Single Axis Robots / Actuators

Single Axis Robots / Actuators



Product Name	Single Axis Actuators LX15, 20, 26, 30, 45 Standard / Cover, No Bracket, MX Lube Unit Type
Page	415, 417, 421, 425, 429



Motor Adapter Centering Tools for Single Axis Actuators LX
419, 423, 427, 431



Single Axis Actuators LX30 Motor Folded Type
433~434



Single Axis Actuators LX45 Motor Folded Type
435~436

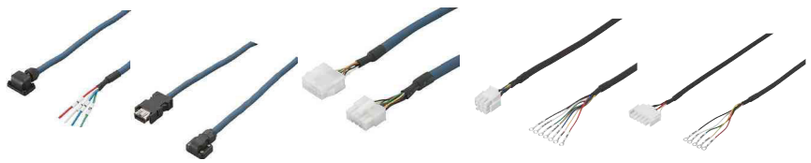


Linear Encoders (Linear Scales)
438





Motor Driven Single Axis Actuators LX20, 26, 30, 45 Standard / Cover Type
441, 443, 445, 447



Cables for Motor Driven Single Axis Actuators
452



Single Axis Robots RS1 / RS2 / RS3 - Straight
457~466



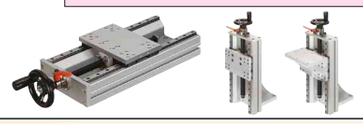
Single Axis Robots RS1 / RS2 / RS3 - Motor Folded
459~468



Single Axis Robots RSD1 / RSD2 / RSD3
469~474



Single Axis Robots RSDG1 / RSDG2 / RSDG3
475~480



Notice

Manually operated units are moved to 'INDEX28: Stages/Manual units'.

Page P.T2018~2026



Single Axis Robots RSH1 / RSH2 / RSH3 / RSH4 / RSH5	Single Axis Robots RSF4	Single Axis Robots RSB1 / RSB2
481~490	491	493~496







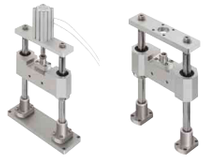
Single Axis Robot Controllers	Single Axis Robot Options	Single Axis Robot Maintenance Products
499~502	507	508



Single Axis Units - Rolled and Precision Ball Screw, Standard Type
511



Single Axis Units - Rolled and Precision Ball Screw, Cover Type
513



Air Module Units - Vertical Type
517

Single Axis Robot / Actuator Product List

LX Series

High Rigidity / High Precision / Compact
Compatible to various motors and 3rd day shipping challenging to standard lead time in the industry.

P.407~P.452

Standard Type



Lubrication Unit MX-equipped



Motor Folded



■Features

- High rigidity steel base and rust resistant low temp. black chrome plating.
- Preloaded precision ground ball screws enable low noise and high precision performance.
- Repeatability: ±5µm. (Precision Grade ±3µm)
- Large Lead Type and Low Particle Generation Grease Compatible Type are also available.
- Accuracy Certificates are enclosed with precision grade products.
- Mitsubishi Electric- and Oriental Motor-manufactured motor-mounted type are lined up.
- Lubrication Units provide long term maintenance-free operation.

■Specifications

Type	Lead (mm)	Screw Shaft Dia.	Maximum Effective Stroke (mm)
LX15	2	Ø5	151.9
LX20	1/5	Ø6	236.5
LX26	2/5/10	Ø8	317
LX30	5/10	Ø10	529.5
LX45	10/20	Ø15	497.9

KU Series

Best suited for positioning heavy loads. The total cost is just about the same as the total of the components.

P.509~P.516

Single Axis Units



■Features

- Frequently used in-house built mechanisms are standardized.
- Dedicated aluminum extrusion bases and Linear Guides support heavy loads.
- 150 and 200mm-wide Tables support large workpieces.
- For Single Axis Units, rolled and precision ball screws are selectable.

■Specifications

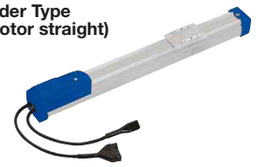
Type	KUA, KUB, KUH, KUT	KUAC, KUBC, KUHC, KUTC
Applications	Positioning of Heavy Loads, Multi Point Positioning	
Type	Std.	Dust / Splash Proof
Name	Single Axis Units	Single Axis Unit Cover
Drive Source	AC Servo / Stepping Motor	
Drive Section	Precision / Rolled Ball Screw	Rolled Ball Screw

RS Series

Expanded the lineup of RS Series Single Axis Robot!!
From Small / Economical Robot type to High Rigidity / High Precision type, extensive range of products.

P.453~P.508

Slider Type (Motor straight)



Slider Type (Motor Folded)



Large / Heavy Load Slider Type



Rod Type



■Features

- Slider, rod, motor and etc. integrated actuator, easy operation controller and cables are all in a set.
- No need for complex robot language programming.
- Easy positioning operations by point data entry and I/O signals from a controller.
- Serial communication functions for write and read point data possible.

■Specifications

Item	Slider Type			
	Small / Economical Robot RS1, 2, 3 Series	Large / Heavy Load Robot RSH1, 2, 3, 4, 5 Series	Large / Heavy Load Robots Width Space-saving RSF4 Series	High Speed Belt Driven RSB1 / RSB2 Series
Load Capacity	Horizontal: ~ 12kg / Vertical: ~ 4kg	Horizontal: ~80kg / Vertical: ~20kg	Horizontal: ~80kg / Vertical: ~20kg	Horizontal: ~20kg / Vertical: -kg
Stroke	50 ~ 800mm (50mm increments)	150 ~ 1050mm (50mm increments)	150 ~ 1050mm (50mm increments)	150 ~ 3050mm (50mm increments)
Max. Velocity	~1000mm/sec	~1800mm/sec	~1800mm/sec	~1875mm/sec
Repeatability	±0.02mm	±0.02mm/±0.01mm	±0.01mm	±0.04mm

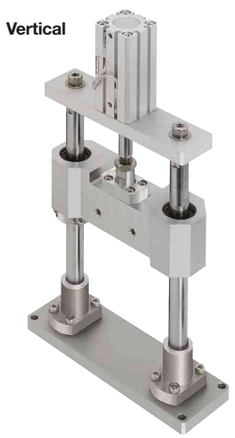
Item	Rod Type	
	Small / Economical Robot RSD1, 2, 3 Series	Small / Economical Robot RS1, 2, 3 Series Robot With Support Guide RSDG1, 2, 3 Series
Load Capacity	Horizontal: ~ 60kg / Vertical: ~ 30kg	Horizontal: ~60kg / Vertical: ~28.5kg
Stroke	50 ~ 300mm (50mm increments)	50 ~ 300mm (50mm increments)
Max. Velocity	~500mm/sec	~500mm/sec
Repeatability	±0.02mm	±0.02mm

MA Series

Pneumatically driven end-point positioning for simple transfers.
Cost effective - costs 20% less than the total of individual parts

P.517

Vertical



■Features

- Air cylinder driven horizontal / vertical Integrated Motion Units.
- Units combined with MISUMI standard products save the trouble of designing and building.
- With or without cylinder is selectable. (Applicable to cylinders from other manufacturers.)

Mounting Orientation
Vertical Type:Vertical mounting. Slider components can be mounted on either of 3 surfaces.

■Specifications

Unit Configuration	Cylinder Dia.	Cylinder Stroke (mm)	Reference Thrust Force (kN)			
			0.4MPa		0.5MPa	
			Instroke	Outstroke	Instroke	Outstroke
Vertical MAT	Ø25	30, 50	0.15	0.2	0.19	0.25
	Ø32	30, 50	0.24	0.32	0.3	0.4
	Ø40	30, 50	0.42	0.50	0.53	0.63
	Ø50	30, 50	0.66	0.79	0.82	0.98
	Ø63	30, 50	1.12	1.25	1.40	1.56

Single Axis Actuator Lubrication Unit Series **MX** Maintenance Free

For Single Axis Actuator LX Series selections, please use our 2D and 3D CAD data and Technical Calculation Software (free of charge).

LX Related Information
Specifications P. 411 - P. 414
Selection / Life Calculation Example P2235 - P2238

High Accuracy, Compactness, Excellent Cost vs. Performance

Single Axis Actuators

LX Linear eXcellence

Excellent Linear Motion Solution for Automation Designs

High Accuracy — High Grade accuracies applied as standard (for all standard grade products).

Manufactured by MISUMI GROUP SURUGA Production Platform Co., Ltd. (former MISUMI-Suruga Seiki Co. Ltd.), reputable XY Stage provider.
Repeatability of ±5μm guaranteed. Precision Grade (±3μm) is selectable.

Compact — Exceptional low-profile design

Low-profile achieved by the integral structure of blocks. Suitable for limited spaces.

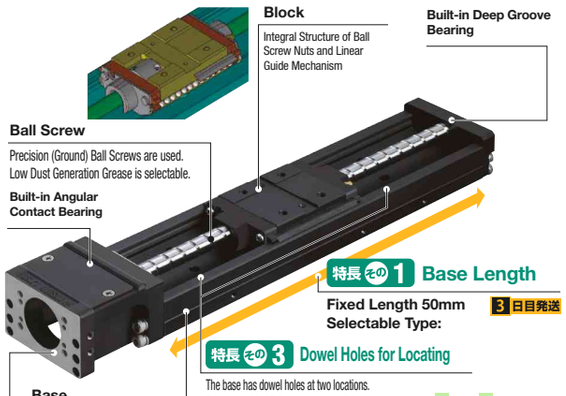
Excellent Cost vs. Performance — High Grade specs. are offered at reasonable Standard Grade prices.

High Grade accuracy at Standard Grade prices. Achieving cost reduction of automation equipment.

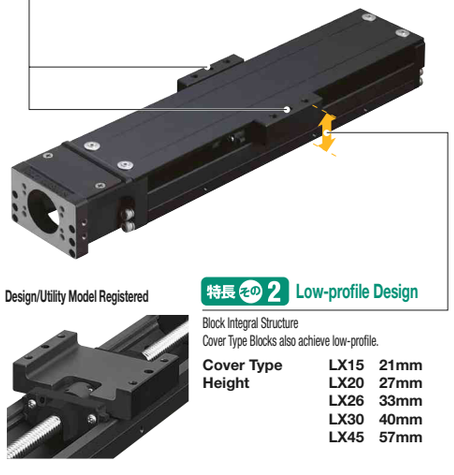
Structures and Features

特長 その1 Base Length variations that allow flexible designs
特長 その2 Space saving low-profile stage
特長 その3 Locating dowel holes on the base
特長 その4 Locating dowel holes on blocks (Cover Type)

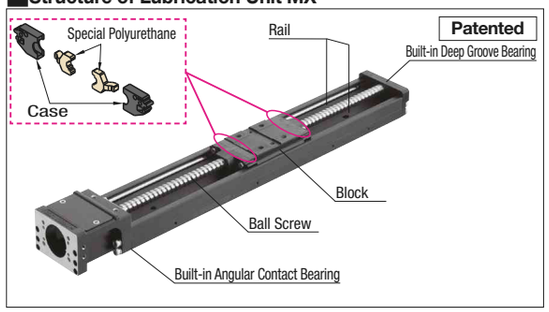
Standard Type



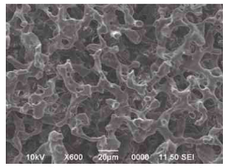
Cover Type

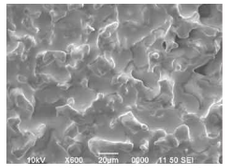


Structure of Lubrication Unit MX



Enlarged Photos of Special Polyurethane Pores


Before grease is impregnated


After grease is impregnated

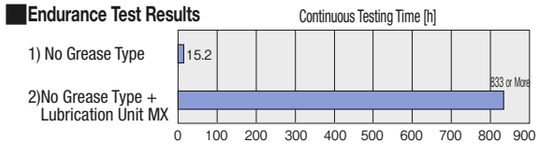
Grease impregnated special polyurethane provides appropriate supply of grease on ball screws and rails.

Features

1 Long Term Maintenance-free Condition
- Lubrication Unit MX is a self-lubrication unit constructed of grease impregnated special polyurethane. Capillary action provides appropriate supply of grease.
- Oil film is always formed on the ball screws and rails, providing long term maintenance-free operations.

2 Cost Advantages
- MX unit-equipped products significantly reduce lubrication frequency, which significantly saves maintenance time and costs.

Endurance Test Results

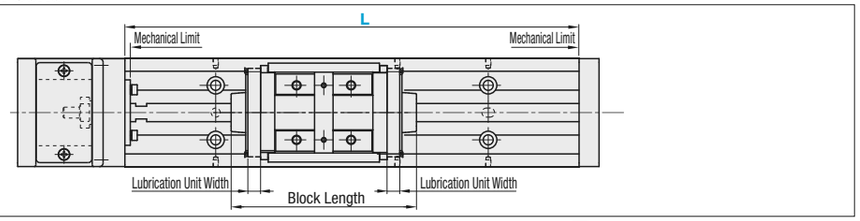


MX unit-equipped products showed good lubrication conditions even after exceeding 800 hrs, while part seizure was observed with non-greased samples within 20 hrs.
* These are not guaranteed values but reference values.

Test Conditions

(1) Part Number	LX2605-B1-300
(2) Installation Orientation	Vertical Test
(3) Load Condition	15kgf Load
(4) Test Stroke	200mm
(5) Travel Speed	136mm/s

Specifications of MX Series



MX Series Specifications

Part Number	Block Qty.	Base Length (L)	Effective Stroke	Block Length	Lubrication Unit Width	Page
LX15□□-MX	(1 pc.) B1	100	43.9	49.6	4	P.415, 416
		125	68.9			
		150	93.9			
		175	118.9			
		200	143.9			
LX20□□-MX	(1 pc.) B1	150	76.5	67	5	P.417, 418
		200	126.5			
		250	176.5			
		300	226.5			
LX26□□-MX	(1 pc.) B1	200	105	88	6	P.421, 422
		250	155			
		300	205			
		350	255			
		400	305			
LX(R)30□□-MX	Long Block (1 pc.) B1	200	90	102	7	P.425, 426 P.433, 434
		250	140			
		300	190			
		350	240			
		400	290			
		450	340			
		500	390			
		550	440			
		600	490			
	Short Block (1 pc.) S1	150	65.5	76.5		
		200	115.5			
		250	165.5			
		300	215.5			
		350	265.5			
		400	315.5			
		450	365.5			
		500	415.5			
		550	465.5			
		600	515.5			
LX(R)45□□-MX	Long Block (1 pc.) B1	340	194.4	137.6	8	P.429, 430 P.435, 436
		390	244.4			
		440	294.4			
		490	344.4			
		540	394.4			
		590	444.4			
	Short Block (1 pc.) S1	340	231.9	100.1		
		390	281.9			
		440	331.9			
		490	381.9			
		540	431.9			
		590	481.9			

Effective stroke is indicated in dimensions with a margin of 2.5mm each from the ends.

MX SeriesUnit Price

Part Number	Unit Price
LX15□□-MX	
LX20□□-MX	
LX26□□-MX	
LX(R)30□□-MX	
LX(R)45□□-MX	

For LX-MX, listed product price is added to the unit price.
Volume Discount Rate is applicable.

