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CRD DEVICES

Actuator

MD56

Features

- MD56 is a powerful but compact actuator that is suitable for wide range of applications including medical, homecare, furniture and industrial…etc. The motor orientation can be chosen in every 30 degrees of whole round, which makes it an ideal solution for applications where installation space is limited.
- Main applications：medical, homecare, furniture, industrial
- Input voltage：24V DC
- Max. load：5000N (push) / 3500N (pull)
- Max. speed at no load：48 mm/sec
- Max. speed at full load：4 mm/sec @ 5,000N
- Max. current：6.9A @ 24V DC
- Stroke：50～400mm
- Motor orientation：360° in steps of every 30°
- Preset cam type limit switches
- IP protection level：IPX1
- Duty cycle：10% (max. 2 min. continuous operation)
- Color：Black
- Certified：CE, EMC Directive 93/42/EEC
- Noise level：≦ 65dB
- Ambient operating temperature：-25°C ~ +65°C

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Options

- Positioning feedback with Hall effect sensors
- Positioning feedback with Reed sensor
- Positioning feedback with potentiometer
- IPX6 waterproof shell

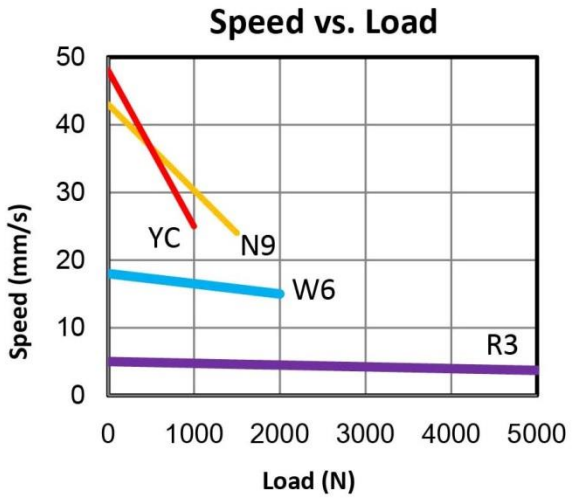
Compatibility

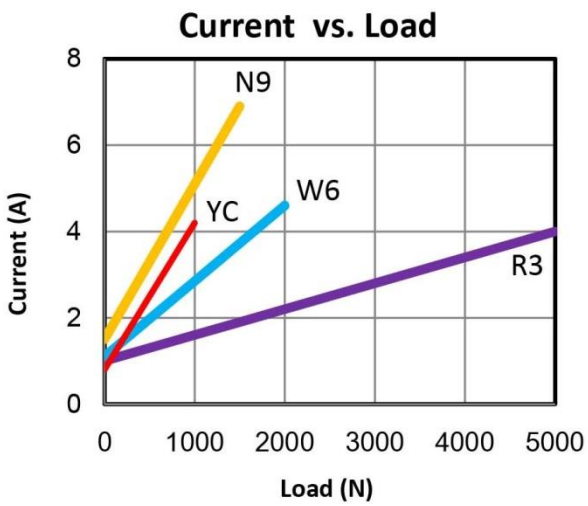
1. **Control box**
   None

2. **Accessory**
   None

Performance Data

Model No.	Max. Push Load (N)	Max. Pull Load (N)	Typical Speed (mm/s)		Typical Current (A) @ 24V	
			No load	Full load	No load	Full load
MD56-X-24R3-XXX.XXX-XXXX0XX	5,000	3,500	5	4	1.0	4.0
MD56-X-24W6-XXX.XXX-XXXX0XX	2,000	2,000	18	15	1.1	4.6
MD56-X-24N9-XXX.XXX-XXXX0XX	1,500	1,500	43	24	1.5	6.9
MD56-X-24YC-XXX.XXX-XXXX0XX	1,000	1,000	48	25	0.8	4.2

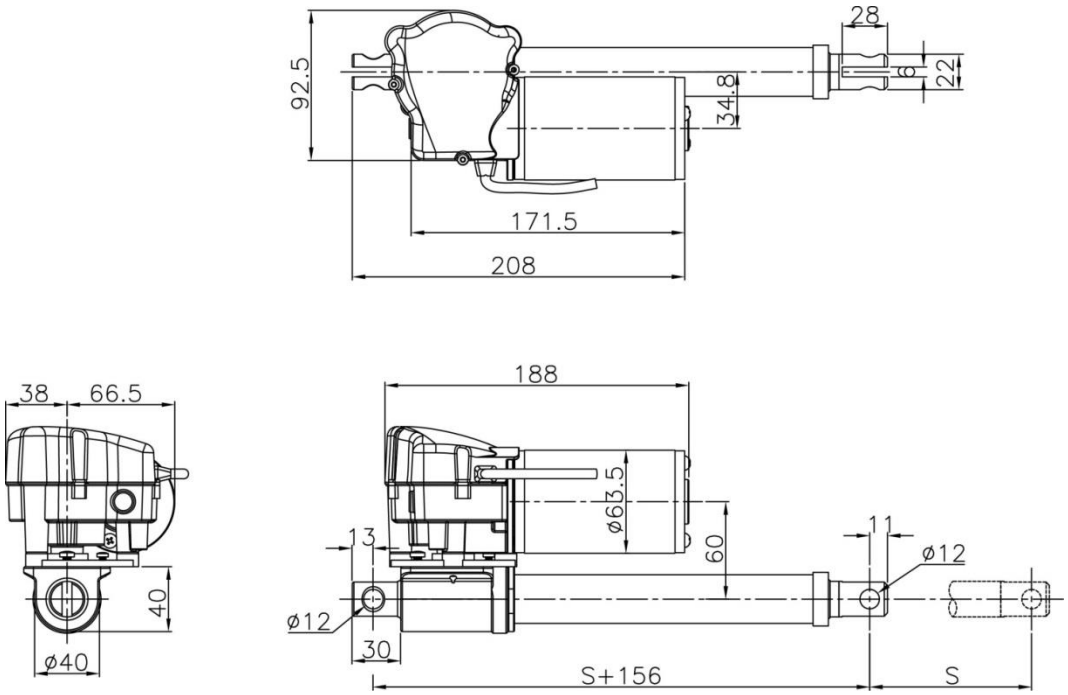




Dimensions

1. Standard Type

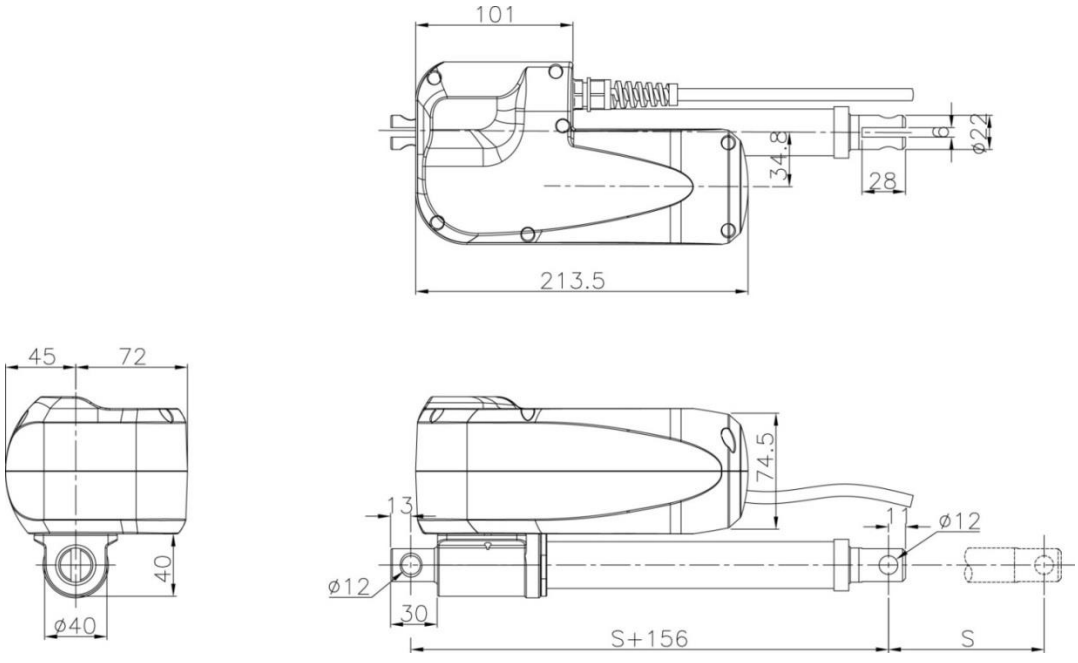
- Stroke (S) = 50 ~ 400 mm
- Retracted Length (A) ≧ S+156 mm



