

# Actuator

## OM40

OM40 is a compact actuator providing up to 4000N thrust, which is suitable for limited installation space. There are many different speed and force to choose, and other optional functions to support customer's application.



### Feature

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- Main applications: Furniture, home care and fitness equipment
- Input voltage: 24V DC
- Max. load: 4000N (Push) / 2000N (Pull)
- Typical speed at no load: 30.3 mm/sec
- Typical speed at full load: 4.0 mm/sec (4000N load)
- Stroke: 50 ~ 400 mm
- Noise level:  $\leq 50$ dB
- IP Protection level: IP42
- Color: Black
- Preset limit switches
- Duty cycle: 10%, max. 2 min. continuous operation in 18 min.
- Ambient operation temperature:  $-20^{\circ}\text{C} \sim +65^{\circ}\text{C}$
- Certified: CE Marking, EMC Directive 2014/30/EU

### Option

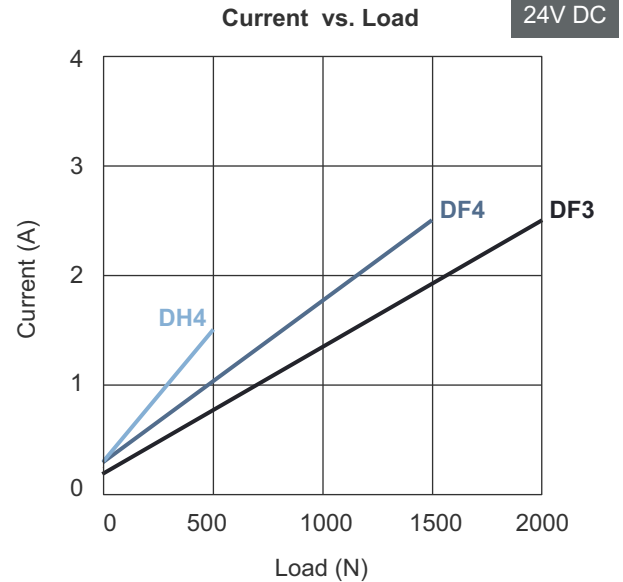
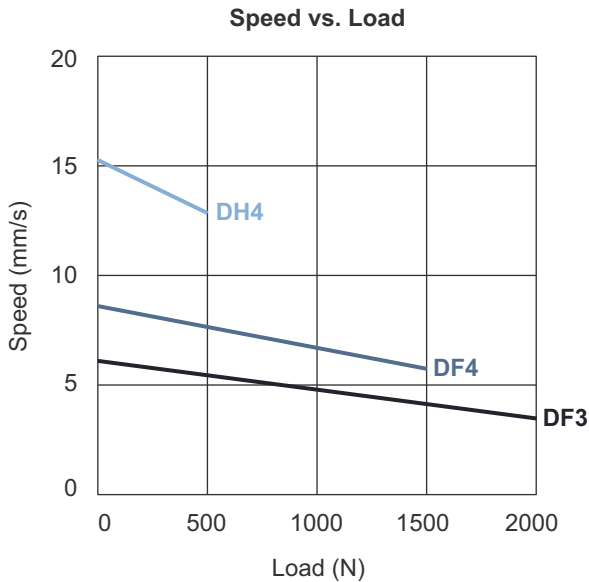
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- Enhanced motor
- Positioning signal feedback with Hall effect sensor x 2
- Mechanical push only extension tube
- PTC thermistor for thermal protection

