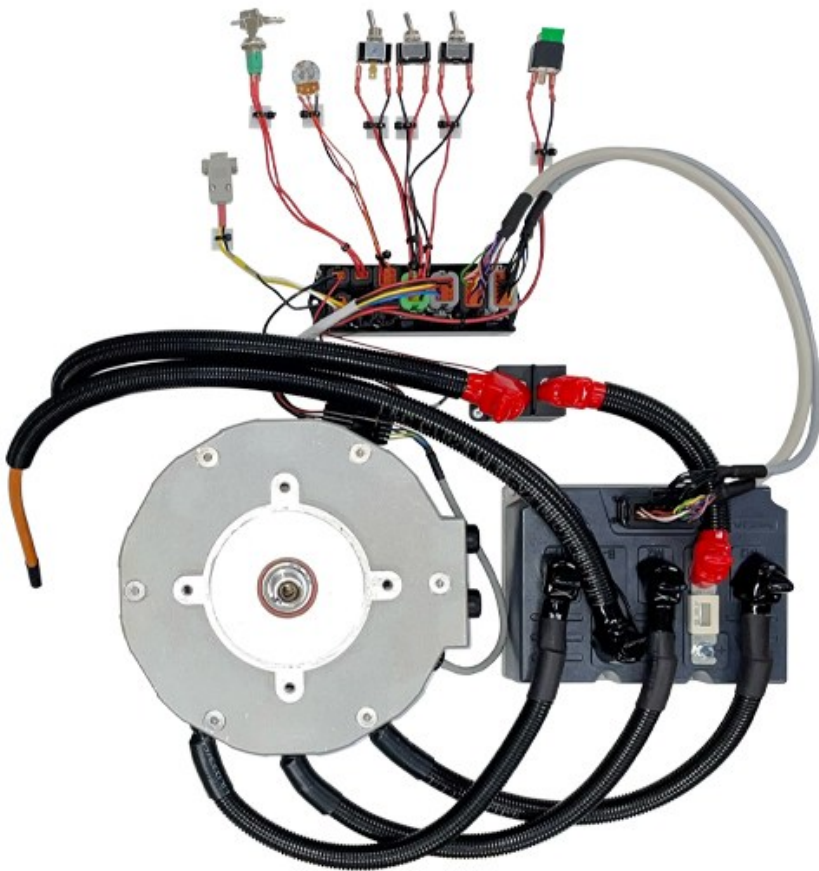




**ELECTRIC DRIVE
ENGINEERING**

ME1616 Electric Motor Kit

16kW Permanent Magnet Motor System



24-96V DC

Pre-programmed & Configurable

Applications for Pump, Boat, EV & Other

Liquid Cooled

CANOpen Compatible



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KIT COMPONENTS

Motor

- 1x ME1616
- 1x Shaft Key
- 5x Motor Bolts



Motor Controller

- 1x Sevcon Gen4 Motor Controller



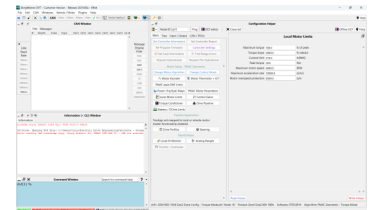
Programming Tool

- 1x USB-to-CAN Programming Cable



Software

- 1x DVT Software
- 1x 3 year License



DC Contactor

- 1x RXR25B1BX
- 1x Connector Kit
- 2x Cap Screws



Terminal Covers

- 4x Black
- 3x Red



Breakout Board

- 1x Breakout board
- 1x Main harness + Mating connectors



Power Cable & Lugs

- 4m 70mm² Cable
- 6x M8 Lug



Throttle (Boat Only)

- 1x Livorsi Throttle



Other

- 1x Control Fuse Holder + Fuse
- 1x Serial Connector
- Key Switch, Switches, & Potentiometer
- 1x Fan Relay



TECHNICAL DATA

Operating Ranges

Model Name	Voltage Range (V dc)	Cont. Current (A rms)*	Peak Current (A rms)**	Rated Torque (Nm)***	Rated Speed (RPM)***	Rated Power (W)***
Size 4 - 48V	19.3V - 69.6	180	450	38	2500	10000
Size 6 - 48V		260	650	38.6	2500	10000
Size 4 - 80V	39.1 - 120	140	350	29	4000	12000
Size 6 - 80V		210	550	38.6	4000	16000

* 1 hour minimum without forced-air cooling (Size 2 long-term rating achievable with finned heatsink approx. 250mm x 180mm, 0.5°C/W, Size 4 long-term rating achievable with finned heatsink approx. 330mm x 200mm, 0.3°C/W, Size 6 long-term rating achievable with finned heatsink approx. 330mm x 280mm, 0.2°C/W)

