

Gen4-Size2/4/6

This range of Low Voltage motor controllers are highly reliable and are intended for On and Off-highway electric vehicles. They have control functions to utilise the in-built I/O, or can operate as a CAN slave. Thanks to compact dimensions and high efficiency it is possible to integrate these controllers in difficult spaces without sacrificing performance. The optimised design delivers superior reliability in the most demanding applications.



Benefits

Scalability - Consistent functionality across the range of voltage and power options allows you to redeploy the application across a range of machines or vehicle.

Quality and reliability - Our products are used by some of the worlds leading automotive and industrial companies in several innovative and demanding applications. The same quality and reliability is designed into each and every Turntide product.

Features

- Supports AC Permanent Magnet synchronous motor and AC Induction motors
- Highly efficient advanced flux vector motor control
- Range of voltage options from 24 to 116V nominal battery voltage
- Scalable power levels to satisfy many On and Off-highway applications
- 12V or 24V supply

Specifications

Voltage and current range

Model	Gen4-Size6			Gen4-Size4				Gen4-Size2		
	V1	V2	V3	V1	V2	V3	V4	V1	V2	V3
100% derating (VDC)	116	69.6	52.2	150	116	69.6	52.2	116	69.6	34.8
Nominal (VDC)	80	48	24 to 36	96 to 120	80	48	24 to 36	80	48	24
Minimum (V)	39.1	19.3	12.7	48	39.1	19.3	12.7	39.1	19.3	12.7
Boost current 10 sec (A_{rms})	660	780	780	360	420	540	540	215	330	360
Peak current (2 min) (A_{rms})	550	650	650	300	350	450	450	180	275	300
Continuous (60 min) (A_{rms})	220	260	260	120	140	180	180	75	110	120

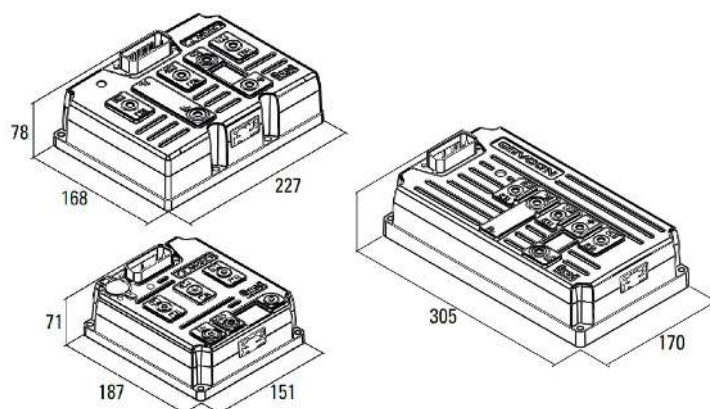
Control Method	Master controller or slave No electrical isolation of CAN port
Communications	CAN 2.0B
Communications protocol	CANOpen
I/O	8 digital inputs 2 analogue inputs (can be configured as digital) 3 contactor/solenoid outputs 1 encoder supply output - programmable 5V or 10V
Encoders	Absolute UVW encoder input Absolute Sin/Cos encoder input Incremental AB encoder input
Electrical Safety	IEC60664 UL840 ISO6469

Environmental	
IP rating	IP66 (when mated with logic connector)
Temperature	Ambient temperature -40°C to +45°C Automatic derating based on a range of parameters including internal temperature
Configuration	Turntide offers a Windows-based PC tool for configuration of the inverter. The tool provides a simple yet powerful means of accessing the CANOpen bus for diagnostics or parameter adjustment. Communication is through CAN, an IXXAT CAN-to-USB dongle is required.

Other Features

- A CANopen bus allows easy interconnection of controllers and devices such as displays and driver controls
- The CANbus allows the user to wire the vehicle to best suit vehicle layout since inputs and outputs can be connected to any of the controllers on the vehicle and the desired status is passed over the CAN network to the relevant motor controller
- Gen4-Size2/4/6 can dynamically change the allowed battery current by exchanging CAN messages with a compatible Battery Management System
- Configurable as vehicle control master or motor slave

Dimensions (All dimensions shown in mm)



Multiple Motor Sensor Feedback Options

Gen4-Size2/4/6 provides a number of motor feedback possibilities from a range of hardware inputs and software control, allowing a great deal of flexibility.

- Absolute UVW encoder input
- Absolute Sin/Cos encoder input
- Incremental AB encoder input

TURNTIDE TECHNOLOGIES

Our breakthrough technologies accelerate electrification and sustainable operations for energy-intensive industries