

“MT” Series Integrated Servo Systems with Multi Turn Absolute Encoder Option

Note: Battery is required for Multi turn absolute encoder option to work.



Moog Animatics now offers Multi Turn Absolute Encoder options for our "MT" series motors. This option is a hardware-specific internal change with a required external battery for back-up to allow tracking of shaft position when no power is being applied to the SmartMotor.

The "MT" series products may be ordered in kit form with battery and cable or as separate parts. There are three different cable length options for the battery. The battery itself attaches to the Limits with I/O connector of the MT series SmartMotors and uses the home switch input.

The back of the battery case feeds out the limit switch connector maintaining the ability to still use both travel limit inputs but with no home switch input. Any I/O may be used for homing input however.

Part Number Guide

• Available 23 Frame Motor Kits:

- SM23165MT-KFB01-01
(Kit containing motor and battery with 1M cable)
- SM23165MT-KFB01-02
(Kit containing motor and battery with 2M cable)
- SM23165MT-KFB01-03
(Kit containing motor and battery with 3M cable)

• Available 34 Frame Motor Kits:

- SM34165MT-KFB01-01
(Kit containing motor and battery with 1M cable)
- SM34165MT-KFB01-02
(Kit containing motor and battery with 2M cable)
- SM34165MT-KFB01-03
(Kit containing motor and battery with 3M cable)
- Refer to SM23165MT or SM34165MT motor specs for power, torque and physical characteristics

• Non kit form. Use the following numbers when ordering just motor, or cables or battery separately:

- **SmartMotor:** SM23165MT-FB01 or SM34165MT-FB01
- **Battery:** CBLIP-BAT1
- **Cable** (3 standard lengths available: 1m, 2m or 3m long):
 - CBLIP-LIM-EXT-1M, CBLIP-LIM-EXT-2M, or CBLIP-LIM-EXT-3M
 - Note: other lengths available upon request

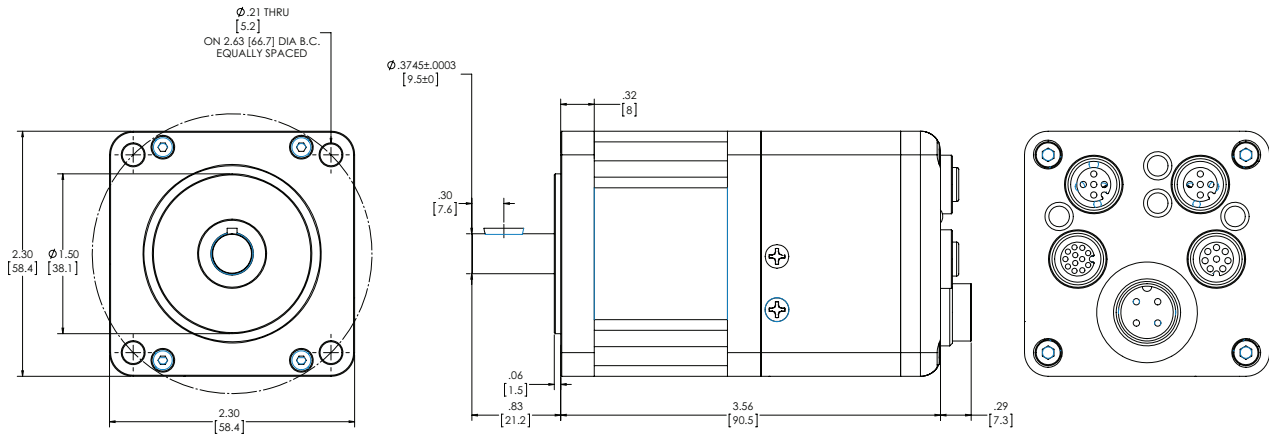
Specifications

Encoder Specifications		
Single Turn Interpolated Resolution	8,192	counts/rev
Multi Turn Shaft Rev Counter	524,288	revolutions
Maximum Velocity when running just from battery	6,000	RPM
Maximum Acceleration when running just from battery*	250	rev/sec ²
<i>*Restriction does not apply when running on main power</i>		
Post Quadrature Output Resolution	2,048	counts/rev
Internal encoder index capture	from encoder's index or external index input	