** 2min current (lower ratings are possible for longer periods, higher ratings are possible for shorter periods)

*** Estimated performance only. Assuming 48Vdc nominal voltage for 48V controllers and 96Vdc for 80V controllers

Hardware

Digital Inputs	8 digital inputs
Analog Inputs	4 (2x 3-wire inputs, 2x 2-wire inputs) (can be configured as digital)
Analog Outputs	3 configurable PWM outputs

System Features

- Easy assembly
- Simple operation
- Automatic pre-charge
- Inbuild motor controller fuse
- CANOpen compatible

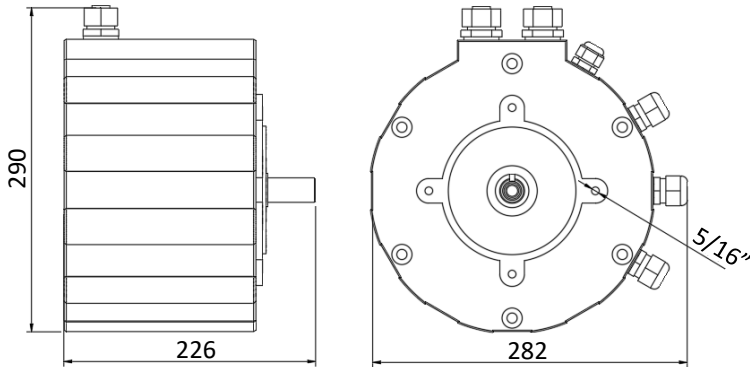
Safety Features

- Dynamic regen/discharge current limits
- Power limit protection
- Over current protection
- Over temperature torque cutback/protection
- Overspeed protection



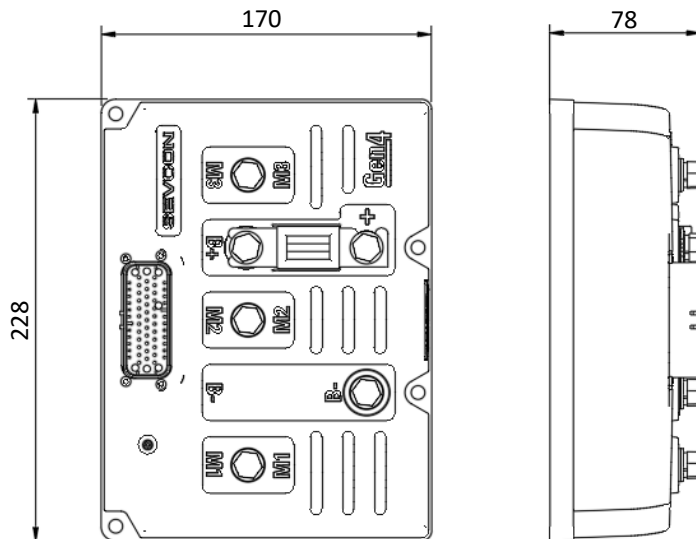
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DIMENSIONS



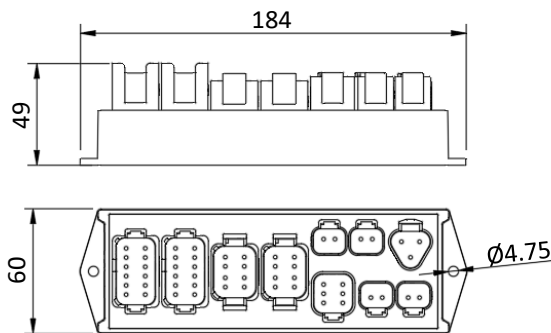
Motor—ME1616

Weight	25.5kg
Shaft	7/8"



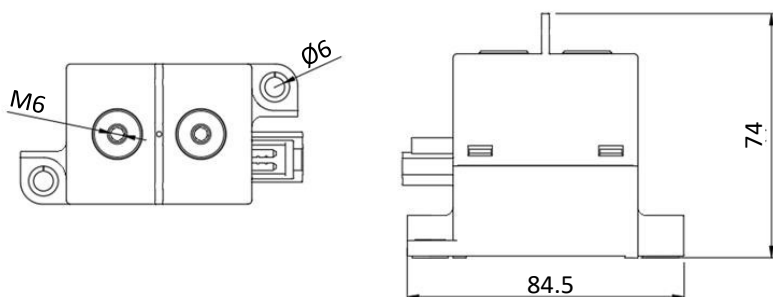
Motor Controller—Size 4 48V

Weight	2.7kg
Terminals	M8 threaded holes with bolts



Breakout Board

Weight	0.5 kg
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DC Contactor—RXR25B1BX