Ordering Example

Part Number	-	Block Qty.	-	Motor Adapter Plates	-	Base Length (L)
LX2001C-MX	-	B1	-	A2040	-	200
LXR3010C-MX	-	B1	-	RA3040	-	200

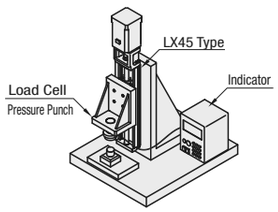
Actuator LX / Single Axis Actuator KU Application Examples

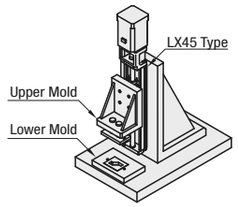
Guide to a dedicated contact for queries on Single Axis Robots / Actuators technology

The Actuator LX is a ball screw and linear guide integrated actuator essential to high precision manufacturing processes.
- **High Accuracy Positioning Type and High Accuracy & High Load Capacity Type are available.**
- **Standard leads for precise positioning and large leads for high-speed operations are available.**
- **Manufactured by MISUMI GROUP SURUGA Production Platform Co., Ltd. (former MISUMI-Suruga Seiki Co. Ltd.), reputable XY Stage producer.**
- **Product details are listed on P.407~P.452.**

■Servo Press Machine

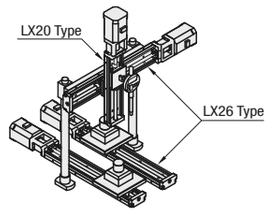
Utilize as press axis for servo press device.
- High rigidity frame is highly reliable
- Dowel holes indispensable for high load applications are standardized (The dowel pins are used for locating, but also serve to to receive shear loads)





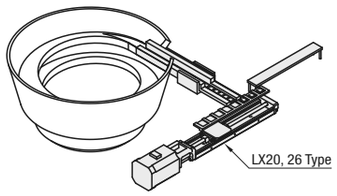
■Measurement Unit

Use in combination with Servo Motor for measuring process.
- System possible due to product's high precision
- Compact structure provides high degree of integration freedom



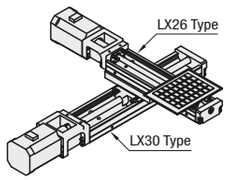
■Precision Conveyance

Best suited for high precision conveyance.
- Accuracies higher than the High Grade assures reliable motion



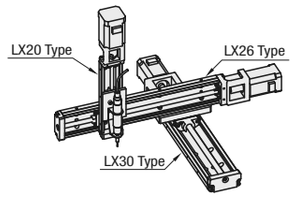
■Part Supply Table

Part supply by connecting two axes.



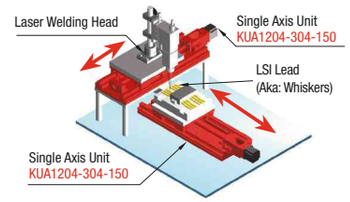
■Painting Unit

Painting Unit by connecting three axes.
- Customers have liberation of designs



Single Axis Unit KU is a ball screw and linear guide integrated unit.
- **Usable for small robots and movable table of loaders excluding heavy loads.**
- **Cover Type is available as operating environment countermeasures.**
- **Single Axis Units are manufactured by MISUMI GROUP SURUGA Production Platform Co., Ltd. (former MISUMI-Suruga Seiki Co. Ltd.), reputable XY Stage provider.**
- **Product details are listed on P.509~P.516.**

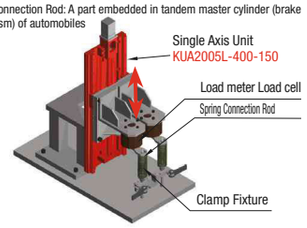
■Laser Welding Head Unit (Workpiece Weight: 5~10kg)



For XY mechanisms where stability of the base is required

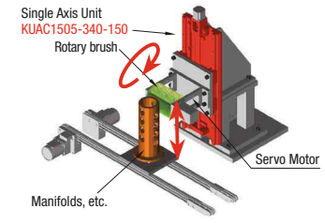
■Spring Adjusting Unit (Workpiece Weight: 15~20kg)

*Spring Connection Rod: A part embedded in tandem master cylinder (brake mechanism) of automobiles



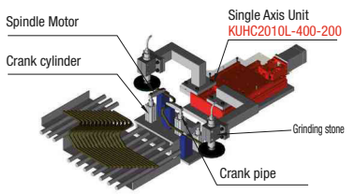
Preset point positioning made easy by external signals

■Deburring Unit (Workpiece Weight: 15~20kg)



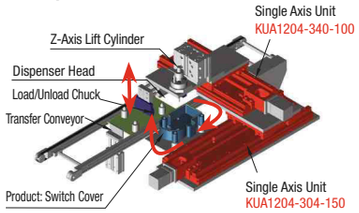
For Mechanisms where rigidity against vibration is required

■Moving Polishing Head Unit (Workpiece Weight: over 20kg)



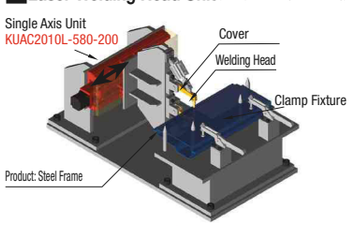
For structures with offsets from the base

■Dispenser Head Unit (Workpiece Weight: over 20kg)



For dedicated designs where space limitations are critical

■Laser Welding Head Unit (Workpiece Weight: 20~30kg)



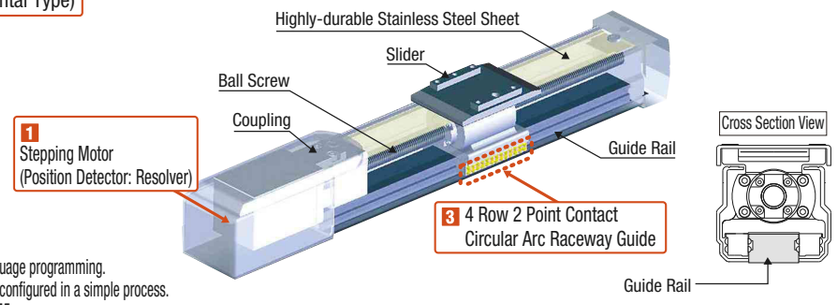
For Mechanisms where rigidity against clamps is required

RS Series Single Axis Robots
FA Mechanical Components Catalog, 2014 Volume 1

Small / Economical Robot RS1, 2, 3 Series Load Capacity: ~ 12kg (Horizontal), ~ 4kg (Vertical)

2 Controller (Incremental Type)





- No need for complex robot language programming.
- Speed and acceleration can be configured in a simple process.
- Maximum Positioning Points: 255

Single Axis Actuator LX Stroke / Load Rating / Allowable Moment

Stroke

(mm)

Type	Lubrication Unit MX-equipped	Block	Rail Length L (mm)														
			75	80	100	125	150	175	200	250	300	350(340)*	400(390)*	450(440)*	500(490)*	550(540)*	600(590)*
LX15 P.375	-	Long 1 pc.	26.9	-	51.9	76.9	101.9	126.9	151.9	-	-	-	-	-	-	-	-
	MX	Long 1 pc.	-	-	43.9	68.9	93.9	118.9	143.9	-	-	-	-	-	-	-	-
LX20 P.377	-	Long 1 pc.	-	16.5	36.5	-	86.5	-	136.5	186.5	236.5	-	-	-	-	-	-
	MX	Long 1 pc.	-	-	-	-	76.5	-	126.5	176.5	226.5	-	-	-	-	-	-
	-	Long 2 pcs.	-	-	-	-	-	-	79.5	129.5	179.5	-	-	-	-	-	-
LX26 P.381	-	Long 1 pc.	-	-	17	-	67	-	117	167	217	267	317	-	-	-	-
	MX	Long 1 pc.	-	-	-	-	-	-	105	155	205	255	305	-	-	-	-
	-	Long 2 pcs.	-	-	-	-	-	-	-	91	141	191	241	-	-	-	-
LX30 P.385	-	Long 1 pc.	-	-	-	29	54	-	104	154	204	254	304	354	404	454	504
	-	Short 1 pc.	-	-	-	54.5	79.5	-	129.5	179.5	229.5	279.5	329.5	379.5	429.5	479.5	529.5
	MX	Long 1 pc.	-	-	-	-	-	-	90	140	190	240	290	340	390	440	490
	MX	Short 1 pc.	-	-	-	-	65.5	-	115.5	165.5	215.5	265.5	315.5	365.5	415.5	465.5	515.5
	-	Long 2 pcs.	-	-	-	-	-	-	-	-	116	166	216	266	316	366	416
	-	Short 2 pcs.	-	-	-	-	17	-	67	117	167	217	267	317	367	417	467
LX45 P.389	-	Long 1 pc.	-	-	-	-	-	-	-	-	-	210.4	260.4	310.4	360.4	410.4	460.4
	-	Short 1 pc.	-	-	-	-	-	-	-	-	-	247.9	297.9	347.9	397.9	447.9	497.9
	MX	Long 1 pc.	-	-	-	-	-	-	-	-	-	194.4	244.4	294.4	344.4	394.4	444.4
	MX	Short 1 pc.	-	-	-	-	-	-	-	-	-	231.9	281.9	331.9	381.9	431.9	481.9
	-	Long 2 pcs.	-	-	-	-	-	-	-	-	-	88.8	138.8	188.8	238.8	288.8	338.8
	-	Short 2 pcs.	-	-	-	-	-	-	-	-	-	163.8	213.8	263.8	313.8	363.8	413.8

Effective stroke is indicated in dimensions with a margin of 2.5mm each from the ends.
* ( ) is the length of LX45 rail.

Load Rating

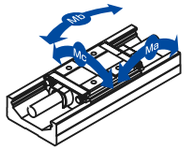
Type	Block	Rail			Ball Screw						Bearing (fixed side) Axial Direction	
		Basic Dynamic Load Rating C (N)	Basic Static Load Rating C0 (N)	Radial Clearance (μm)	Basic Dynamic Load Rating Ca (N)	Basic Static Load Rating C0a (N)	Shaft Dia. (mm)	Lead (mm)	Root Dia. (mm)	Ball Center Dia. (mm)	Basic Dynamic Load Rating Ca (N)	Allowable Static Load P0a (N)
LX1502	Long	2072	3701	-3~0	208	265	5	2	4.534	5.15	678	415
LX2001	Long	3277	6199	-3~0	482	642	6	1	5.3	6.15	730	461
LX2005					822	1026		5	4.918	6.3		
LX2602	Long	6522	11871	-4~0	1712	2251	8	2	6.4	8.3	1637	1205
LX2605					1600	2097		5	6.46	8.3		
LX2610					782	961		10	6.46	8.3		
LX3005	Long	9732	17218	-4~0	1831	2389	10	5	8.2	10.3	2702	2197
LX3010					1129	1386		10	8.2	10.3		
LX3005	Short	6305	9271	-4~0	1831	2389	10	5	8.2	10.3	2702	2197
LX3010					1129	1386		10	8.2	10.3		
LX4510	Long	18450	32441	-6~0	4167	5945	15	10	11.7	15.5	4355	4106
LX4520					2499	3381		20	11.7	15.75		
LX4510	Short	11826	17175	-6~0	4167	5945	15	10	11.7	15.5	4355	4106
LX4520					2499	3381		20	11.7	15.75		

Load ratings shown in Rail columns are for one block.
For actual life calculations, please use our Technical Calculation Software.

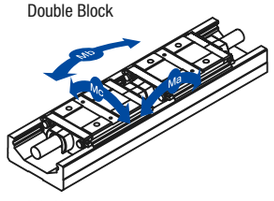
Allowable Moment

Moment loads can be applied in all three directions.

Single Block



Double Block



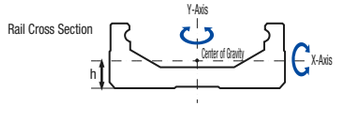
Ma: Pitch Moment
Mb: Yaw Moment
Mc: Roll Moment

Type	Block Qty.	Block Qty.	Allowable Static Moment (N · m)		
			Ma	Mb	Mc
LX15	1	Long	13	13	41
LX20	1	Long	27	27	93
	2		353	353	186
LX26	1	Long	70	70	225
	2		902	902	450
LX30	1	Long	126	126	387
	2		1515	1515	774
	1	Short	63	63	208
	2		579	579	417
LX45	1	Long	291	291	972
	2		3945	3945	1944
	1	Short	145	145	515
	2		1444	1444	1029

* Double Block Type values are those when two blocks contact with each other.
The table above lists reference values in static state.
For actual life calculations, please use our Technical Calculation Software.

Rail Rigidity

Rails with low center of gravity and high rigidity.



Type	Cross Sectional Moment of Inertia (mm⁴)		Center of Gravity (mm)	Mass (kg/100mm)
	Ix	Iy	h	W
LX15	1.0×10^3	1.7×10^4	3.4	0.13
LX20	3.2×10^3	5.2×10^4	4.4	0.22
LX26	1.0×10^4	1.4×10^5	6.1	0.37
LX30	2.5×10^4	3.1×10^5	7.8	0.60
LX45	8.8×10^4	10.4×10^5	11.0	1.10

IX: Cross Sectional Moment of Inertia around X-axis IY: Cross Sectional Moment of Inertia around Y-axis

Material

Components	Base (Rail)		Block	Motor Bracket	Support Side Bearing with Housing	Cover	Stopper	Precision Ball Screw (Ground)
	LX15	LX20/26/30/45						
M Material	Stainless Steel	Carbon Steel	SCM Material	EN AC-46100 Equiv.	EN AW-5052 Equiv.	EN AW-6063 Equiv.	NBR	EN 1.7242 Equiv.
S Surface Treatment	LTBC Plating		LTBC Plating	Black Baked Paint	Black Anodize	Black Anodize	-	-
H Hardness	-	Induction Hardened HRC58 ~ 64	HRC58~62	-	-	-	-	HRC58~62

Single Axis Actuator LX Total Mass / Moment of Inertia

Total Mass

(kg)

Type	Block	Rail Length L (mm)														
		75	80	100	125	150	175	200	250	300	350(340)*	400(390)*	450(440)*	500(490)*	550(540)*	600(590)*
LX15	Long 1 pc.	0.13	-	0.17	0.22	0.29	0.35	0.38	-	-	-	-	-	-	-	-
LX15C	Long 1 pc.	0.18	-	0.22	0.28	0.35	0.41	0.45	-	-	-	-	-	-	-	-
LX20	Long 1 pc. / 2 pcs.	-	0.40	0.45	-	0.58	-	0.71/0.79	0.83/0.92	0.96/1.05	-	-	-	-	-	-
LX20C	Long 1 pc. / 2 pcs.	-	0.51	0.56	-	0.69	-	0.81/0.97	0.94/1.10	1.07/1.23	-	-	-	-	-	-
LX26	Long 1 pc. / 2 pcs.	-	-	0.87	-	0.95	-	1.16	1.37/1.57	1.58/1.78	1.79/1.99	2.00/2.20	-	-	-	-
LX26C	Long 1 pc. / 2 pcs.	-	-	1.07	-	1.15	-	1.36	1.57/1.89	1.78/2.10	1.99/2.31	2.20/2.52	-	-	-	-
LX30	Long 1 pc. / 2 pcs.	-	-	-	1.30	1.47	-	1.81	2.14	2.48/2.79	2.81/3.12	3.15/3.46	3.49/3.79	3.82/4.13	4.16/4.47	4.49/4.80
	Short 1 pc. / 2 pcs.	-	-	-	1.18	1.35/1.53	-	1.68/1.86	2.02/2.20	2.35/2.53	2.69/2.87	3.02/3.21	3.36/3.54	3.70/3.88	4.03/4.21	4.37/4.55
LX30C	Long 1 pc. / 2 pcs.	-	-	-	1.75	1.92	-	2.25	2.59	2.92/3.49	3.26/3.83	3.60/4.16	3.93/4.50	4.27/4.83	4.60/5.17	4.94/5.51
	Short 1 pc. / 2 pcs.	-	-	-	1.50	1.67/1.98	-	2.00/2.32	2.34/2.66	2.67/2.99	3.01/3.33	3.35/3.66	3.68/4.00	4.02/4.33	4.35/4.67	4.69/5.01
LX45	Long 1 pc. / 2 pcs.	-	-	-	-	-	-	-	-	-	5.77/6.69	6.37/7.29	6.97/7.90	7.57/8.50	8.18/9.10	8.78/9.70
	Short 1 pc. / 2 pcs.	-	-	-	-	-	-	-	-	-	5.37/5.91	5.98/6.51	6.58/7.11	7.18/7.71	7.78/8.31	8.39/8.92
LX45C	Long 1 pc. / 2 pcs.	-	-	-	-	-	-	-	-	-	6.59/8.09	7.23/8.73	7.86/9.36	8.49/9.99	9.13/10.63	9.76/11.26
	Short 1 pc. / 2 pcs.	-	-	-	-	-	-	-	-	-	5.94/6.78	6.57/7.41	7.20/8.04	7.84/8.68	8.47/9.31	9.10/9.94

* ( ) is the length of LX45 rail.

