



Electrical Motor Controller 300 kW
EVI250A
Preliminary datasheet

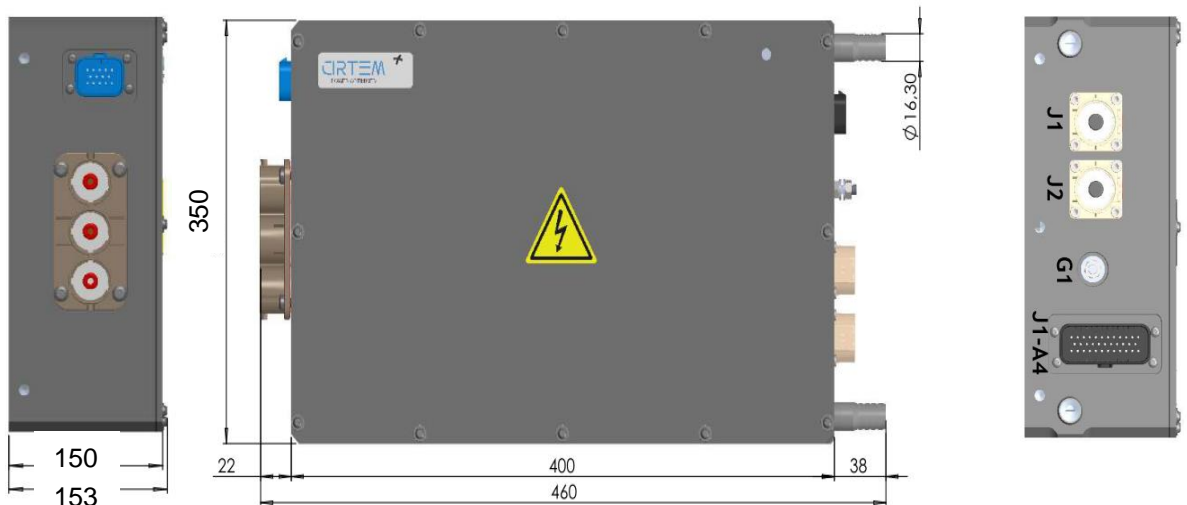
Main Features

- Dedicated to permanent magnet motor
- 3-phase inverter with IGBTs
- Max input voltage: 650 VDC
- Motor current rms:
380A (500 A / 45 sec.)
- Power : 300 kW
- Torque or speed control
- Control & Monitoring: CAN2.0 bus
- Water cooling
- Waterproof case IP65



Functionalities

- Advanced control algorithm for optimal power management and efficiency
- Braking recovery management
- Bootloader for field upgradeable firmware
- Position sensor : Multiple possibilities (SinCos by default).



Technical data

GENERAL

Weight	25 kg
Volume	15 L (without connectors)
Sealing	IP65
Fixing	12 holes M8
Housing	Aluminium

ELECTRICAL CHARACTERISTICS

Maximum input voltage	650 Vdc
Maximum motor current RMS	380 A continuous, 500 A for 45 sec.
Maximum electrical frequency	750Hz (1000Hz optional)
Efficiency	>95%
Auxiliary power supply	10 V to 16 V – 45 W
Insulation	2500V – 50Hz – 60s

ENVIRONMENTAL AND COOLING FEATURES

Operating temperature range	-20 to +85°C
Storage temperature range	-40 to +85°C
Coolant	50 / 50 EGW
Maximum liquid temperature	80°C, current derating from 70°C to 80°C
Minimum coolant flow	10L / min
Coolant pressure drop	0,1 bar @ 10L / min & 0,4 bar @ 20L/min

Connections

- 2 Powerlock connectors with 70mm² cables to the battery
- 3 Powerlock connectors with 70mm² cables to the motor
- 2 cooling pipes (outside diameter 16 mm)
- 1 connector for the engine interface
- 1 connector for the supervisor interface

Vibrations & shocks standards

- Vibration on all three axes - 24 or 75 hours per axis @ speed 1 Hz / s: sine sweep from 10 to 21 Hz – 10 mm peak-to-peak movement, sine sweep from 21 Hz to 1.5 kHz – acceleration 90 m / s², sine sweep from 1.5 Hz to 3 kHz – acceleration 30 m/s²
- Shocks: 6x10 positive and negative mechanical shocks on the three axes of 25g 11 ms half sine
- Standards: CISPR25 - Class 1, ISO 16750-3 "Mechanical vibration", IEC 60068-2-27, ISO 16750-3 "Mechanical shock" and IEC 60068-2-27

Safety

- Short circuit of the motor in the event of a fault (to avoid the return of power in the battery and braking)
- Overcurrent protection (motor and battery)
- Thermal protection (motor and inverter)
- Auxiliary power monitoring
- CAN bus malfunction



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