



S+R automation systems GmbH

Compact Actuator MX



**Heavy Duty IP69K Actuator for the
Toughest Conditions**

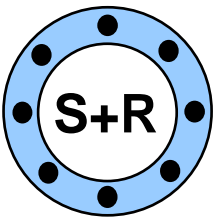
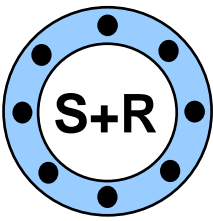


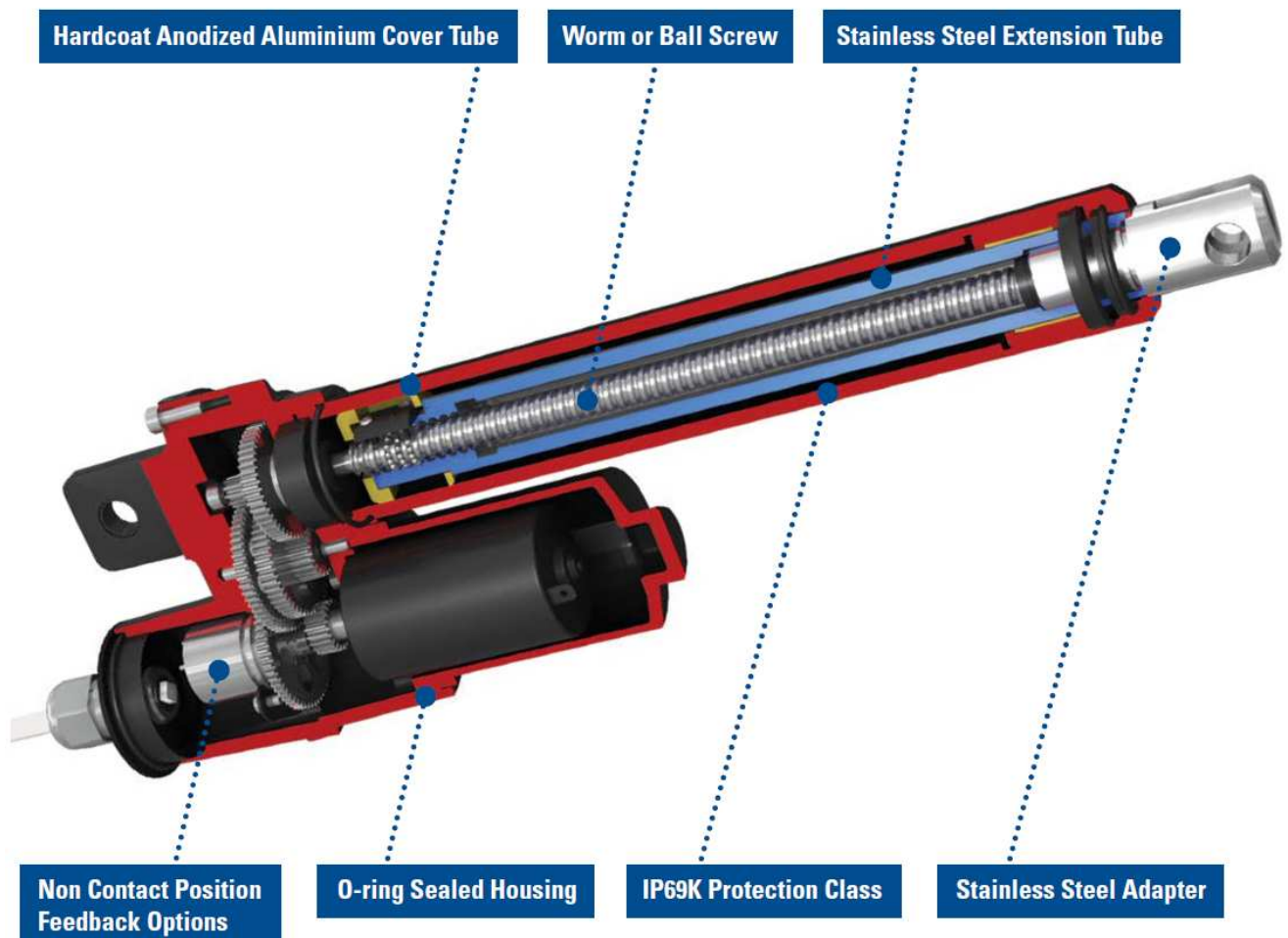
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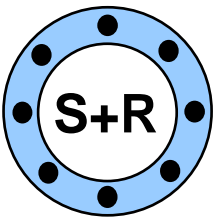
Design and function