Unit: mm

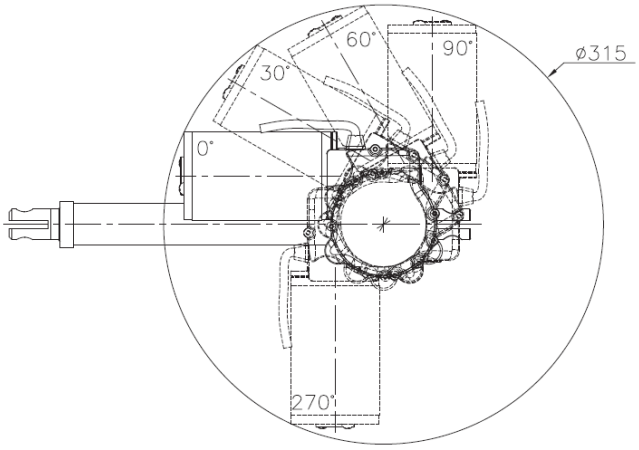
2. With IPX6 waterproof shell

- Stroke (S) = 50 ~ 400 mm
- Retracted Length (A) ≧ S+156 mm



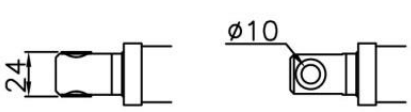
Unit: mm

3. Motor Orientation (360° in steps of every 30˚)

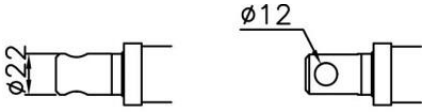


Remarks: This drawing shows orientation definition with example of Standard type.

