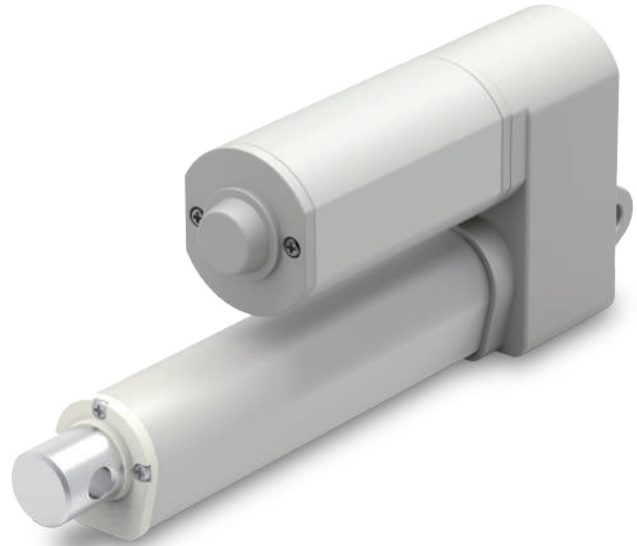


# Actuator

## MK32

MK32 is a small actuator with push/pull force up to 3500N. It features compact outline and low noise level that is mainly suitable for medical and furniture applications such as recliners, beds, etc., as well as various industrial applications with limited installation space.



### Features and Options

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**Main applications:** Medical, furniture, industry

**Standard features:**

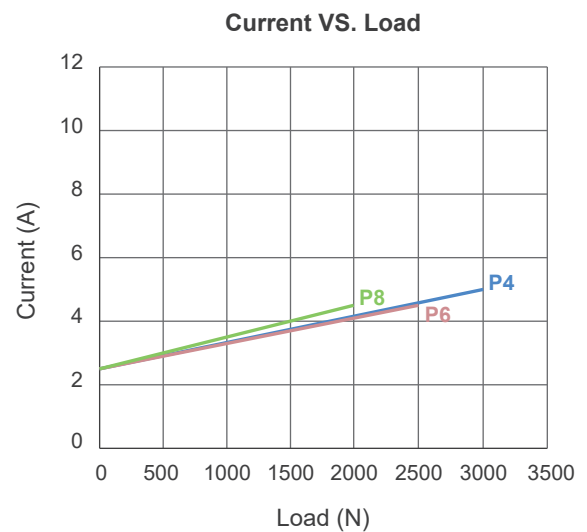
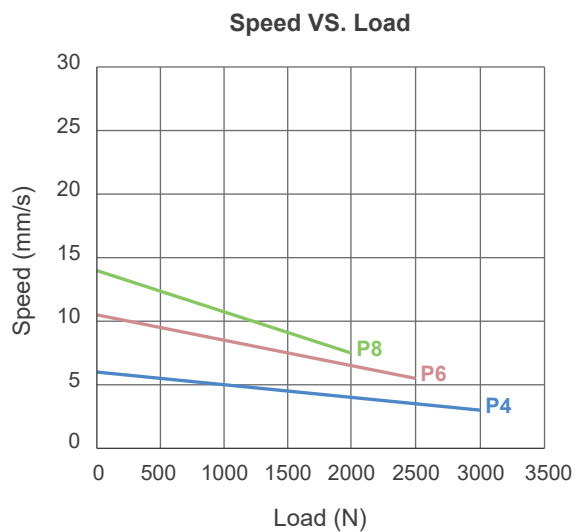
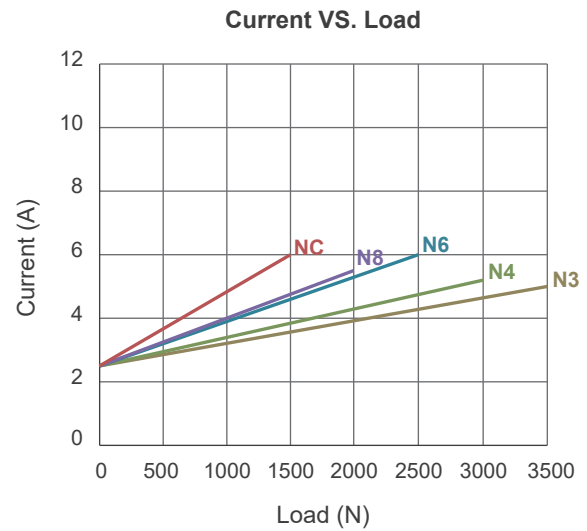
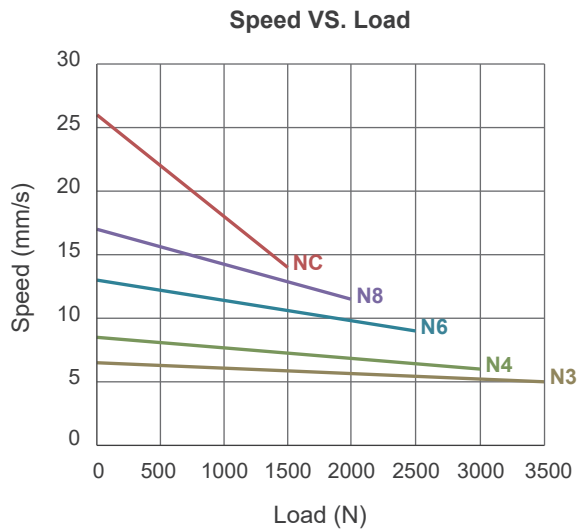
- Input voltage: 24V DC
- Max. load: 3500N (Push/Pull)
- Max. speed at no load: 26.0mm/sec (Typical value)
- Speed at full load: 5.0mm/sec (Typical value @3500N loaded)
- Stroke: 50 ~ 600mm
- Noise level:  $\leq 52$ dB
- IP level: IPX4, IP66 (Static; non-action)
- Aluminum alloy outer tube and gear box
- Color: Aluminum grey
- Preset limit switches
- Duty cycle: 10%, max. 2 min. continuous operation in 20 min.
- Operating ambient temperature:  $-20^{\circ}\text{C} \sim +65^{\circ}\text{C}$
- Certified: CE Marking, Electromagnetic Compatibility Directive 2014/30/EU (MK32-24NX motors only)

