



CM1 Integrated Ethernet Servo Systems

The intelligence and efficiency of the Cool Muscle servos, combined with EtherCAT and EtherNet/IP interfaces.

Cool Muscle Ethernet servos provide EtherCAT, EtherNet/IP, MODBUS TCP, and TCP/IP interface options.

The CM1-E motor is fully EtherCAT compliant. The CM1-E retains all the capabilities of the standard CM1, including the advanced H Infinity controller, programmable functions, and a highly responsive vector drive.

The CM1-T motor is a certified Ethernet/IP device, including a range of add-on instructions that speed time to installation. Unique to the CM1-E and CM1-T is a 4 pin 24Vdc input, allowing separate power inputs for the drive and controls with STO functionality.

COOL MUSCLETM
INTEGRATED SERVO SYSTEMS

EtherCAT[®]

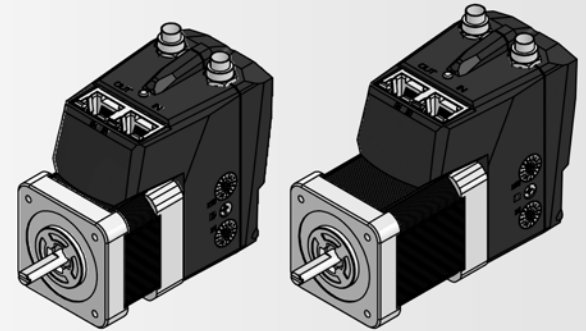
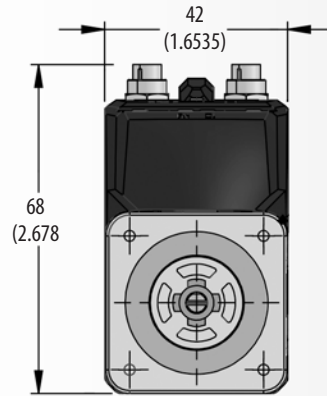
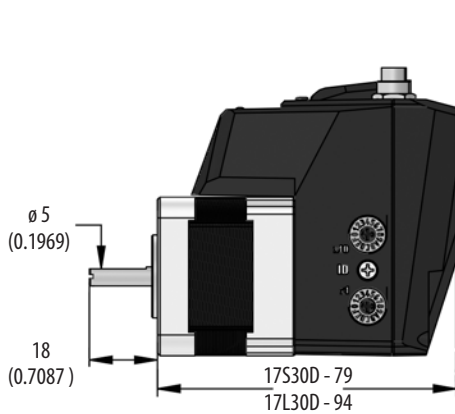
EtherNet/IP[®]

CM1-E-17S30D/17L30D

CM1-T-17S30D/17L30D

CM1 - E - 17 L 30 D

GENERATION	INTERFACE	SIZE	LENGTH	MAX. SPEED	H/W VERSION
E-	EtherCAT CiA 402	17	L - Long	30 - 3000rpm	D
T-	EtherNet/IP, TCP/IP, & MODBUS TCP	23	S - Short	20 - 2000rpm	



