

MS SERIES

Lead Screw Linear Slides



Linear Slides

The MS Series Linear Slides are designed to fit the needs of customers who require a compact structure. They offer many advantages such as ease of integration, small size, quiet operation, stable product quality, and low cost, providing high performance in an easy to integrate linear slide.

- Three motor frame size options: NEMA 11, 14, 17
- Each size of Linear Slides has a variety of lead options.
- Each size of Linear Slides has encoder and brake options.



Application Information

Operating Frequency

The transmission type of the linear slides is sliding friction, so using in low operating frequency application is recommended. (Reference standard: 10 s/cycle, 8 h/day)

Instructions for Vertical Installation

When the slides are installed vertically, the slider may slip freely and cause injury to equipment or personnel with power failure. Therefore, self-locking force should be fully considered when the slides are used vertically. If the self-locking force cannot overcome the free slip of the load, consideration should be given to adding brakes.

For the lead screws:

With a lead-to-diameter ratio of less than 1:3, the slides are generally fully self-locking.

With a lead-to-diameter ratio of greater than 1:3, the module has a certain self-locking force.

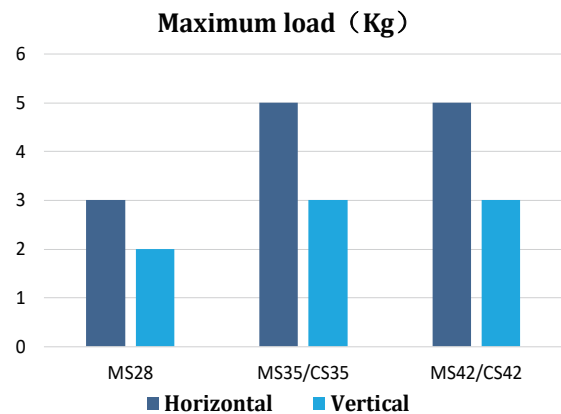
If you want to calculate the self-locking force, please contact the factory.

Applicability Statement

The structure of this series is simple, and the transmission type of the products is sliding friction. Compared with ball screw type, its precision performance and impact resistance are not good enough.

The maximum load is shown here:

Due to the sliding friction between the nut and the lead screw, dust and debris will be generated to a certain extent during the normal operation of the slides. If you need to use it in a dust-free environment, please contact the factory



Repeatability

The slides have 2 nut options: standard nut or anti-backlash nut.

Using the standard nut, the repeatability of the slides is ± 0.05 mm.

Using the anti-backlash nut, the repeatability of the slides is ± 0.02 mm.

For higher precision products, please contact the factory.

Lubrication

The effect of lubricating: restrain friction, reduce temperature rise, improve efficiency, reduce noise, increase operating life, etc.

Grease has been applied to the lead screw before deliver. If grease is not needed, please contact the factory in advance.

(The reference grease: the base oil is synthetic oil, and the consistency grade is No. 2 lithium-based grease)

Operating Environment

Recommend working condition:

temperature range 0~40℃ ,

Humidity 85% RH below (no condensation).

Acid-base free environment.

If you need to use in special environment, please contact the factory.

Application Information

Installation reference surface requirements

The installation reference surface must be ground or fine milling processing, in order to achieve the flatness of 0.05 mm/m and surface roughness within Ra1.6, otherwise it may appear that the operation is not smooth, noise, jitter and other conditions.

Smoothness Checking

The slides shall be checked for smoothness after installation. Use a screwdriver or a torsion meter to test the rotational torque through a slot before running on power. The torque values of the lead screw are close to each other within the range of travel is perfect. Grease has been applied to the lead screw before deliver. After running for a period of time, grease should be replenished regularly according to the specific situation.

Electricity debugging

Use a screwdriver or a torsion meter to test the rotational torque through a slot before running on power.

Please check the drive current carefully before running on power. Recommending drive current setting equal to or slightly less than rated current. Driving current is too high may burn out the motor, driving current is too low may make torque is insufficient or lead to step loss or blocking.

Please pay attention to the reasonable setting of acceleration and deceleration (less than 0.3g is recommended). Exceptional acceleration and deceleration may likely to cause blocking and step loss. It is prohibited to start device without setting acceleration and deceleration.

In the process of module installation, debugging and use, try to avoid the impact of the sliding seat on the end blocks at both ends. Otherwise, the end blocks may become loose, the lead screws bend, and the concentricity is inconsistent. Otherwise it may cause rough operation, abnormal sound, thrust reduced, accuracy reduced, vibration, etc.

