Manual

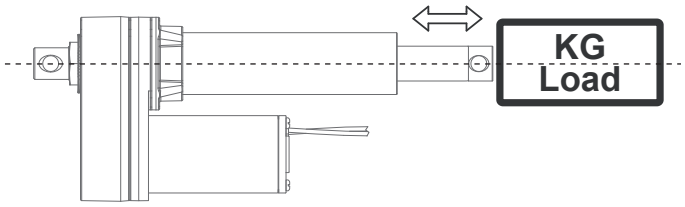
Actuator
ID10

Revision	2023.08_V2.1

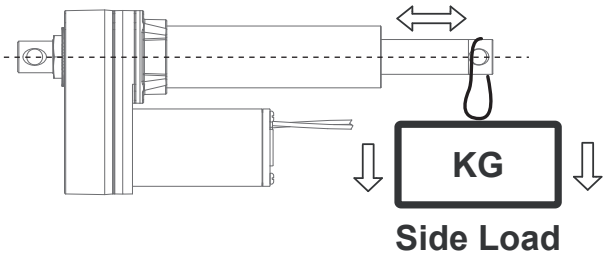
Technical changes may be made to improve the product without notice！

CAUTION

- Be sure that the load acts on the actuator in the axial direction and it isn't recommended to have side load acts on the actuator.



The load should be centered on the operating direction.



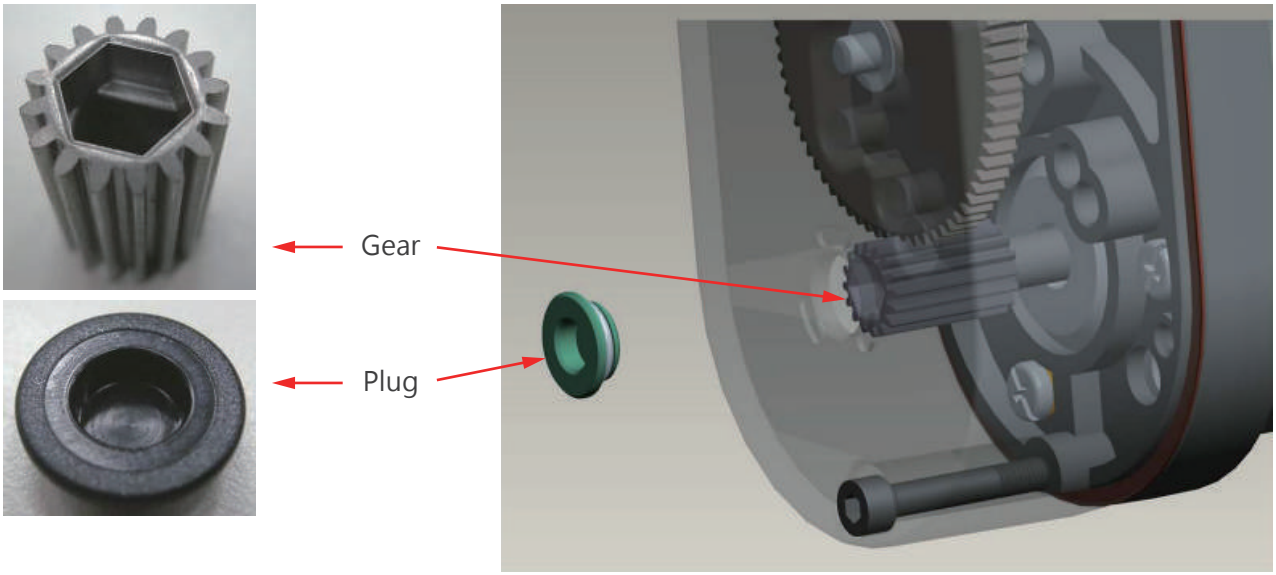
Side load is NOT good for actuators.

- If the actuator is jammed by an obstruction or the load is severely overweight, the actuator's clutch protection device will trip and run idly to protect the actuator or the customer's mechanical equipment from damage. Please be careful to avoid obstructions and do not exceed the rated load of the actuator.

- Users are forbidden to open the outer cover of the limit switch so as not to affect the original protection level of the actuator, resulting in the immediate failure of the original factory protection commitment.