## Performance Data

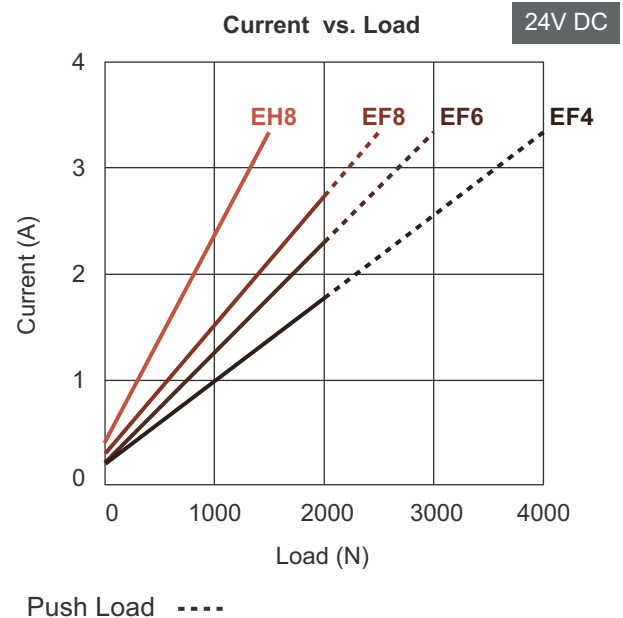
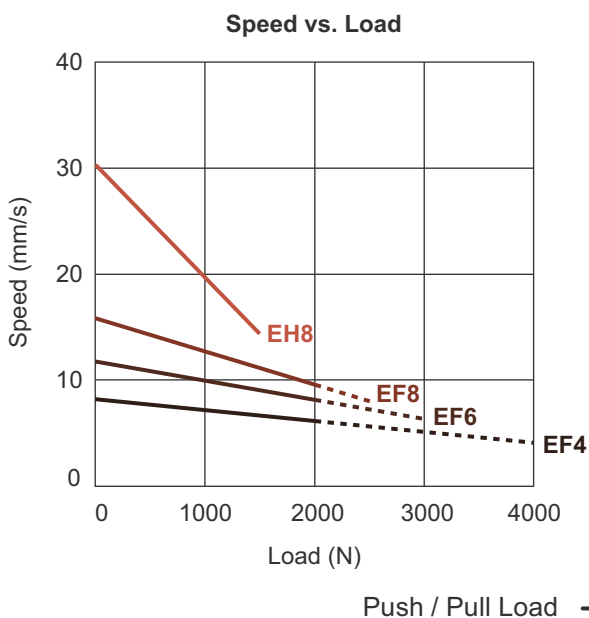
### With default motor

Model No.	Push Max. (N)	Pull Max. (N)	*Typical speed (mm/s)		*Typical current (A)	
			No load	Full load	No load	Full load
OM40-XXDF3-XXX.XXX-XXXXX0X	2000	2000	6.1	3.5	0.2	2.5
OM40-XXDF4-XXX.XXX-XXXXX0X	1500	1500	7.7	5.8	0.3	2.5
OM40-XXDH4-XXX.XXX-XXXXX0X	500	500	15.2	12.9	0.3	1.5