Storage and Safekeeping

Please storage the slides horizontally and keep the environment dry. The grease on the lead screw surface may volatilize and condense if storage for a long time, so it is recommended that the storage time should not exceed three months.

MS/CS Series Standard Models for stock

Size (mm)	Product series code		Motor Series code		Screw the nut Configuration code		Effective stroke code		Standard code
29X38	MS28	-	3D10T	-	LAB1	-	30, 60, 90, 120	-	0
					LAB2				
					LAC1				
					LAC2				
					LAE1				
					LAE2				
					LAH1				
					LAH2				
36X45	MS35	-	3C20T	-	LAB1	-	50, 100, 150	-	0
					LAB2				
					LAC1				
					LAC2				
					LAE1				
					LAE2				
					LAH1				
					LAH2				
42X50	MS42	-	3A10T	-	LAR1	-	50, 100, 150, 200	-	0
					LAR2				
					LBH1				
					LBH2				
					LBX1				
					LBX2				
					LCG1				
					LCG2				

Order sample

① Select configuration codes								
Product series code		Motor Series code		Screw the nut Configuration code		Effective stroke code		Standard code
MS28	-	3D10T	-	LAB1	-	30, 60, 90, 120	-	0
② Determine the order Models								
MS28 – 3D10T – LAB1 – 60 – 0								
In addition to the standard number, we also provide a wealth of customized configuration options, for more information please contact the factory.								

MS28 Series

- Integrated design, easy installation
- Small size, width 29 mm
- Anti-Backlash technology, high repeatability



Ordering Information

MS28 - 3D1 0 T - L AE 1 - XX - 00

Actuator Series

Code	Mating Motor
MS28	NEMA11

Motor Options

Code	Motor Length MAX (mm)
3D1	32 (LE111S)

Additional Options Code

Code	Additional Options
0	No Additional
B	Brake
E	Encoder

The standard models have no additional options, any additional customization please contact the manufacturer

Outlet Direction Code

Code	Outlet Direction
T	Top
B	Bottom
L	Left
R	Right

The standard outlet direction is from top side, any outlet direction customization please contact the manufacturer

Screw Type Code

Code	Screw Type
L	Lead screws

Special Custom Type Code

Code	Custom Type
00	Standard Code
XX	Special Custom Code

For customization, please contact the manufacturer

Stroke Options (mm)

Options: 30, 60, 90, 120

For customization, please contact the manufacturer

Nut Type Code

Code	Nut Code	Mating Screw
1	Standard Nut	Lead screws
2	Anti-Backlash Nut	

The standard configuration is the standard nut, any anti-backlash customization, please contact the manufacturer

Lead Code

Code	Lead mm	Screw Type
AH	1	Lead screws
AE	3	
AB	6.35	
AC	12.7	

The above is the standard optional lead
If you need to customize please contact the manufacturer