MANUAL DRIVE (MD) CONNECTOR

The MD (manual drive) is an alternative way to drive the motor directly, if the power is not available.
Step 1. Remove the plug on the gearbox cover.
Step 2. Use a 8.0mm hex bit or electric screwdriver (recommended) to drive the gear directly.
Step 3. Insert the plug into the hole, and confirm the plug is installed properly.
● The Max. drive torque is 6kg-cm with 4500N load.(Ball Screw)



WIRE CONNECTION

For ID10 actuator, connection rule of power wires varies according to different types and gear ratio(s). Please follow the instructions below.

(1) Basic (Without limit switch nor positioning feedback)

- Gear ratio: 5:1, 10:1, 20:1

	Wire color	Definition	Descriptions
Power wires	Red	DC power	Connect red wire to “Vdc +” & black wire to “Vdc -“ of DC power to extend the actuator. Switch the polarity of DC input to retract it.
	Black		

- Gear ratio: 30:1, 40:1

	Wire color	Definition	Descriptions
Power wires	Red	DC power	Connect red wire to “Vdc -” & black wire to “Vdc +” of DC power to extend the actuator. Switch the polarity of DC input to retract it.
	Black		

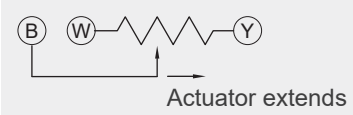
(2) With limit switches

	Wire color	Definition	Descriptions
Power wires	Red	DC power	Connect red wire to “Vdc +” & black wire to “Vdc -“ of DC power to extend the actuator. Switch the polarity of DC input to retract it.
	Black		

(3) With single Hall effect sensor positioning feedback

	Wire color	Definition	Descriptions
Power wires	Red	DC power	Connect red wire to “Vdc +” & black wire to “Vdc -“ of DC power to extend the actuator. Switch the polarity of DC input to retract it.
	Black		
Signal wires	White	Vin	Voltage input range: 5 ~ 20V
	Yellow	Hall output	High= Input - 1.2V (±0.6V) Low= GND Hall signal data:  Hall effect sensor resolution: 20ppi, 1.27mm/pulse (0.787pulses/mm)
	Blue	GND	

(4) With Potentiometer (POT) absolute positioning feedback

<table>
<tr><th></th><th>Wire color</th><th>Definition</th><th>Descriptions</th></tr>
<tr><td rowspan="2">Power wires</td><td>Red</td><td rowspan="2">DC power</td><td rowspan="2">Connect red wire to “Vdc +” & black wire to “Vdc -“ of DC power to extend the actuator. Switch the polarity of DC input to retract it.</td></tr>
<tr><td>Black</td></tr>
<tr><td rowspan="3">Signal wires</td><td>Yellow</td><td>Vin</td><td>Input voltage 70V max.</td></tr>
<tr><td>Blue</td><td>POT output</td><td>1. Potentiometer specification:
- 10K ohm, 10 turns.
- Tolerance ±5%
2. Output voltage: The voltage (resistance) between blue and white increases linearly from about 0 when the actuator extends, and decreases when it retracts.
 

3. There are different resolutions according to the stroke length (as table below)
<table>
<tr><th>Stroke (mm)</th><th>Resistance (Tolerance: ±0.3KΩ)</th></tr>
<tr><td>102 (4”)</td><td>0.3 ~ 8.1K</td></tr>
<tr><td>153 (6”)</td><td>0.3 ~ 8.7K</td></tr>
<tr><td>203 (8”)</td><td>0.3 ~ 9.2K</td></tr>
<tr><td>254 (10”)</td><td>0.3 ~ 7.4K</td></tr>
<tr><td>305 (12”)</td><td>0.3 ~ 8.8K</td></tr>
<tr><td>457 (18”)</td><td>0.3 ~ 9.4K</td></tr>
<tr><td>610 (24”)</td><td>0.1 ~ 9.9K</td></tr>
</table></td></tr>
<tr><td>White</td><td>GND</td><td></td></tr>
</table>

SAFETY DECLARATION

This appliance cannot be used by children or persons with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction.