Actuator
LD40

LD40 is designed for industrial applications. There are two motor positions available which make it more flexible for installation in limited space. Default external reed sensors provide end of stroke indication to control unit. And additional reed sensor is optional as 'position reached' signal feedback.

Features

- Main applications: Industrial
- Input voltage: 12 / 24V DC
- Max. dynamic load: 3000N (ACME) / 4000N (Ball Screw)
- Max. static load: 4000N (ACME) / 6000N (Ball Screw)
- Max. speed at no load: 20.5mm/sec (typical value)
- Stroke: 100 / 150/ 200 / 250 /3 00 / 350 / 400mm
- IP level: IP54
- End of stroke indication: External reed sensors, NC type (normal close)
- ACME or Ball Screw threaded spindle is available
- Friction clutch for over load protection *
- Outer tube color: Anodized black or aluminum gray
- Stainless extension tube
- Power cord length: 250 mm (with tinned wires)
- Duty cycle: 10%, max. 2 min. continuous operation in 18 min.
- Operating ambient temperature: -25°C ～ +65°C
- Certified: CE Marking, EMC Directive 2014/30/EU

Remarks:

* The clutch can only be used as a protection device under abnormal conditions, under normal use, the clutch should not be seen to act.

Options

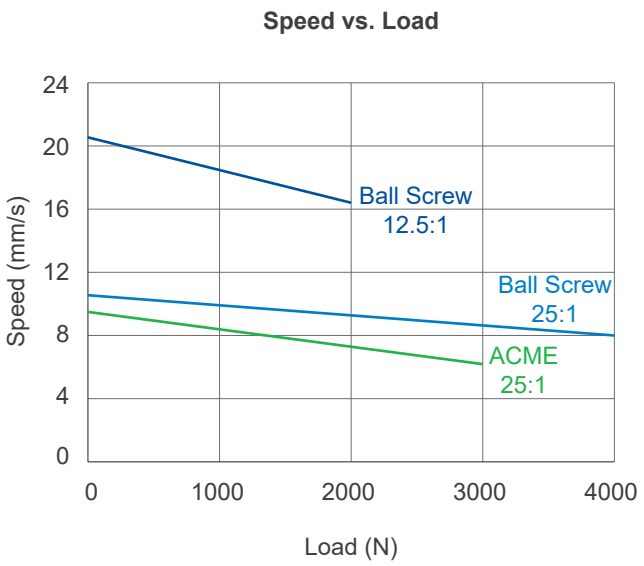
- 'Position reached' signal feedback: The 3rd external reed sensor, NC type (normal close)
- Standard motor position is on the right *(Fig. 1).* There is optional motor position on the left *(Fig. 2)*
- Positioning signal feedback with Hall effect sensor x 2 (standard right motor option only)