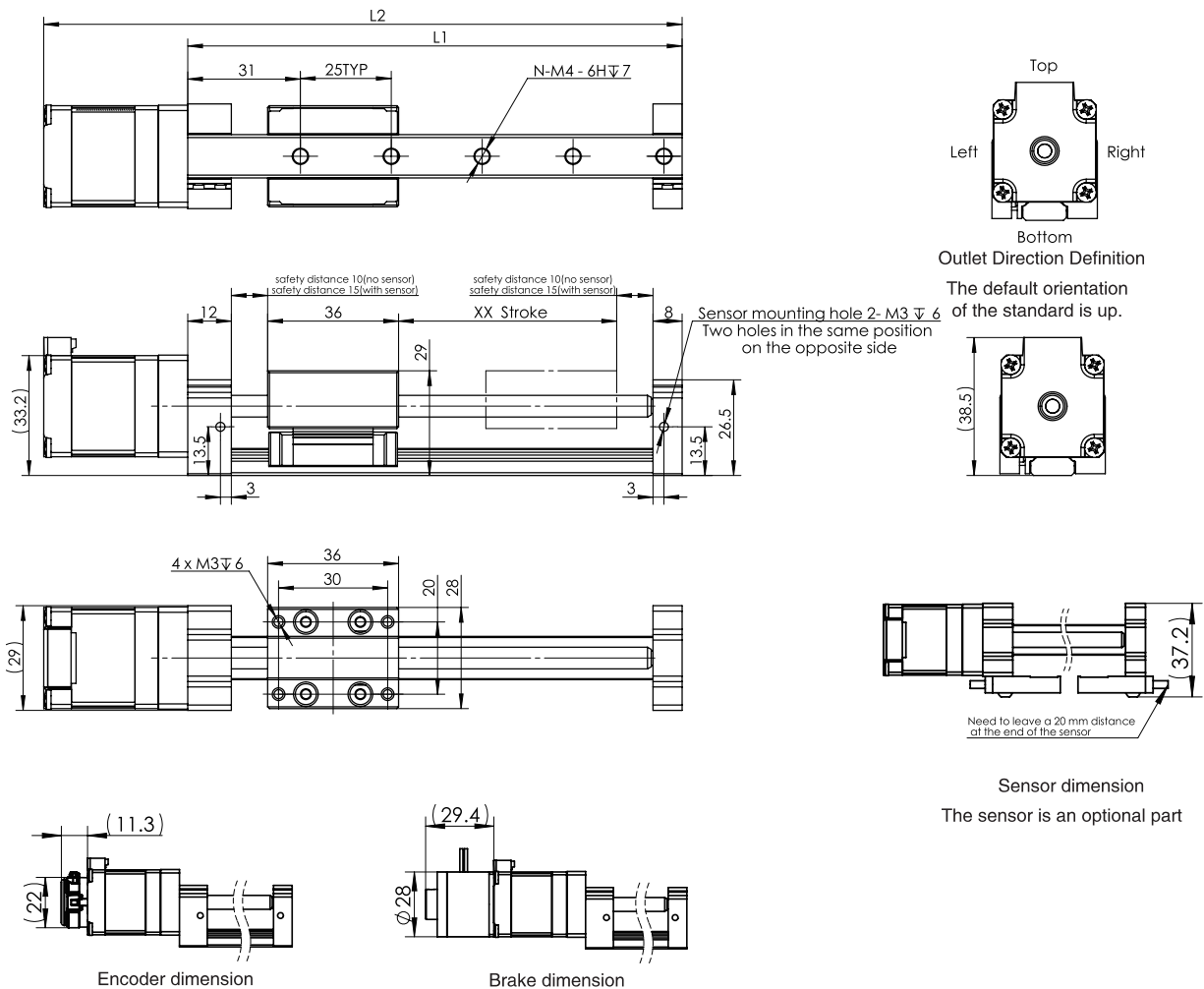
MS28 Series

Technical Parameters

Actuator Series	MAX Stroke (mm)	Guide Wide (mm)	Repeat Accuracy (mm)	Lead Code	Lead (mm)	MAX speed (mm/s)	MAX Load (Kg) Motor: LE172S	
							Horizontal	Vertical
MS28	120	12	Standard Nut ± 0.05	AH	1	10	3	2
			Anti-Backlash Nut ± 0.02	AE	3	30	3	2
				AB	6.35	63.5	1.8	1.2
				AC	12.7	127	1	0.6

Dimensional Information

UNIT: mm



Encoder/brake are additional options for manufactured motors

Standard Trip (mm)	30	60	90	120
N	3	5	6	7
L1 (mm)	106	136	166	196
L2 (mm)	145.6	175.6	205.6	235.6
Weight (Kg)	0.2	0.27	0.35	0.42

Note: The standard does not have a sensor by default. The effective stroke should be reduced by 5 mm when installing one sensor. A maximum of two sensors can be installed.

MS35 Series

- Integrated design, easy installation
- Small size, width 36 mm
- Anti-Backlash technology, high repeatability



Ordering Information

MS35 - 3C2 0 T - L AE 1 - XX - 00

Actuator Series

Code	Mating Motor
MS35	NEMA14

Motor Options

Code	Motor Length MAX (mm)
3C2	36 (LE143S)

Additional Options Code

Code	Additional Options
0	No Additional
B	Brake
E	Encoder

The standard models have no additional options, any additional customization please contact the manufacturer

Outlet Direction Code

Code	Outlet Direction
T	Top
B	Bottom
L	Left
R	Right

The standard outlet direction is from top side, any outlet direction customization please contact the manufacturer

Screw Type Code

Code	Screw Type
L	Lead screws

Special Custom Type Code

Code	Custom Type
00	Standard Code
XX	Special Custom Code

For customization, please contact the manufacturer

Stroke Options (mm)

Options: 50, 100, 150

For customization, please contact the manufacturer

Nut Type Code

Code	Nut Code	Mating Screw
1	Standard Nut	Lead screws
2	Anti-Backlash Nut	

The standard configuration is the standard nut, any anti-backlash customization, please contact the manufacturer