The Compact Actuator MX is built to work virtually maintenance-free in environments where it encounters fertilizers, mud, sand, high pressure water jets, slush, salt water, snow, heat or heavy vibrations. The Compact Actuator MX is not only tough but also a high performer that delivers high speed, efficiency, and accuracy in a compact envelope.



Main Features

- Long life
- Reliability
- High speed
- High efficiency
- Small envelope
- Minimal backlash
- Vibration resistant
- Duty cycle up to 100%
- Short total length
- High degree corrosion protection
- High accuracy position feedback options



Features and Benefits

The Compact Actuator MX can be used in many types of applications, but it excels when used under the harshest conditions. Every aspect of the actuator has been designed to ensure longevity, reliability, and performance.



Let the Compact Actuator MX Work in Dust, Dirt, and Mud ...

The Compact Actuator MX is designed to endure the harshest environments. It is rated for IP66/IP69K and has been tested for 500 hours of salt spray. It withstands dirt, dust and water, and also aggressive substances such as fertilizers, acid, oil, grease, and cleaning agents.



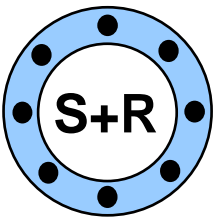
... in Arctic to Desert Temperatures ...

The operating temperature range of the Compact Actuator MX stretches from -40 to +85 °C which is the greatest range of any actuator on the market. It can operate in almost any place on the Earth whether it be in the arctic region or in a desert.



... and Just Wash it Off!

Unlike most actuators the Compact Actuator MX can be washed directly with high pressure water jets and even be submerged for short periods when not operating. This eliminates the need for bellows or other protective devices. The Compact Actuator MX simplifies cleaning and installation, reduces the size of the installation, and lowers the total cost.



Non Contact Position Feedback Options

The Compact Actuator MX can be equipped with two kinds of position feedback options that fit in to the standard housing without adding to the outer dimensions:

- analog position output signal
- digital encoder output.

Both use non contact position sensors which ensure that the life of the position feedback device is at least as long as the life of the actuator itself. It also means that the signal does not vary over time due to wear and the system therefore never requires any re-calibration.

Trapezoidal or Ball Screw Models

The Compact Actuator MX is available with either worm or ball screws, each with unique advantages. The trapezoidal screw version is self-locking and will not back drive on power-off. The ball screw version will go faster, take higher loads and operate at higher duty cycles.

Applications

The Compact Actuator MX is the ideal choice whenever the environment is tough and wherever long life and trouble free operation is essential. The Compact Actuator MX is specifically designed to be used in applications that need:

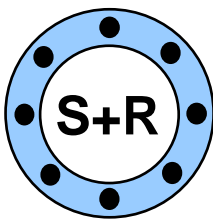
- High duty cycles
- Accuracy
- Ability to withstand water
- Ability to withstand aggressive chemicals.

The Compact Actuator MX can be used to control sand/salt/fertilizer spreaders, hatches, doors and throttles and is ideal in vehicles used for:

- Farming equipment
- Road maintenance
- Construction work
- Military.

The Compact Actuator MX is also an excellent choice for yacht, ship and oil platform applications due it's ability to withstand water, salt and chemicals as well as its great operating temperature range. Other suitable application areas includes:

- Food industry
- Trains and trams
- Mining equipment.