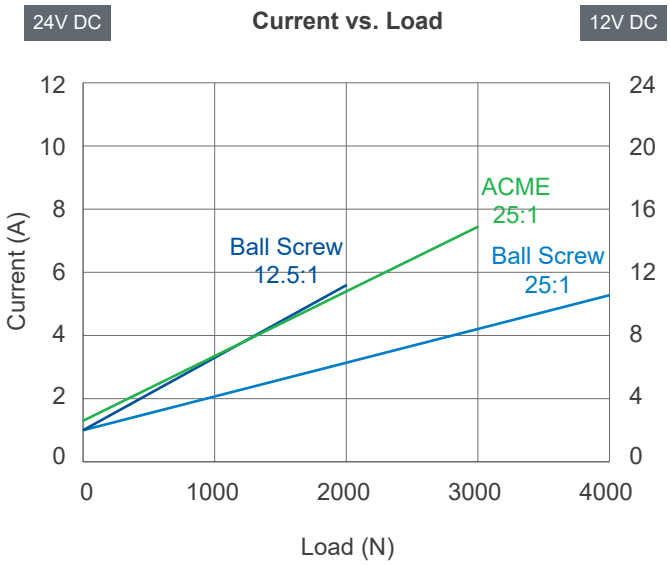
Fig. 1

Fig. 2

Performance Data

Model No.	Spindle type	Gear ratio	Push/Pull Max. (N)	* Typical speed (mm/s)		* Typical current (A)			
				No load	Full load	No load		Full load	
						12V	24V	12V	24V
LD40-XX-25F4B-XXX.XXX	Ball Screw	25:1	4000	10.5	8.0	2.0	1.0	10.5	5.3
LD40-XX-12F4B-XXX.XXX	Ball Screw	12.5:1	2000	20.5	16.3	1.9	1.0	11.3	5.6
LD40-XX-25F4A-XXX.XXX	ACME	25:1	3000	9.5	6.2	2.5	1.3	15.5	7.3





Remarks:

* The typical speed or typical current refers to an average value that is neither the upper limit nor the lower limit.
The performance curves are made with typical values.

Dimensions

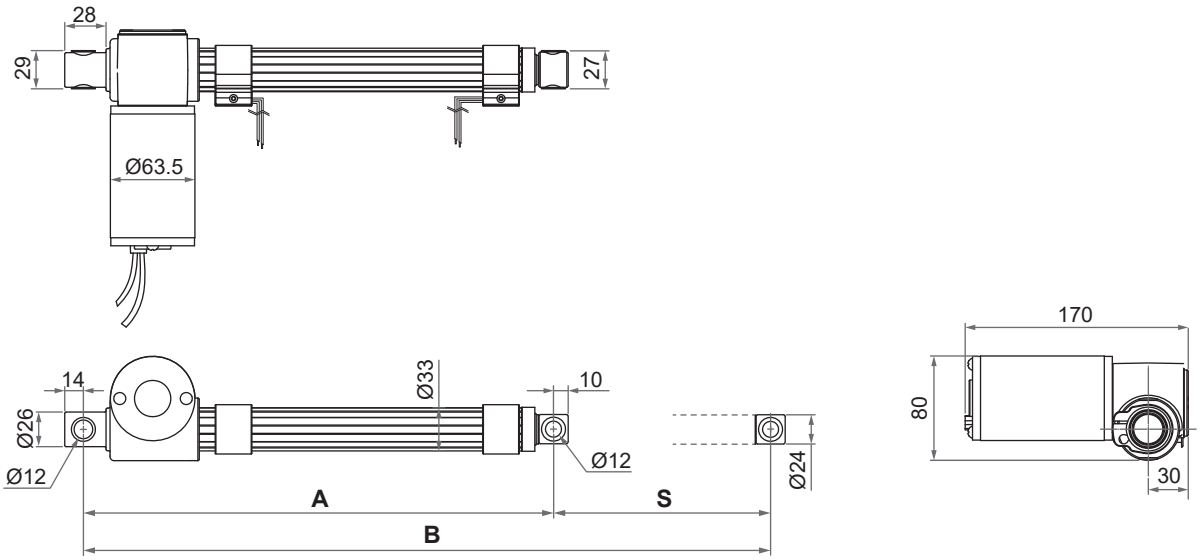
- **Extended length (B)** = Retracted length (A) + Stroke (S)
- **Retracted length (A)** ≧ S + 153 mm (tolerance: ±3 mm)

Stroke (S)	100	150	200	250	300	350	400
Retracted length (A)	253	303	353	403	453	503	553
Extended length (B)	353	453	553	653	753	853	953

