

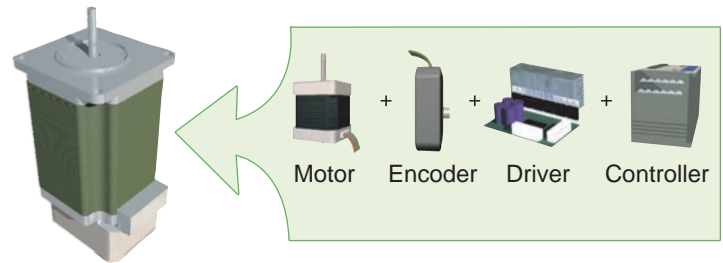
CE
RoHS

Integrated Vector Drive Servo System

The Cool Muscle is a closed loop vector drive servo system. An intelligent driver with a 32-bit RISC CPU, a magnetic encoder, and power management are built onto the motor. The Cool Muscle excels in performance, size, and cost, offering new ways to design and develop with motion control.

ALL IN ONE SOLUTION

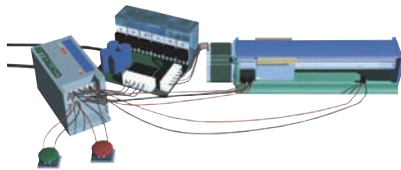
The Cool Muscle is an all in one solution for your motion control. Based around a 32-bit RISC CPU, the integrated controller offers a wide range of hardware and software features. Motion programs can be stored with the motor, eliminating the need for driver and controller boxes. Networked motors can also communicate with each other.



SIMPLE and COMPACT

Conventional System

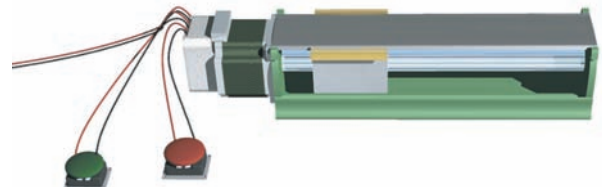
A typical conventional slider system requires a driver, controller, origin sensor, limit sensor and so on, to make the whole system bulky and complicated.



Very hard to differentiate your product

Cool Muscle System

The Cool Muscle eliminates the need for an external driver box, controller and sensors to make your system compact and simple.



Leave your competition behind with Cool Muscle

Motor Type



type

- **Pre-program**
You can preprogram the motor. Preloaded programs can be executed by a switch, PC or PLC.
- **Direct Command**
You can send command directly to the Cool Muscle via PC or embedded computers.
- **Network**
The C type Cool Muscles can be daisy chained, providing you with a simple and low cost network solution.



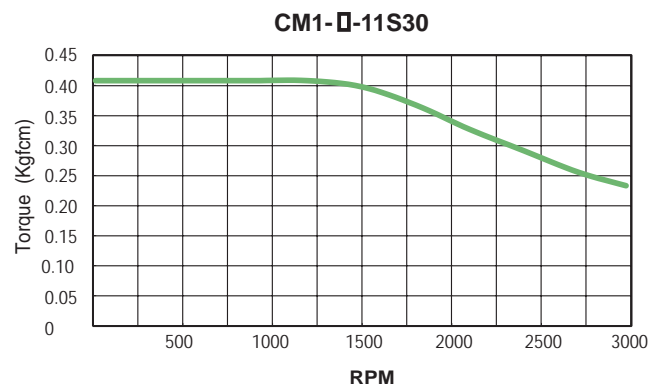
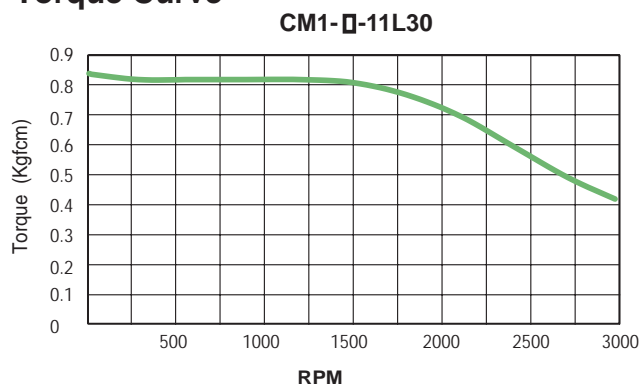
type

Replacing your current pulse driven system with the P type Cool Muscle will save space and remove problems associated with an open loop stepper. The Ptype Cool Muscle supports both CW/CCW and Pulse/Direction

