



# powerMELA WRC

Power converter

## KEY FEATURES

- The powerMELA inverter is designed for mobile machines with IT-network
- Liquid cooling allows the compact design of the inverter
- Thanks to the modular construction different applications can be combined in the one device
- One AC machine with up to 160 kW (6-phase) or two AC machines with up to 80 kW (3-phase) can be controlled independently in 4-quadrant operation

## TECHNICAL DATA

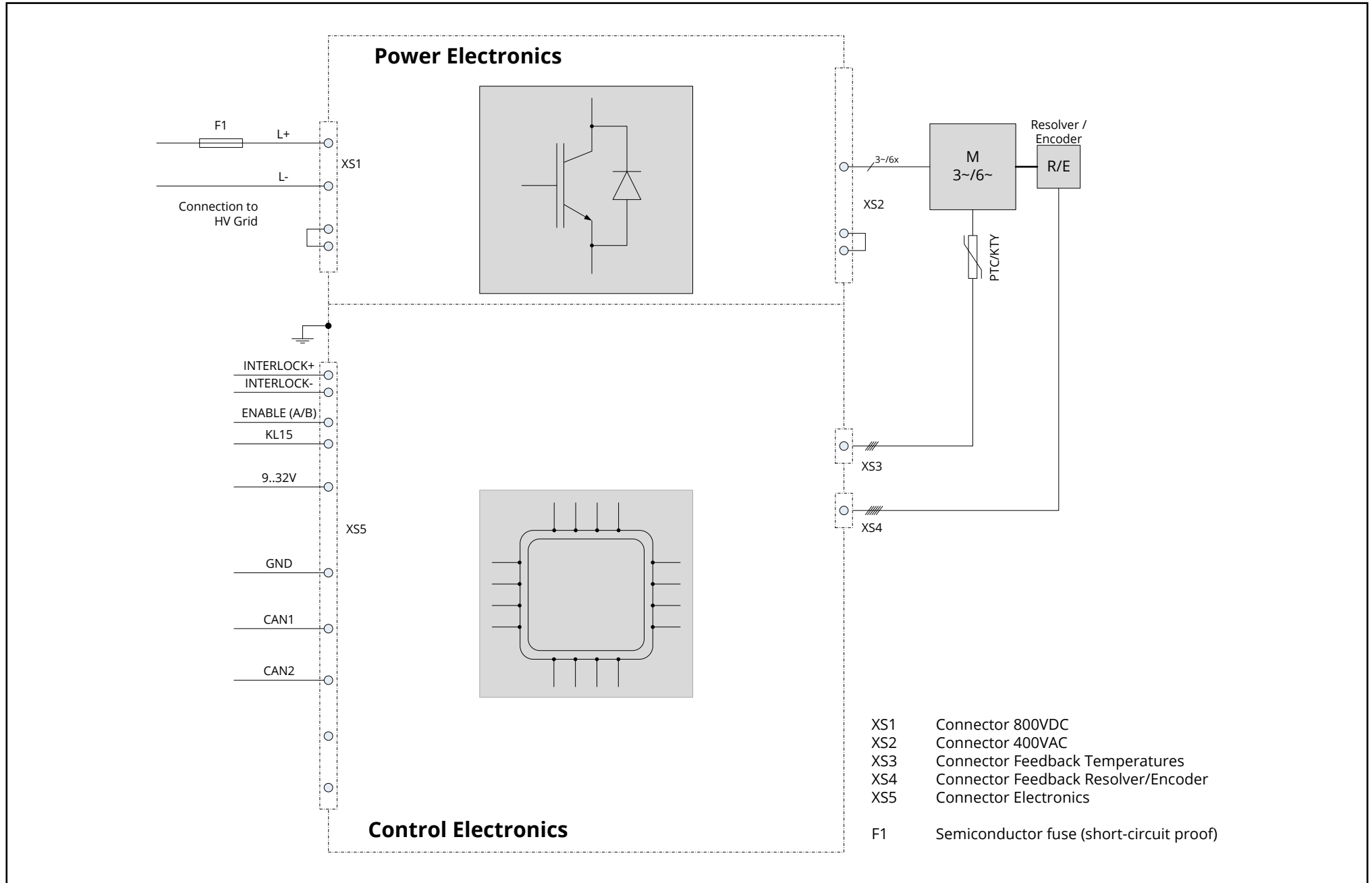
- 650 VDC operating voltage
- 120 A nominal output current
- 4 to 10 kHz switching frequency
- 0 to 600 Hz output frequency
- Weight 36 kg

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# BLOCK DIAGRAM



## TECHNICAL DATA

Type	Features	
<b>Inverter version</b>	<b>160 kW</b>	<b>2 x 80 kW</b>
Phases	1 x 6	2 x 3
Earthing System	IT	Stand-alone operation only, not connected to the grid
Protection class	IP6K9K	Communication Connector IP67
Nominal power	160 kW	2 x 80 kW

### Operation Data

Nominal power	160 kW	2 x 80 kW
Nominal voltage DC	650 V - other voltages on request	
Operating voltage range DC	400 ... 695 V	
Temporary overvoltage DC	< 730 V for max. 5 seconds, according to DIN EN 60664	
Nominal output current per phase	120 A <sub>eff</sub>	
Maximum output current per phase	200 A <sub>eff</sub>	
Switching frequency	4 ... 10 kHz	
Output frequency	0 ... 600 Hz	
Encoder	Resolver	
Control modes	Torque, voltage, speed (master/slave mode)	
LV Power supply DC	9 ... 32 V	