Weight	0.375 kg
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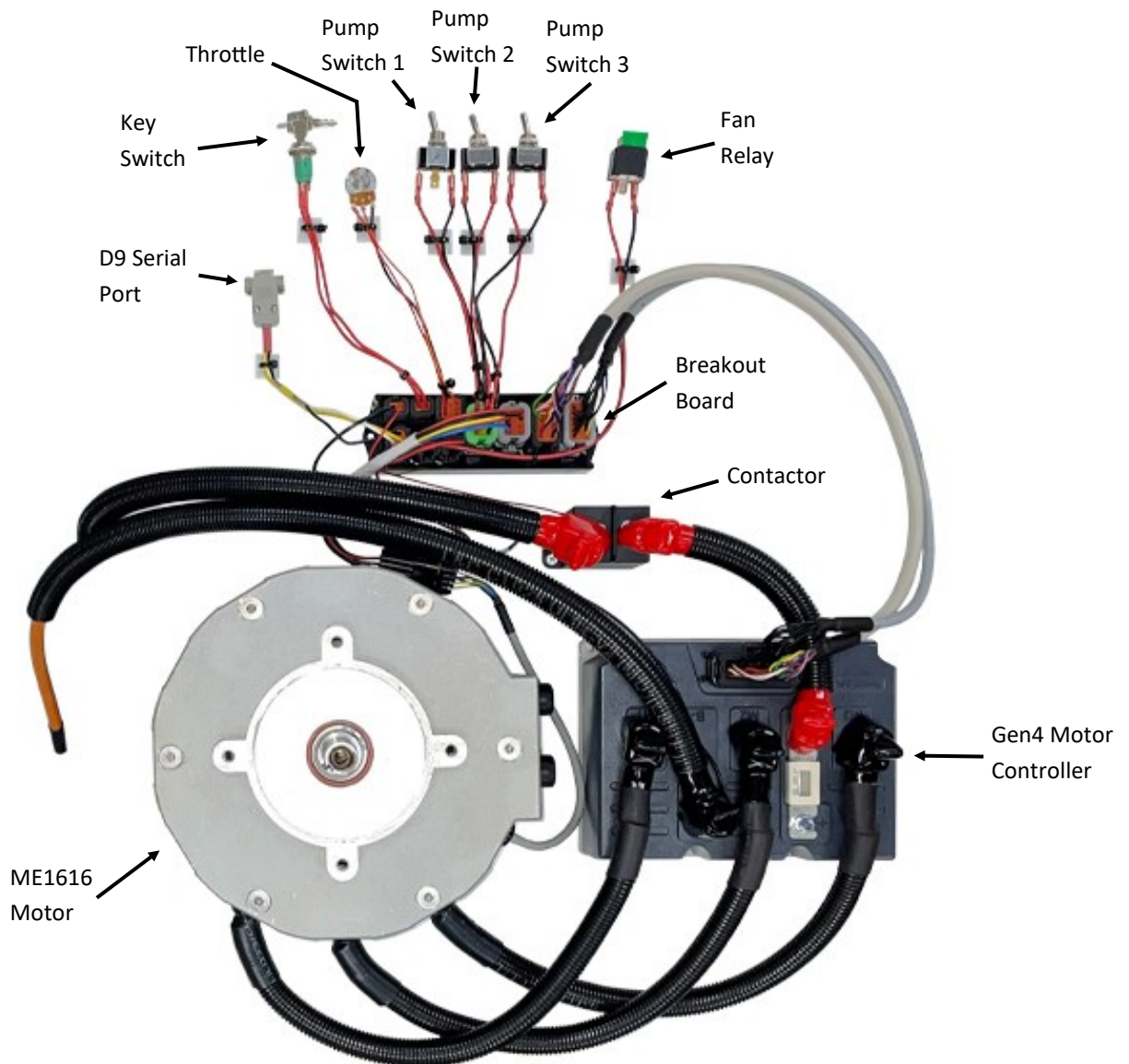


**ELECTRIC DRIVE
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APPLICATION: PUMP

Functionality

Pump Switch 1	0 RPM (Configurable) Priority 1 (Highest Priority)
Pump Switch 2	1500 RPM (Configurable) Priority 2
Pump Switch 3	2500 RPM (Configurable) Priority 3
Pump Throttle	0-3000 RPM (Configurable) Priority 4 (Lowest Priority)