**Options:**

- Positioning signal feedback with dual Hall effect sensors
- Safety nut (in push direction)
- Mechanical push only extension tube

## Performance Data

Model No.	Push / Pull Max. (N)	Typical Speed (mm/s) *		Typical Current @ 24V DC *	
		No Load	Full Load	No Load	Full Load
MK32-24N3-XXX.XXX-XXXXXXXX	3500	6.5	5.0	2.5	5.0
MK32-24N4-XXX.XXX-XXXXXXXX	3000	8.5	6.0	2.5	5.2
MK32-24N6-XXX.XXX-XXXXXXXX	2500	13.0	9.0	2.5	6.0
MK32-24N8-XXX.XXX-XXXXXXXX	2000	17.0	11.5	2.5	5.5
MK32-24NC-XXX.XXX-XXXXXXXX	1500	26.0	14.0	2.5	6.0
MK32-24P4-XXX.XXX-XXXXXXXX	3000	6.0	3.0	2.5	5.0
MK32-24P6-XXX.XXX-XXXXXXXX	2500	10.5	5.5	2.5	4.5
MK32-24P8-XXX.XXX-XXXXXXXX	2000	14.0	7.5	2.5	4.5



**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.

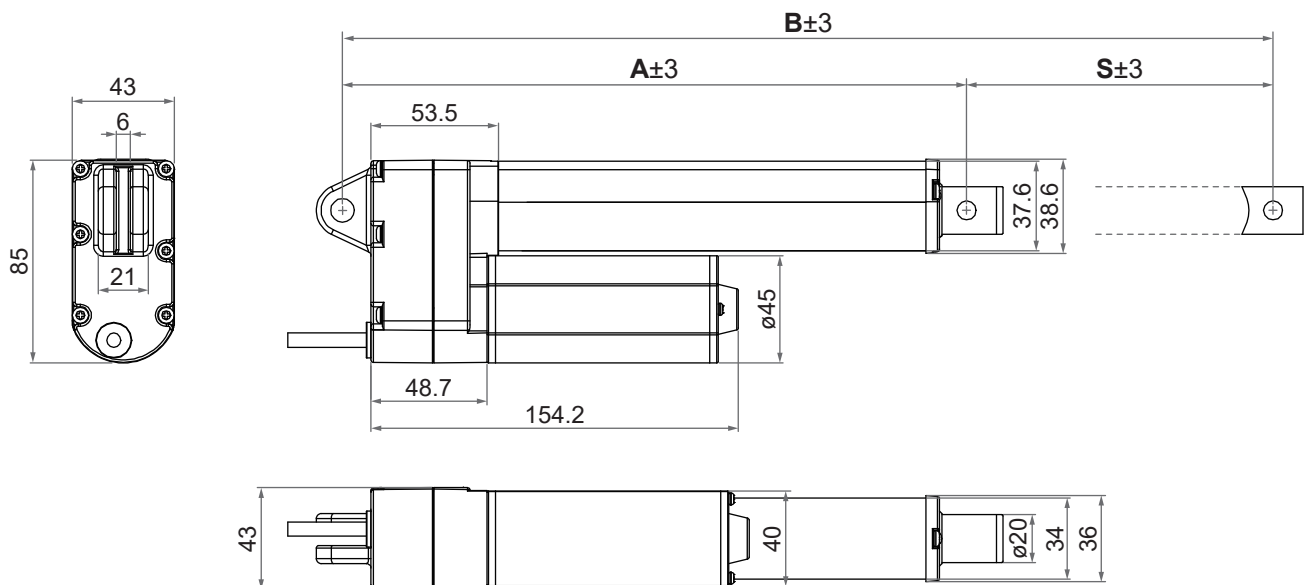
## Dimensions

- Available stroke (S) range = 50 ~ 600mm (±3mm)
- Retracted length (A)  $\geq S + 112\text{mm} + E + F + R + D$  (±3mm)

Stroke	E
$50 \leq S \leq 150\text{mm}$	0mm
$151 \leq S \leq 300\text{mm}$	10mm
$301 \leq S \leq 400\text{mm}$	20mm
$401 \leq S \leq 500\text{mm}$	30mm
$501 \leq S \leq 600\text{mm}$	40mm
Front connector code	F
1, 2	0mm
3	13mm
4	7mm
8	1mm
Rear connector code	R
0, 1	0mm
8	3mm
Safety option	D
0, P	0mm
S, A	10mm

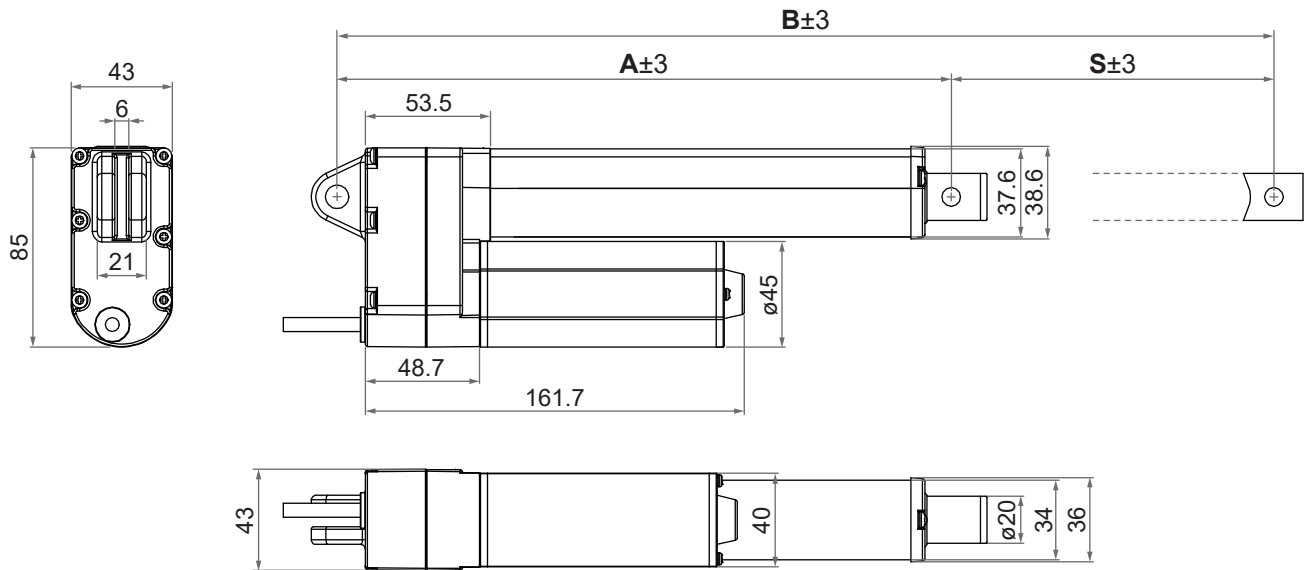
- $S \geq 601\text{mm}$ , please consult MOTECK sales representative for feasibility and the available.
- Extended length (B) = Retracted length (A) + Stroke (S) (±3mm)