Lead Code

Code	Lead mm	Screw Type
AH	1	Lead screws
AE	3	
AB	6.35	
AC	12.7	

The above is the standard optional lead
If you need to customize please contact the manufacturer

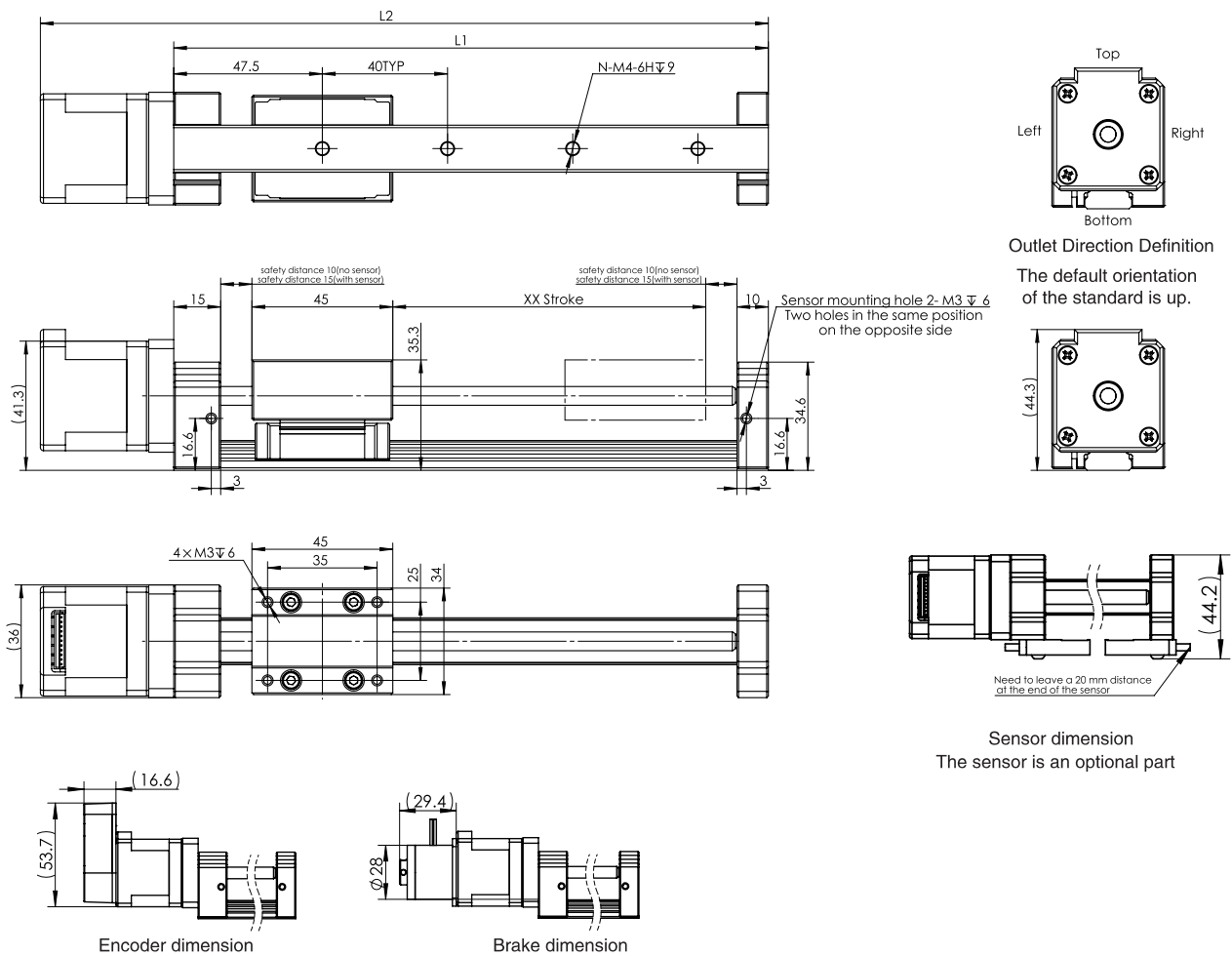
MS35 Series

Technical Parameters

Actuator Series	MAX Stroke (mm)	Guide Wide (mm)	Repeat Accuracy (mm)	Lead Code	Lead (mm)	MAX speed (mm/s)	MAX Load (Kg) Motor: LE172S	
							Horizontal	Vertical
MS35	150	15	Standard Nut ± 0.05	AH	1	10	5	3
			Anti-Backlash Nut ± 0.02	AE	3	30	5	3
				AB	6.35	63.5	4.5	3
				AC	12.7	127	2.4	1.6

Dimensional Information

UNIT: mm



Encoder/brake are additional options for manufactured motors

Standard Trip (mm)	50	100	150
N	3	4	5
L1 (mm)	140	190	240
L2 (mm)	182.6	232.6	282.6
Weight (Kg)	0.4	0.6	0.8

Note: The standard does not have a sensor by default. The effective stroke should be reduced by 5 mm when installing one sensor. A maximum of two sensors can be installed.

