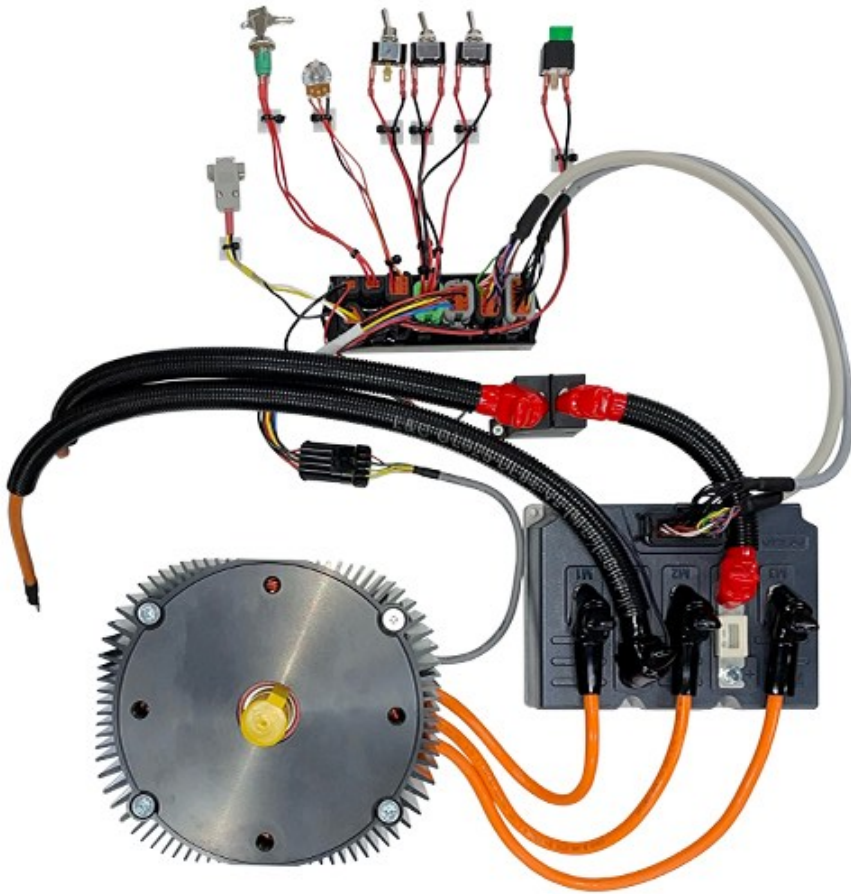




**ELECTRIC DRIVE  
ENGINEERING**

# **ME1905 Electric Motor Kit**

**13.4kW 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 ME1905
- 1x Shaft Key
- 5x Motor Bolts



### Motor Controller

- 1x Sevcon Gen4 Motor Controller



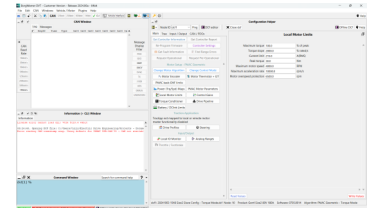
### Programming Tool

- 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 70mm<sup>2</sup> 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                    | 32                   | 2500                 | 8000               |
| Size 6 - 48V |                      | 260                    | 650                    | 32                   | 2500                 | 8000               |
| Size 4 - 80V | 39.1 - 120           | 140                    | 350                    | 29                   | 4000                 | 12000              |
| Size 6 - 80V |                      | 210                    | 550                    | 32                   | 4000                 | 13440              |

