

AC Controllers for PMAC and Induction Motors

36-60V, 275, 450 and 650A¹

The G48-series represent the latest design in compact AC Controllers. These reliable controllers are intended for on-road and off-road electric vehicles and feature the smallest size in the industry for their power capacity.

Thanks to the high efficiency it is possible to integrate these controllers into very tight spaces without sacrificing performance. The design has been optimized for the lowest possible installed cost while maintaining superior reliability in the most demanding applications.

Choice of Motors Types

Gen4 controllers are designed to control both AC Asynchronous and Permanent Magnet Synchronous motors. This feature allow users to select an optimal motor type for the application.

Multiple Sensor Feedback Possibilities

Hardware inputs and software control for UVW, Pulse Encoder and Sin/Cos Feedback Devices are provided for flexibility.

Fully CANopen Compliant

A CANopen bus allows easy interconnection of controllers and devices such as displays and driver controls. The CAN bus 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.

Excessive Battery Discharge Protection

Allowed peak battery current is not always fixed and can vary with battery conditions such as temperature and state of discharge. The Gen4 controllers can dynamically change the allowed battery current by exchanging CAN messages with a compatible Battery Management System. This feature assists in optimizing driving range and improving the battery life.

Additional Features

- » *Advanced flux vector control*
- » *Autocheck system diagnostics*
- » *Sensorless control for select applications*
- » *Integrated logic circuit*
- » *Hardware and software failsafe watchdog operation*
- » *Integrated fuse holder*
- » *IP66 protection class*



Gen4™

Self-characterization

Sevcon's unique Self Characterization enables a Gen4 controller to automatically define and optimize parameters for Induction AC motors. This feature provides quick set-up and allows customers to select motor suppliers of their choice without worrying about compatibility between controller and motor.

Integrated I/O

These units include a cost-effective, fully-integrated set of inputs and outputs (I/O) designed to handle a wide range of vehicle requirements. This eliminates the need for additional external I/O modules or vehicle controllers and connectors

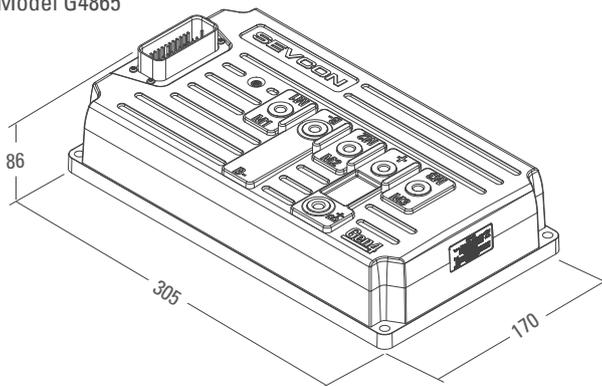
Handheld Calibrator

Sevcon's handheld Calibrator provides a simple yet powerful means of accessing the Gen4 CANopen bus for diagnostics or parameter adjustments. This unit features password protected access levels and a customized logo start-up screen. The high resolution and contrast of the color screen combined with the ergonomical layout makes this calibrator simple to use.

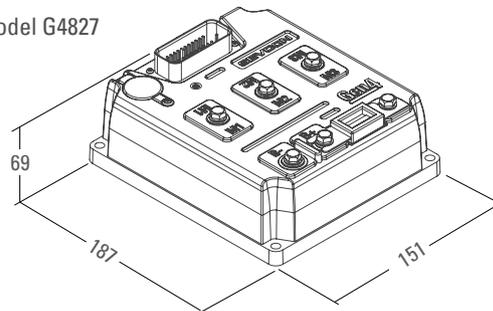


Overall Dimensions

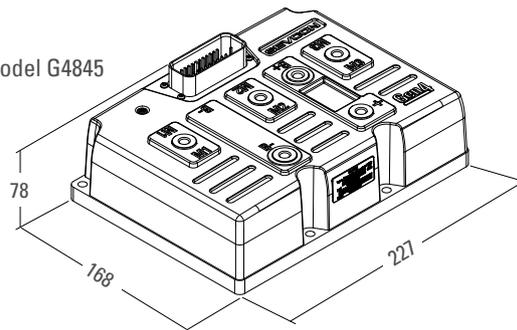
Model G4865



Model G4827



Model G4845



General Specifications

Model	G4827	G4845	G4865
Nominal battery voltage	36 to 48VDC		
Max. operating voltage	69.6VDC		
Min. operating voltage	19.3VDC		
Peak current (2 min) ¹	275A	450A	650A
Boost current (10 sec) ¹	330A	540A	780A
Cont. current (60 min) ¹	110A	180A	260A
Digital inputs	8		
Analog inputs	2 (can be config. as digital)		
Motor temperature sensor input	Yes (thermistor)		
Contactors/solenoid outputs (2A)	3 (1-16kHz) ²		
Motor UVW inputs	Yes		
Motor encoder (AB) inputs	Yes		
Sin/Cos feedback inputs	Yes		
Encoder supply output	5V alt. 10V (max. 100mA)		
Supported CANopen profiles	DS301, DS401, DS402		
Ambient operating temperature	-40°C to +85°C		
Protection class	IP66		

1) Current values are based on nominal battery voltage. Stated currents and/or duration will be reduced at higher voltages.

2) Current or voltage controlled.

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