MS42 Series

- Integrated design, easy installation
- Small size, width 42 mm
- Anti-Backlash technology, high repeatability



Ordering Information

MS42 - 3A1 0 T - L AR 1 - XX - 00

Actuator Series

Code	Mating Motor
MS42	NEMA17

Motor Options

Code	Motor Length MAX (mm)
3A1	39.8 (LE172S)

Additional Options Code

Code	Additional Options
0	No Additional
B	Brake
E	Encoder

The standard models have no additional options, any additional customization please contact the manufacturer

Outlet Direction Code

Code	Outlet Direction
T	Top
B	Bottom
L	Left
R	Right

The standard outlet direction is from top side, any outlet direction customization please contact the manufacturer

Screw Type Code

Code	Screw Type
L	Lead screws

Special Custom Type Code

Code	Custom Type
00	Standard Code
XX	Special Custom Code

For customization, please contact the manufacturer

Stroke Options (mm)

Options: 50, 100, 150

For customization, please contact the manufacturer

Nut Type Code

Code	Nut Code	Mating Screw
1	Standard Nut	Lead screws
2	Anti-Backlash Nut	

The standard configuration is the standard nut, any anti-backlash customization, please contact the manufacturer

Lead Code

Code	Lead mm	Screw Type
CG	1.25	Lead screws
AR	4	
BH	8	
BX	10.5	

The above is the standard optional lead
If you need to customize please contact the manufacturer

