



General Specifications:

Enclosure: NEMA 4 / IP56

Temperature range: 0 .. 70 deg Cel (derate duty cycle at high temp.)

Extended temperature range: -40 .. 70 deg Cel [w. Heater option]

Finish: E-coating, Stainless

Stall protection: by electronic position and motion detection

Feedback: TTL, 4.20mA

Life Expectance: 250,000 cycles or equivalent under specified conditions

Motor: BLDC brushless DC motor.

Voltages: 12-24 VDC

Stall protection: by electronic position and motion detection

Positioning precision: +/- 3 deg for 1/4 – 1/2 turn models
+/- 0.25 deg for multi turn

Positioning resolution: +/- 0.15 deg max. adjusting to electronic signal resolution of 12 bit
additional signal filters available

Range setting: dip switches inside enclosure

Speed setting: dip switches inside enclosure

End of travel detection: for needle valve closing, by motion detection

Power setting: adjustable to protect delicate needle valves on closing operation

Position detection: Hall detectors

Motor control: Electronic, full computer control

Mechanical shock: 1 m drop test no damage to function
Random SAE J1211, Chassis, Exterior

Mechanical vibration: Random SAE J1211, Chassis, Exterior

Thermal Shock: -20 deg cel to + 70 deg cel 10 min

General Description:

Type Mxx electric / electronic actuator are used to precisely position small valves and devices

Gears: Mxx actuators use sintered, greased for life metal gearing only

Housing: all housing parts are aluminum die cast and are protected by an electrophoresis paint

Bearings: oiled for life porous bronze bearings

External Fasteners: Stainless Steel

Manual Override: optional, mounted directly on the output shaft

Mxx actuators offer a full range of control options:
- Multiturn Analog, Partial Turn Analog
- 1/4 - 1/2 turn TTL

External Gear Stages: Metal Gears for additional reduction:
MxH 3.75 additional gear ratio
MxU 15 additional gear ratio

Performance: Mxx Multi-turn models:

Model	Torque Range [in-lbs]	Speed range [time for 1 turn]
MCJ	3 .. 20	1 .. 5 sec*
MCL	18 .. 60	1 .. 5 sec
MCM	44 .. 132	3 .. 9 sec
MCH	88.5 .. 400	15 .. 60 sec

* Speed decreased at lowest torque settings

Performance: Mxx 1/4 and 1/2 turn models:

Model	Torque Range [in-lbs]	Speed range [time for 1/4 turn]
MDM	44 .. 132	0.75 .. 2.5 sec
MDH	88.5.. 400	3 .. 9 sec

Note: the speed and torque depend on the settings by dip switch of the actuator, selectable by user. Consult user manuals of individual units.

* De-rate the duty cycle to 25% for the highest torque values

Other Specifications Multi-turn Models:

Isolated Signals: optical isolation 1000V min.
[AI and AF models only]

Feedback 4..20mA: for sensing resistor of max. 250 ohms. Floats
[AF model only] +6VDC / -2VDC from power Gnd

Position on power loss: - Standard, "remembers" the position it was in before shut down.
- will reseat the valve based on torque setting when the signal is between 3 and 4 mA

Other Specifications 1/4 and 1/2 turn Models:

TTL Signals in: internal pull up, <1mA required to pull down

TTL signals out (Feedback): will drive max 2.5mA