CM1-□-11L/S

	CM1- □ -11L30	CM1- □ -11S30
Motor Output Power	18W	9W
Max. Speed	3000rpm	3000rpm
Rated Continuous / Peak Torque Kgfc (Nm)	0.56 (0.055) / 0.8 (0.078)	0.28 (0.027) / 0.4 (0.039)
Load / Motor Inertia g · cm ²	180 / 18	80 / 8
Encoder	Incremental Magnetic Encoder (50000 pulses / Rotation)	
Control Method	Closed Loop Vector Control	
Input Supply Voltage	DC24V ± 10%	
Input Supply Current Rated (Continuous Torque / Rated Peak Torque)	1.2A/1.5A	0.8A/1.0A
Resolution (Pulse/Rotation)	From 200 to 50000 Set by parameter	

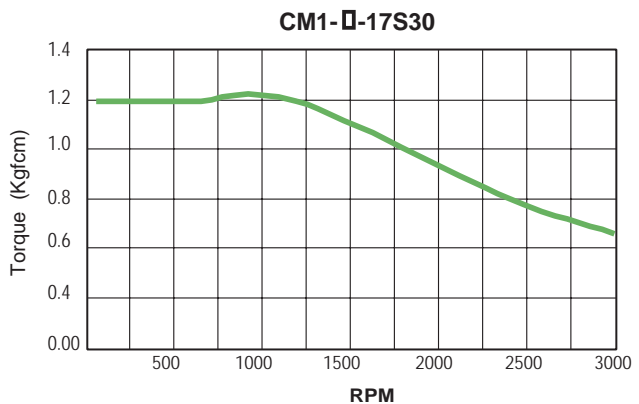
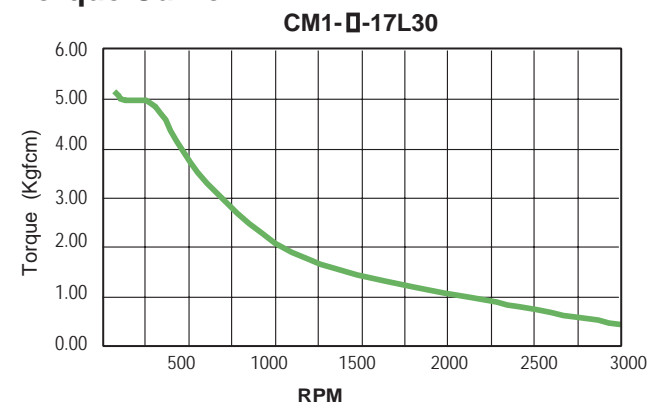
Torque Curve



CM1-□-17L/S

	CM1- □ -17L30	CM1- □ -17S30
Motor Output Power	18W	18W
Max. Speed	3000rpm	3000rpm
Rated Continuous / Peak Torque Kgfc (Nm)	3.7 (0.38) / 5.3 (0.54)	0.84 (0.082) / 1.2 (0.117)
Load / Motor Inertia g · cm ²	760 / 76	380 / 38
Encoder	Incremental Magnetic Encoder (50000 pulses / 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
Resolution (Pulse/Rotation)	From 200 to 50000 Set by parameter	

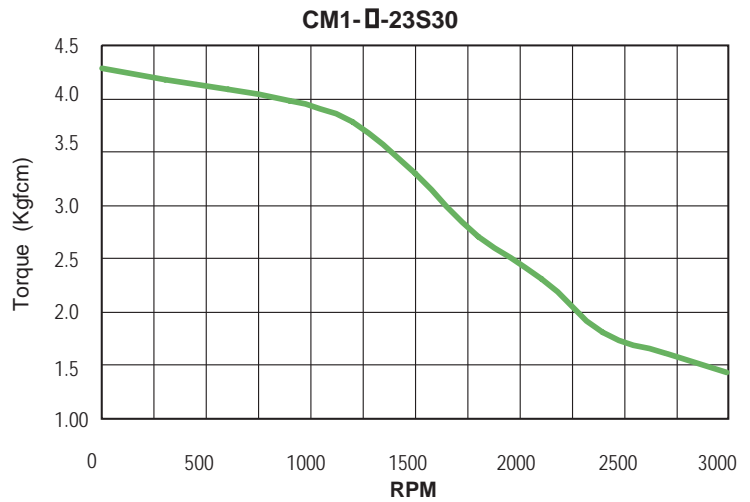
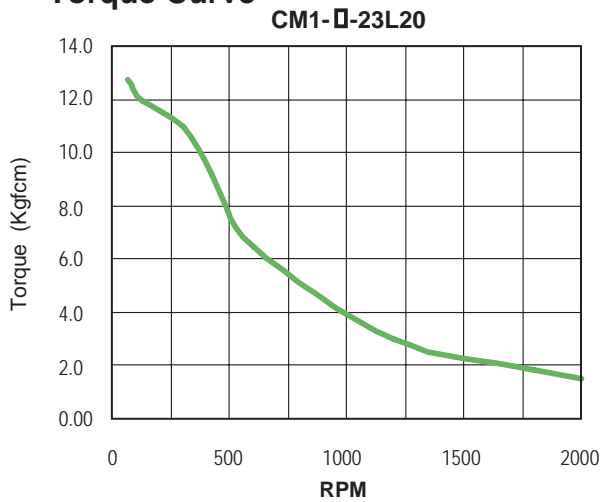
Torque Curve