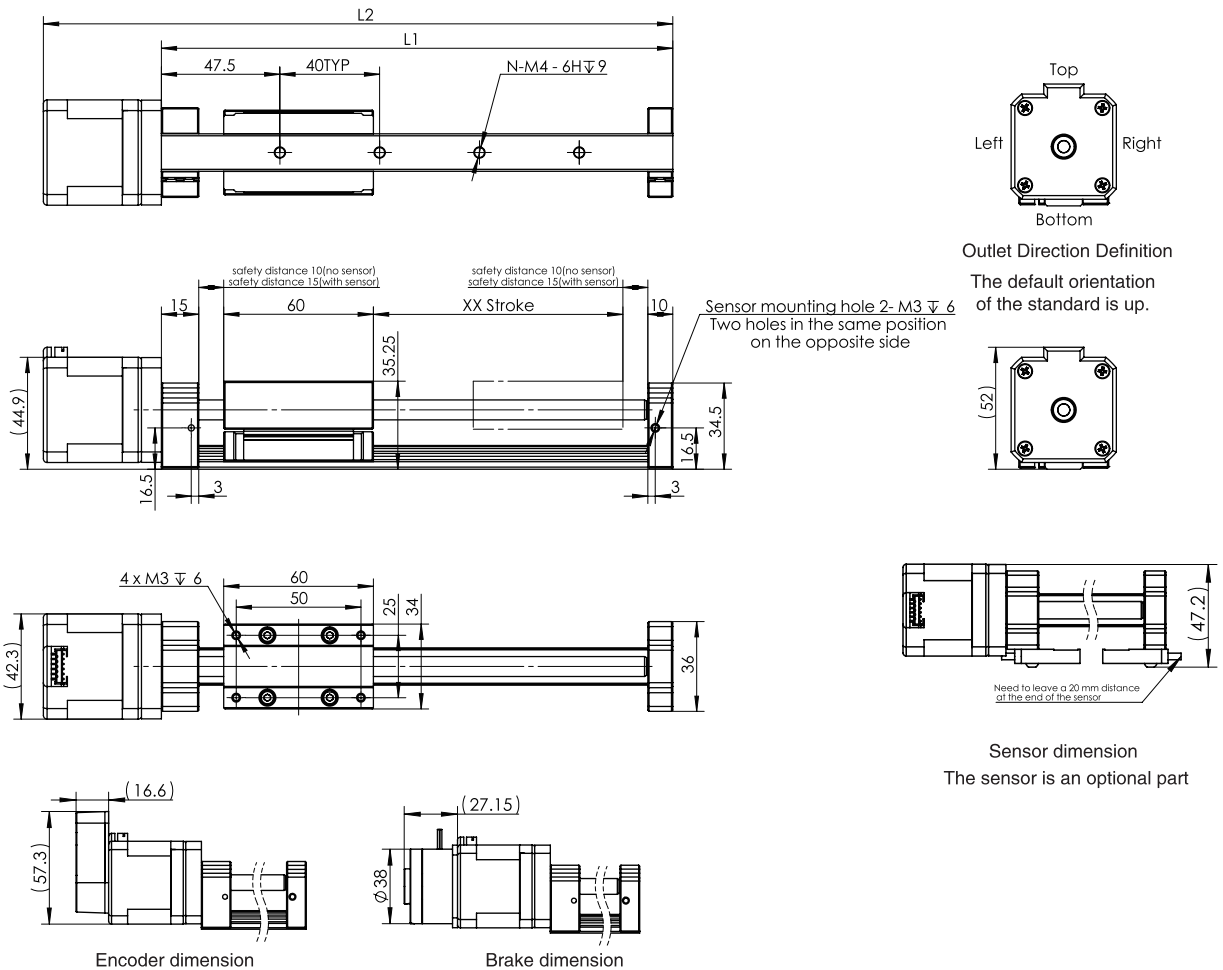
MS42 Series

Technical Parameters

Actuator Series	MAX Stroke (mm)	Guide Wide (mm)	Repeat Accuracy (mm)	Lead Code	Lead (mm)	MAX speed (mm/s)	MAX Load (Kg) Motor: LE172S	
							Horizontal	Vertical
MS42	200	15	Standard Nut ±0.05 Anti-Backlash Nut ±0.02	CG	1.25	12.5	5	3
				AR	4	40	5	3
				BH	8	80	5	3
				BX	10.5	105	5	3

Dimensional Information

UNIT: mm



Encoder/brake are additional options for manufactured motors

Standard Trip (mm)	50	100	150	200
N	3	4	6	7
L1 (mm)	155	205	255	305
L2 (mm)	202.3	252.3	302.3	352.3
Weight (Kg)	0.8	0.85	0.9	1

Note: The standard does not have a sensor by default. The effective stroke should be reduced by 5 mm when installing one sensor. A maximum of two sensors can be installed.

Sensor Options (Order Separately)

Installation Instructions

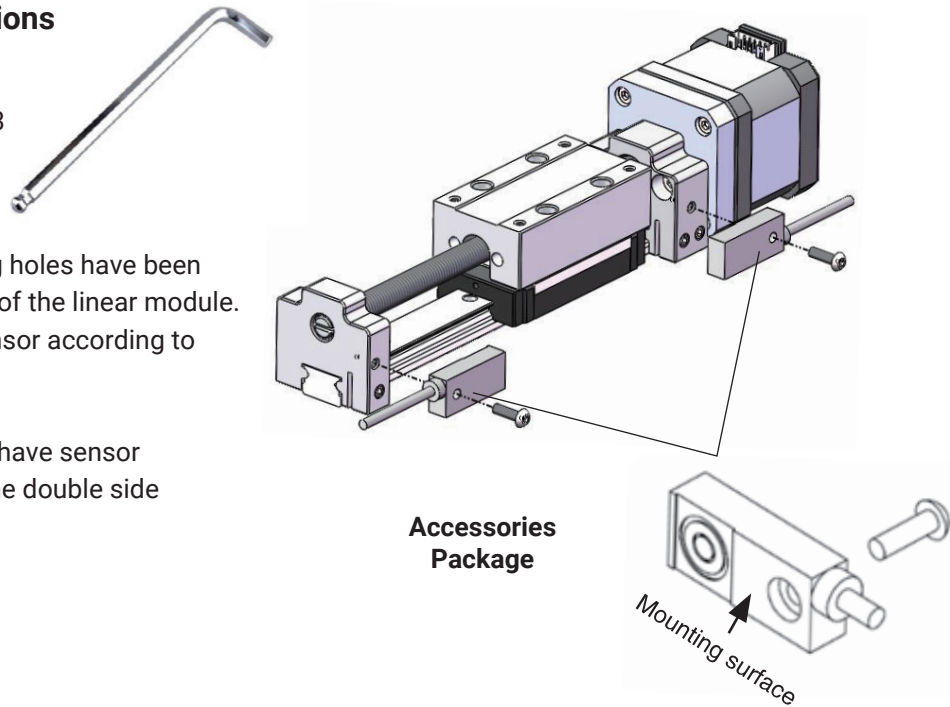
Installation Tools:

- Hex Key Wrench M3

Mounting:

The sensor mounting holes have been reserved on the side of the linear module. Please install the sensor according to the picture here.