Additional Mass of Lubrication Unit MX-equipped Type

Type	Additional Mass (kg)
LX15(C)	0.002
LX20(C)	0.004
LX26(C)	0.007
LX30(C)	0.011
LX45(C)	0.024

Moment of Inertia

(10-4kg · cm^2)

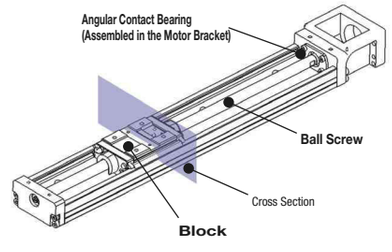
Type	Lead Cover or No Cover (c)	Block	Rail Length L (mm)														
			75	80	100	125	150	175	200	250	300	350(340)*	400(390)*	450(440)*	500(490)*	550(540)*	600(590)*
LX15	02/02C	Long 1 pc.	23/23	-	24/24	25/25	26/26	27/27	28/28	-	-	-	-	-	-	-	-
LX20	01/01C	Long 1 pc.	-	47/47	49/49	-	53/53	-	58/58	-	-	-	-	-	-	-	-
	01/01C	Long 2 pcs.	-	-	-	-	-	-	58/58	-	-	-	-	-	-	-	-
	05/05C	Long 1 pc.	-	-	54/59	-	59/63	-	63/68	68/73	73/77	-	-	-	-	-	-
	05/05C	Long 2 pcs.	-	-	-	-	-	-	69/78	74/83	78/88	-	-	-	-	-	-
LX26	02/02C	Long 1 pc.	-	-	140/141	-	155/156	-	169/170	184/185	198/199	-	-	-	-	-	-
	02/02C	Long 2 pcs.	-	-	-	-	-	-	-	186/188	200/202	-	-	-	-	-	-
	05/05C	Long 1 pc.	-	-	-	-	166/173	-	180/188	194/202	209/216	223/231	238/245	-	-	-	-
	05/05C	Long 2 pcs.	-	-	-	-	-	-	-	207/222	222/237	236/251	251/266	-	-	-	-
LX30	10/10C	Long 1 pc.	-	-	-	-	204/234	-	219/249	233/263	248/278	262/292	277/307	-	-	-	-
	05/05C	Long 1 pc.	-	-	-	436/452	454/471	-	491/507	528/544	565/581	602/618	638/655	675/692	712/729	749/765	786/802
	05/05C	Long 2 pcs.	-	-	-	-	-	-	-	-	584/617	621/654	658/691	695/728	732/764	768/801	805/838
	05/05C	Short 1 pc.	-	-	-	428/436	446/455	-	483/492	520/528	557/565	594/602	630/639	667/676	704/713	741/750	778/787
	05/05C	Short 2 pcs.	-	-	-	-	474/475	-	494/512	531/548	568/585	605/622	642/659	679/696	716/733	753/770	789/807
	10/10C	Long 1 pc.	-	-	-	-	513/579	-	550/616	587/653	624/690	661/727	698/764	735/800	772/837	808/874	845/911
	10/10C	Long 2 pcs.	-	-	-	-	-	-	-	-	702/833	739/870	776/907	812/944	849/981	886/1018	923/1054
	10/10C	Short 1 pc.	-	-	-	-	482/516	-	518/553	555/590	592/626	629/663	666/700	703/737	740/774	777/811	813/848
	10/10C	Short 2 pcs.	-	-	-	-	591/596	-	564/633	601/670	638/707	675/743	712/780	749/817	785/854	822/891	859/928
LX45	10/10C	Long 1 pc.	-	-	-	-	-	-	-	-	-	2528/2674	2723/2869	2918/3064	3113/3259	3308/3454	3503/3649
	10/10C	Long 2 pcs.	-	-	-	-	-	-	-	-	-	2762/3053	2957/3249	3152/3444	3347/3639	3543/3834	3738/4029
	10/10C	Short 1 pc.	-	-	-	-	-	-	-	-	-	2429/2507	2624/2702	2820/2897	3015/3092	3210/3287	3405/3482
	10/10C	Short 2 pcs.	-	-	-	-	-	-	-	-	-	2565/2720	2760/2915	2955/3110	3150/3305	3345/3500	3540/3695
	20/20C	Long 1 pc.	-	-	-	-	-	-	-	-	-	3242/3825	3437/4020	3632/4215	3827/4410	4022/4605	4217/4800
	20/20C	Long 2 pcs.	-	-	-	-	-	-	-	-	-	4179/5344	4374/5539	4569/5734	4764/5929	4959/6124	5154/6319
	20/20C	Short 1 pc.	-	-	-	-	-	-	-	-	-	2847/3157	3042/3352	3237/3547	3432/3742	3627/3937	3823/4132
	20/20C	Short 2 pcs.	-	-	-	-	-	-	-	-	-	3389/4008	3584/4203	3779/4399	3974/4594	4169/4789	4364/4984

* ( ) is the length of LX45 rail.

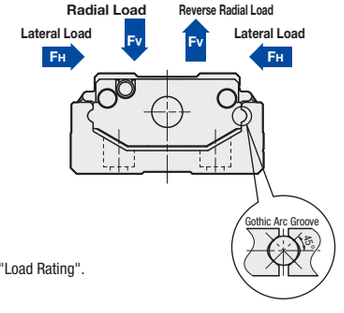
Load Directions

The Rails employ Double Row Gothic Arch Grooves, and are compact and low-profile.

Outline View



Enlarged Sectional View: Double Row Gothic Arch Grooves



• Rail
Equal basic load rating in all four directions: radial, reverse radial and lateral directions. For values, see "Load Rating".

• Ball Screw
Preload is applied to precision (ground) ball screw. Integrating structure of the block and ball screw nut allows axial loads to be applied.
For Basic Load Rating in axial directions, see "Load Rating".

• Bearing (Fixed Side)
Angular contact bearings are integrated in the motor bracket, allowing loads in the axial direction to be applied. For Basic Load Rating in axial directions, see "Load Rating".

Single Axis Actuator LX Maximum Travel Speed / Accuracy Standards

Maximum Travel Speed

■Max. Velocity (mm/sec)

Type	Lead (mm)	Rail Length L (mm)														
		75	80	100	125	150	175	200	250	300	350	400	450	500	550	600
LX15	2	330	-	330	330	330	330	330	-	-	-	-	-	-	-	-
LX20	1	-	190	190	-	190	-	190	-	-	-	-	-	-	-	-
	5	-	-	694	-	694	-	694	694	633	-	-	-	-	-	-
LX26	2	-	-	290	-	290	-	290	290	290	-	-	-	-	-	-
	5	-	-	-	-	521	-	521	521	521	521	446	-	-	-	-
	10	-	-	-	-	1040	-	1040	1040	1040	1040	890	-	-	-	-
LX30	5	-	-	-	410	410	-	410	410	410	410	410	410	370	300	250
	10	-	-	-	-	830	-	830	830	830	830	830	830	740	600	500

Type	Lead (mm)	Rail Length L (mm)					
		340	390	440	490	540	590
LX45	10	550	550	550	550	550	550
	20	1110	1110	1110	1110	1110	1110

* Values in the table are calculated on basis of critical speed and DN value of ball screws.
Note that these are not guaranteed data considering motor rotational speed, operating conditions, etc.

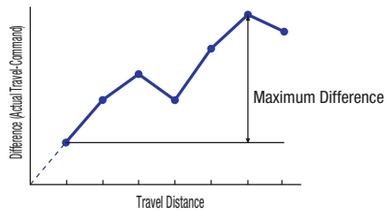
■Accuracy Standards Table

Accuracy Standard Items	LX15		LX20		LX26		LX30(L≤400)		LX30(L≥450)		LX45	
	High Grade	Precision Grade	High Grade	Precision Grade	High Grade	Precision Grade	High Grade	Precision Grade	High Grade	Precision Grade	High Grade	Precision Grade
Positioning (mm)	0.04	0.02	0.06	0.02	0.06	0.02	0.06	0.02	0.1	0.025	0.1	0.025
Positioning Repeatability (mm)	±0.004	±0.003	±0.005	±0.003	±0.005	±0.003	±0.005	±0.003	±0.005	±0.003	±0.005	±0.003
Backlash (mm)	0.01	0.002	0.01	0.003	0.01	0.003	0.02	0.003	0.02	0.003	0.02	0.003
Parallelism (mm)	0.02	0.01	0.025	0.01	0.025	0.01	0.025	0.01	0.035	0.015	0.035	0.015
Starting Torque (N · cm)	0.8		1.2		2		4		4		10	

Accuracy Standards

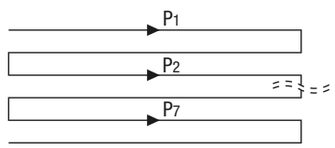
• Positioning Accuracy

Positioning is performed from a reference position incrementally in one direction, and measured.
Measurement values are the maximum difference between actual travel distance and commanded distance.
See Accuracy Standards Table for design values.



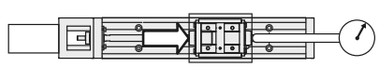
• Repeatability

Repeat positioning and measurement seven times at the same point in a specified direction.
1/2 of the maximum difference with "±" in front is defined as the measurement value.
See Accuracy Standards Table for design values.



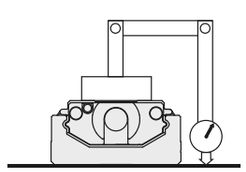
• Backlash

Loads are applied to the block from the reference position, and then released.
The difference between the reference position and returned value is the measurement value.
See Accuracy Standards Table for design values.



• Running Parallelism

A dial indicator is installed from the block to the reference surface. Measurements are taken while traveling with the rail mounted to a standard reference surface base.
The maximum difference taken by the measurement is the measurement value.
See Accuracy Standards Table for design values.



Notes for Using Single Axis Actuator LX / Low Dust Generation Grease Specifications

■Maintenance

• Routine Inspections:
Perform inspection once per 3 to 6 months.
Check for proper lubrication conditions, clean-up and grease refill.
Check on mounting screws for looseness.

• Lubrication:
The recommended lubricants are shown as below.
LX15, LX20, LX26 Series ↑ Showa Shell Sekiyu-made Alvania Grease S No.2
LX30, LX45 Series ↑ Showa Shell Sekiyu-made Cartridge Grease EP2
Low Dust Generation Grease Type ↑ NSK LG2
Recommended greasing cycle is per 6 months or 1,000km under normal operating conditions.
* Lubrication intervals, however, depend on usage conditions and environments.

■Cautions for Operating Environments:

Ensure that it is used at an ambient temperature of 50°C or less. It is recommended to provide mechanical stoppers to prevent overrun.

• Allowable Rotational Speed
Size-specific allowable rotational speed is indicated below.

Part Number	Lead	Rail Length	Allowable Rotational Speed (min⁻¹)
LX15	2	75~200	6000
LX20	1	80~200	6000
	5	100~300	
LX26	2	100~300	6000
	5/10	150~350	6000
		400	5350
LX45	10	340~590	3300
	20	340~590	3330

Part Number	Lead	Rail Length	Allowable Rotational Speed (min⁻¹)
LX30	5	125~450	4920
		500	4440
		550	3600
		600	3000
	10	150~450	4980
		500	4440
		550	3600
		600	3000

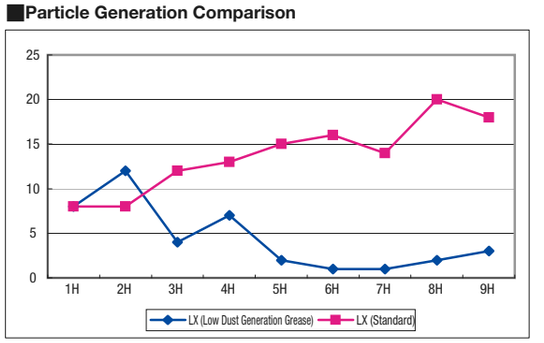
■About Single Axis Actuator LX Low Dust Generation Grease

The products are shipped with low particle generation grease applied for high cleanliness environments.
LG2 (Made by NSK Ltd.) generates less particles and exhibits excellent corrosion resistance.
For part number selections, please see each product page.

■Low Dust Generation Grease Performance Table

	Item	Conditions	Unit	Measurement Method	LG2 (Made by NSK Ltd.)
Grease Performance	Thickener	-	-	-	Lithium Type
	Base Oil	-	-	-	Mineral Oil + Synthetic Hydrocarbon Oil
	Base Oil Kinetic Viscosity	40°C	mm²/s	JIS K2220 5.19	30
	Worked Penetration	-	-	JIS K2220 5.3	207
	Dropping Point	-	°C	JIS K2220 5.4	200
	Evaporation	99°Cx22hr	wt%	-	1.40%
	Oil Separation	100°Cx24hr	wt%	JIS K2220 514	0.80%
	Operating Temp.	In Air	°C	-	-10~80

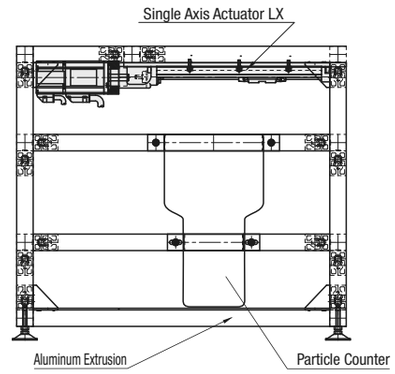
■Particle Generation Comparison



0.3μm or larger particle count (m³)

Measuring Time	1H	2H	3H	4H	5H	6H	7H	8H	9H
LX (Low Dust Generation Grease)	8	12	4	7	2	1	1	2	3
LX (Standard)	8	8	12	13	15	16	14	20	18

■Particle Generation Test Evaluation Equipment - Overview

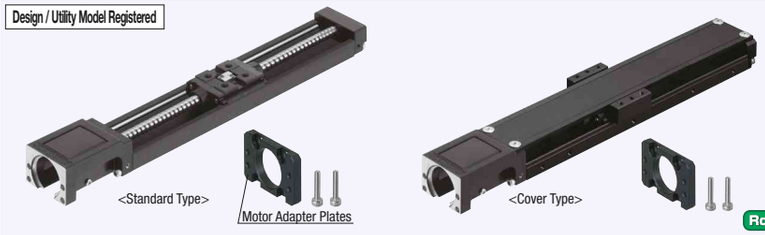


<Evaluation Conditions>
Clean Room Class 100 (in a clean room)
Room Temperature: 24°C±2°C, Humidity: 45%±5%
(Particle Counter Name)
Hand-held Particle Counter KR-12A (Rion Co., Ltd.)
Tested Actuator: LX2001-B1-A2040-200
Motor Speed: 3000rpm

Clean Room Class 100/ISO Class 5
The measurement results meet the conditions above.
* These are not guaranteed values but reference values.
Values considerably vary depending on operating environment.