\* 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

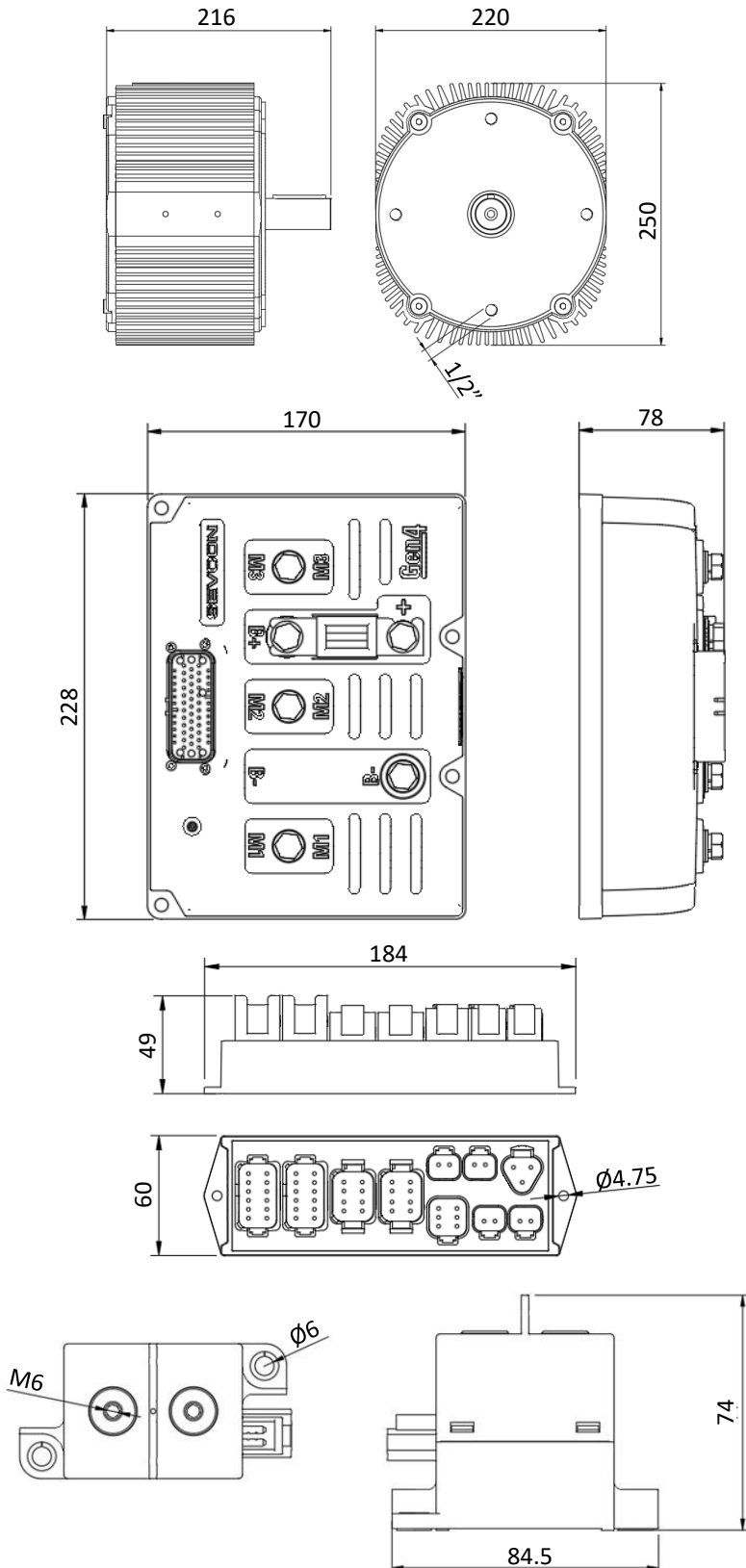
### Safety Features

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



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## DIMENSIONS



### Motor—ME1905

Weight 20.5 kg

Shaft 7/8"