- Drawing
  - Basic (Without positioning feedback)



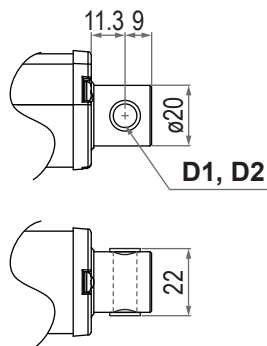
Unit: mm

- With dual Hall effect sensors for positioning

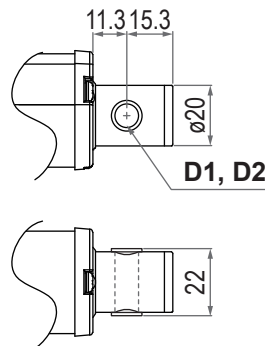


• Front connector

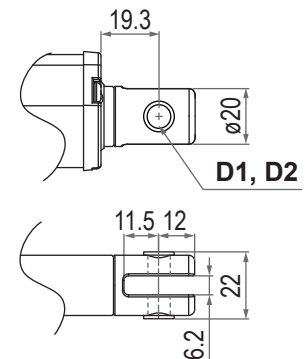
1: Metal solid



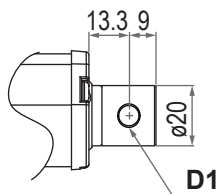
2: Drilled hole  
(IP66 cannot be selected)



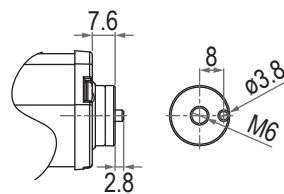
3: Metal slot



4: Plastic solid, black



8: M6 screw



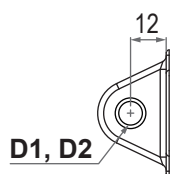
Front connector code	Diameter of pivot without bushing (D1)	Diameter of pivot with bushing (D2)
1	ø8, ø10	ø8
2	ø8, ø10	ø8
3	ø8, ø10	ø8
4	ø8, ø10	N/A
8	N/A	N/A

Unit: mm

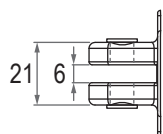
• **Rear connector**

0: Metal slot

0°

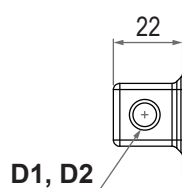


90°

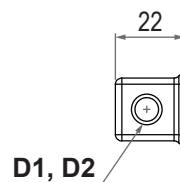
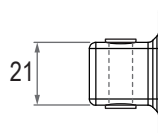
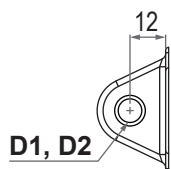
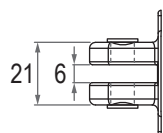
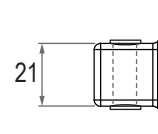