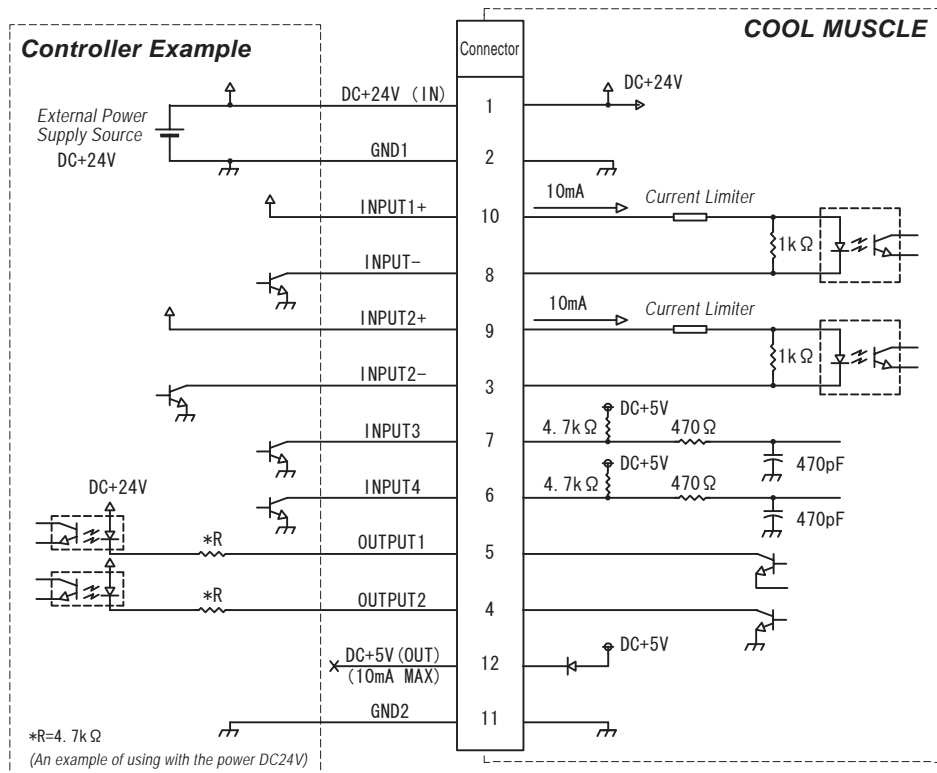
CM1-□-23L/S

	CM1- □ -23L20	CM1- □ -23S30
Motor Output Power	30W	45W
Max. Speed	2000rpm	3000rpm
Rated Continuous/Peak Torque Kgfc _m (Nm)	8.9 (0.87) / 12.7 (1.24)	3.0 (0.294) / 4.3 (0.42)
Load / Motor Inertia g · cm ²	4600 / 460	1400 / 140
Encoder	Incremental Magnetic Encoder (50000 pulses / Rotation)	
Control Method	Closed Loop Vector Control	
Input Supply Voltage	DC24V ±10%	
Input Supply Current Rated (Continuous Torque / Rated Peak Torque)	2.6A/3.4A	3.9A/5.1A
Resolution (Pulse / Rotation)	From 200 to 50000 Set by parameter	

Torque Curve

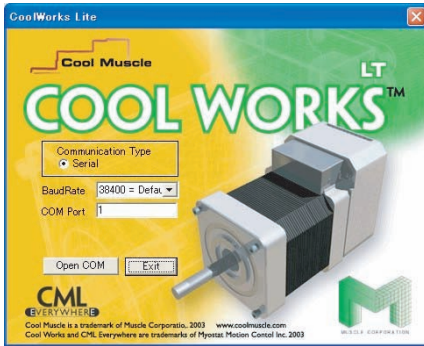


Wiring Diagram



※ Number of 1~12 is PIN No.