### Motor Controller—Size 4 48V

Weight 2.7kg

Terminals M8 threaded holes with bolts

### Breakout Board

Weight 0.5 kg

### DC Contactor—RXR25B1BX

Weight 0.375 kg

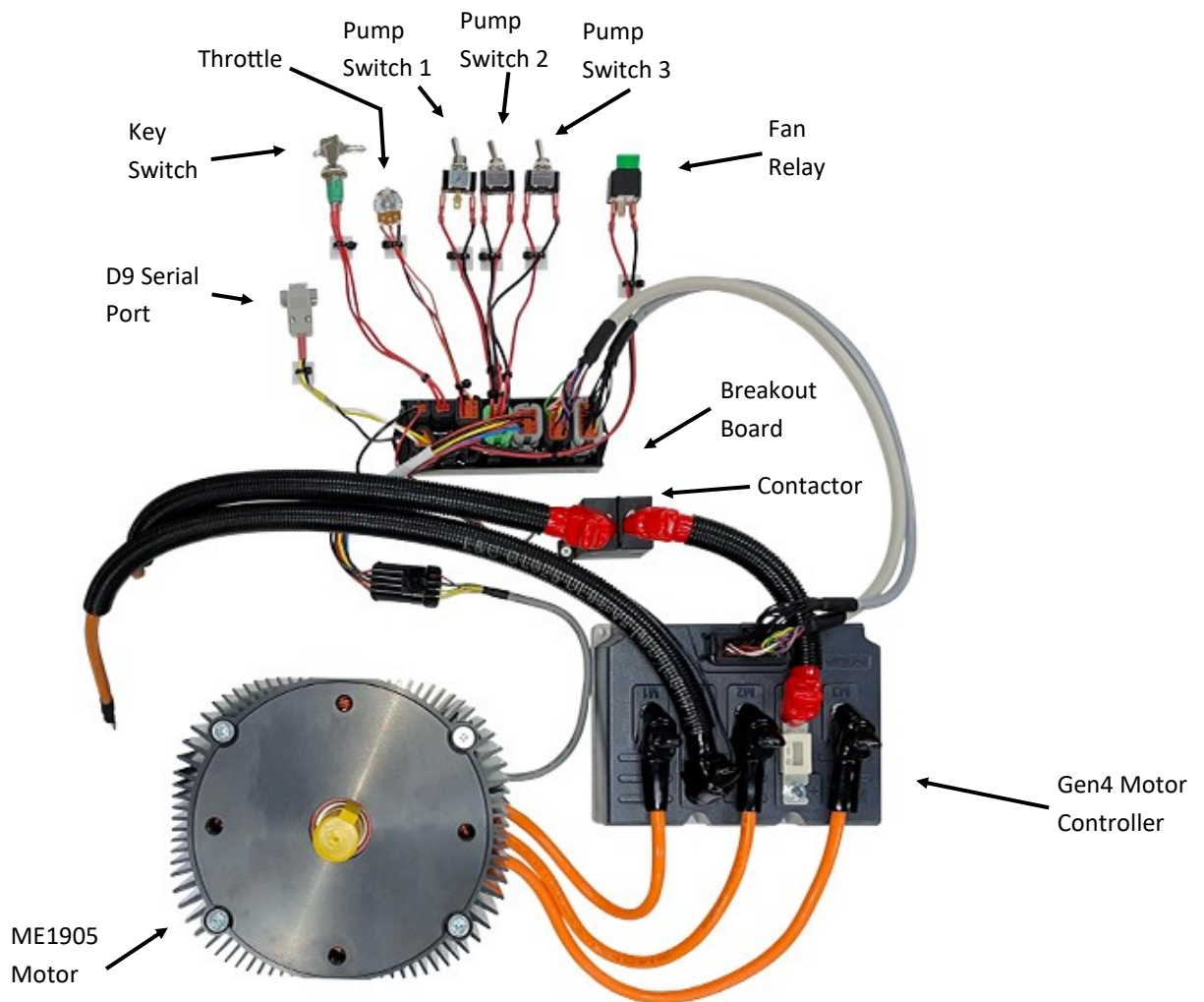


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## APPLICATION: PUMP

### Functionality

|                      |                                                        |
|----------------------|--------------------------------------------------------|
| <b>Pump Switch 1</b> | 0 RPM (Configurable) Priority 1 (Highest Priority)     |
| <b>Pump Switch 2</b> | 1500 RPM (Configurable) Priority 2                     |
| <b>Pump Switch 3</b> | 2500 RPM (Configurable) Priority 3                     |
| <b>Pump Throttle</b> | 0-3000 RPM (Configurable) Priority 4 (Lowest Priority) |