1: Metal solid

0°

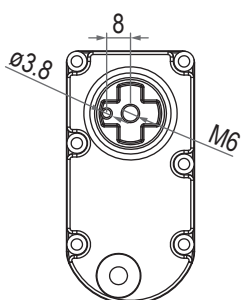
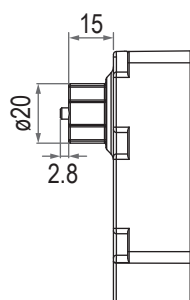


90°



8: M6 screw

0°



Rear connector code	Diameter of pivot without bushing (D1)	Diameter of pivot with bushing (D2)
0	ø8, ø10	ø8
1	ø8, ø10	ø8
8	N/A	N/A

Unit: mm

## Compatibility

Product	Model	Application condition	MK32 spec
<b>Control box</b>	CM45, MD6C, MD6C-M	• Max. 5A current per channel	• Without positioning feedback • With Motek H-type or V-type DIN plug
	CM23, MD6C-M	• Max. 5A current per channel	• With dual Hall effect sensors for positioning • With Motek H-type or V-type DIN plug
	CB5P-M, CM41-M	• Max. 5A current per channel	• With Motek LR-type minifit plug
<b>Controller</b>	CI72		• Standard
<b>Accessory</b>	MB22 mounting bracket (Fig. 1)	• Connect the front or rear connectors of the actuator	• Standard, mounting hole $\varnothing 8\text{mm}$ or $\varnothing 10\text{mm}$



Fig. 1

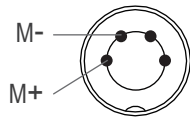
### Remarks:

If the current limit of the selected control box is lower than the typical current of the actuator model under full load, the actuator could not be operated in full performance.

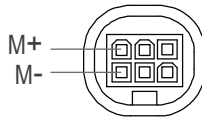
## Cable Plug

### Motek H-type, V-type, LR-type or L3-type DIN plug

- Without positioning feedback

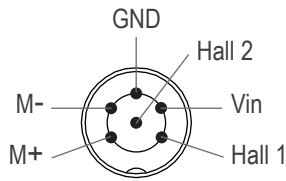


H-type or V-type  
4-pin DIN plug

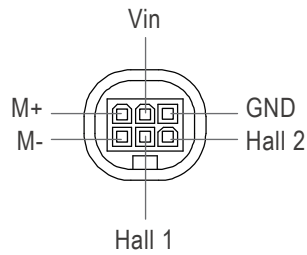


LR-type  
6-pin minifit plug

- With dual Hall effect sensors for positioning



H-type or V-type  
4-pin DIN plug



LR-type  
6-pin minifit plug

**Note:**

Connect M+ to "Vdc +" & M- to "Vdc -" of DC power to extend the actuator.  
Switch the polarity of DC input to retract it.



H-type plug

V-type plug

LR-type plug

## Cable with Flying Leads

- Without positioning feedback

	Wire color	Definition	Descriptions
Power wires	Blue	DC power	Connect blue wire to "Vdc +" & brown wire to "Vdc -" of DC power to extend the actuator. Switch the polarity of DC input to retract it.
	Brown		