### With enhanced motor

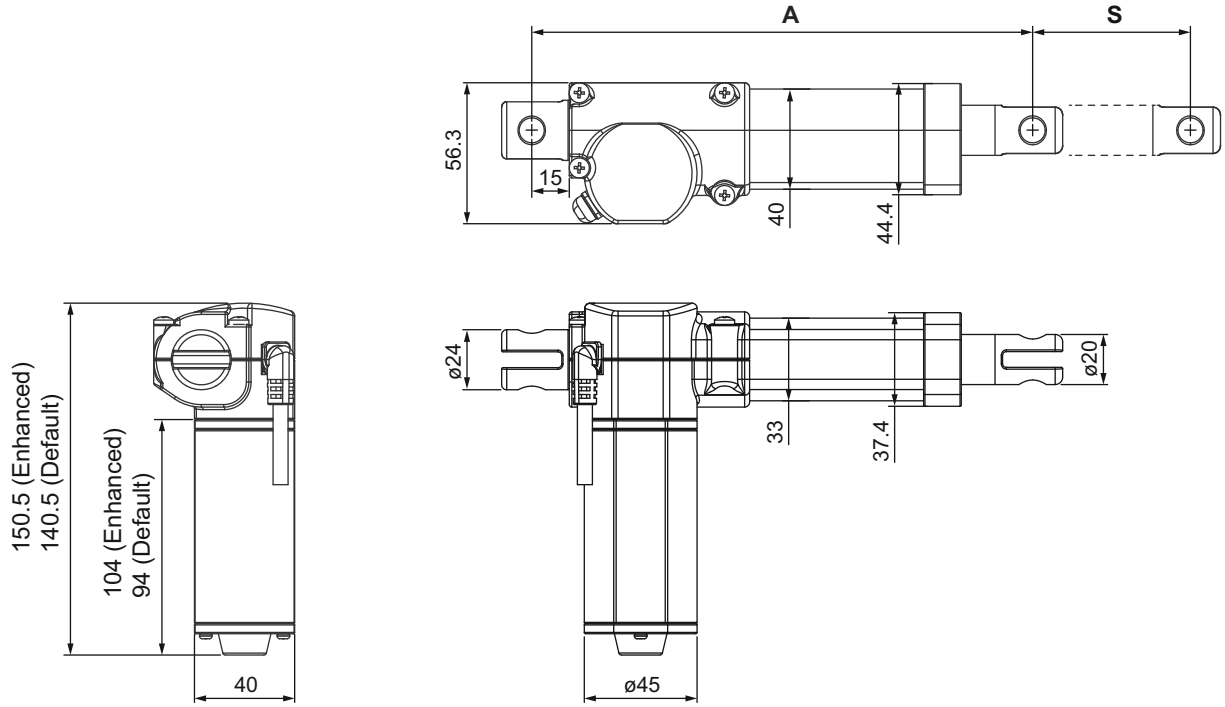
Model No.	Push Max. (N)	Pull Max. (N)	*Typical speed (mm/s)		*Typical current (A)	
			No load	Full load	No load	Full load
OM40-XXEF4-XXX.XXX-XXXXX0X	4000	2000	8.4	4.0	0.2	3.3
OM40-XXEF6-XXX.XXX-XXXXX0X	3000	2000	11.9	6.3	0.2	3.3
OM40-XXEF8-XXX.XXX-XXXXX0X	2500	2000	15.9	8.1	0.3	3.3
OM40-XXEH8-XXX.XXX-XXXXX0X	1500	1500	30.3	14.3	0.4	3.3



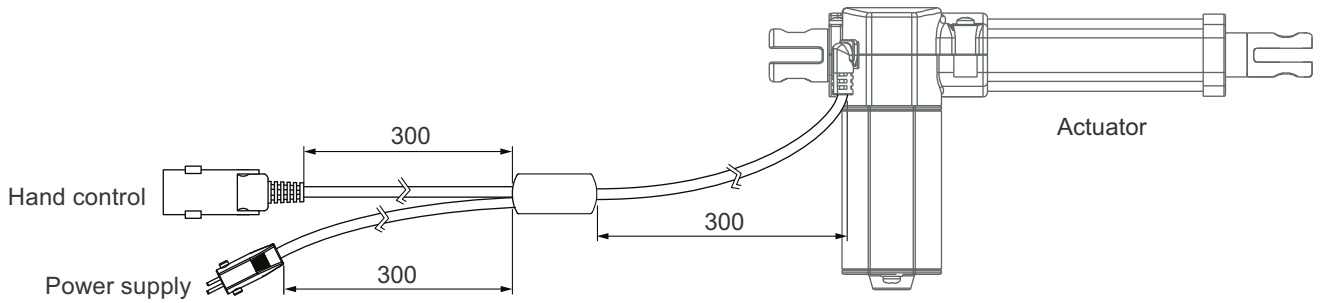
### Remarks:

- \* The typical speed or typical current means the average value neither upper limit nor lower limit. The performance curves are made with typical values.