### Mechanical data

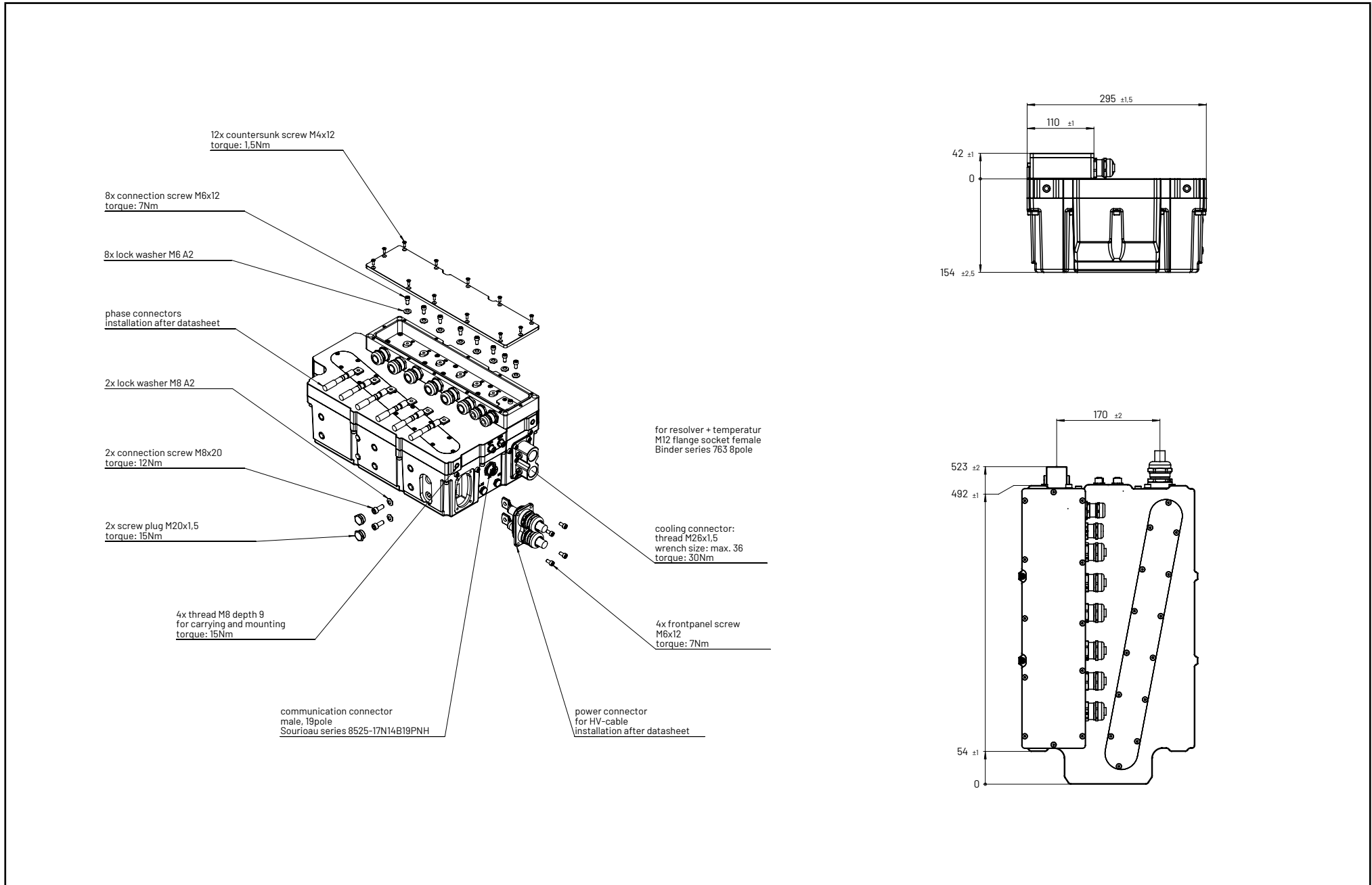
Weight	36 kg
Maximum Cooling fluid temperature	60 °C / 140 °F, Transformer oil 50 l/min
Cooling connector	2 x M26 x 1,5
Power connector	2 x 70 mm <sup>2</sup> with 8 mm cable lug

### Mechanical data

Communication connector	19 pins, 2 x CAN; I/O
Control interface	2 x CAN
Ground connector connection	1 x 35 mm <sup>2</sup> with 8 mm cable lug
Maximum impulse withstand voltage	4000 V
Maximum altitude of use	5000 m.a.s.l.
Dimensions L x W x H (L x W x H)	531 x 295 x 196 mm (20.9 x 11.6 x 7.8 inch)

Please note: Isolation monitoring is required. DC link capacitor discharge time is maximum 60 seconds.

# TECHNICAL DRAWING



## DETAILED QUALIFICATIONS

### Electrical tests

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Supply voltage	STW standard
Overvoltage	ISO 16750
Superimposed alternating voltage	ISO 16750-2
Slow decrease and increase of supply voltage	
Momentary drop in supply voltage	
Reset behavior at voltage drop	
Starting profile 12 V code C	
Starting profile 24 V code E	
Broken cable supply lines UE1, UE2, IGNITION_1, IGNITION_2, GND	STW standard
Current consumption	STW standard
Data retention (> 20 Years)	STW standard