

## Key Features

- Simplify wiring, reduce cost through the onboard dual-port Ethernet switch
- Easily integrates as a Position Controller (10 h) device, for:
  - Access to unique SmartMotor™ commands and parameters
  - Improved uptime with optional redundant cabling through Device Level Ring (DLR)
  - Optimal performance ensured through Quality of Service (QoS)
  - Simplified, modular programming through Add On Instructions (AOI)
- Optionally program, configure and get live diagnostics through the USB interface
- Optionally communicate with the motor through the RS-485 half-duplex port, which provides access as a Modbus Remote Terminal Unit (RTU) Slave
- Easily access SmartMotor™ programmable autonomous control features in slave mode, which allows special user-programmed functions
  - Reduce limit switch wiring and PLC programming through adaptable distributed control
  - Accurately capture position for high-speed registration applications
  - Quickly reduce costs and improve reliability through use of programmable homing and limits
  - Precisely define motion profiles with local cam execution
  - Easy configuration and status monitoring of Industrial Ethernet and field buses
  - Actively monitor/troubleshoot each motor through local error reporting and diagnostic codes
- Local/standalone benefits (see manual for details):
  - Simplify programming and calculate 32-bit precision motion parameters on-the-fly with floating-point math and trigonometric functions
  - Govern a move by running it on top of a gearing or camming relationship using the dual-trajectory generators
  - Create precise spooling/winding shapes and control tension through advanced gearing (supports preset traverse/take-up parameters)
  - Create complex patterns through advanced camming (with cubic spline interpolation and dynamic frequency/amplitude)
  - Highly configurable local I/O for motion control and general-purpose use in user programs:
    - Drive enable input, fault output, travel limits, registration and position capture
    - External encoder input supporting A-quad-B or Step-and-Direction
    - Total of 7 configurable inputs
    - High-current outputs with external brake-control function



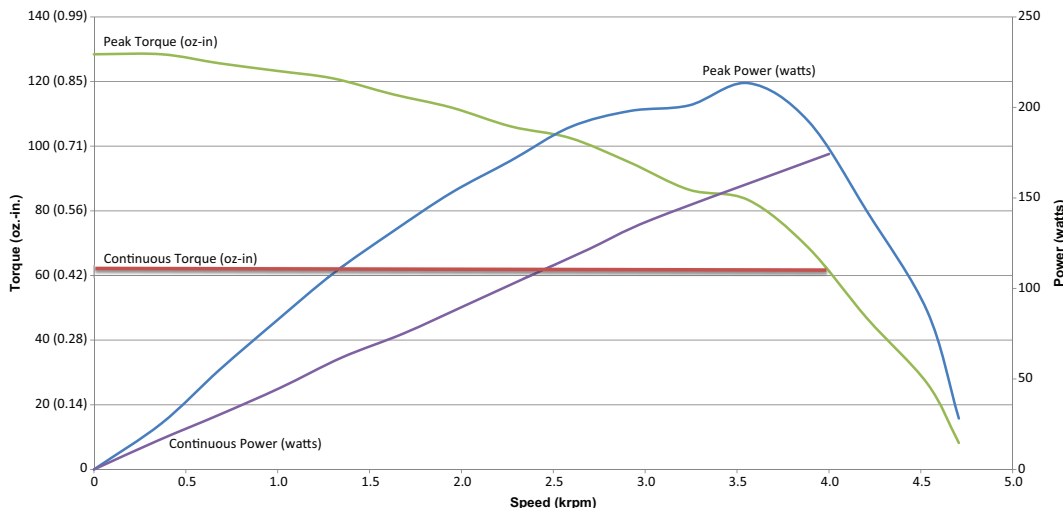
## Specifications at 25°C

SmartMotor™ Series	SM23166MT-EIP	
Continuous Torque at 48 volts	68	oz-in
	0.48	N-m
Peak Torque	128	oz-in
	0.90	N-m
Nominal Continuous Power	189	watts
Nominal Peak Power	213	watts
No Load Speed	4,700	rpm
Encoder Resolution	4,000	counts/rev
Weight	1.7	lb
	0.77	kg
Shaft Diameter	0.375	in
	9.53	mm
Shaft, Radial Load	15.0	lb
	6.80	kg
Shaft, Axial Thrust Load	3.00	lb
	1.36	kg