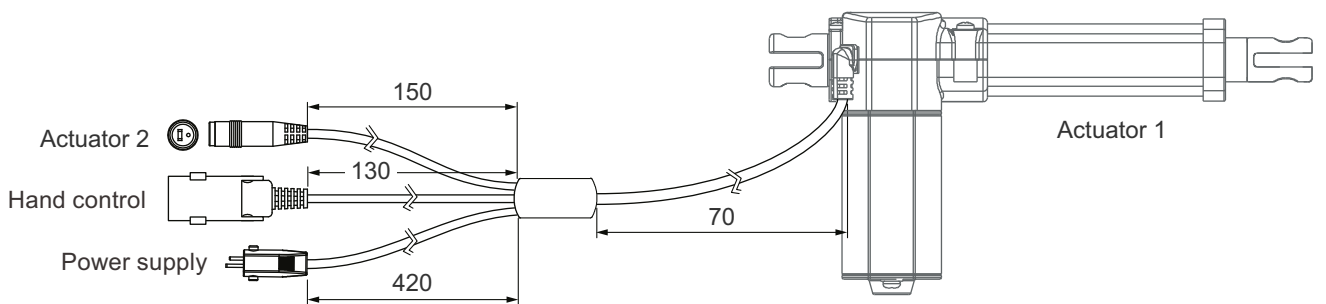
# Dimensions



## Dedicated cable DL1



## Dedicated cable TL1



## Installation Dimension

### • Retracted length (A)

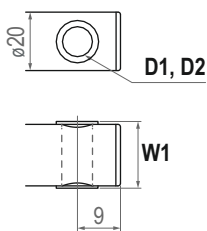
Front connector code	Stroke (S)			
	≦ 200mm	201~250mm	251~300mm	301~400mm
2	$A \geq S + 110\text{mm} (\pm 3\text{mm})$	$A \geq S + 120\text{mm} (\pm 3\text{mm})$	$A \geq S + 130\text{mm} (\pm 3\text{mm})$	$A \geq S + 140\text{mm} (\pm 3\text{mm})$
3, 6	$A \geq S + 123\text{mm} (\pm 3\text{mm})$	$A \geq S + 133\text{mm} (\pm 3\text{mm})$	$A \geq S + 143\text{mm} (\pm 3\text{mm})$	$A \geq S + 153\text{mm} (\pm 3\text{mm})$

Available stroke (S) range = 50 ~ 400mm

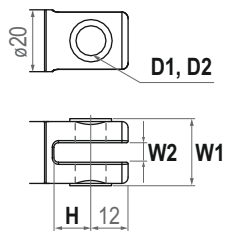
Extended length (B) = S + A

### • Front connector

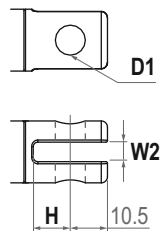
**2: Drilled hole**  
(only for models with  
max. load  $\leq 2000\text{N}$ )