Single Axis Actuators LX15 Standard / Cover Type

Design / Utility Model Registered



Specifications	
LX15	
Standard / Cover	
Screw Shaft Dia. (mm)	5
Lead (mm)	2
Accuracy	High Grade / Precision Grade

A Accessory

①Motor Adapter Plate
M EN AW-5052 Equiv. S Black Anodize
②Adapter Plate Screw 2 pcs.
M EN 1.4567 Equiv.

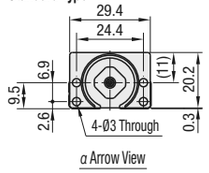
RoHS

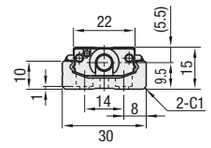
For Material table, see **P.411**

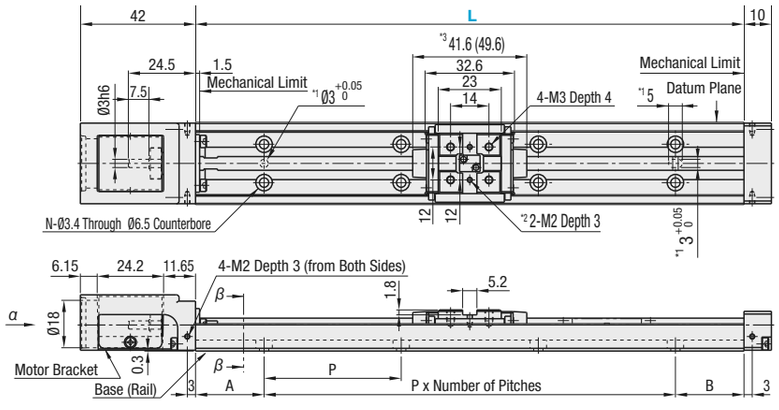
Part Number	Standard Grease		Low Dust Generation Grease		Lubrication Unit MX-equipped (Standard Grease)	
	High Grade	Precision Grade	High Grade	Precision Grade	High Grade	Precision Grade
Lead 2	LX1502 (C)	LX1502 (C) P	LX1502 (C) G	LX1502 (C) PG	LX1502 (C) -MX	LX1502 (C) P-MX

(C) is for Cover Type.
Low Dust Generation Grease Information **P.414**
Lubrication Unit MX Information **P.408**

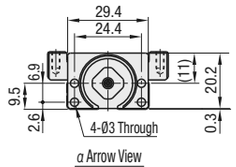
Standard Type

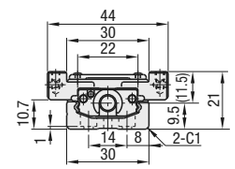


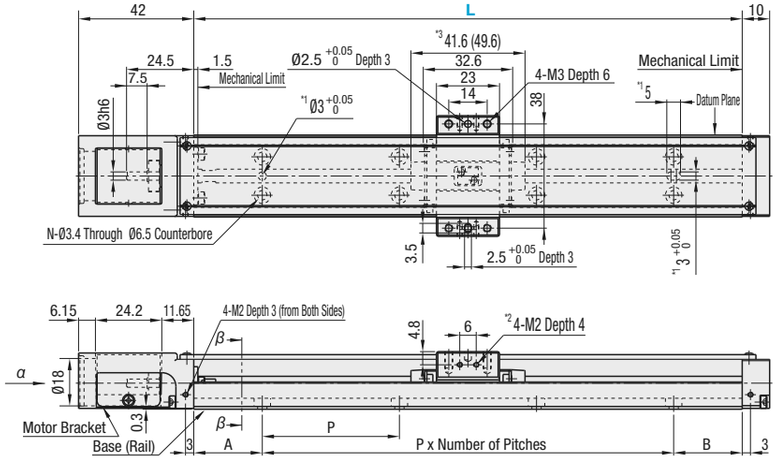




Cover Type







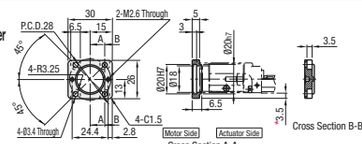
Effective stroke is the value with 2.5mm margin on each side from mechanical limits, i.e., 5mm in total.
Precision specification value is the value achieved after fixing rails. (It is not a value before tightening the rail screws.) For values, see **P.413**

*1: Dowel Holes for Base Positioning
*2: Tapped Holes for Sensor Flag Mount
*3: Value in ( ) is for Lubrication Unit MX-equipped Type.

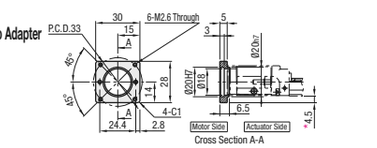
Part Number		Block Qty.	Motor Adapter Plates	Base Length (L)	* Effective Stroke		Total Mass (kg)		Mounting Hole Dimensions				
High Grade	* Precision Grade				B1	MX-equipped (B1)	Standard	Cover	A	P	B	Number of Pitches	Number of Holes (N)
(Standard Grease) LX1502 (C) (Low Dust Generation Grease) LX1502 (C) G (Lubrication Unit MX-equipped, Standard Grease) LX1502 (C) -MX	(Standard Grease) LX1502 (C) P (Low Dust Generation Grease) LX1502 (C) PG (Lubrication Unit MX-equipped, Standard Grease) LX1502 (C) P-MX	(1 pc.) B1	(Servo Motor) A1525 A1528 (Stepping Motor) T1528 ST1528 UT1542 ST1542 * (No Adapter Plate) N	75	26.9	-	0.13	0.18	12.5	50	12.5	1	4
				100	51.9	43.9	0.17	0.22	25		25		
				125	76.9	68.9	0.22	0.28	12.5		12.5	2	6
				150	101.9	93.9	0.29	0.35	25		25		
				175	126.9	118.9	0.35	0.41	12.5		12.5	3	8
				200	151.9	143.9	0.38	0.45	25		25		

* Precision Certificate is enclosed with precision grade products. * Motor adapter plate and mounting screws are not included with No Adapter Plate Type.
* (C) is for Cover Type.
* Effective stroke is indicated in dimensions with a margin of 2.5mm each from the ends.
* 0.002kg will be added to MX-equipped types.

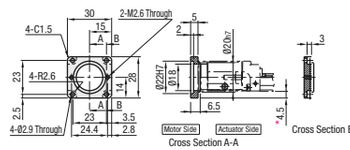
A1525
Servo Stepping No Adapter
□25



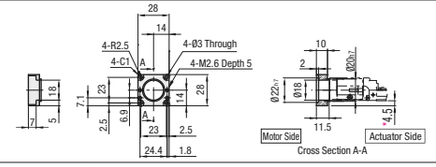
A1528
Servo Stepping No Adapter
□28



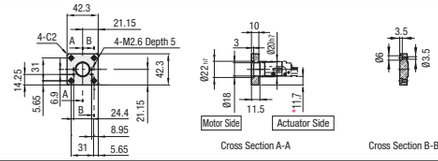
T1528
Stepping
□28



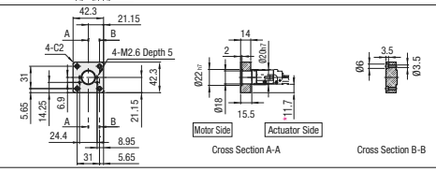
ST1528
Stepping
□28



UT1542
Stepping
□42



ST1542
Stepping
□42



Note:Note that the Motor Adapter protrudes beyond the rail at * marked area.

■Accuracy Standards

Accuracy Standards	High Grade	Precision Grade
Positioning (mm)	0.04	0.02
Backlash (mm)	0.01	0.002
Positioning Repeatability (mm)	±0.004	±0.003
Running Parallelism (mm)	0.02	0.01
Starting Torque (N·cm)	0.8	0.8

For Max. Velocity, see **P.413**
For Moment of Inertia, see **P.412**

Ordering Example: Part Number **LX1502C-MX** - Block Qty. **B1** - Motor Adapter Plates **A1525** - Base Length (L) **100**

■Servo Motor Application Table

Part Number	Flange Size	Manufacturer	Wattage
A1525	□25	Yasukawa/ Mitsubishi Electric Corporation	10W/20W
A1528	□28	Mitsubishi Electric Corporation	

■Stepping Motor Application Table

Part Number	Flange Size	Manufacturer	Type
T1528	□28	Oriental Motor	5-phase / α-Step
ST1528	□28	NEMA standards	-
UT1542	□42		
ST1542			

NEMA standards are a set of standards stipulated by National Electrical Manufacturers Association of United States.
For details on supported motor types, see **P.437**

High Grade Unit Price										
Part Number	L=75	L=100	L=125	L=150	L=175	L=200	Motor Adapter Plate	Block Qty.	Screw Shaft Dia.	Lead
LX1502-B1-□							Servo / Stepping No Adapter Plate	1	5	2
LX1502C-B1-□										

■Unit Price for Precision Grade / Low Dust Generation Grease Option / Lubrication Unit MX-equipped

Specifications	Unit Price
Precision Grade	
Low Dust Generation Grease	
Lubrication Unit MX-equipped	

Listed Price + Unit Price = Product Price
Volume Discount Rate is applicable.

Alterations: Part Number **LX1502** - Block Qty. **B1** - Motor Adapter Plates **A1525** - Base Length (L) **100** - (Code) **XW1**

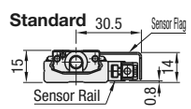
■Set of Proximity Sensor (SUNX) - Set Part Specification

LX Part Number	Code (□ is Sensor Qty.) * For L≤100, Max. 2 For L≥125, Max. 3	Sensor Qty. GX-F8A (ON when near)	Sensor Qty. GX-F8B (ON when away)	Sensor Rail Rail (1 pc.)	Sensor Rail Mounting Screw (Pitch +1 pc.)	Sensor (* Qty per Sensor Included) Sensor Mounting Screw (1 pc.)	Sensor Flag (1 pc.)	Sensor Flag Mounting Screw	Unit Price (L≤125) Sensor Qty. 1 pc.	2 pcs.	3 pcs.	Unit Price (L≥150) Sensor Qty. 1 pc.	2 pcs.	3 pcs.
LX1502	XA□	□ pc(s).	-	Dedicated	Phillips Flat Head Screw M2-4 (2 pcs.)	CSST3-10	Dedicated	Pan Head Screw M2-3 (1 pc.) Hex Socket Head Cap Screw M2-4 (2 pcs.)						
	XB□	-	□ pc(s).											
LX1502C	FA□	□ pc(s).	-											
	FB□	-	□ pc(s).											
LX1502	XW1	1 pc.	1 pc.					Pan Head Screw M2-3 (1 pc.)	-		-	-		-
	XW2		2 pcs.							-			-	
	XW3	2 pcs.	1 pc.											
LX1502C	FW1	1 pc.	1 pc.					Hex Socket Head Cap Screw M2-4 (2 pcs.)	-		-	-		-
	FW2		2 pcs.							-			-	
	FW3	2 pcs.	1 pc.											

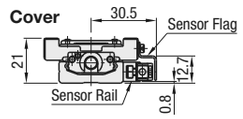
* Sensors are not sold separately.

■Proximity Sensor Installation Drawing

Standard



Cover



Single Axis Actuators LX20 Standard / Cover Type

Convenient Sensor Sets are also available. P.420

Design/Utility Model Registered



RoHS

Specifications	
LX20	
Standard / Cover	
Screw Shaft Dia. (mm)	6
Lead (mm)	1, 5
Accuracy	High Grade / Precision Grade

A Accessory

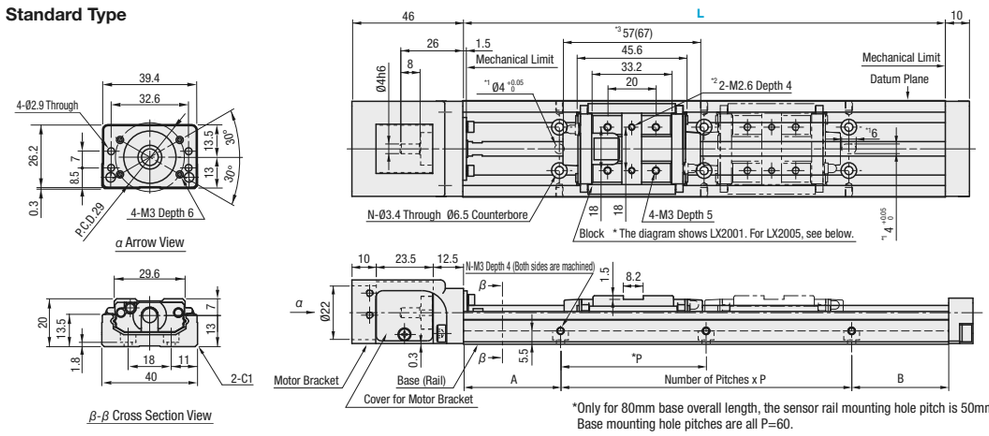
①Motor Adapter Plate M EN AW-5052 Equiv. S Black Anodize
②Adapter Plate Screw 4 pcs. M EN 1.4567 Equiv.
No accessory is included with No Motor Bracket Type.

For Material table, see P.411

Part Number	Standard Grease		Low Dust Generation Grease		Lubrication Unit MX-equipped (Standard Grease)	
	High Grade	Precision Grade	High Grade	Precision Grade	High Grade	Precision Grade
Lead 1	LX2001 (C)	LX2001 (C) P	LX2001 (C) G	LX2001 (C) PG	LX2001 (C) -MX	LX2001 (C) P-MX
Lead 5	LX2005 (C)	LX2005 (C) P	LX2005 (C) G	LX2005 (C) PG	LX2005 (C) -MX	LX2005 (C) P-MX

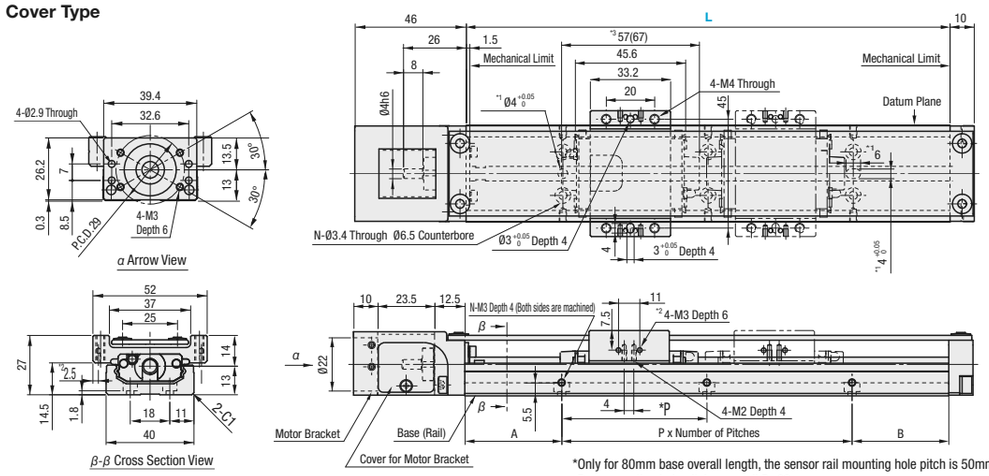
(C) is for Cover Type.
Low Dust Generation Grease Information P.414
Lubrication Unit MX Information P.408

Standard Type



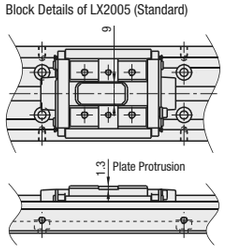
*Only for 80mm base overall length, the sensor rail mounting hole pitch is 50mm. Base mounting hole pitches are all P=60.