Maximum temperature: 85°C at electronics, 130°C at windings  
 Recommended ambient temperature range: 0°C – 50°C  
 Storage temperature range: -10°C – 85°C  
 Relative humidity: maximum 90%, noncondensing

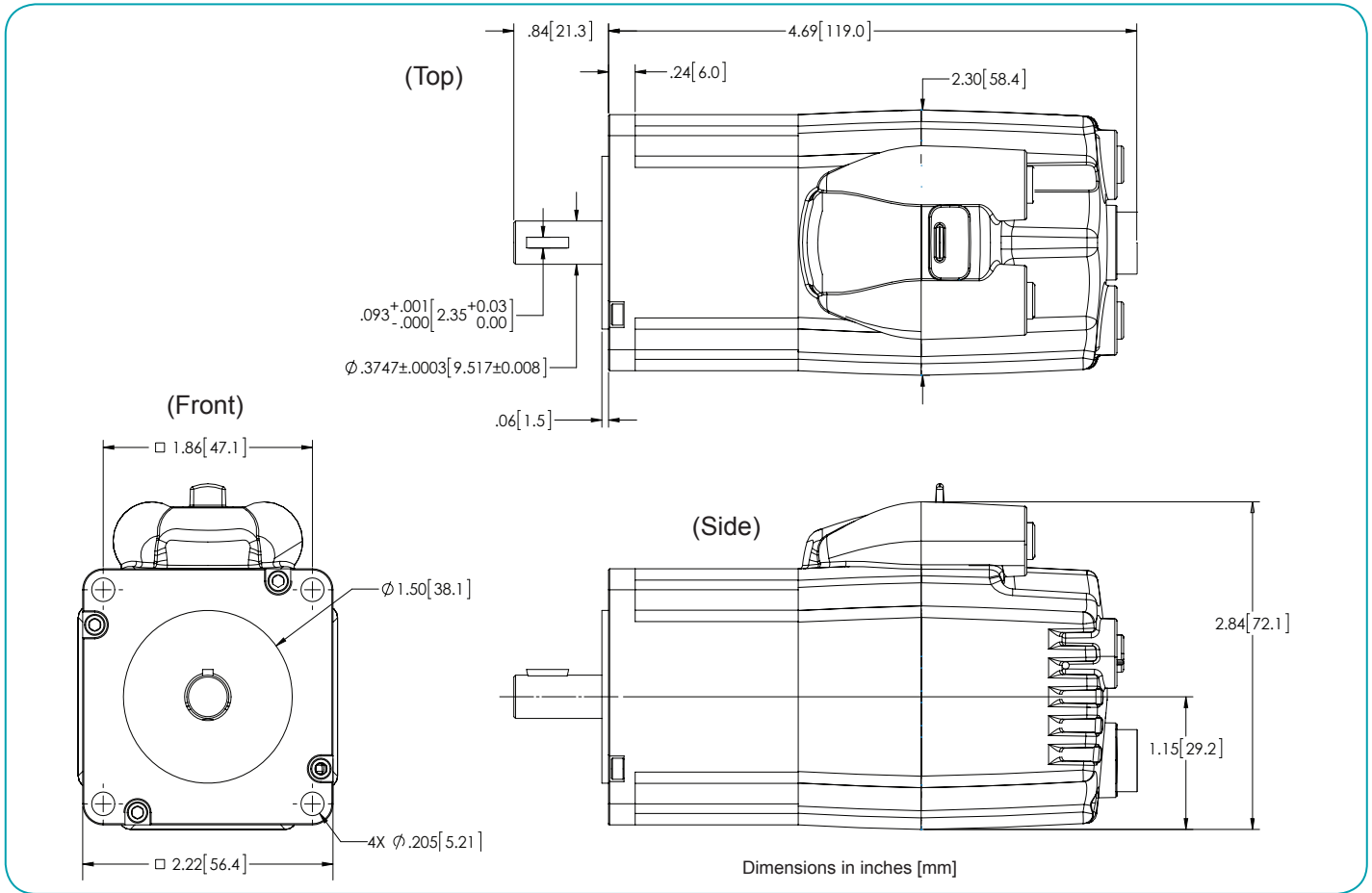
## Power Chart

SM23166MT-EIP motor Torque vs. Speed, 48 volts, MDC commutation, 25°C ambient (curves are derated at higher ambient)