Note: The MS series have sensor mounting holes on the double side



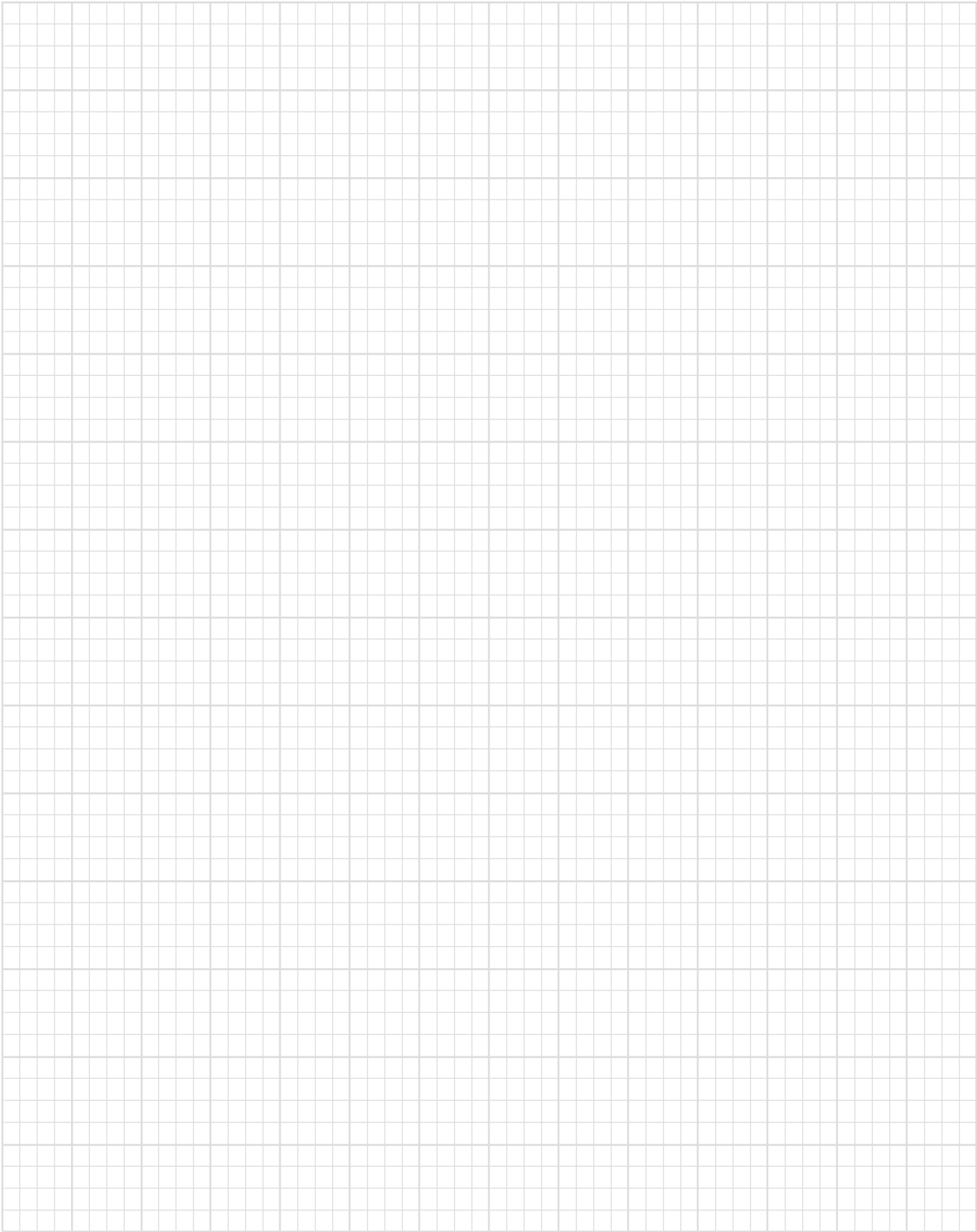
Ordering model



Accessories package

Ordering model	Accessories	Matching products
PJB-SE12F04NO	NPN type sensor x1, M3 screw x1, M3 nut x1	CS/MS series
PJB-SE12F04PO	PNP type sensor x1, M3 screw x1, M3 nut x1	CS/MS series

Note: Please order the accessories package separately for sensors, and sensor need installation by customer.