Cover Type



*Only for 80mm base overall length, the sensor rail mounting hole pitch is 50mm. Base mounting hole pitches are all P=60.

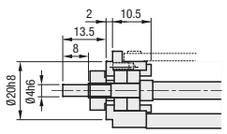
Block Details of LX2005 (Standard)



*1: Dowel Holes for Base Positioning
*2: Tapped Holes for Sensor Flag Mount
*3: Value in ( ) is for Lubrication Unit MX-equipped Type.

No Motor Bracket Type

For details of the mounting parts, see P.419



Effective stroke is the value with 2.5mm margin on each side from mechanical limits, i.e., 5mm in total.
For Double Block Type, effective strokes are the values when two blocks contact with each other.
When using LX20 No Motor Bracket Type as per the folding specifications given on P.433 to P.436, shaft may get damaged by the belt tension. Refrain from using it.
For Double Block Type, double-dashed lined blocks are not connected with the ball screw.
Precision specification value is the value achieved after fixing rails. (It is not a value before tightening the rail screws.) For values, see P.413

Part Number		Block Qty.	Motor Adapter Plates	Base Length (L)	* Effective Stroke			Total Mass (kg)				Mounting Hole Dimensions				
								Standard		Cover						
High Grade	* Precision Grade				B1	B2	MX-equipped (B1)	B1	B2	B1	B2	A	P	B	Number of Pitches	Number of Holes (N)
(Standard Grease) LX2001 (C) LX2005 (C)	(Standard Grease) LX2001 (C) P LX2005 (C) P	(1 pc.) B1 * MX-equipped types are available in B1 only. (2 pcs.) B2	(Servo Motor) A2025 A2028 A2038 A2040 E2040 (Stepping Motor) T2028 T2042 T2056.4 *(No Adapter Plate) N *(No Motor Bracket) F	80 (Lead 1 only)	16.5	-	-	0.40	-	0.51	-	10	60	10	1	4
				100	36.5			0.45		0.56		20		20		
(Low Dust Generation Grease) LX2001 (C) G LX2005 (C) G	(Low Dust Generation Grease) LX2001 (C) PG LX2005 (C) PG			150	86.5		76.5	0.58		0.69		15		15	2	6
				200	136.5	79.5	126.5	0.71	0.79	0.81	0.97	40		40		
(Lubrication Unit MX-equipped, Standard Grease) LX2001 (C) -MX LX2005 (C) -MX	(Lubrication Unit MX-equipped, Standard Grease) LX2001 (C) P-MX LX2005 (C) P-MX			250 (Lead 5 only)	186.5	129.5	176.5	0.83	0.92	0.94	1.10	35		35	3	8
				300 (Lead 5 only)	236.5	179.5	226.5	0.96	1.05	1.07	1.23	30		30	4	10

* Precision Certificate is enclosed with precision grade products.
* Motor adapter plate and mounting screws are not included with No Adapter Plate Type.
* Effective stroke is indicated in dimensions with a margin of 2.5mm each from the ends.
* (C) is for Cover Type.
For Max. Velocity, see P.413
For Moment of Inertia, see P.412
0.004kg will be added to MX-equipped types.

Servo Motor Application Table

Part Number	Flange Size	Manufacturer	Wattage
A2025	□25	Yasukawa/ Mitsubishi Electric Corporation	10W/20W/30W
A2028	□28	Mitsubishi Electric Corporation	
A2038	□38	Panasonic	30W/50W/100W
E2040	□40	SIEMENS	50W/100W
A2040		Yasukawa Electric Corporation	50W
		Mitsubishi Electric Corporation	
		Keyence Corporation	
		Omron Corporation	
		Sanyo Denki Co., Ltd.	30W/50W

For details on supported motor types and detailed diagram of Motor Adapter Plates, see P.419

Stepping Motor Application Table

Part Number	Flange Size	Manufacturer	Type
T2028	□28	Oriental Motor	2-phase / 5-phase / α-Step
T2042	□42		
T2056.4	□56.4	NEMA standards	-

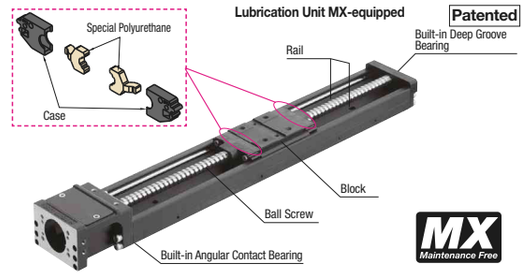
NEMA standards are a set of standards stipulated by National Electrical Manufacturers Association of United States.
For details on supported motor types and detailed diagram of Motor Adapter Plates, see P.419

Ordering Example

Part Number	-	Block Qty.	-	Motor Adapter Plates	-	Base Length (L)
LX2001C	-	B1	-	A2025	-	200
LX2005-MX	-	B1	-	A2028	-	150

Accuracy Standards

Accuracy Standards	High Grade	Precision Grade
Positioning (mm)	0.06	0.02
Backlash (mm)	0.01	0.003
Positioning Repeatability (mm)	±0.005	±0.003
Running Parallelism (mm)	0.025	0.01
Starting Torque (N·cm)	1.2	1.2



Provides long term maintenance-free operation. For details, see P.408

Unit price for Precision Grade / Low Particle Generation Grease Option / Lubrication Unit MX-equipped

Specifications	Unit Price
Precision Grade	
Low Dust Generation Grease	
Lubrication Unit MX-equipped	

Listed Price + Unit Price = Product Price
Volume Discount Rate is applicable.

High Grade Unit Price

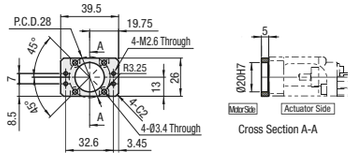
Part Number	L=80 (Lead 1 only)	L=100	L=150	L=200	L=250 (Lead 5 only)	L=300 (Lead 5 only)	Motor Adapter Plates	Block Qty.	Screw Shaft Dia.	Lead
LX20□□-B1-□							Servo Stepping No Adapter Plate	1	6	1
LX20□□-B2-□	-	-	-					2		5
LX20□□-B1-F							No Bracket	1		
LX20□□-B2-F	-	-	-					2		
LX20□□C-B1-□							Servo Stepping No Adapter Plate	1	6	1
LX20□□C-B2-□	-	-	-					2		5
LX20□□C-B1-F							No Bracket	1		
LX20□□C-B2-F	-	-	-					2		

LX20□□(C) Series sensor set can be specified as an alteration. For Detailed alteration diagram, see P.420

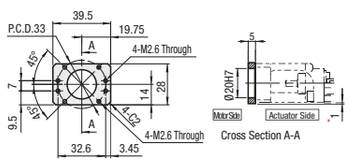
Motor Adapter Plate Dimensional Drawing

Note:Note that the Motor Adapter protrudes beyond the rail at * marked area.

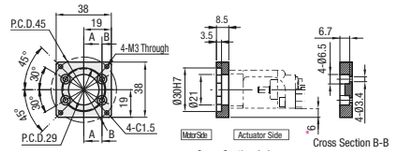
A2025
Servo
□25



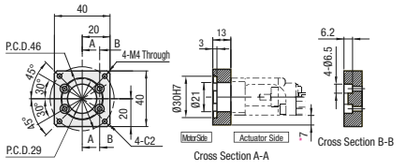
A2028
Servo
□28



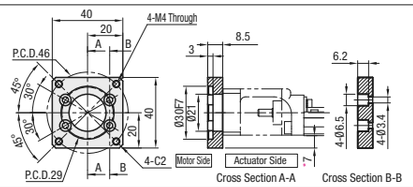
A2038
Servo
□38



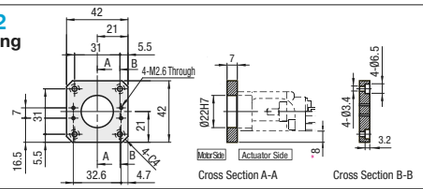
A2040
Servo
□40



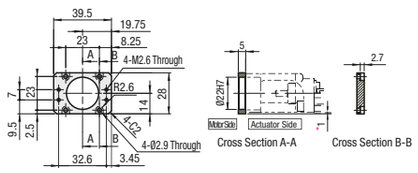
E2040
Servo
□40



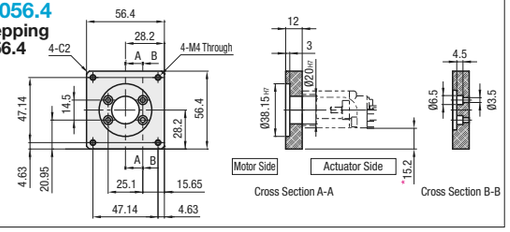
T2042
Stepping
□42



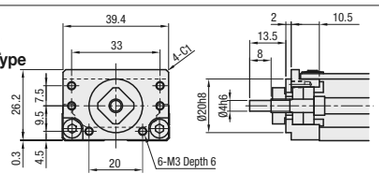
T2028
Stepping
□28



T2056.4
Stepping
□56.4



F
No Motor Bracket Type



Servo Motor Application Table

Part Number	Flange Size	Manufacturer	Product Number	Wattage	Recommended Coupling
A2025	□25	Yasukawa Electric Corporation	SGMMJ-A1	10W	SCPW16 (P.1076)
			SGMMJ-A2	20W	
			SGMMJ-A3	30W	
A2028	□28	Mitsubishi Electric Corporation	HG-AK0136	10W	
			HG-AK0236	20W	
			HG-AK0336	30W	
A2038	□38	Panasonic	MSMD5A	50W	CPDT19 (P.1075)
			MSME5A		
			MSMD01*	100W	
			MSME01*		
A2040	□40	Yasukawa Electric Corporation	SGMJV-A5	50W	SCPW16 (P.1076) CPDT19 (P.1075)
			SGMAH-A5		
			SGMAS-A5		
		Mitsubishi Electric Corporation	HG-MR053		
			HG-KR053		
			HF-KP053		
		Sanyo Denki Co., Ltd.	Q1AA04003D		
			Q1AA04005D		
		Omron Corporation	R88M-K05030		
		Keyence Corporation	MV-M05		
			SV-M005		
E2040	□40	SIEMENS	1FK7011-5	100W	CPDW19 (P.1075)
			1FK7015-5		

(?)Product numbers and specifications of motors are subject to change. Please check the manufactures' information.
(?)Applicable motors and couplings are not limited to the above listed products. Please confirm each mounting dimension.

Stepping Motor Application Table

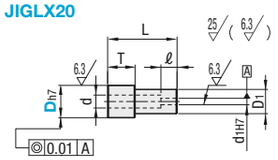
Part Number	Flange Size	Manufacturer	Product Number	Type	Recommended Coupling
T2028	□28	Oriental Motor	CSK22	2-phase	SCPW16 (P.1076)
			CSK52	5-phase	
			ASC3*	αStep	
T2042	□42		PK24*	2-phase	
			CSK24		
			RK54	5-phase	
			RKS54*/PK54*		
			AS46, ASC46, AR46	αStep	
T2056.4	□56.4	NEMA standards	NEMA23	-	CPDW19 (P.1075)

(?)NEMA standards is a set of standards stipulated by National Electrical Manufacturers Association of United States.

Motor Adapter Centering Tools

JIGLX20

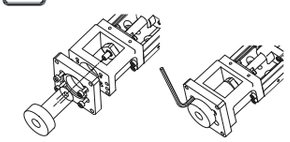




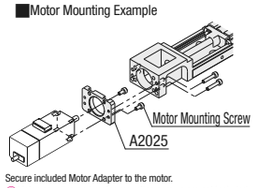
RoHS

(?)Two face milling on D part of JIGLX20-30. Check the CAD data for detailed drawing.
M Material: EN AW-5056 Equiv.
S Surface Treatment: Clear Anodize

Please use for centering of Motor Adapter Plates.



■Motor Mounting Example



Secure included Motor Adapter to the motor.
(?)Motor, coupling and motor mounting screws are not included.

Part Number	D	Applicable Adapter Plate	d	D1	d1	L	T	ℓ	Unit Price 1 ~ 5 pc(s).
JIGLX20	20	A2028	8	15	4	43	17	10	
	30	A2038/A2040				47	13		

(?)For orders larger than indicated quantity, please check with WOS.

Ordering Example: Part Number - D
JIGLX20 - 20

Proximity Sensor (SUNX) - Set Part Specification

LX Part Number	Code (□ is Sensor Qty.) *For L≤100, Max. 2 For L≥150, Max. 3	Sensor Type/Qty. GX-F8A (ON when near)	Sensor Type/Qty. GX-F8B (ON when away)	Sensor Rail Rail (1 pc.)	Sensor Rail Mounting Screw (Pitch +1 pc.)	Sensor (* Qty per Sensor Included) Sensor Mounting Screw (1 pc.)	Sensor (* Qty per Sensor Included) Mounting Nut (1 pc.)	Sensor Flag Sensor Flag (1 pc.)	Sensor Flag Sensor Flag Mounting Screw	Unit Price (L≤150) Sensor Qty. 1 pc.	Unit Price (L≤150) Sensor Qty. 2 pcs.	Unit Price (L≤150) Sensor Qty. 3 pcs.	Unit Price (L≥200) Sensor Qty. 1 pc.	Unit Price (L≥200) Sensor Qty. 2 pcs.	Unit Price (L≥200) Sensor Qty. 3 pcs.
LX20□□	XA□	□ pc(s).	-	SENAT3□H	SCB3-5	CBSST3-10	LBNR3	Dedicated	Flat Head Machine Screw M2.6-4 (1 pc.)	-	-	-	-	-	-
	XB□	-	□ pc(s).						SCB3-6 (2 pcs.)						
LX20□□C	FA□	□ pc(s).	-						Flat Head Machine Screw M2.6-4 (1 pc.)						
	FB□	-	□ pc(s).						SCB3-6 (2 pcs.)						
LX20□□	XW1	1 pc.	1 pc.						Flat Head Machine Screw M2.6-4 (1 pc.)	-	-	-	-	-	-
	XW2		2 pcs.								-			-	
	XW3	2 pcs.	1 pc.												
LX20□□C	FW1	1 pc.	1 pc.						SCB3-6 (2 pcs.)		-			-	
	FW2		2 pcs.												
	FW3	2 pcs.	1 pc.												

Photo Sensor (SUNX) - Set Part Specification

LX Part Number	Code (□ is Sensor Qty.) *For L≤100, Max. 2 For L≥150, Max. 3	Photo Sensor	Sensor Rail Rail (1 pc.)	Sensor Rail Mounting Screw (Pitch +1 pc.)	Sensor (* Qty per Sensor Included) Sensor Bracket	Sensor (* Qty per Sensor Included) Bracket Mounting Screw Nut	Sensor (* Qty per Sensor Included) Sensor Mounting Screw	Sensor (* Qty per Sensor Included) Sensor Mounting Washer	Sensor Flag Sensor Flag (1 pc.)	Sensor Flag Sensor Flag Mounting Screw	Unit Price (L≤150) Sensor Qty. 1 pc.	Unit Price (L≤150) Sensor Qty. 2 pcs.	Unit Price (L≤150) Sensor Qty. 3 pcs.	Unit Price (L≥200) Sensor Qty. 1 pc.	Unit Price (L≥200) Sensor Qty. 2 pcs.	Unit Price (L≥200) Sensor Qty. 3 pcs.
LX20□□	SP□	PM-L24	SENAT3□H	SCB3-5	Dedicated	SCB3-5 (2 pcs.) LBNR3 (2 pcs.)	SCB2-6 (2 pcs.)	M2 Small Flat Washer (2 pcs.) M2 Spring Washer (2 pcs.)	Dedicated	Flat Head Machine Screw M2.6-4 (1 pc.)						
LX20□□C	MP□									SCB3-6 (2 pcs.)						

