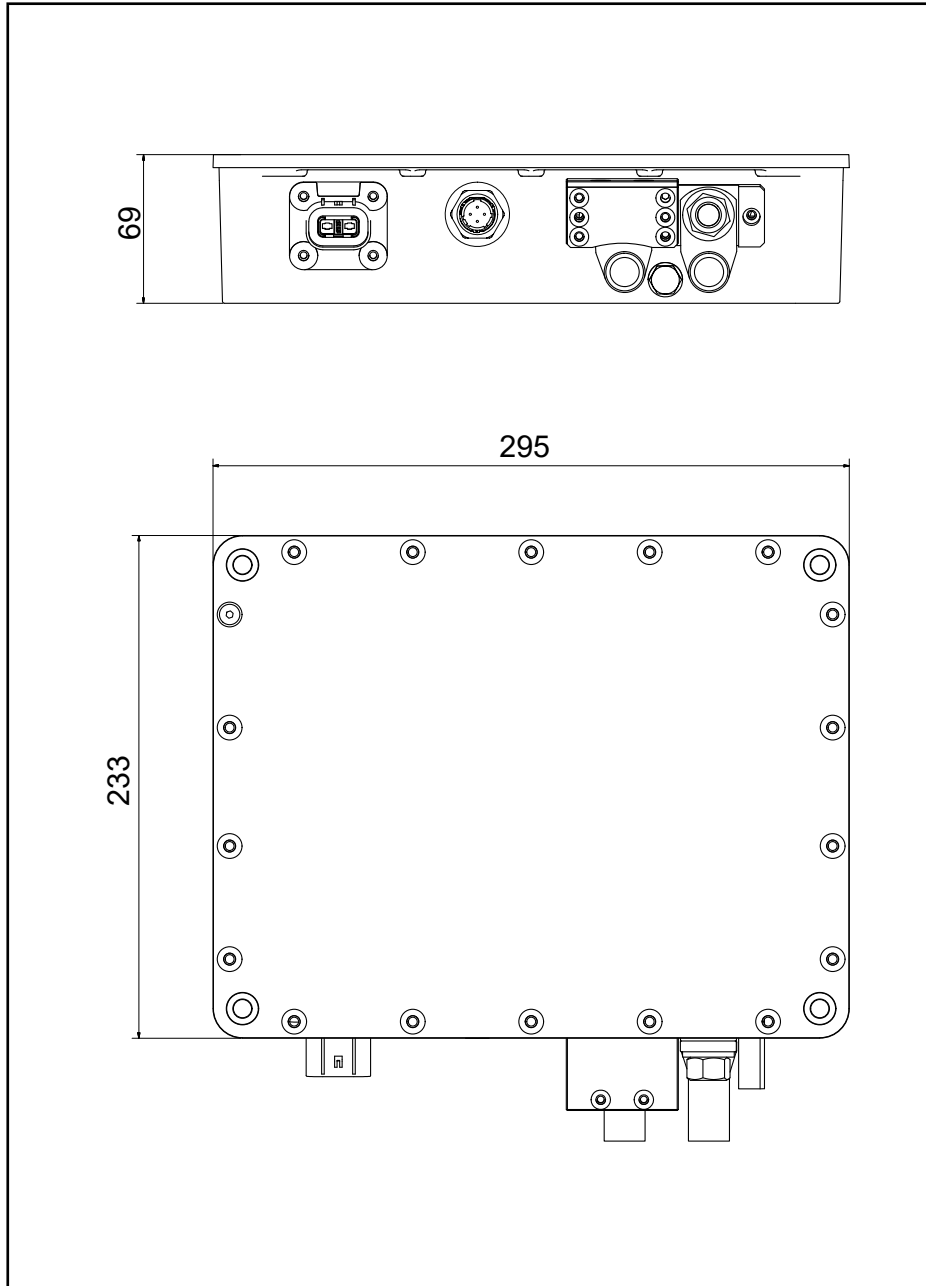
TECHNICAL DATA

Type	Features		
powerMELA DC-DC	MDA 12	MDA 24	MDA 48
Output voltage ($\pm 1\%$)	9-14 VDC	18-28 VDC	36-56 VDC
Maximum output current	210 A	105 A	53 A

Type	Features
Nominal input voltage	700 VDC
Input voltage	400-800 VDC Converter starts operation at 370 VDC and stops at 350 VDC
Max. input voltage	1200 VC < 1s (Shut down by control electronics in case of overvoltage)
Inrush current	Max. rise of voltage 100 V/ms. Compliance with this figure is to be ascertained by end user.
Max. current consumption @ 8 A maximum load	
Input fuse	install externally
Power consumption	Idle state < 10 W Shut down ca. 3 W
Electric Safety	In case of cable breakage on input side HV-link circuit is discharged in max. 40 s insofar as to reduce input voltage to less than 60 V.
Tolerance	+/- 2 %
Overvoltage	max. 15,5 VDC
Output power	Max. 3000W
Standby current	< 1 mA (current consumption from battery in „OFF“-Mode, clamp 15 off)
Efficiency	typ. 95 %
Overvoltage protection	Converter limits output voltage to max. 17 VDC (hardware limitation)

Residual ripple	< 100 mV (@ maximum load)
Ambient operating temperature	-40 °C to +85 °C / -40 °F to +185 °F
Heat sink temperature	-40 °C to +70 °C / -40 °F to +158 °F
Functional reliability	Converter is short-circuit-proof and open circuit-proof. In case of overload voltage is reduced. In case of overtemperature converter shuts down. No reverse polarity protection.
Isolation voltage	4 kV Output - Input 4 kV
IP-protection	IP6K9K
Voltage supply DC	9 V - 32 V

TECHNICAL DRAWING



PIN ASSIGNMENT POWERMELA DC-DC

Pin assignment sorted by pin numbers

Pin	Description
A	CAN L
B	CAN H
C	KL30 (Battery steady plus 12V /24V)
D	KL15 Ignition