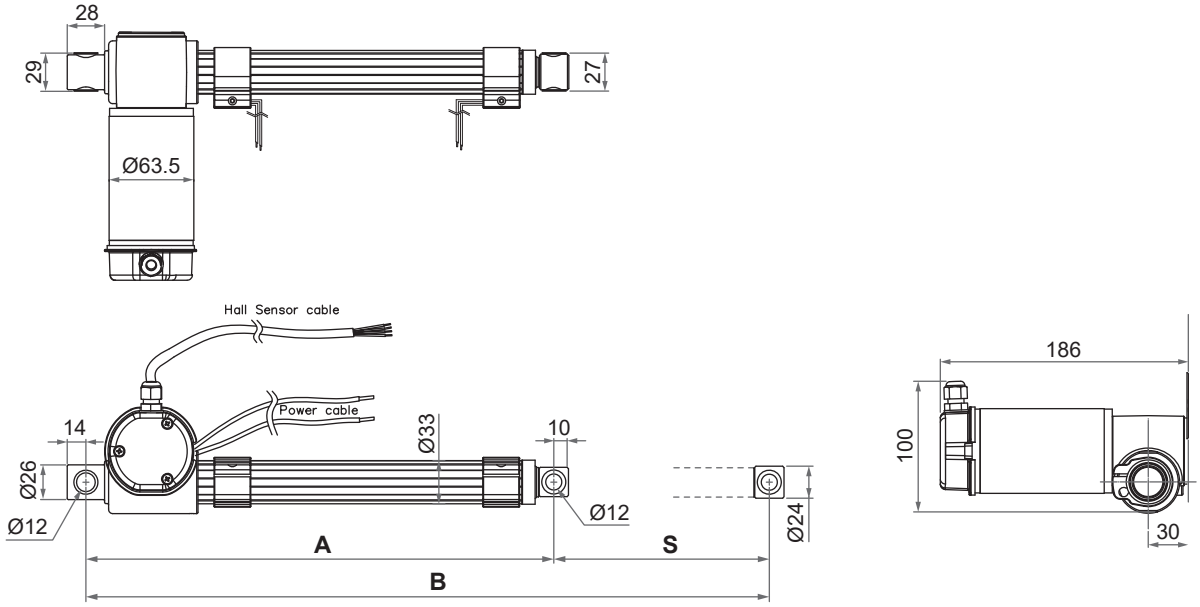
(tolerance: +0/-5 mm)

- **Drawing**

  - Standard



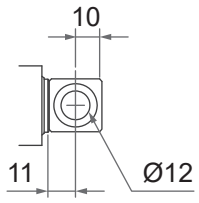
  - With dual Hall effect sensors positioning feedback *
    (additional housing attached on the motor)



Unit: mm

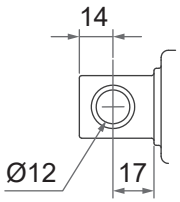
- **Front connector**

  1: Metal with plastic bushing



- **Rear connector**

  1: Metal with plastic bushing



Compatibility

Product	Model	LD40 spec
Control box	CI10 *	• 24V motor • Without positioning sensor feedback

Remarks:

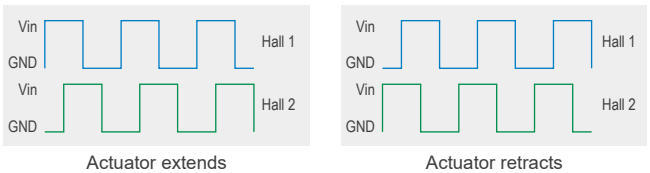
* CI10 could not automatically stop LD40 in response to its end of stroke signal feedback. Users must control it manually.

Wiring

- **Standard (without positioning feedback)**

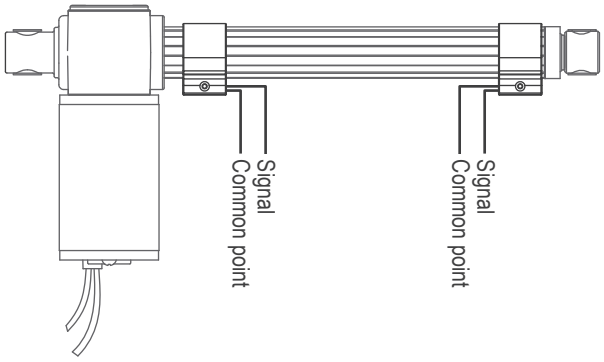
	Wire color	Definition	Descriptions
Power wires	Red	DC power	Connect red wire to “Vdc +” & black wire to “Vdc -“ of DC power to extend the actuator. Switch the polarity of DC input to retract it.
	Black		