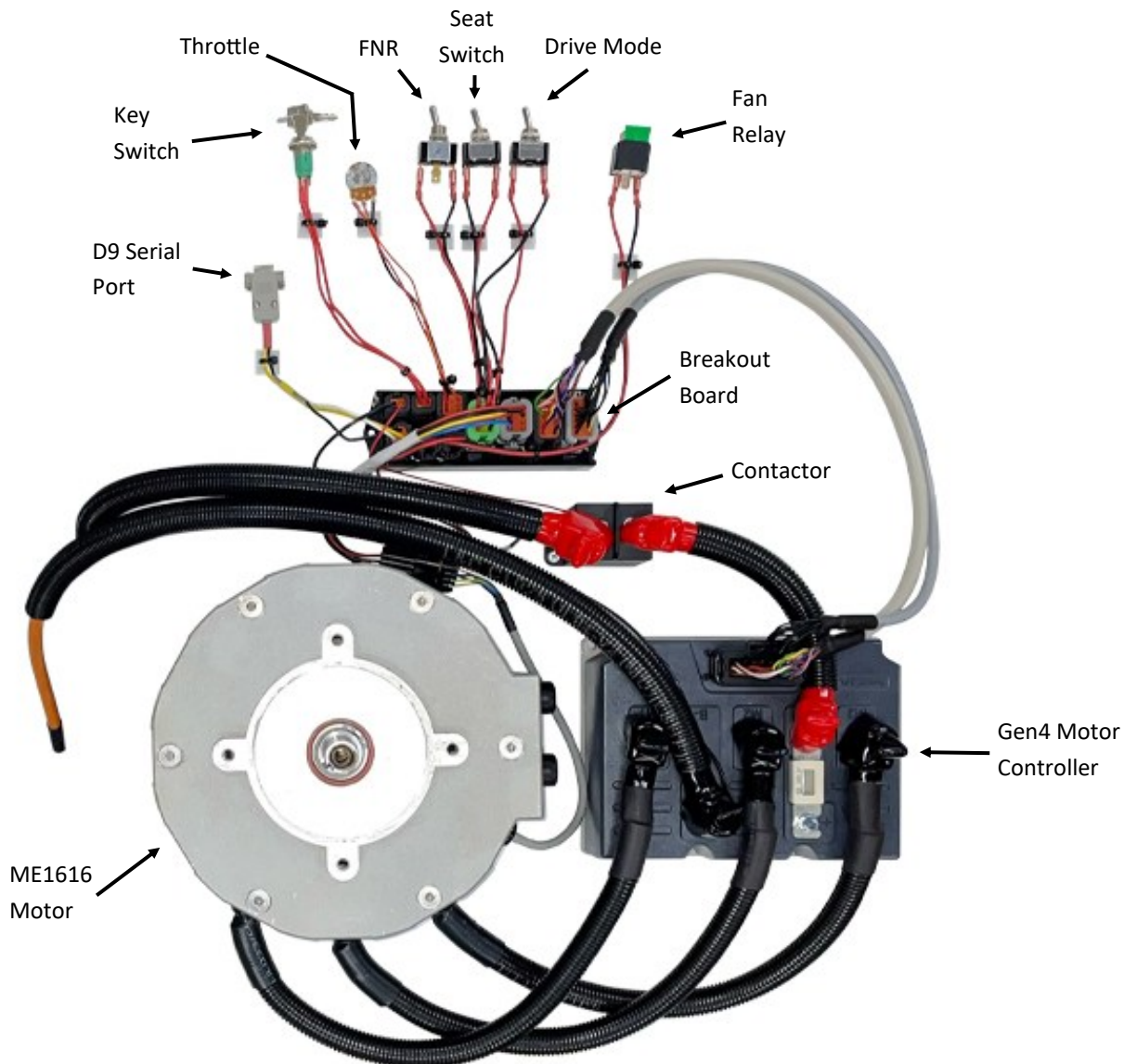


**ELECTRIC DRIVE
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APPLICATION: EV

Functionality

Key Switch	Turns ON/OFF System
FNR	Switch between Forward, Neutral and Reverse
Drive Mode	Select between Sports or Economy Mode
Throttle	0-100% Torque with integrated Foot Switch
Drive Mode	Select between Sports or Economy Mode