Photo Sensor (Omron) - Set Part Specification

LX Part Number	Code (□ is Sensor Qty.) *For L≤100, Max. 2 For L≥150, Max. 3	Photo Sensor	Sensor Rail Rail (1 pc.)	Sensor Rail Mounting Screw (Pitch +1 pc.)	Sensor (* Qty per Sensor Included) Sensor Bracket	Sensor (* Qty per Sensor Included) Bracket Mounting Screw Nut	Sensor (* Qty per Sensor Included) Sensor Mounting Screw	Sensor (* Qty per Sensor Included) Sensor Mounting Washer	Sensor Flag Sensor Flag (1 pc.)	Sensor Flag Sensor Flag Mounting Screw	Unit Price (L≤150) Sensor Qty. 1 pc.	Unit Price (L≤150) Sensor Qty. 2 pcs.	Unit Price (L≤150) Sensor Qty. 3 pcs.	Unit Price (L≥200) Sensor Qty. 1 pc.	Unit Price (L≥200) Sensor Qty. 2 pcs.	Unit Price (L≥200) Sensor Qty. 3 pcs.
LX20□□	OP□	EE-SX911-R 1M	SENAT3□H	SCB3-5	Dedicated	SCB3-5 (2 pcs.) LBNR3 (2 pcs.)	SCB3-6 (2 pcs.)	M3 Small Flat Washer (2 pcs.)	Dedicated	Flat Head Machine Screw M2.6-4 (1 pc.)						
LX20□□C	EP□									SCB3-6 (2 pcs.)						

* Sensors are not sold separately.
(?)EE-SX911-R1M is scheduled to change to EE-SX951-R1M from April 2015.

Alterations

Part Number		Block Qty.		Motor Adapter Plates		Base Length (L)		(Code)
LX2001	-	B1	-	A2025	-	200	-	XW1
LX2005C	-	B1	-	A2028	-	200	-	EP3

Proximity Sensor Type Installation Drawings - SUNX

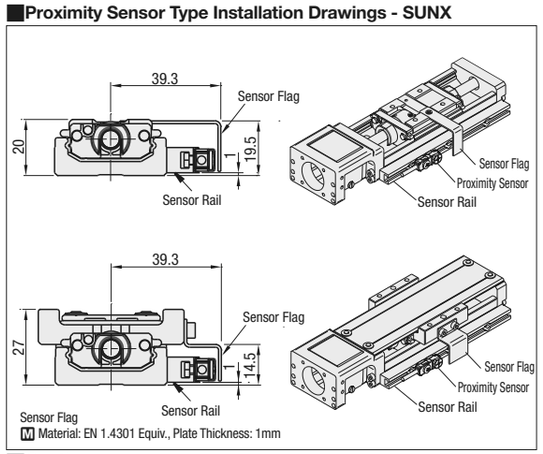
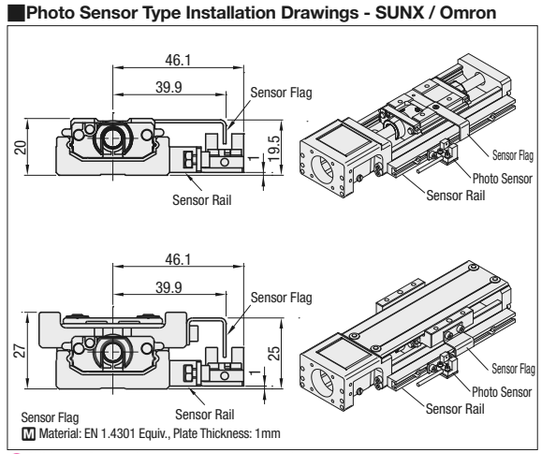


Photo Sensor Type Installation Drawings - SUNX / Omron



(?)SUNX and Omron photo sensors are the same in external dimensions.
(?)Please access each sensor manufacture's website for the specifications of sensors in use.

Cautions

- Sensor set is shipped with LX Actuator. Assembly required.
- Please check for all included parts immediately after unpacking. Some small parts can be lost.
  Please handle the products with great care.

Single Axis Actuators LX26 Standard / Cover Type

Convenient Sensor Sets are also available. P.424

Design / Utility Model Registered



RoHS

For Material table, see **P.411**

Specifications	
LX26	
Standard / Cover	
Screw Shaft Dia. (mm)	8
Lead (mm)	2, 5, 10
Accuracy	High Grade / Precision Grade

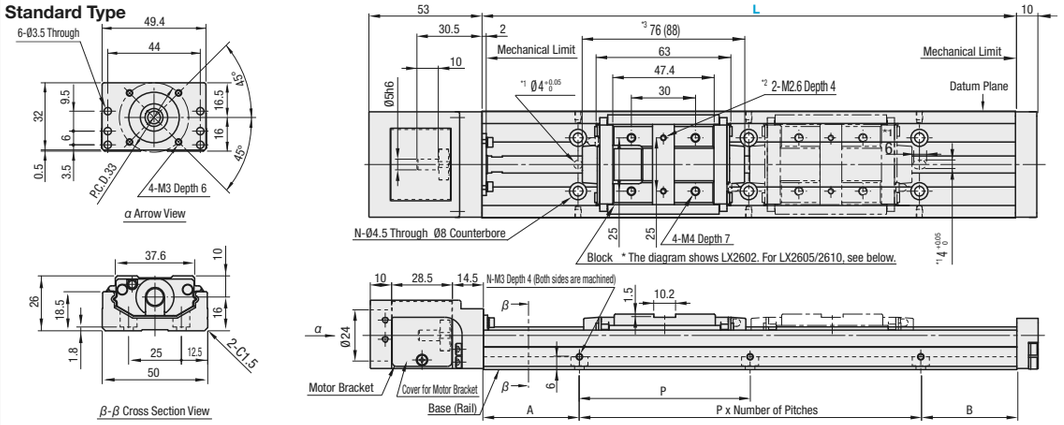
A Accessory

① Motor Adapter Plate
M EN AW-5052 Equiv. S Black Anodize
② Adapter Plate Screw 4 pcs. M EN 1.4567 Equiv.
No accessory is included with No Motor Bracket Type.

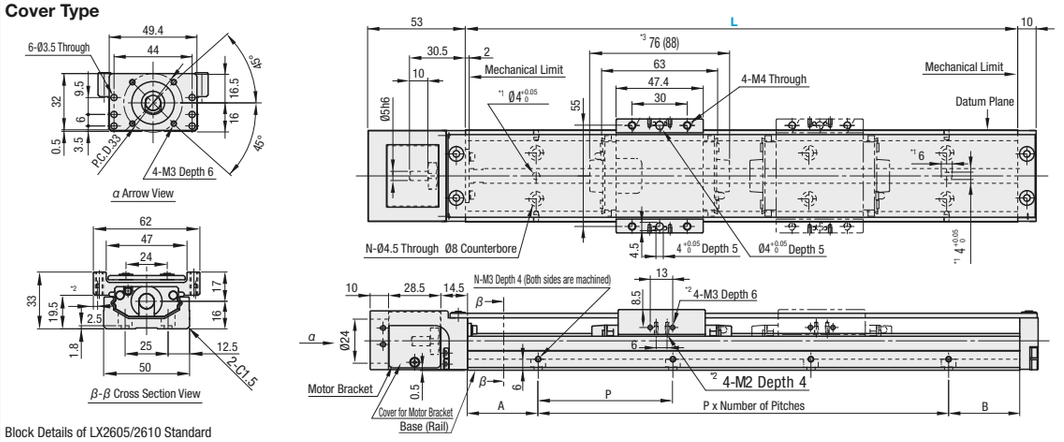
Part Number	Standard Grease		Low Dust Generation Grease		Lubrication Unit MX-equipped (Standard Grease)	
	High Grade	Precision Grade	High Grade	Precision Grade	High Grade	Precision Grade
Lead 2	LX2602 (C)	LX2602 (C) P	LX2602 (C) G	LX2602 (C) PG	LX2602 (C) -MX	LX2602 (C) P-MX
Lead 5	LX2605 (C)	LX2605 (C) P	LX2605 (C) G	LX2605 (C) PG	LX2605 (C) -MX	LX2605 (C) P-MX
Lead 10	LX2610 (C)	LX2610 (C) P	LX2610 (C) G	LX2610 (C) PG	LX2610 (C) -MX	LX2610 (C) P-MX

(C) is for Cover Type. Low Dust Generation Grease Information **P.414** Lubrication Unit MX Information **P.408**

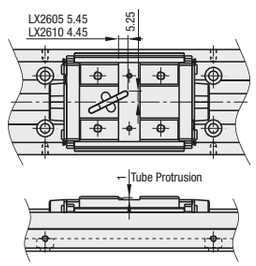
Standard Type



Cover Type



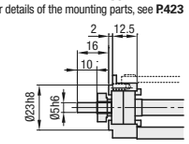
Block Details of LX2605/2610 Standard



*1: Dowel Holes for Base Positioning
*2: Tapped Holes for Sensor Flag Mount
*3: Value in ( ) is for Lubrication Unit MX-equipped Type.

No Motor Bracket Type

* For details of the mounting parts, see **P.423**



Effective stroke is the value with 2.5mm margin on each side from mechanical limits, i.e., 5mm in total.
For Double Block Type, effective strokes are the values when two blocks contact with each other.
When using LX26 No Motor Bracket Type as per the folding specifications given on **P.433** to **P.436**, shaft may be damaged by the belt tension. Refrain from using it.
For Double Block Type, double-dashed lined blocks are not connected with the ball screw.
Precision specification value is the value achieved after fixing rails. (It is not a value before tightening the rail screws.) For values, see **P.413**

Part Number		Block Qty.	Motor Adapter Plates	Base Length (L)	* Effective Stroke			Total Mass (kg)				Mounting Hole Dimensions				
								Standard		Cover						
High Grade	* Precision Grade				B1	B2	MX-equipped (B1)	B1	B2	B1	B2	A	P	B	Number of Pitches	Number of Holes (N)
(Standard Grease) LX2602 (C) LX2605 (C) LX2610 (C)	(Standard Grease) LX2602 (C) P LX2605 (C) P LX2610 (C) P	(1 pc.) B1 *Lubrication Units MX-equipped types and Lead 10 are available in B1 only (2 pcs.) B2	(Servo Motor) A2625 A2628 A2638 A2640 E2640 (Stepping Motor) T2628 T2642 T2656.4 *(No Adapter Plate) N * (No Motor Bracket) F	100 (Lead 2 only)	17		-	0.87		1.07		10		10	1	4
				150	67	-		0.95	-	1.15	-	35		35		
(Low Dust Generation Grease) LX2602 (C) G LX2605 (C) G LX2610 (C) G	(Low Dust Generation Grease) LX2602 (C) PG LX2605 (C) PG LX2610 (C) PG			200	117		105	1.16		1.36		20		20	2	6
				250	167	91	155	1.37	1.57	1.57	1.89	45	80	45		
(Lubrication Unit MX-equipped, Standard Grease) LX2602 (C) -MX LX2605 (C) -MX LX2610 (C) -MX	(Lubrication Unit MX-equipped, Standard Grease) LX2602 (C) P-MX LX2605 (C) P-MX LX2610 (C) P-MX			300	217	141	205	1.58	1.78	1.78	2.10	30		30	3	8
				350 (Lead 5 and 10 only)	267	191	255	1.79	1.99	1.99	2.31	15		15	4	10
				400 (Lead 5 and 10 only)	317	241	305	2.00	2.20	2.20	2.52	40		40		

* Precision Certificate is enclosed with precision grade products.
* Motor adapter plate and mounting screws are not included with No Adapter Plate Type.
* Effective stroke is indicated in dimensions with a margin of 2.5mm each from the ends.
* (C) is for Cover Type.
For Max. Velocity, see **P.413**
For Moment of Inertia, see **P.412**
0.007kg will be added to MX-equipped types.

Accuracy Standards

Accuracy Standards	High Grade	Precision Grade
Positioning (mm)	0.06	0.02
Backlash (mm)	0.01	0.003
Positioning Repeatability (mm)	±0.005	±0.003
Running Parallelism (mm)	0.025	0.01
Starting Torque (N·cm)	2	2

Servo Motor Application Table

Part Number	Flange Size	Manufacturer	Wattage
A2625	□25	Yasukawa / Mitsubishi Electric Corporation	10W/20W/30W
A2628	□28	Mitsubishi Electric Corporation	
A2638	□38	Panasonic	50W/100W
E2640		SIEMENS	
A2640	□40	Yasukawa Electric Corporation	50W
		Mitsubishi Electric Corporation	
		Keyence Corporation	
		Omron Corporation	
		Sanyo Denki Co., Ltd.	30W/50W

Shaft insertion depth on coupling will be 0.5mm shorter on each side when used with Siemens motor.
For details on supported motor types and detailed diagram of Motor Adapter Plates, see **P.423**

Stepping Motor Application Table

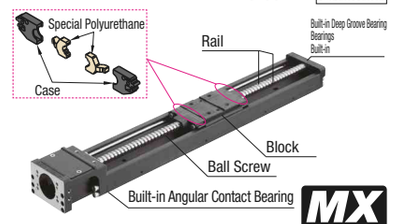
Part Number	Flange Size	Manufacturer	Type
T2628	□28	Oriental Motor Motor	2-phase / 5-phase / α-Step
T2642	□42		
T2656.4	□56.4	NEMA standards	-

NEMA standards are a set of standards stipulated by National Electrical Manufacturers Association of United States.
For details on supported motor types and detailed diagram of Motor Adapter Plates, see **P.423**

Ordering Example

Part Number		Block Qty.		Motor Adapter Plates		Base Length (L)
LX2602C	-	B1	-	A2640	-	300
LX2605-MX	-	B1	-	A2638	-	200

Lubrication Unit MX-equipped Patented



Provides long term maintenance-free operation.
For details, see **P.408**

Unit price for Precision Grade / Low Particle Generation Grease Option / Lubrication Unit MX-equipped

Specifications	Unit Price
Precision Grade	
Low Dust Generation Grease	
Lubrication Unit MX-equipped	

Listed Price + Unit Price = Product Price
Volume Discount Rate is applicable.

High Grade Unit Price

Part Number	L=100 (Lead 2 only)	L=150	L=200	L=250	L=300	L=350 (Lead 5 and 10 only)	L=400 (Lead 5 and 10 only)	Motor Adapter Plates	Block Qty.	Screw Shaft Dia.	Lead
LX26□□-B1-□								Servo Stepping No Adapter Plate	1	8	2
LX26□□-B2-□	-	-	-						2		5
LX26□□-B1-F								No Bracket	1		10
LX26□□-B2-F	-	-	-						2		
LX26□□C-B1-□								Servo Stepping No Adapter Plate	1	8	2
LX26□□C-B2-□	-	-	-						2		5
LX26□□C-B1-F								No Bracket	1		10
LX26□□C-B2-F	-	-	-						2		

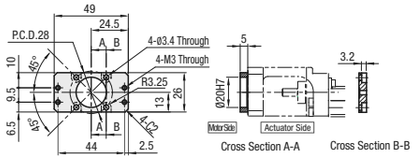
Lead 10 is available for selection only in case of B1 (Block 1 pc.)
LX26□□(C) Series sensor set can be specified as an alteration. For Detailed alteration diagram, see P.424

Motor Adapter Plates, Motor Adapter Centering Tools for LX26 Actuator

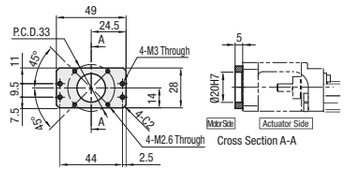
■Motor Adapter Plate Dimensional Drawing

Note:Note that the Motor Adapter protrudes beyond the rail at * marked area.