**3: Metal slot**

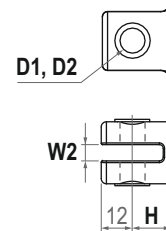


**6: Plastic slot**  
(only for models with  
max. load  $\leq 2000\text{N}$ )

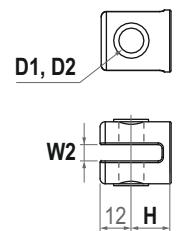


### • Rear connector

**2: Metal**

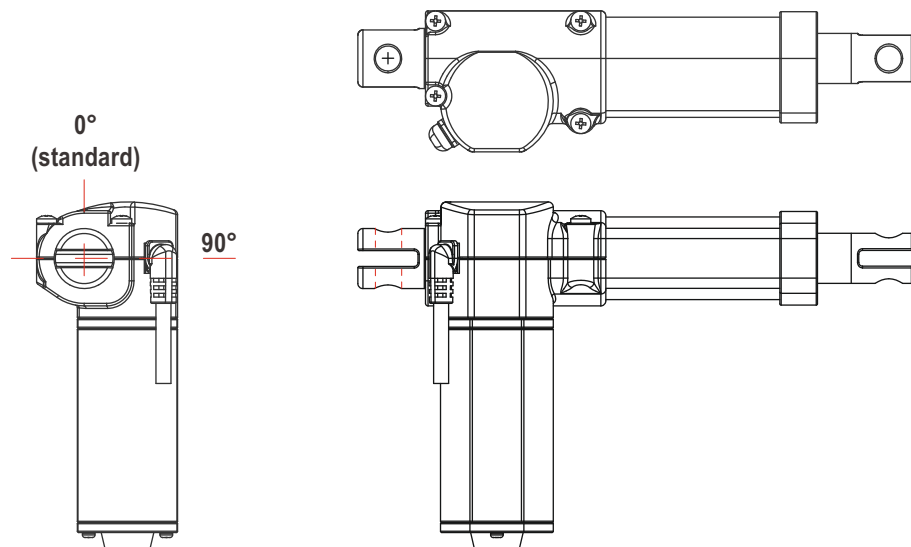


**4: Plastic**  
(only for models with  
max. load  $\leq 2000\text{N}$ )



Front connector code	Diameter of pivot without bushing (D1)	Diameter of pivot with bushing (D2)	Width with bushing (W1)	Slot width (W2)	Slot depth (H)
2	Ø8, Ø10	Ø8	22	N/A	N/A
3	Ø8, Ø10	Ø8	22	6	13.5
6	Ø8, Ø10	N/A	N/A	6	15
Rear connector code	Diameter of pivot without bushing (D1)	Diameter of pivot with bushing (D2)	Width with bushing (W1)	Slot width (W2)	Slot depth (H)
2	Ø8, Ø10	Ø8	22	6	13.5
4	Ø8, Ø10	N/A	N/A	6	13.5

### • Pivot orientation of rear connectors



**Note:** As an example in 0° orientation for rear connector.

## Compatibility

Product	Model	OM40 spec
<b>Control box</b>	T Control, CS1, CS2, CB3T, CB4M, CBT2	- Without positioning sensor feedback - 4-pin Modico F-type DIN plug
	CB3T-SY, CB4M-S, CB4M-B	- With dual Hall effect sensors - 6-pin Modico F-type DIN plug
<b>Hand control</b>	Depend on control box	- Powered by control box
	H3B, HS01, HZ01	- With Modico dedicated cable TL1*
	HB, H2G, HZ02, HZ03, HZ04, HZ05, HZ06	- With Modico dedicated cable DL1*
<b>Accessory</b>	Switching mode power supply: TSW1, TSW4, TSW5	- With Modico dedicated cable DL1 or TL1
	T Connector (Extension cable of actuator and handset, to connect to power supply or transformer box)	- 4-pin Modico F-type DIN plug

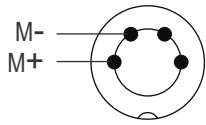
**\*Remarks:**

Dedicated cable DL1 or TL1 to connect to power supply and control directly, without control box.

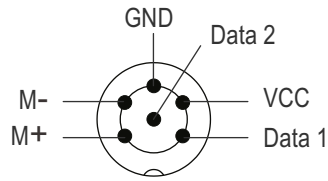
## Cable Plug

### With F-type DIN plug (required to be connected to the control box):

- Without positioning sensor feedback
- With dual Hall effect sensors



4-pin DIN plug



6-pin DIN plug



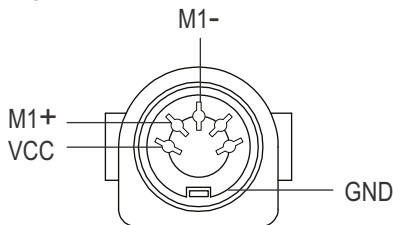
F-type

**Note:** Connect Pin (M+) to "+" & Pin (M-) to "-" of DC power, the actuator will extend.

### With special cable DL1 or TL1 (NOT required to be connected to any control box):

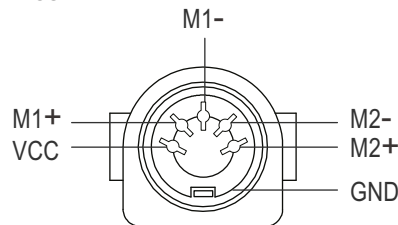
- Hand control connector: with Modico U-type female connector

1 drive



5-pin connector  
(Modico pinout: C-DIN-51R)

2 drives



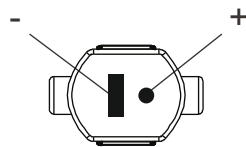
5-pin connector  
(Modico pinout: C-DIN-52R)



U-type

**Note:** Connect pin (M1+) to "+" & pin (M1-) to "-" of DC power, the M1 actuator will extend. Definition of M2 actuator is the same.

