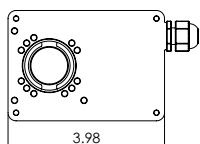
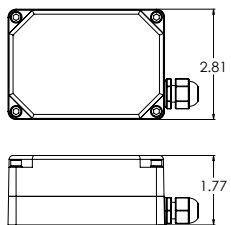
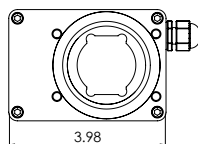
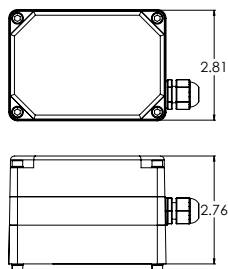


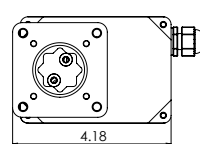
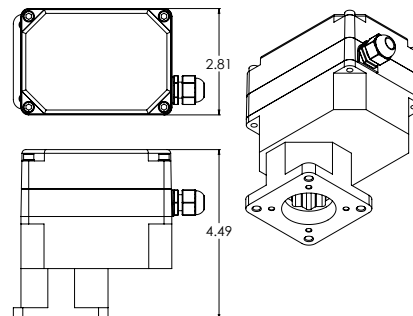
## MxJ / MxL / MxM



## MxH



## MxF



## MCx Multi-turn models

Model	Torque range [in-lbs]	Speed range [1 turn in sec]
MCJ	4 .. 16	1 .. 7 *
MCL	12 .. 48	1 .. 7
MCM	35 .. 145	4 .. 23
MCH	120 .. 497	18 .. 90
MCF	230 .. 915	38 .. 186

## MDx 1/4 and 1/2 turn models [1/4 turn in sec]

MDM	212 .. 247	1 .. 3
MDH	430 .. 532	3 .. 9
MDF	710 .. 1050	5 .. 15

\* De-rate the duty cycle to 25% for the highest torque values  
**Note:** speed and torque depend on settings by dip switch of actuator  
 Consult user manuals of individual units. Actuators are set for optimum speed.

## Description and Specifications:

**Enclosure:** Aluminum die cast E-coating, stainless IP 66 / NEMA 4X

**Temperature range:** 0 .. 65 °C internal (derate duty cycle at high temp.)

**Ext. temp. range:** -40 .. 60 °C (option Heater)

**Stall protection:** Electronic position and motion detection

**Feedback:** TTL, 4 - 20 mA, Modbus

**Manual Override:** Optional

**Gears & Bearings:** Metal and bronze, oiled/greased for life

**External Fasteners:** Stainless Steel

**Life Expectance:** 250,000 cycles in specified conditions

**Motor:** Brushless DC motor, computer control

**Voltages/Current:** 12-24 VDC/Max3A  
110/220 VAC/Max1.5A @ 50/60 Hz

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

**Range/ Speed setting:** Dip switches inside enclosure

**Control options:** Analog (4 - 20 mA, 1 - 5 V, 1 - 10 V), Modbus, TTL (on/off)

**End travel detection:** For needle valve, by motion detection

**Power setting:** Adjustable

**Mechanical shock:** Repeated ≤ 130 g - force no effect, occasional ≤ 150 g - force no effect > 150 g - force not tolerated

**Mechanical vibration:** Random SAE J1211, Chassis, Exterior

**Thermal Shock:** -20 °C to + 60 °C 10 min

**Failsafe battery:** LiPo rechargeable battery, will position the actuator to predetermined desired position

**Positioning precision:** +/- 3 deg for 1/4 & 1/2 turn  
+/- 0.25 deg for multi turn

**Weight:** MxJ, MxL, MxM: 650 g  
MxH, MxF: 1300 g

## Other Specifications Multi-turn Models:

**Isolated Signals:** Optical isolation 1000 V min [AI and AF models only]

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

**Position power loss:** Standard: "remembers" position before shut down, will reset 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, <1 mA required to pull down

**TTL signals out: (Feedback)** Standard: 5 V at 2.5 mA max  
Option: 24 V at 1 A max

## Certifications:

**FCC 47 CFR PART 15 SUBPART B**  
**ICES-001 ISSUE 4 JUNE 2006**  
**EN 61326-1:2013**  
 (GROUP 1, CLASS A; Industrial electromagnetic environment)