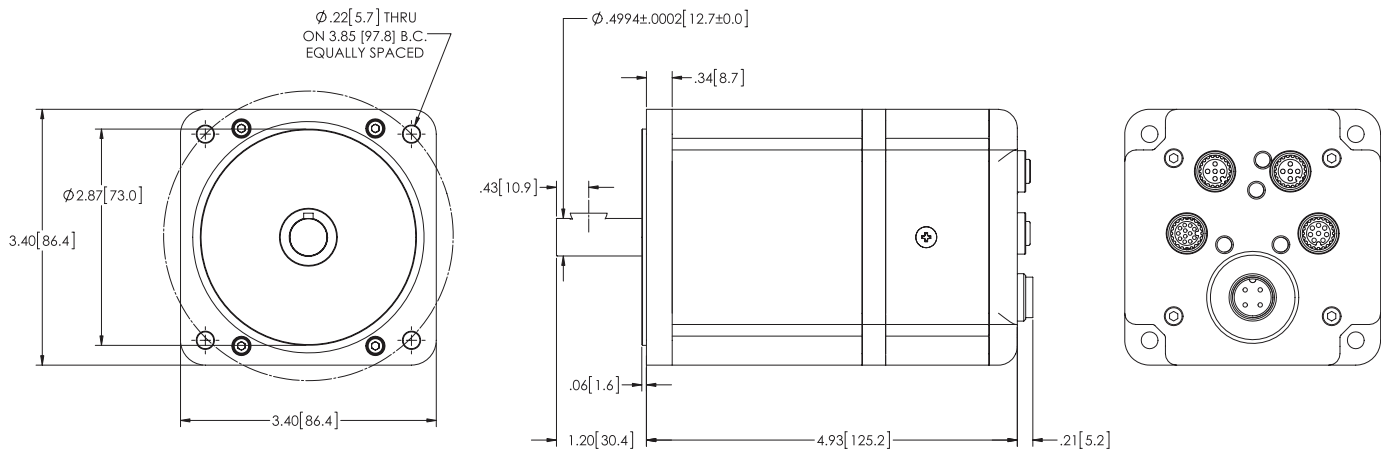
Battery	
Part Number (if ordered separate from the kit)	CBLIP-BAT1
Temperature range	0 to 60 degree Centigrade operating environment
Chemistry	Rechargeable nickel-metal hydride (NiMH)
Physical structure	Three stacked cells for 3.6 VDC
Maximum charge voltage	4.2 VDC (from SmartMotor)
Battery life (charge retention time)	0 motor rotations = 60 days, continuous motor rotation = 4 days
Time to full charge	4 hours (from SmartMotor)

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Dimensional Information for the SmartMotor 23MT Series



Dimensional Information for the SmartMotor 34MT Series (No Options)

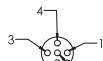


Connections

LIMIT INPUTS

PIN	DESCRIPTION
1	24V out
2	IO-3 OR -Limit
3	GND-Common
4	IO-2 OR +Limit
5	Battery BUS

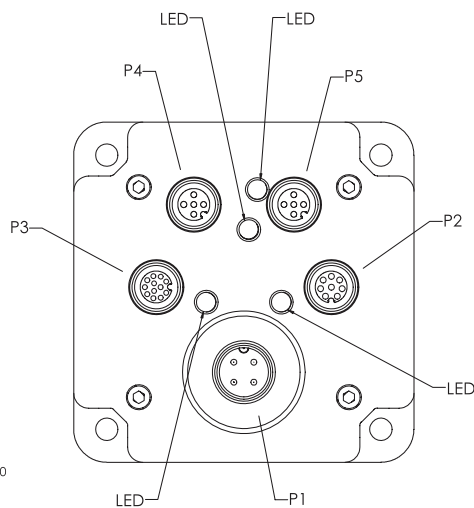
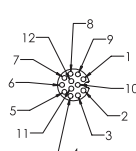
P4
5 Pin
Limit Inputs



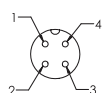
I/Os

PIN	DESCRIPTION
1	IO-0
2	IO-1
3	IO-4
4	IO-5
5	IO-6
6	IO-7
7	IO-8 OR BRK LNE
8	IO-9
9	NOT FAULT OUT
10	DRI ENABLE IN
11	24V out
12	GND-Common

P3
12 Pin I/O



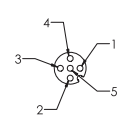
P1
4 Pin
Power Input



POWER INPUT

PIN	DESCRIPTION
1	CNTRL PWR IN 24Vmax
2	CHASSIS GND/EARTH
3	GND-Common
4	AMPLIFIER PWR 48Vmax

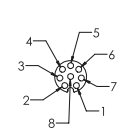
P5
5 Pin CAN Bus



CAN BUS

PIN	DESCRIPTION
1	NC
2	V+ Monitor
3	V-
4	CAN-H
5	CAN-L

P2
8 Pin
COM Encoder Bus



COMMUNICATION

PIN	DESCRIPTION
1	GND-COMM
2	RS485B CH0
3	RS485A CH0
4	ENC A+ (IN/OUT)
5	ENC B- (IN/OUT)
6	ENC A- (IN/OUT)
7	5Vdc out
8	ENC B+ (IN/OUT)

Battery Dimensional Information