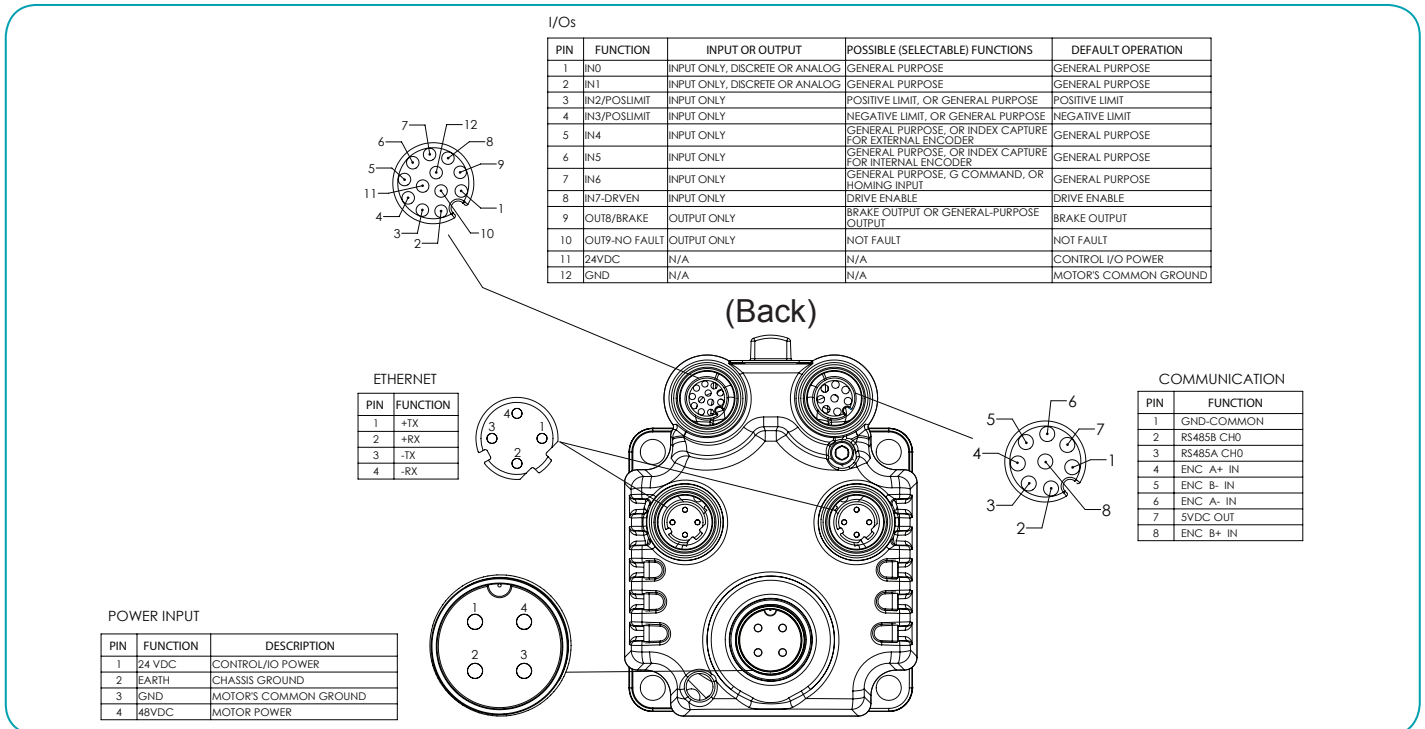


Continuous rating based on 25°C ambient temperature, motor mounted to a 6x6x¼ inch aluminum heat sink, and electronics/windings below maximum temperature. Peak torque is available for 3 seconds at a 10% duty cycle.

## Dimensional Information



## Connections



Specifications are subject to change without notice. Consult website and factory for latest data.