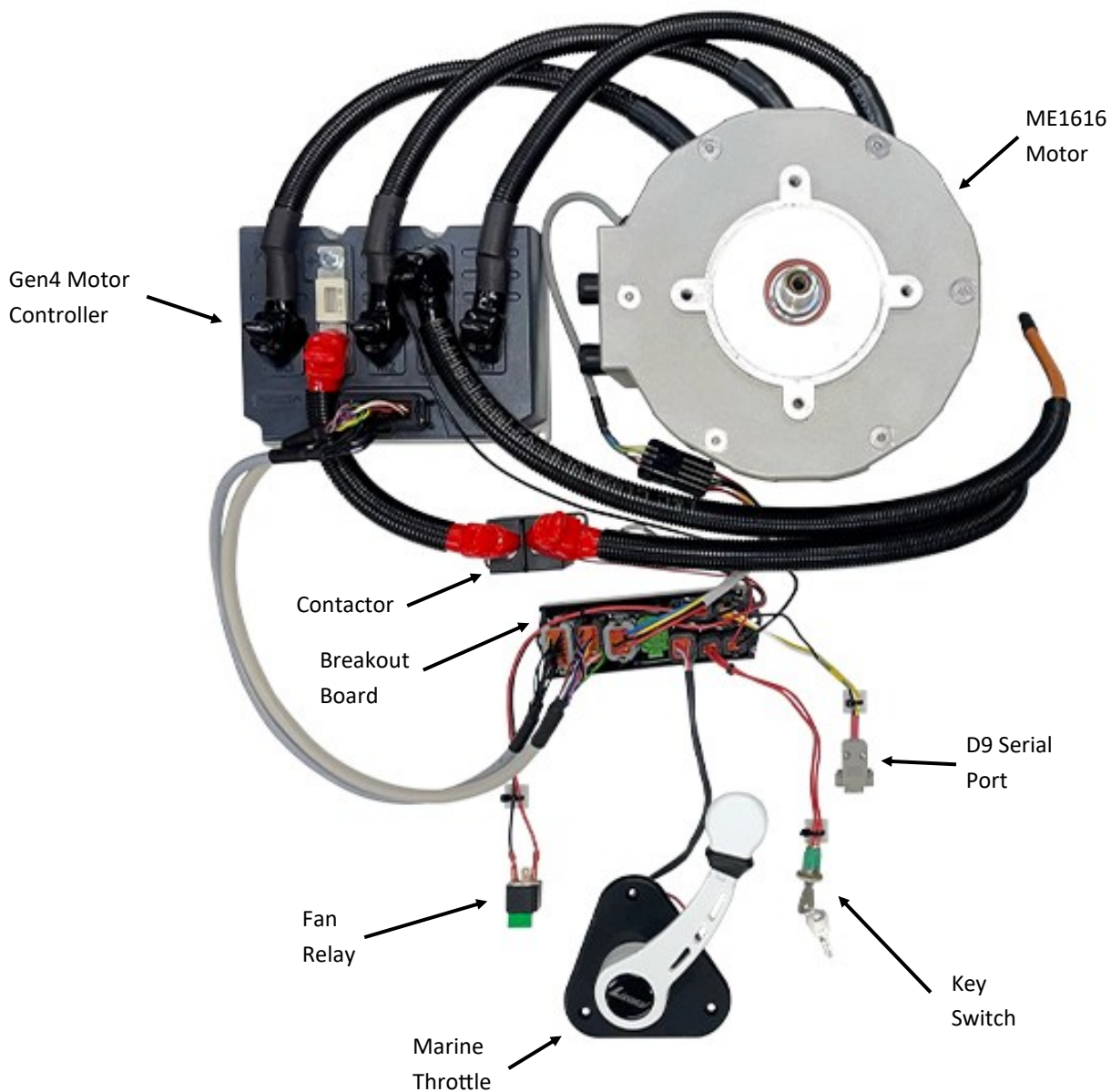


**ELECTRIC DRIVE
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APPLICATION: BOAT

Functionality

Key Switch	Turns ON/OFF System
Throttle	100% Rev - Neutral - 100% Fwd (Locks into Neutral)
Regen	Adjustable Regen Braking (Requires Display)





**ELECTRIC DRIVE
ENGINEERING**

SOFTWARE & CONFIGURATION

Device Verification Tool (DVT) Programming Software

DVT is a powerful software for configuring and monitoring Sevcon/BorgWarner Gen4 and other series motor controllers. DVT software requires an IXXAT programming dongle in order to communicate with a motor controller.

Features	Configure devices, CANbus sniffing tool (with filters), device monitoring and logging, fault code detection, CANOpen CiA402 controller, J1939 controller, PI loop tuning tools, encoder alignment tools
Programming Dongle	IXXAT USB to CAN Interface V2 1.01.0281.12001 (no other device will work)



Programming PC
with DVT Software



USB to CAN Adapter



Sevcon Motor Controller

OPTIONAL EXTRAS

Display



Cooling Plate



Throttles