MOTOR FEATURES

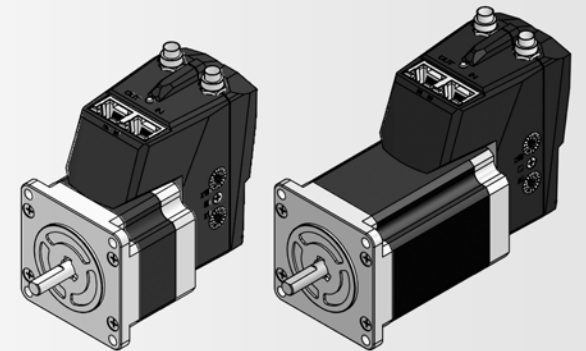
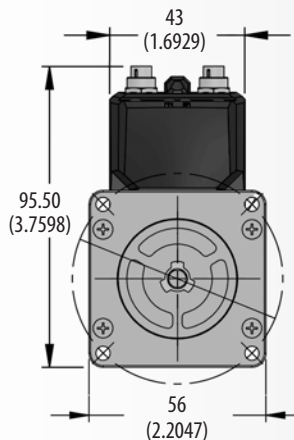
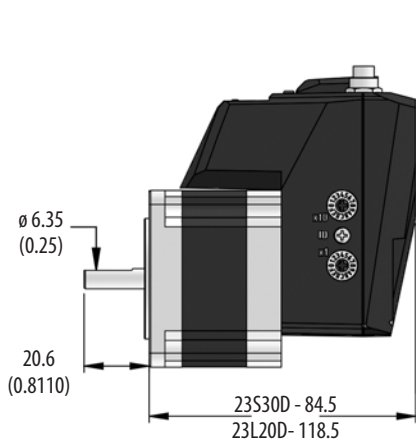
- Integrated motor, drive, 50kppr encoder, I/O, and EtherCAT or EtherNet/IP interface
- Closed loop servo control with Vector Drive and H Infinity controller
- NEMA 17 and NEMA 23 sizes
- Separate 24V drive and control power
- Energy efficient and cool running

CM1-E EtherCAT FEATURES

- Implements CiA402 drive profile
- CSP, CSV, PV, PP and HM modes available
- Integrated IO mapped to PDO objects
- 1ms PDO timing for accurate synchronized motion
- Explicit Device ID implemented for enhanced device identification

CM1-T EtherNet/IP FEATURES

- Add-on Instructions simplify programming and speed development
- Operate in Position, Speed, or Torque control mode
- Integrated 2 port switch for network expansion
- On-board I/O accessible by the PLC



CM1-E-23S30D/23L20D

CM1-T-23S30D/23L20D

SPECIFICATIONS

MODEL	CM1-E-17L30D	CM1-E-17S30D	CM1-E-23L20D	CM1-E-23S30D
Mass (kg)	0.54	0.4	1.18	0.6
Maximum Speed	3000rpm	3000rpm	2000rpm	3000rpm
Continuous Torque Nm(oz.in)	0.36 (50.98)	0.084 (11.89)	0.89 (126)	0.3 (42.48)
Peak Torque Nm(oz.in)	0.53 (75)	0.12 (16.56)	1.24 (175.6)	0.42 (65.14)
Load Inertia Allowance g-cm ² (oz-in-s ²)	760 (1.07 x 10 ⁻²)	380 (5.38 x 10 ⁻³)	4.6 x 10 ³ (6.5 x 10 ⁻²)	1.4 x 10 ³ (1.9 x 10 ⁻²)
Motor Inertia g-cm ² (oz-in-s ²)	74 (1.04 x 10 ⁻³)	3.6 (5.09 x 10 ⁻⁴)	3.6 x 10 ² (5.09 x 10 ⁻³)	1.0 x 10 ² (1.4 x 10 ⁻³)
Encoder	Incremental magnetic encoder (50,000 pulses per rotation)			
Control Method	Closed loop vector control			
Input Supply Voltage	DC24V±10%			
Input Supply Current Rated (Continuous Torque/Rated Peak Torque)	1.5A/1.8A	0.8A/1.0A	2.6A/3.4A	3.9A/5.1A
Resolution Pulse Rotation (Pulse/Rotation)	200, 400, 500, 1000(default), 2000, 2500, 5000, 10000, 25000,50000 <i>Select by parameter</i>			
Environmental Conditions Operating/Storage Temperature	Between 0 °C and 40°C/ between -20°C and +60°C			
Operating Humidity	Less than 90% Relative Humidity			
Shock/Vibration	Less than 10G /Less than 1G			



POWER CONNECTOR

CONNECTOR	PART #	SUPPLIER
Motor Connector	09 0081 20 04	Binder
Female cable side mating connector	99 0080 102 04	Binder
4m power cable	CM1M9-4F-4000	Myostat