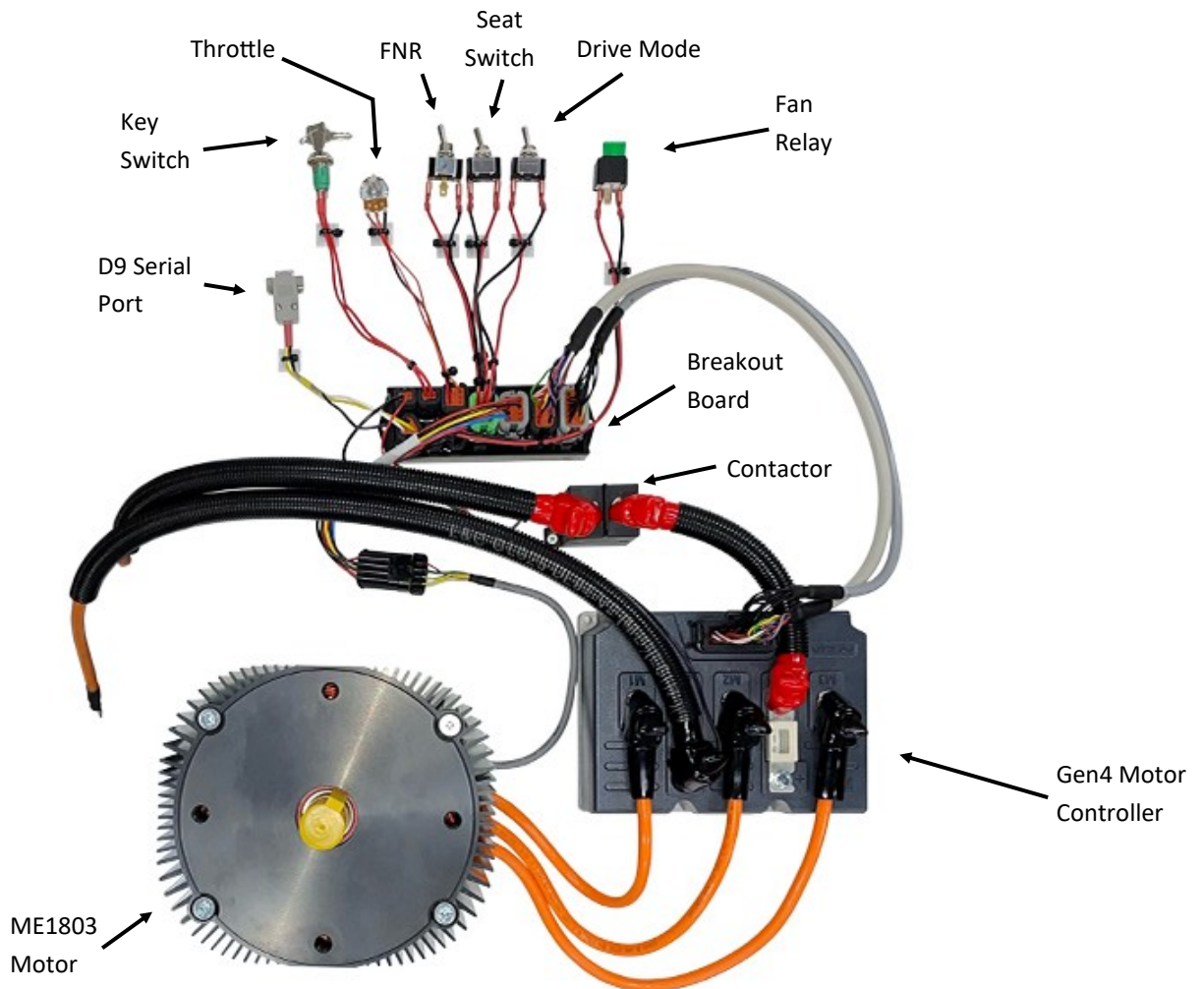


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## APPLICATION: EV

### 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       |





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## 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.

|                           |                                                                                                                                                                                                         |
|---------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Features</b>           | 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 |
| <b>Programming Dongle</b> | 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