- With dual Hall effect sensors for positioning

	Wire color	Definition	Descriptions																		
Power wires	Blue	DC power	Connect blue wire to "Vdc +" & brown wire to "Vdc -" of DC power to extend the actuator. Switch the polarity of DC input to retract it.																		
	Brown																				
Signal wires	Yellow	Vin	Voltage input range: 5 ~ 20V																		
	Red	Hall 1 output	High= Input - 1.2V ( $\pm 0.6V$ ) Low= GND Hall signal data: <div style="display: flex; justify-content: space-around; align-items: flex-start;"> <div style="text-align: center;"> <p>Actuator extends</p> </div> <div style="text-align: center;"> <p>Actuator retracts</p> </div> </div>																		
	Green	Hall 2 output	Hall effect sensor resolution: <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Model No.</th> <th>Resolution (Pulses/mm)</th> </tr> </thead> <tbody> <tr> <td>MK32-24N3-XXX.XXX-XXXHXXX</td> <td>10.125</td> </tr> <tr> <td>MK32-24N4-XXX.XXX-XXXHXXX</td> <td>7.594</td> </tr> <tr> <td>MK32-24N6-XXX.XXX-XXXHXXX</td> <td>5.063</td> </tr> <tr> <td>MK32-24N8-XXX.XXX-XXXHXXX</td> <td>3.797</td> </tr> <tr> <td>MK32-24NC-XXX.XXX-XXXHXXX</td> <td>2.531</td> </tr> <tr> <td>MK32-24P4-XXX.XXX-XXXHXXX</td> <td>7.594</td> </tr> <tr> <td>MK32-24P6-XXX.XXX-XXXHXXX</td> <td>5.063</td> </tr> <tr> <td>MK32-24P8-XXX.XXX-XXXHXXX</td> <td>3.797</td> </tr> </tbody> </table>	Model No.	Resolution (Pulses/mm)	MK32-24N3-XXX.XXX-XXXHXXX	10.125	MK32-24N4-XXX.XXX-XXXHXXX	7.594	MK32-24N6-XXX.XXX-XXXHXXX	5.063	MK32-24N8-XXX.XXX-XXXHXXX	3.797	MK32-24NC-XXX.XXX-XXXHXXX	2.531	MK32-24P4-XXX.XXX-XXXHXXX	7.594	MK32-24P6-XXX.XXX-XXXHXXX	5.063	MK32-24P8-XXX.XXX-XXXHXXX	3.797
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MK32-24P6-XXX.XXX-XXXHXXX	5.063																				
MK32-24P8-XXX.XXX-XXXHXXX	3.797																				
Black	GND																				

## Certifications

MK32 actuator is compliant with the following regulations, in terms of the essential conformity requirements of EMC Directive of 2014/30/EU.

Emission
EN 61000-6-3:2007+A1:2011+AC:2012
EN IEC 61000-6-1:2019



## Ordering Key

	<b>MK32-</b> <b>24</b> <b>N4</b> <b>-212</b> <b>.312</b> <b>-2</b> <b>0</b> <b>0</b> <b>H</b> <b>0</b> <b>4</b> <b>0</b>
<b>Input voltage</b>	<b>24:</b> 24V DC
<b>Motor and Spindle type</b>	<b>N3:</b> 4500rpm / 3mm pitch <b>N4:</b> 4500rpm / 4mm pitch <b>N6:</b> 4500rpm / 6mm pitch <b>N8:</b> 4500rpm / 8mm pitch <b>NC:</b> 4500rpm / 12mm pitch <b>P4:</b> 3800rpm / 4mm pitch <b>P6:</b> 3800rpm / 6mm pitch <b>P8:</b> 3800rpm / 8mm pitch
<b>Retracted length</b> <i>(Refer to Page 3)</i>	<b>XXX</b>
<b>Extended length</b> <i>(Refer to Page 3)</i>	<b>XXX</b>
<b>Front connector</b> <i>(Refer to Page 4)</i>	<b>1:</b> Metal solid <b>2:</b> Drilled hole <b>3:</b> Metal slot <b>4:</b> Plastic solid, black <b>8:</b> M6 screw
<b>Rear connector</b> <i>(Refer to Page 5)</i>	<b>1:</b> Metal solid <b>0:</b> Metal slot <b>8:</b> M6 screw
<b>Pivot orientation of rear connector</b> <i>(Refer to Page 5)</i>	<b>0:</b> 0° <b>9:</b> 90°
<b>Positioning feedback</b>	<b>0:</b> None <b>H:</b> Dual Hall effect sensors
<b>Option</b>	<b>0:</b> None <b>S:</b> Safety nut <b>P:</b> Push only <b>A:</b> Safety nut + Push only
<b>IP level</b>	<b>0:</b> No designation <b>4:</b> IPX4 <b>6:</b> IP66
<b>Cable length</b>	<b>0:</b> 300mm straight <b>3:</b> 1000mm straight <b>A:</b> 450mm with 300mm coiled

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