I/O CONNECTOR

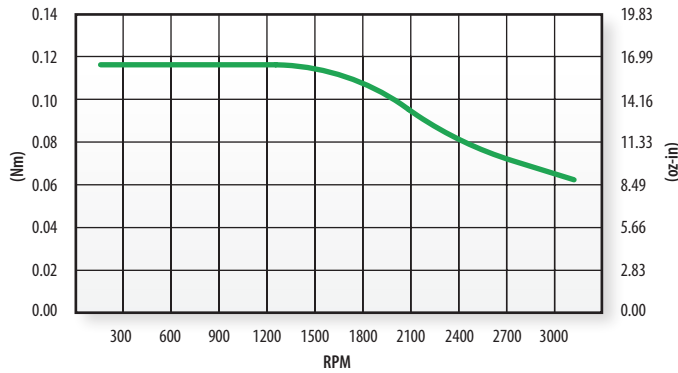
CONNECTOR	PART #	SUPPLIER
Motor Connector	09 0481 22 08	Binder
Female cable side mating connector	99 0480 102 08	Binder
4m I/O cable	CM1M9-8F-4000	Myostat

Click here: [CM1-E EtherCAT User Guide](#) [CM1-T EtherNet/IP User Guide](#)

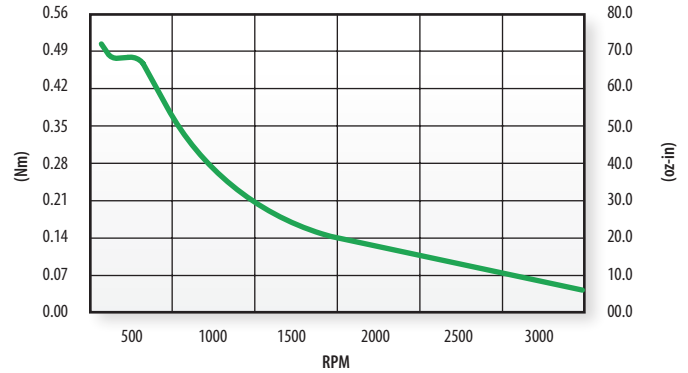
SPECIFICATIONS

TORQUE CURVES

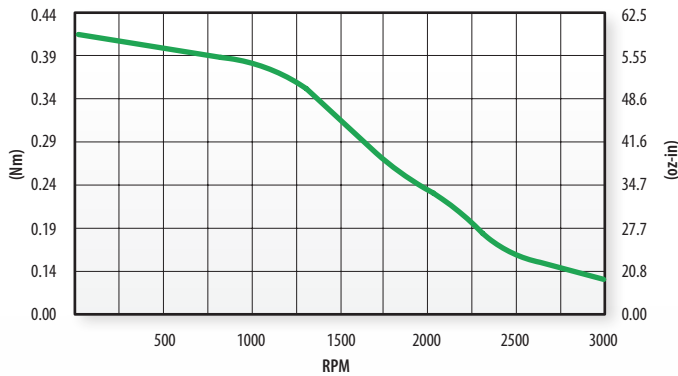
17S30D



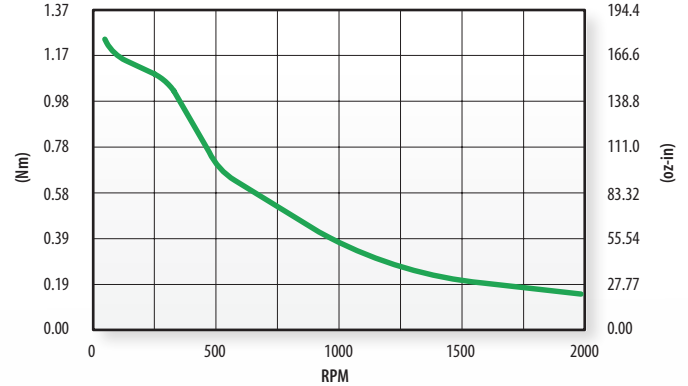
17L30D



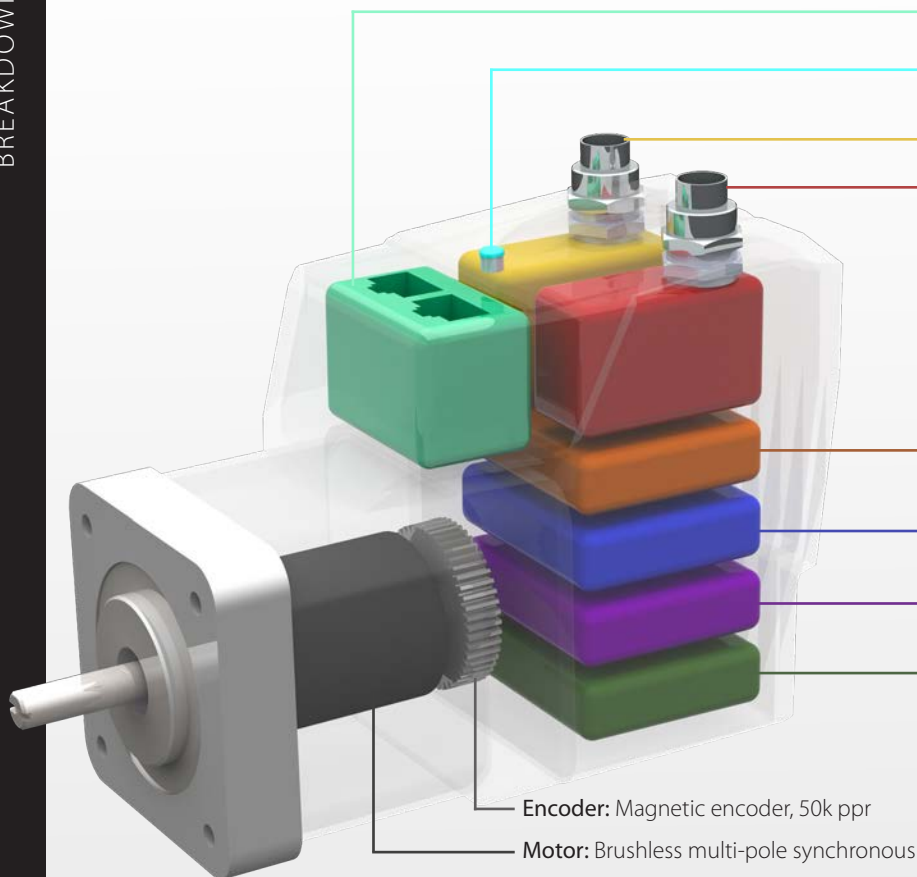
23S30D



23L20D



COMPONENT BREAKDOWN



- Interface:** EtherCAT CiA 402, Ethernet/IP, MODBUS TCP, TCP/IP, 2 port RJ45 hub
- Status LED:** Full EtherCAT status LEDs plus system, and motor status indicator
- Power:** 24VDC, separate Drive and Controller power
- I/O:** Digital Inputs, 1 Analog Input 2 Digital Outputs
- USB:** Micro USB connector for software updates
- Controller:** Real-time OS kernel with H Infinity
- Drive:** Closed Loop Position and Closed Loop Current Vector drive
- Programmability:** Adjustable pre-defined functions and parameter settings

Encoder: Magnetic encoder, 50k ppr

Motor: Brushless multi-pole synchronous

Myostat Motion Control Inc. • +1 905 836 4441 • info@myostat.ca

www.myostat.ca

EtherCAT® is registered trademark and patented technology, licensed by Beckhoff Automation GmbH, Germany.
EtherNET/IP® is a trademark of ODVA, Inc.