

## CC-550-7500

Converter for driving ultra-high-speed turbo compressors in fuel cells systems.

- Operation of turbo compressor from wide output voltage range of the fuel cell or battery (300–500 VDC)
- Rated output power: 7.5 kW
- Sensorless speed control up to 300,000 rpm
- Protection class IP67
- Low voltage power input (10 - 36 VDC) for control and start-up of the turbo compressor from battery



### Specifications converter

High voltage input $U_{HV}$	100 – 550 VDC
Nominal high voltage input $U_{HV}$	300 – 500 VDC
Maximum output power (high voltage operation)	7.5 kW ( $U_{HV} > 300$ VDC)
Maximum high voltage input current	25 ADC
Low voltage power input $U_{LV}$	8 – 36 VDC (Auxiliary supply)
Maximum output power for start-up (low voltage operation, input min. 10 VDC)	200 W ( $U_{LV} > 10$ VDC) 300 W ( $U_{LV} > 12$ VDC)
Maximum frequency/speed	5 kHz/300,000 rpm
Output voltage (peak value phase-phase)	0 – $0.95 \cdot U_{HV}$ , max. 460 V
Maximum phase current	24 Arms
Communication interface	CAN 2.0A, CAN 2.0B, SAE J1939, RS422-USB (Service Interface)
Ambient temperature	-30 – 65 °C
Protection class	IP67
Weight	5.4 kg
Dimensions (L x W x H)	300 x 190 x 80 mm (11.8 x 7.5 x 3.1 inch)

### Low voltage input

3 x CAN interface	CanH, CanL, CanGND
4 x RS422 interface (Service Interface)	TX-, RX+, TX+, RX-
4 x Low voltage input $U_{LV}$	2 x LV+, 2 x LV-
5 x PE	Protective earth, connected to the casing
2 x Passive interlock (CC-550-7500.ST1.MCx.SCx only)	IL1, IL2
Connector type	TE Connectivity/AMPSEAL 23 Pos.

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Cooling	
Liquid	50%/50% water glycol mixture
Coolant temperature	-30 – 65 °C
In-/Outlet connector type	According to SAE J1231 430192
Tube ID	10 mm

Converter grounding	
Grounding thread	M5 x 10

**Order codes: CC-550-7500.STx.MCx.SCx**

Supply type		
<b>ST1</b>	<b>HV DC connector</b>	
	2 x High voltage input $U_{HV}$	HV+, HV-
	Shield	Integrated
	Connector type	Amphenol/PowerLok 4.0
	Interlock	Passive Interlock
<b>ST2</b>	<b>HV DC cable</b>	
	2 x High voltage input $U_{HV}$	HV+, HV-
	1 x PE	Protective earth, connected to the casing
	Shield	Cable shield connected to the casing
	Cable type	Huber&Suhner 3 x 2.5 mm <sup>2</sup> RADOX 155S FLR / RADOX Elastomer S
	Cable length	1 m (open end)

Motor cable		
<b>MC1</b>	<b>Motor cable without temperature sensor</b>	
	3 x Motor phase	U, V, W
	1 x PE	Protective earth, connected to the casing
	Shield	Cable shield connected to the casing
	Cable type	LAPP Öflex Heat 125 C MC 4G4
	Cable length	1 m (open end)
<b>MC3</b>	<b>Motor cable with circular connector and integrated temperature sensor</b>	
	3 x Motor phase	U, V, W, PT100+, PT100-
	1 x PE	Protective earth, connected to the casing
	Shield	Cable shield connected to the casing
	Cable type	Lapp ÖLFLEX® SERVO FD 796 CP (4 G 4 + (2 x 1,5))
	Cable length <sup>1</sup>	0.3 m
	Connector type	Hummel M23 TWILOCK cable connector

