

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 startup (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, 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.

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	
ST1	HV DC connector
2 x High voltage input U_{HV}	HV+, HV-
Shield	Integrated
Connector type	Amphenol / PowerLok 4.0
Interlock	Passive Interlock
ST2	HV DC cable
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 ² RADOX 155S FLR / RADOX Elastomer S
Cable length	1 m (open end)

Motor cable	
MC1	Motor cable without temperature sensor
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 Ölflex Heat 125 C MC 4G4
Cable length	1 m (open end)
MC3	Motor cable with circular connector and integrated temperature sensor
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 ¹	0.3 m
Connector type	Hummel M23 TWILOCK cable connector

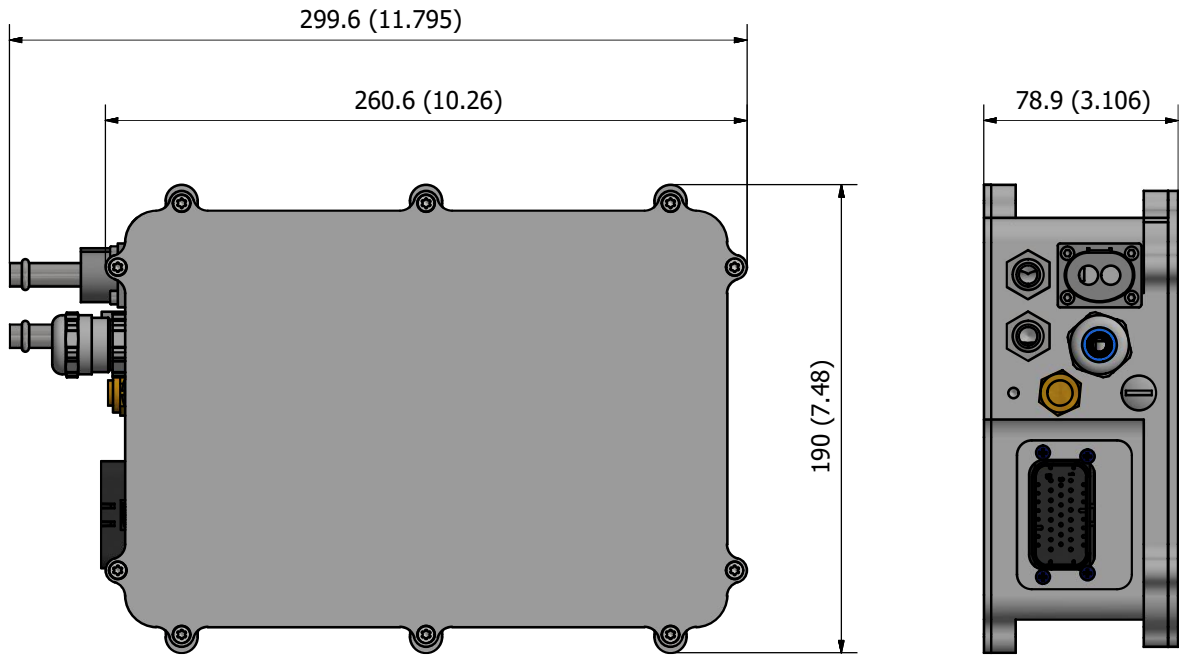
Sensor cable	
SC1	No temperature sensor cable
SC2	Sensor cable for temperature measurement
2 x Temperature sensor	PT100+, PT100-
Shield	Cable shield connected to the casing
Cable type	LAPP Ölflex Heat 125 C MC 2G0.5
Cable length	1 m (open end)

¹ Other cable lengths available upon request

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)

Drawing in mm (inch)



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