- Power plug: with Modico S-type DIN 41529 male plug

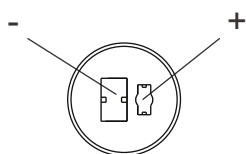


DIN 41529 plug (S-type for DL1 only)

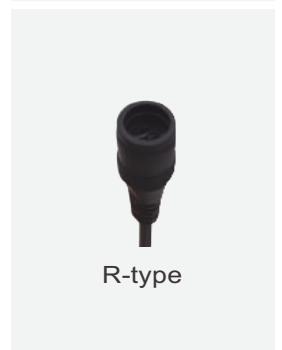


S-type

- Connector for 2nd actuator: with Modico R-type DIN 41529 female (for TL1 only)



DIN 41529 connector



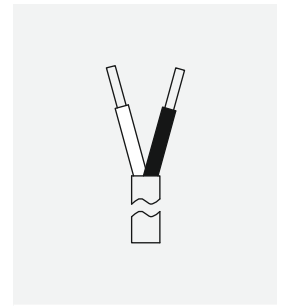
R-type

## Wiring

### Wire definitions:

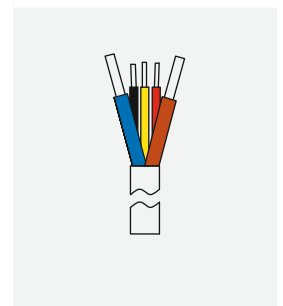
- Without positioning sensor feedback

Power	
White	Black
M+	M-



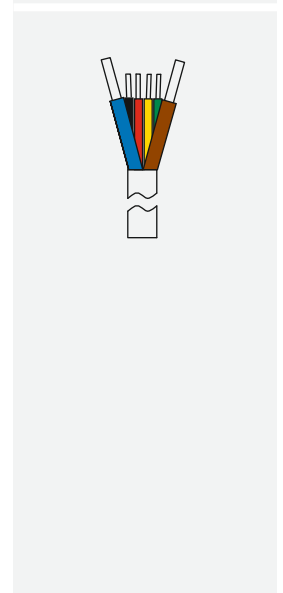
- With Hall effect sensor x 1

Power		Signal		
Blue	Brown	Black	Yellow	Red
M+	M-	GND	VCC	Data



- With Hall effect sensor x 2

Power		Signal			
Blue	Brown	Black	Yellow	Red	Green
M+	M-	GND	VCC	Data 1	Data 2



Gear ratio	Resolution (pulses/mm)
5:1	2.3
10:1	3.6
20:1	6.9
30:1	10.6
40:1	14.3

**Note:** Connect M+ to “+” & M- to “-“ of DC power, the actuator will extend.

## Certifications

The OM40 actuator is compliant with the following regulations, in terms of the essential conformity requirements of EMC Directive of 2014/30/EU.

Emission	Immunity
EN 55014-1:2006+A1:2009+A2:2011	EN 55014-2:1997+A2:200+A2+:2008 Catagory I

## Ordering Key

**OM40 - 24 E F8 - 190 . 240 - 3 2 0 H 1 0 A**

<b>Motor</b>	D: Default motor E: Enhanced motor
<b>Motor and spindle type</b>	F3      F4 F6      F8 H4      H8 (Refer to Performance Data)
<b>Retracted length</b>	XXX (Refer to Dimensions)
<b>Extended length</b>	XXX (Refer to Dimensions)
<b>Front connector</b>	2: Drilled hole (only for models with max. load $\leq 2000\text{N}$ ) 3: Metal slot 6: Plastic slot (only for models with max. load $\leq 2000\text{N}$ ) (Refer to page 4)
<b>Rear connector</b>	2: Metal 4: Plastic (only for models with max. load $\leq 2000\text{N}$ ) (Refer to page 4)
<b>Pivot orientation of rear connector</b>	0: 0° (standard) 9: 90° (Refer to page 4)
<b>Positioning feedback</b>	0: None H: Hall effect sensor x 2
<b>Option</b>	0: None 1: Push only extension tube 2: PTC thermal protection 3: Push only + PTC thermal protection
<b>Reserved</b>	0: No meaning
<b>Cable</b>	0: 300 mm straight 1: 1000 mm straight 2: 450 mm with 300 mm coiled A: Dedicated cable DL1, without control box (Refer to page 3) B: Dedicated cable TL1, without control box (Refer to page 3)