Specifications



Standard

Features and Benefits

- Designed for industrial applications
- Rugged aluminum housing with IP69K
- High efficiency
- Long life
- Hard coat anodizing for high corrosion resistance
- Virtually maintenance free
- Trapezoidal or ball screw models
- Non contact analog position feedback signal

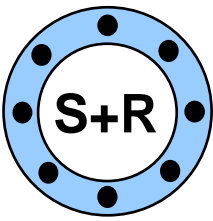
General Specifications	
Screw type	trapezoidal or ball
Internally restrained	no
Manual override	no
Dynamic braking	no
Self locking	
trapezoidal screw	yes
ball screw	no
End of stroke protection	no
Mid stroke protection	no
Motor protection	no
Motor connection	flying leads or cable with connector
Motor connector	AMP superseal Series 1,5
Certificates	CE
Options	Encoder position feedback

Performance Specifications	
Maximum load	dynamic / static [N]
MX●●W (trapezoidal screw)	500 / 2000
MX●●W (ball screw)	800 / 100 – 350 ¹
Speed	no / maximum load [mm/s]
MX●●W (trapezoidal screw)	33 / 19
MX●●W (ball screw)	60 / 30
Available input voltages [VDC]	12, 24
Standard stroke lengths [mm]	50, 100, 150 200, 250 ² , 300 ²
Temperature limits [°C]	-40 to 85
Full load duty cycle 25 °C [%]	25
End play, maximum [mm]	0,3
Restraining torque [Nm]	2
Lead cross section [mm ²]	1
Standard cable lengths [mm]	300, 1600
Protection class	IP66 / IP69K
Salt spray resistance [h]	500
Life [cycles]	500.000 ³
Analog position feedback signal [VDC]	0,5 – 4,5
Encoder position feedback option	
Supply voltage [VDC]	5
Pulses per mm, trapezoidal screw / ball screw	9,86 / 5,84
Channels	A, B

¹ The static force (i.e. the backdriving force) for a ball screw unit varies and is dependant on the number of cycles it have been running and at wich loads.

² Strokes possible for ball screw models only.

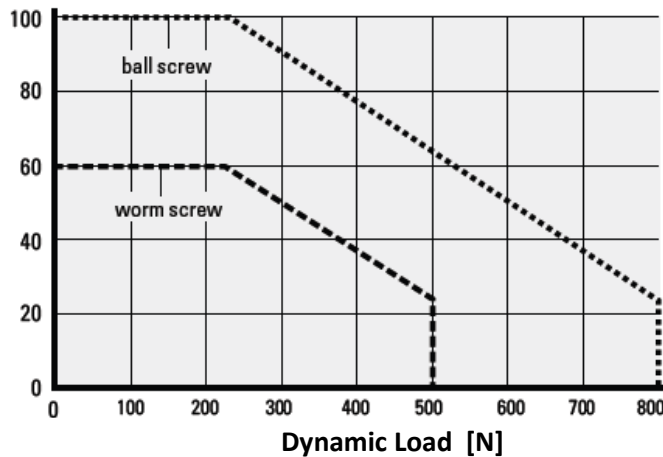
³ For ball screw actuator with 100 mm stroke, average load of 500 N and changing load direction.



Duty Cycle

Occupancy rate 25°C [%]

ED @ 25 °C [%]



Ordering Key

Position	1	2	3	4	5
Example	MX12-	B8	M15	P	1

1. Actuator type and supply voltage

MX12- = 12 VDC

MX24- = 24 VDC

2. Max. dynamic load, screw type and max. speed

B8 = 800 N, ball screw, 55 mm/s

W1 = 500 N, trapezoidal screw, 35 mm/s

3. Stroke (S)

M05 = 50 mm

M10 = 100 mm

M15 = 150 mm

M20 = 200 mm

M25 = 250 mm*

M30 = 300 mm*

* Strokes possible for ball screw models only.

4. Position feedback option

P = analog signal (standard)

E = encoder signal

5. Cable and connectors

0 = 300 mm long flying leads

1 = 300 mm long cable and connector **

2 = 1600 mm long cable and connector **

** AMP Super seal series 1,5 connector