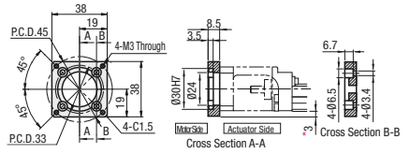
A2625
Servo
□25



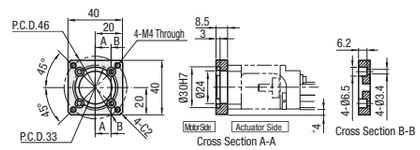
A2628
Servo
□28



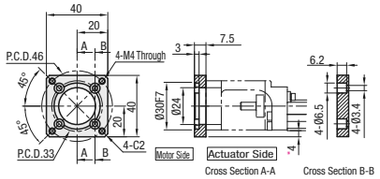
A2638
Servo
□38



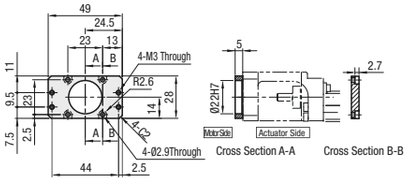
A2640
Servo
□40



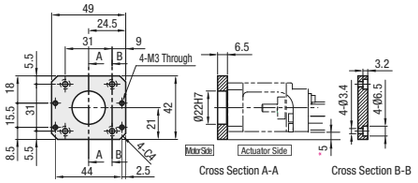
E2640
Servo
□38



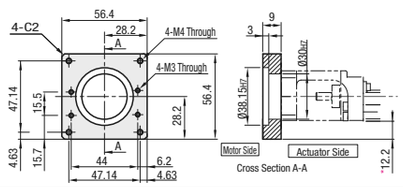
T2628
Stepping
□28



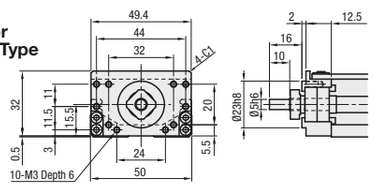
T2642
Stepping
□42



T2656.4
Stepping
□56.4



F
No Motor Bracket Type



■Servo Motor Application Table

Part Number	Flange Size	Manufacturer	Product Number	Wattage	Recommended Coupling
A2625	□25	Yasukawa Electric Corporation	SGMMJ-A1	10W	SCXW21 (P.1076) SCPW21 (P.1076) CPDW19 (P.1075)
			SGMMJ-A2	20W	
			SGMMJ-A3	30W	
A2628	□28	Mitsubishi Electric Corporation	HG-AK0136	10W	
			HG-AK0236	20W	
			HG-AK0336	30W	
A2638	□38	Panasonic	MSMD5A	50W	
			MSME5A		
			MSMD01*	100W	
			MSME01*		
A2640	□40	Yasukawa Electric Corporation	SGMJV-A5	50W	
			SGMAH-A5		
			SGMAS-A5		
		Mitsubishi Electric Corporation	HG-MR053		
			HG-KR053		
			HF-KP053		
		Sanyo Denki Co., Ltd.	Q1AA04003D	30W	
			Q1AA04005D	50W	
		Omron Corporation	R88M-K05030		
		Keyence Corporation	MV-M05		
			SV-M005		
E2640	□40	(P)SIEMENS	1FK7011-5	100W	CPDW19 (P.1075)
			1FK7015-5		

(P)Shaft insertion depth on coupling will be 0.5mm shorter on each side when used with Siemens motor.
(P)Product numbers and specifications of motors are subject to change. Please check the manufactures' information.
(P)Applicable motors and couplings are not limited to the above listed products. Please confirm each mounting dimension.

■Stepping Motor Application Table

Part Number	Flange Size	Manufacturer	Product Number	Type	Recommended Coupling
T2628	□28	Oriental Motor	CSK22	2-phase	SCXW21 (P.1076) SCPW21 (P.1076) CPDW19 (P.1075)
			CSK52	5-phase	
			ASC3*	αStep	
T2642	□42		PK24*	2-phase	
			CSK24		
			RK54	5-phase	
			RKS54* / PK54*		
			AS46, ASC46, AR46	αStep	
T2656.4	□56.4	NEMA standards	NEMA23	-	CPDW19 (P.1075)

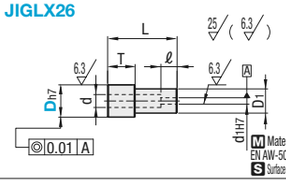
(P)NEMA standards is a set of standards stipulated by National Electrical Manufacturers Association of United States.

■Motor Adapter Centering Tools

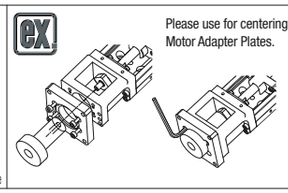
JIGLX26



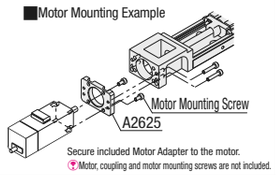
RoHS



Please use for centering of Motor Adapter Plates.



■Motor Mounting Example



Secure included Motor Adapter to the motor.
(P)Motor, coupling and motor mounting screws are not included.

Part Number	D	Applicable Adapter Plate	d	D1	d1	L	T	ℓ	Unit Price 1 ~ 5 pc(s).
JIGLX26	20	A2628	8	15	5	47.5	17	12	
	30	A2638/A2640/T2656.4				49.5	13	11	

(P)For orders larger than indicated quantity, please check with WOS.

Ordering Example: Part Number - D → JIGLX26 - 20

Sensor Sets for Single Axis Actuators LX26 (Alterations)

■Proximity Sensor (SUNX) - Set Part Specification

LX Part Number	Code * For L≤100, Max. 2 For L≥150, Max. 3	Sensor Type/Qty. GX-F8A (ON when near)	Sensor Type/Qty. GX-F8B (ON when away)	Sensor Rail Rail (1 pc.)	Sensor Rail Mounting Screw (Pitch +1 pc.)	Sensor (* Qty per Sensor Included) Sensor Mounting Screw (1 pc.)	Sensor (* Qty per Sensor Included) Mounting Nut (1 pc.)	Sensor Flag (1 pc.)	Sensor Flag Mounting Screw	Unit Price (L≤200) Sensor Qty. 1 pc.	Unit Price (L≤200) Sensor Qty. 2 pcs.	Unit Price (L≤200) Sensor Qty. 3 pcs.	Unit Price (L≥250) Sensor Qty. 1 pc.	Unit Price (L≥250) Sensor Qty. 2 pcs.	Unit Price (L≥250) Sensor Qty. 3 pcs.
LX26□□	XA□	□pc(s).	-	SENAT3□H	SCB3-5	CBSST3-10	LBNR3	Dedicated	Flat Head Machine Screw M2.6-4 (1 pc.)	-	-	-	-	-	-
	XB□	-	□pc(s).						SCB3-6 (2 pcs.)						
LX26□□C	FA□	□pc(s).	-												
	FB□	-	□pc(s).												
LX26□□	XW1	1 pc.	1 pc.						Flat Head Machine Screw M2.6-4 (1 pc.)			-			-
	XW2		2 pcs.								-			-	
	XW3	2 pcs.	1 pc.												
LX26□□C	FW1	1 pc.	1 pc.						SCB3-6 (2 pcs.)			-			-
	FW2		2 pcs.								-			-	
	FW3	2 pcs.	1 pc.												

■Photo Sensor (SUNX) - Set Part Specification

LX Part Number	Code * For L≤100, Max. 2 For L≥150, Max. 3	Photo Sensor	Sensor Rail Rail (1 pc.)	Sensor Rail Mounting Screw (Pitch +1 pc.)	Sensor (* Qty per Sensor Included) Sensor Bracket	Sensor (* Qty per Sensor Included) Bracket Mounting Screw Nut	Sensor (* Qty per Sensor Included) Sensor Mounting Screw	Sensor (* Qty per Sensor Included) Sensor Mounting Washer	Sensor Flag (1 pc.)	Sensor Flag Mounting Screw	Unit Price (L≤200) Sensor Qty. 1 pc.	Unit Price (L≤200) Sensor Qty. 2 pcs.	Unit Price (L≤200) Sensor Qty. 3 pcs.	Unit Price (L≥250) Sensor Qty. 1 pc.	Unit Price (L≥250) Sensor Qty. 2 pcs.	Unit Price (L≥250) Sensor Qty. 3 pcs.
LX26□□	SP□	PM-L24	SENAT3□H	SCB3-5	Dedicated	SCB3-5 (2 pcs.) LBNR3 (2 pcs.)	SCB2-6 (2 pcs.)	M2 Small Flat Washer (2 pcs.) M2 Spring Washer (2 pcs.)	Dedicated	Flat Head Machine Screw M2.6-4 (1 pc.)						
LX26□□C	MP□									SCB3-5 (2 pcs.)						

■Photo Sensor (Omron) - Set Part Specification

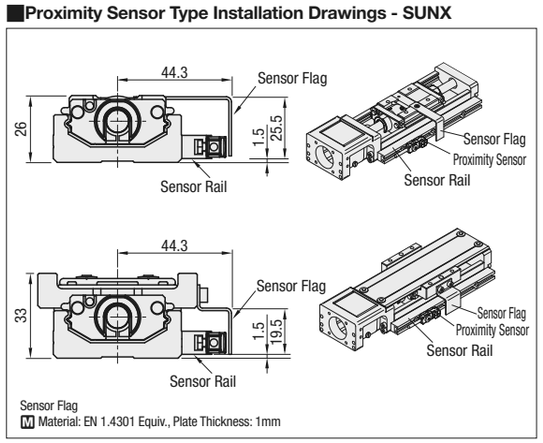
LX Part Number	Code * For L≤100, Max. 2 For L≥150, Max. 3	Photo Sensor	Sensor Rail Rail (1 pc.)	Sensor Rail Mounting Screw (Pitch +1 pc.)	Sensor (* Qty per Sensor Included) Sensor Bracket	Sensor (* Qty per Sensor Included) Bracket Mounting Screw Nut	Sensor (* Qty per Sensor Included) Sensor Mounting Screw	Sensor (* Qty per Sensor Included) Sensor Mounting Washer	Sensor Flag (1 pc.)	Sensor Flag Mounting Screw	Unit Price (L≤200) Sensor Qty. 1 pc.	Unit Price (L≤200) Sensor Qty. 2 pcs.	Unit Price (L≤200) Sensor Qty. 3 pcs.	Unit Price (L≥250) Sensor Qty. 1 pc.	Unit Price (L≥250) Sensor Qty. 2 pcs.	Unit Price (L≥250) Sensor Qty. 3 pcs.
LX26□□	OP□	EE-SX911-R 1M	SENAT3□H	SCB3-5	Dedicated	SCB3-5 (2 pcs.) LBNR3 (2 pcs.)	SCB3-6 (2 pcs.)	Small Flat Washer (2 pcs.)	Dedicated	Flat Head Machine Screw M2.6-4 (1 pc.)						
LX26□□C	EP□									SCB3-6 (2 pcs.)						

* Sensors are not sold separately.
(P)EE-SX911-R1M is scheduled to change to EE-SX951-R1M from April 2015.

Alterations

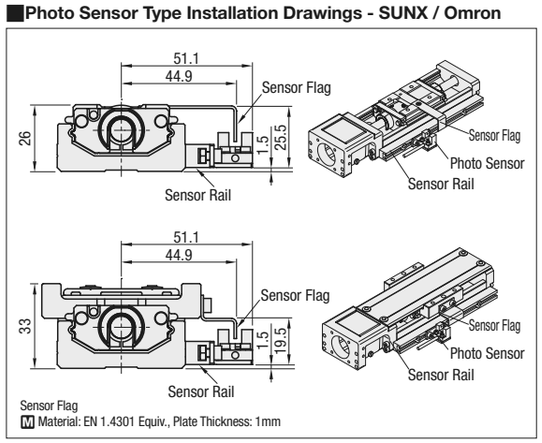
Part Number		Block Qty.		Motor Adapter Plates		Base Length (L)		(Code)
LX2602	-	B1	-	A2628	-	300	-	XW1
LX2605C	-	B1	-	A2638	-	200	-	MP2

■Proximity Sensor Type Installation Drawings - SUNX



Sensor Flag
M Material: EN 1.4301 Equiv., Plate Thickness: 1mm

■Photo Sensor Type Installation Drawings - SUNX / Omron



Sensor Flag
M Material: EN 1.4301 Equiv., Plate Thickness: 1mm

■Cautions

- Sensor set is shipped with LX Actuator. Assembly required.
- Please check for all included parts immediately after unpacking. Some small parts can be lost.
  Please handle the products with great care.

(P)SUNX and Omron photo sensors are the same in external dimensions.
(P)Please access each sensor manufacture's website for the specifications of sensors in use.

Single Axis Actuators LX30 Standard / Cover Type

Linear eXcellence

Convenient Sensor Sets are also available. P.428

Design/Utility Model Registered



<Standard Long Block Type> <Long Blocks with Cover> <Standard No Motor Bracket Type>

RoHS

For Material table, see P.411.

Specifications	
LX30	
Standard / Cover	
Screw Shaft Dia. (mm)	10
Lead (mm)	5, 10
Accuracy	High Grade / Precision Grade

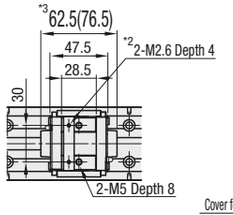
A Accessory

① Motor Adapter Plates
M EN AW-5052 Equiv. S Black Anodize
② Adapter Plate Screw 4 pcs. M EN 1.4567 Equiv.
No accessory is included with No Motor Bracket Type.