<sup>1</sup> Other cable lengths available upon request

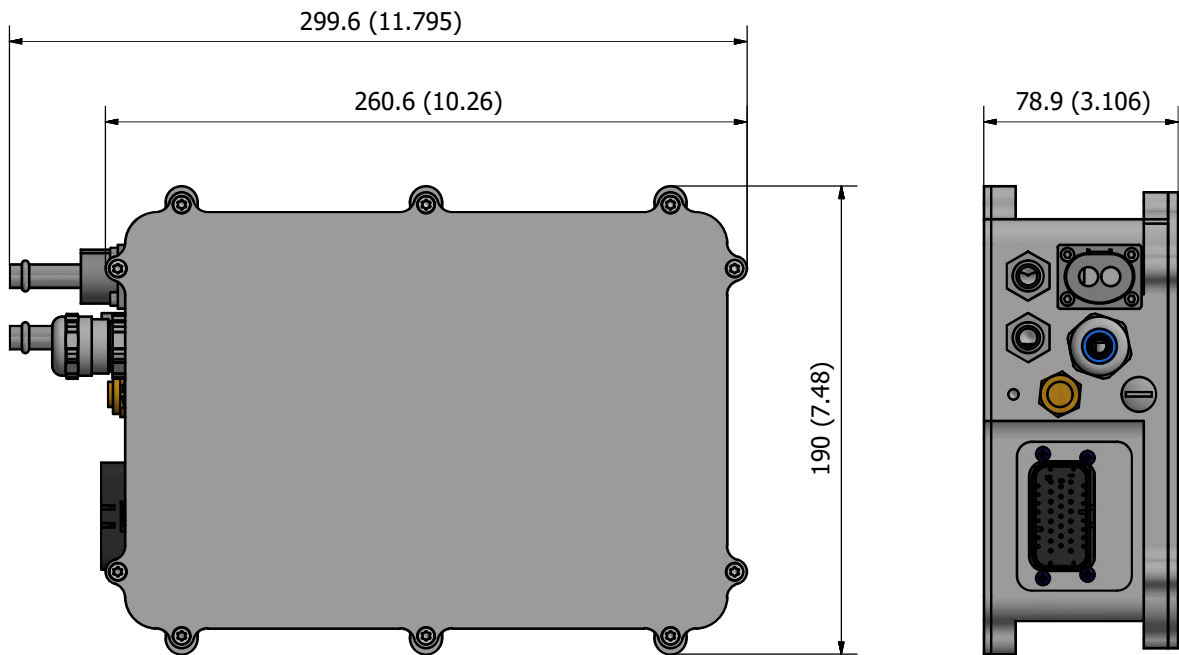
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Sensor cable	
<b>SC1</b>	<b>No temperature sensor cable</b>
<b>SC2</b>	<b>Sensor cable for temperature measurement</b>
2 x Temperature sensor	PT100+, PT100-
Shield	Cable shield connected to the casing
Cable type	LAPP Ölflex Heat 125 C MC 2G0.5
Cable length	1 m (open end)

Accessories	
Supply cable CC-550-7500 (Connector X1)	Low voltage input cable with CAN 1 m (open ends)
Service cable CC-550-7500 (Connector X1)	Low voltage input cable with CAN and RS422-USB converter 1 m (open ends)
HV supply cable CC-550-7500	PowerLok 4.0 connector, shielded 4 mm <sup>2</sup> cable 2 m (open ends)

Ordering information	Article number
CC-550-7500.ST1.MC1.SC1	4030072
CC-550-7500.ST1.MC1.SC2	4030074
CC-550-7500.ST1.MC2.SC1	4030077
CC-550-7500.ST1.MC3.SC1	4030087
CC-550-7500.ST2.MC1.SC1	4030078
CC-550-7500.ST2.MC1.SC2	4030076
Supply cable CC-550-7500 1 m (open ends)	4080039
Service cable CC-550-7500 1 m (open ends)	4080040
HV supply cable CC-550-7500 2 m (open ends)	4080043

**Drawing in mm (inch)**



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