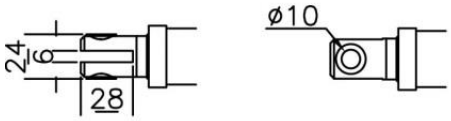
4. Front Connectors



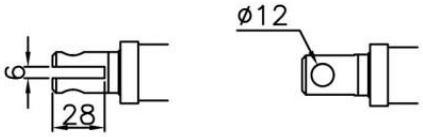
Solid with bushing, φ10 mm



Solid w/o bushing, φ12 mm

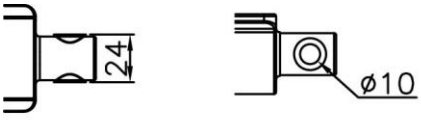


Slot with bushing, φ10 mm



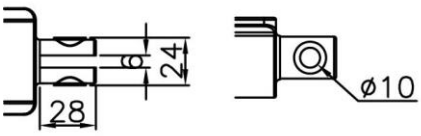
Slot w/o bushing, φ12 mm

5. Rear Connectors

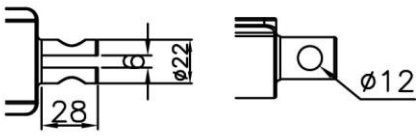


Solid with bushing, φ10 mm

Solid w/o bushing, φ12 mm

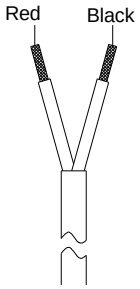


Slot with bushing, φ10 mm



Slot w/o bushing, φ12 mm

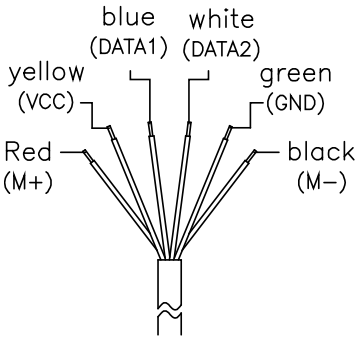
Wiring



1. Standard Type

- Connect Red (M+) to ‘+’ & Black (M-) to ‘-‘ of DC power, the actuator will extend.

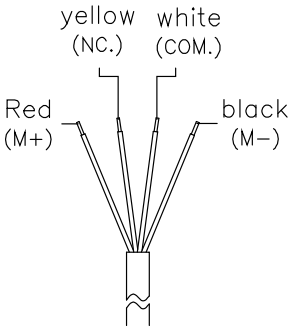
2. With 2x Hall Effect Sensors



- Connect Red (M+) to ‘+’ & Black (M-) to ‘-‘ of DC power, the actuator will extend.
- White, Yellow, Blue & Green are positioning signal wires as figure.
- Signal resolution varies according to different model as following table.

Model	Signal Pulse / mm (for each sensor)
MD56-X-XXR3-XXX.XXX-XXXX0XX	9.83
MD56-X-XXW6-XXX.XXX-XXXX0XX	4.92
MD56-X-XXN9-XXX.XXX-XXXX0XX	2.07
MD56-X-XXYC-XXX.XXX-XXXX0XX	1.02

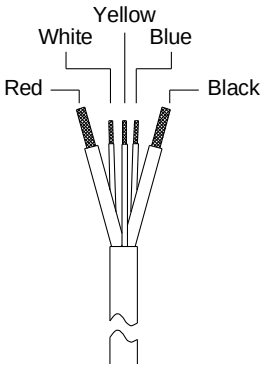
3. With Reed Sensor



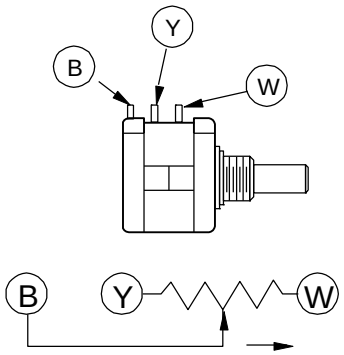
- Connect Red (M+) to ‘+’ & Black (M-) to ‘-‘ of DC power, the actuator will extend.
- White & Yellow are positioning signal wires as figure.
- Signal resolution varies according to different model as following table.

Model	Signal Pulse / mm
MD56-X-XXR3-XXX.XXX-XXXX0XX	2.67
MD56-X-XXW6-XXX.XXX-XXXX0XX	1.33
MD56-X-XXN9-XXX.XXX-XXXX0XX	0.89
MD56-X-XXYC-XXX.XXX-XXXX0XX	0.67

4. With Potentiometer



- Connect Red (M+) to '+' & Black (M-) to '-' of DC power, the actuator will extend.
- White, Yellow & Blue are positioning signal wires as figure.
- The resistance value between blue and yellow wires increases when actuator extends, the resistance between blue and white wires decreases at the mean time.



- Following table shows the resistance allocation for stroke 400mm. The max. resistance value at its full stroke will be proportional to the stroke specification if the model is less than 400mm, i.e. the increment of resistance per unit stroke length remanins unchanged.

Motor & spindle code	Resistance value (at 0 ~ 400 mm stroke)	Tolerance
R3	0.30 ~ 7.50 KΩ	± 0.10 KΩ
W6, N9, YC	0.30 ~ 7.35 KΩ	± 0.10 KΩ

Ordering Key