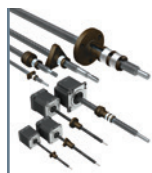
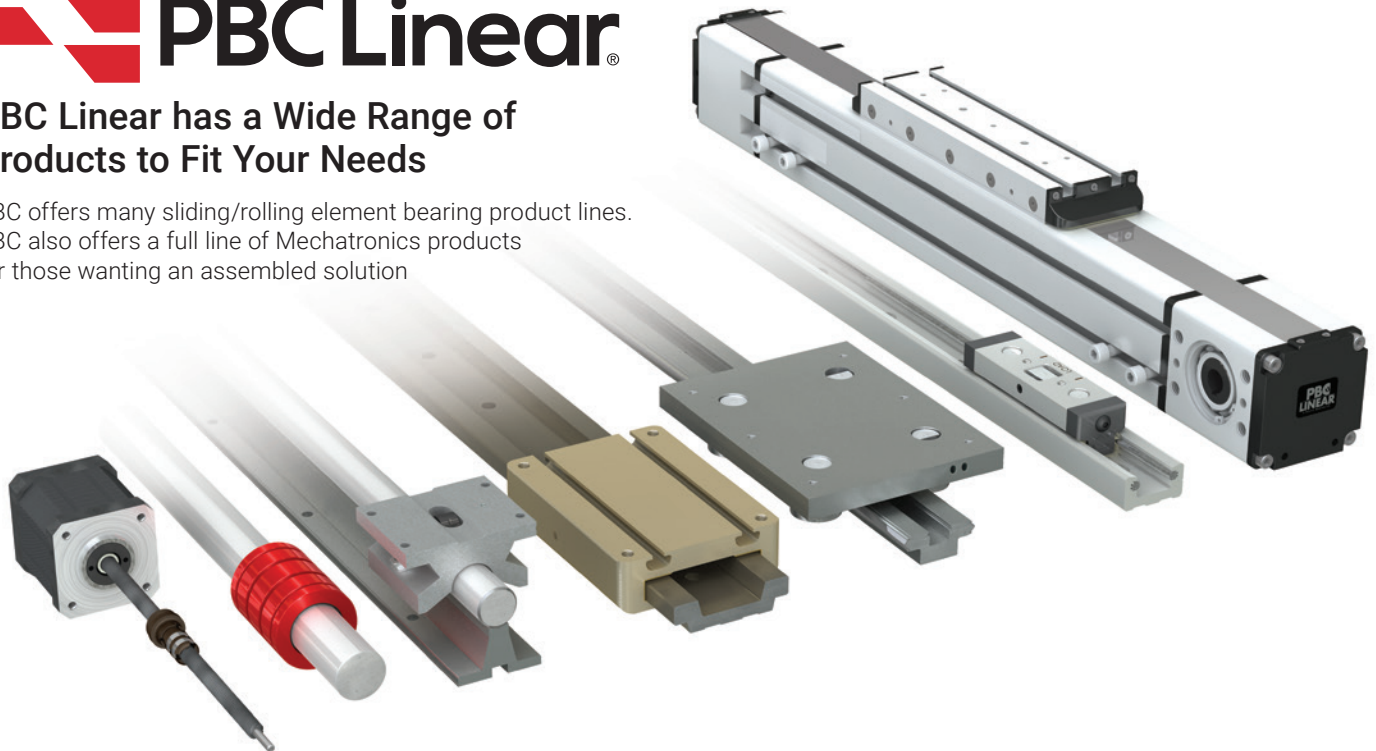


Additional Application Specific Technologies



PBC Linear has a Wide Range of Products to Fit Your Needs

PBC offers many sliding/rolling element bearing product lines. PBC also offers a full line of Mechatronics products for those wanting an assembled solution



PBC Technologies	Lead Screw	Simplicity	Roller Pillow Block	Glide Surface	Integral-V	Cam Roller	Mechatronics
Inexpensive	•	•	•	•	•	•	•
Low Maintenance	•	•	•	•			•
Compact Size	•			•			•
Low Noise	•	•					•
Multiple Configurations	•	•	•	•	•	•	•
Washdown Applications	•	•		•			•
Custom Design Support	•	•	•	•	•	•	•
Moderate to High Speed	•	•	•	•	•	•	•
Vacuum and Cleanroom Applications	•	•		•			•
Food Processing	•	•	•	•			
Ease of Installation	•				•	•	•



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