- **With dual Hall effect sensors 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="5">Signal wires</td><td>Yellow</td><td>Vin</td><td>Voltage input range (Vin): 3.5 ~ 20V</td></tr>
<tr><td>Blue</td><td>Hall 1 output</td><td rowspan="3">Hall effect sensor resolution:
<table><tr><th>Model</th><th>Resolution (pulse/mm)</th></tr><tr><td>LD40-XX-25F4B-XXX.XXX-11-RXH4X</td><td>25</td></tr><tr><td>LD40-XX-12F4B-XXX.XXX-11-RXH4X</td><td>12.5</td></tr><tr><td>LD40-XX-25F4A-XXX.XXX-11-RXH4X</td><td>25</td></tr></table>Output voltage of signal (DATA) = Vin
Hall signal data:
 
</td></tr>
<tr><td>Green</td><td>Hall 2 output</td></tr>
<tr><td>White</td><td>GND</td></tr>
</table>

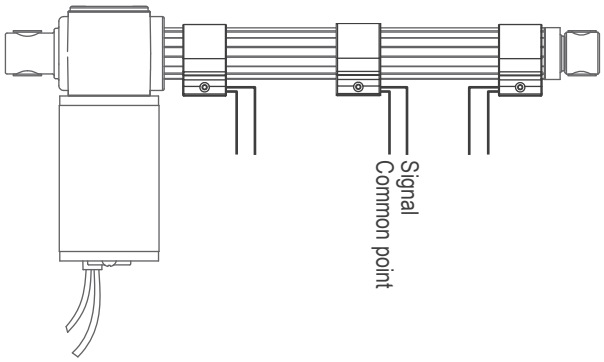
● **External reed sensors for 'end of stroke indication'**

Pick either one of wires on each sensor and connect them as common point, then the other one is defined as signal input.



● **The 3rd reed sensor (for 'position reached' signal feedback)**

The third one must be installed in between the other two, as shown below.



Certifications

LD40 actuator is compliant with the following regulations, in terms of the essential conformity requirements of EMC Directive of 2014/30/EU.

Emission	Immunity
EN 61000-6-3:2007+A1:2011	EN 61000-6-1:2007 IEC 61000-4-2:2008 IEC 61000-4-3:2006+A1:2007+A2:2010 IEC 61000-4-8:2009

Ordering Key

LD40 - 24 - 25 F 4B - 253 . 353 - 1 1 - R 2 0 4 2

Input voltage	**12**: 12V DC **24**: 24V DC
Gear ratio	**25**: 25:1 **12**: 12:1
Motor code	**F**
Spindle type	**4B**: 4mm pitch, Ball Screw **4A**: 4mm pitch, ACME
Retracted length *(Refer to Page 3)*	**XXX**
Extended length *(Refer to Page 3)*	**XXX**
Front connector *(Refer to Page 4)*	**1**: Metal with plastic bushing
Rear connector *(Refer to Page 4)*	**1**: Metal with plastic bushing
Motor position *(Refer to Page 2)*	**R**: Motor position on the right (standard) **L**: Motor position on the left
Reed sensor	**2**: Reed sensor x 2 (standard) **3**: Reed sensor x 3 (please define the 3rd reed sensor position)
Positioning feedback	**0**: None **H**: Hall effect sensor x 2 (motor position R only)
IP level	**4**: IP54 (standard)
Cable length	**2**: 250mm **5**: 500mm **A**: 1000mm

Remarks: For other customized specifications are required, please contact Moteck sales.