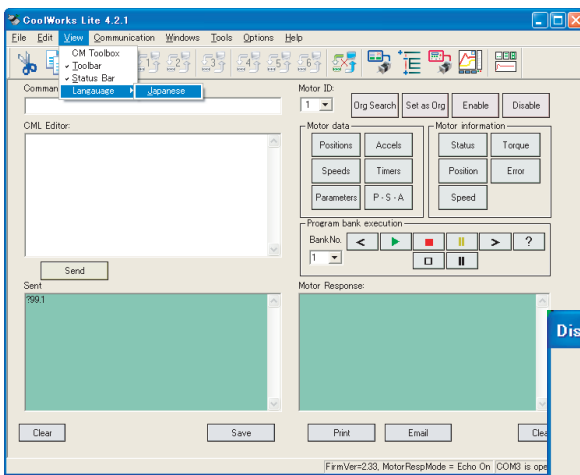
SOFTWARE - COOL WORKS



The Cool Works is a free software. An easy-to-use interface makes it easy to work with the Cool Muscle. You can simply use this for setting parameters, program mode, jog mode, confirmation of status and more.

It's available to download the free software from the Muscle's HP.

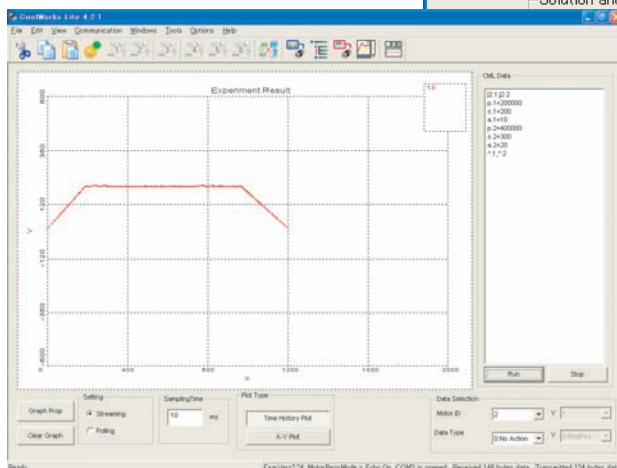
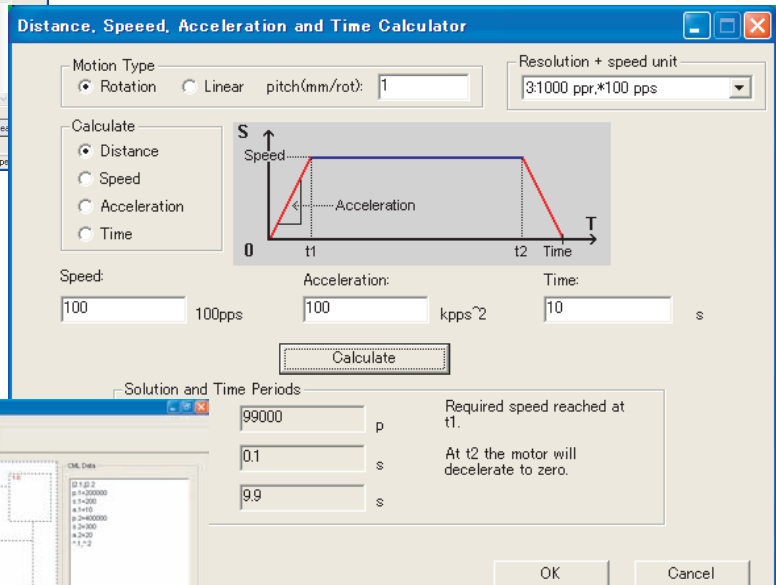
<http://www.musclecorp.com>



Terminal Window

Terminal window allows reading and writing of motor data, parameters and program banks.

Motion Calculator



Time History Plot

The time history plot, data(Y-axis) can be displayed virssus time(X-axis).