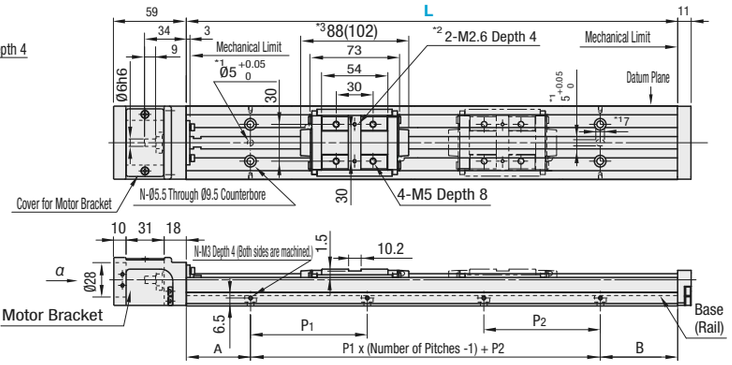
Part Number	Standard Grease		Low Dust Generation Grease		Lubrication Unit MX-equipped (Standard Grease)	
	High Grade	Precision Grade	High Grade	Precision Grade	High Grade	Precision Grade
Lead 5	LX3005(C)	LX3005(C)P	LX3005(C)G	LX3005(C)PG	LX3005(C)-MX	LX3005(C)P-MX
Lead 10	LX3010(C)	LX3010(C)P	LX3010(C)G	LX3010(C)PG	LX3010(C)-MX	LX3010(C)P-MX

(C) is for Cover Type. Low Dust Generation Grease Information P.414 Lubrication Unit MX Information P.408

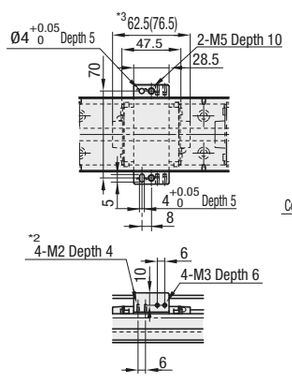
Standard Short Block Type



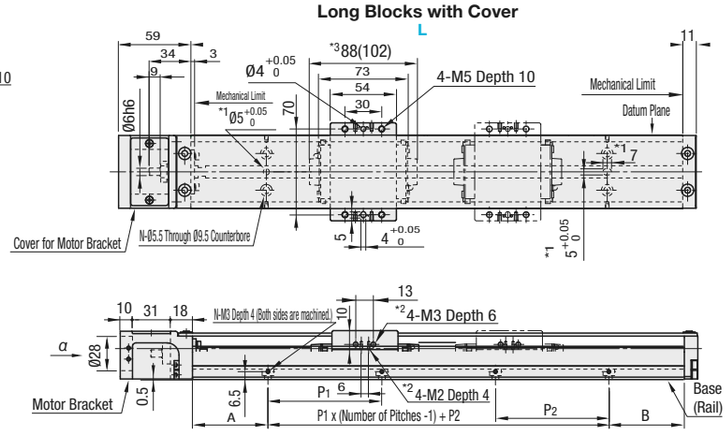
Standard Long Block Type



Short Blocks with Cover

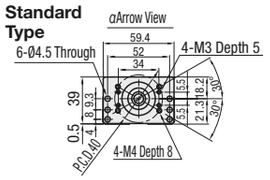


Long Blocks with Cover

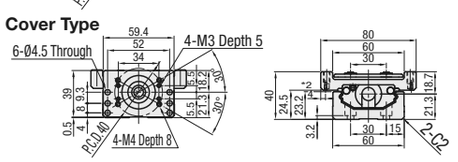


*1: Dowel Holes for Base Positioning
*2: Tapped Holes for Sensor Flag Mount
*3: Value in ( ) is for Lubrication Unit MX-equipped Type.

Standard Type



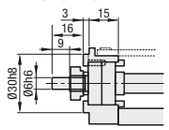
Cover Type



Effective stroke is the value with 2.5mm margin on each side from mechanical limits, i.e., 5mm in total.
For Double Block Type, double-dashed lined blocks are not connected with the ball screw.
For Double Block Type, effective strokes are the values when two blocks contact with each other.
Precision specification value is the value achieved after fixing rails (it is not the value measured before the rails are bolted down).
For values, see . P.413

No Motor Bracket Type

* For the details regarding mounting parts, see P.427.



Part Number			Block Qty.	Motor Adapter Plates	Base Length (L)	Mounting Hole Dimensions					
High Grade	* Precision Grade					A	P1	P2	B	Number of Pitches	Number of Holes (N)
(Standard Grease) LX3005(C) LX3010(C)	(Standard Grease) LX3005(C)P LX3010(C)P		Long Blocks (1 pc.)B1 (2 pcs.)B2 For B2, L≥300	(Servo Motor) A3038 A3040 E3040	125	12.5	-	100	12.5	1	4
					150	25			25		
					200	50	100	100	50	2	6
(Low Dust Generation Grease) LX3005(C)G LX3010(C)G	(Low Dust Generation Grease) LX3005(C)PG LX3010(C)PG			(Stepping Motor) T3042 T3056.4 T3060	250			50			
					300			100			
			Short Blocks (1 pc.)S1 (2 pcs.)S2 *Lubrication Units MX-equipped types are available in B1/S1 only.		350			50		3	8
					400			100			
(Lubrication Unit MX-equipped / Standard Grease) LX3005(C)-MX LX3010(C)-MX	(Lubrication Unit MX-equipped / Standard Grease) LX3005(C)P-MX LX3010(C)P-MX			*(No Adapter Plate) N	450			50		4	10
					500			100			
				(No Motor Bracket) F	550			50		5	12
					600			100			

* Precision Certificate is enclosed with precision grade products. * (C) is for Cover Type.
* Motor adapter plate and mounting screws are not included with No Adapter Plate Type.

Servo Motor Application Table

Part Number	Flange Size	Manufacturer	Wattage
A3038	□38	Panasonic	50W/100W
E3040	□40	SIEMENS	
A3040		Yasukawa Electric Corporation	
		Mitsubishi Electric Corporation	
		Keyence Corporation	
		Omron Corporation	
		Sanyo Denki Co., Ltd.	30W/50W/100W

Shaft insertion length into the coupling will be 1.15mm shorter on each side when used with Siemens motor.
For details on supported motor types and detailed diagram of Motor Adapter Plates, see P.427.

Stepping Motor Application Table

Part Number	Flange Size	Manufacturer	Type
T3042	□42	Oriental Motor	2-phase / 5-phase / α-Step
T3060	□60		2-phase
T3056.4	□56.4		
		NEMA standards	-

NEMA standards is a set of standards stipulated by National Electrical Manufacturers Association of United States.
For details on supported motor types and detailed diagram of Motor Adapter Plates, see . P.427

Effective Stroke, Total Mass

Base Length (L)	* Effective Stroke						Total Mass (kg)							
	MX-unequipped				MX-equipped		Standard				Cover			
	B1	B2	S1	S2	B1	S1	B1	B2	S1	S2	B1	B2	S1	S2
125	29	-	54.5	-	-	-	1.30	-	1.18	-	1.75	-	1.50	-
150	54	-	79.5	17	-	65.5	1.47	-	1.35	1.53	1.92	-	1.67	1.98
200	104	-	129.5	67	90	115.5	1.81	-	1.68	1.86	2.25	-	2	2.32
250	154	-	179.5	117	140	165.5	2.14	-	2.02	2.2	2.59	-	2.34	2.66
300	204	116	229.5	167	190	215.5	2.48	2.79	2.35	2.53	2.92	3.49	2.67	2.99
350	254	166	279.5	217	240	265.5	2.81	3.12	2.69	2.87	3.26	3.83	3.01	3.33
400	304	216	329.5	267	290	315.5	3.15	3.46	3.02	3.21	3.6	4.16	3.35	3.66
450	354	266	379.5	317	340	365.5	3.49	3.79	3.36	3.54	3.93	4.5	3.68	4
500	404	316	429.5	367	390	415.5	3.82	4.13	3.7	3.88	4.27	4.83	4.02	4.33
550	454	366	479.5	417	440	465.5	4.16	4.47	4.03	4.21	4.6	5.17	4.35	4.67
600	504	416	529.5	467	490	515.5	4.49	4.8	4.37	4.55	4.94	5.51	4.69	5.01

* Effective stroke is indicated in dimensions with a margin of 2.5mm each from the ends. 0.011kg will be added to MX-equipped types.

Accuracy Standards

Accuracy Standards	L≤400		L≥450	
	High Grade	Precision Grade	High Grade	Precision Grade
Positioning (mm)	0.06	0.02	0.1	0.025
Backlash (mm)	0.02	0.003	0.02	0.003
Positioning Repeatability (mm)	±0.005	±0.003	±0.005	±0.003
Running Parallelism (mm)	0.025	0.01	0.035	0.015
Starting Torque (N · cm)	4			

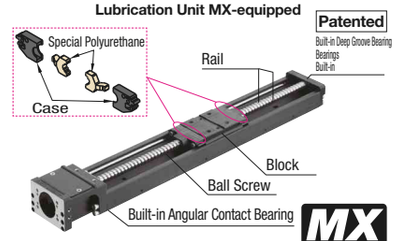
For Max. Velocity, see P.413.
For Moment of Inertia, see P.412.

Ordering Example

Part Number	-	Block Qty.	-	Motor Adapter Plates	-	Base Length (L)
LX3010C	-	B1	-	A3040	-	600
LX3010-MX	-	B1	-	A3040	-	600

Lubrication Unit MX-equipped

Patented
Built-in Deep Groove Bearing
Bearings
Built-in



MX Maintenance Free

Provides long term maintenance-free operation.
For details, see P.408.

Unit price for Precision Grade / Low Particle Generation Grease Option / Lubrication Unit MX-equipped

Specifications	Unit Price
Precision Grade	
Low Dust Generation Grease	
Lubrication Unit MX-equipped	

Listed Price + Unit Price = Product Price
Volume Discount Rate is applicable.

High Grade Unit Price

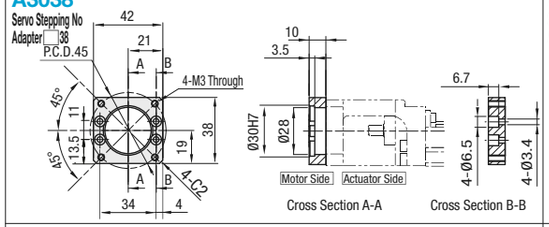
Part Number	L=125 (Lead 5 only)	L=150	L=200	L=250	L=300	L=350	L=400	L=450	L=500	L=550	L=600	Motor Adapter Plates	Block Qty.	Screw Shaft Dia.	Lead
LX30□□-B1/S1-□												Servo Stepping No Adapter Stepping No Adapter Plate	1	10	5
LX30□□-B2/S2-□	-												2		
LX30□□-B1/S1-F												No Bracket	1		10
LX30□□-B2/S2-F	-												2		
LX30□□C-B1/S1-□												Servo Stepping No Adapter Stepping No Adapter Plate	1	10	5
LX30□□C-B2/S2-□	-												2		
LX30□□C-B1/S1-F												No Bracket	1		10
LX30□□C-B2/S2-F	-												2		

LX30□□(C) Series sensor set can be specified as an alteration. For Detailed alteration diagram, see P.428.

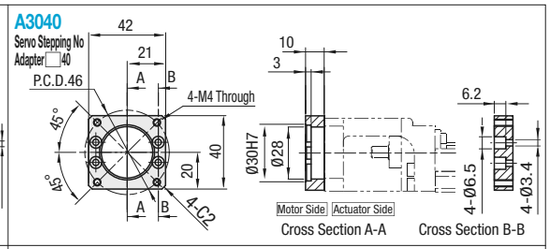
Motor Adapter Plates for Single Axis Actuator LX30, Motor Adapter Centering Tools

Note: Note that the Motor Adapter protrudes beyond the rail at * marked area.

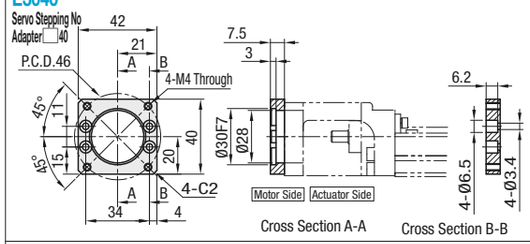
A3038
Servo Stepping No Adapter□38



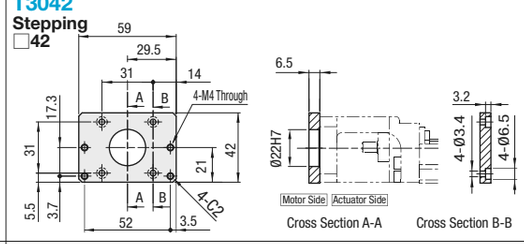
A3040
Servo Stepping No Adapter□40



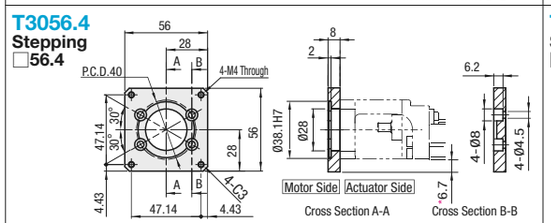
E3040
Servo Stepping No Adapter□40



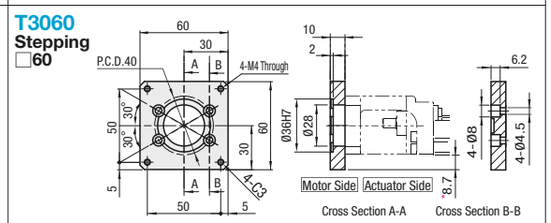
T3042
Stepping □42



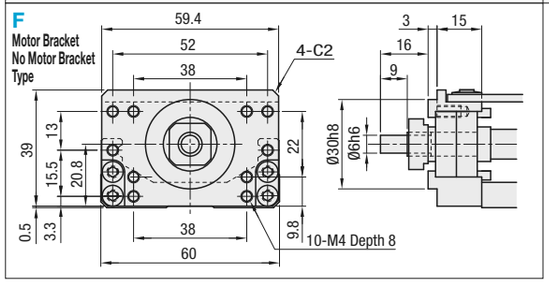
T3056.4
Stepping □56.4



T3060
Stepping □60



F
Motor Bracket No Motor Bracket Type



■Servo Motor Application Table

Part Number	Flange Size	Manufacturer	Product Number	Wattage	Recommended Coupling
A3038	□38	Panasonic	MSMD5A/MSME5A	50W	SCXW21 **(P.1076)** SCPW21 **(P.1076)** CPDW19 **(P.1075)**
			MSMD01*/MSME01*	100W	
A3040	□40	Yasukawa Electric Corporation	SGMJV-A5	50W	
			SGMAH-A5		
			SGMAH-01	100W	
		Mitsubishi Electric Corporation	HG-MR053	50W	
			HG-MR13	100W	
		Sanyo Denki Co., Ltd.	Q1AA04003D	30W	
			Q1AA04005D	50W	
			Q1AA04010D	100W	
		Omron Corporation	R88M-K05030	50W	
			R88M-K10030	100W	
		Keyence Corporation	MV-M05	50W	
			SV-M005		
			MV-M10	100W	
			SV-M010		
E3040	□40	SIEMENS	1FK7011-5	50W	CPDW25 **(P.1075)**
			1FK7015-5	100W	

Shaft insertion length into the coupling will be 1.15mm shorter on each side when used with Siemens motor.
Product numbers and specifications of motors are subject to change. Please check the manufactures' information.
Applicable motors and couplings are not limited to the above listed products. Please confirm each mounting dimension.

■Stepping Motor Application Table

Part Number	Flange Size	Manufacturer	Product Number	Type	Recommended Coupling
T3042	□42	Oriental Motor	PK24*	2-phase	SCXW21 **(P.1076)** SCPW21 CPDW19 **(P.1075)**
			RKS54*/PK54*	5-phase	
			AS46/ASC46/AR46	α- Step	
T3060	□60		RKS56*/PK56*	5-phase	
			AS6*/ASC66/AR66	α- Step	
T3056.4	□56.4		PK26*	2-phase	
		NEMA standards	NEMA23	-	CPDW19(P.1075)

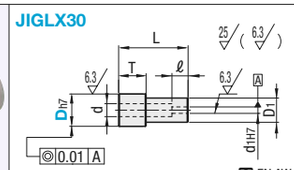
NEMA standards is a set of standards stipulated by National Electrical Manufacturers Association of United States.

■Motor Adapter Centering Tools



RoHS

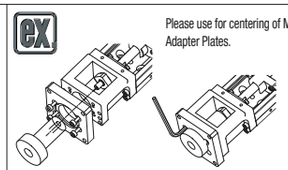
JIGLX30



Two face milling on D part of JIGLX30-38.1. Check the CAD data for detailed drawing.

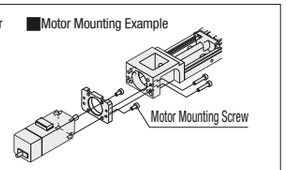
M EN AW-5056 Equiv.
S Clear Anodize

ex



Please use for centering of Motor Adapter Plates.

■Motor Mounting Example



Mount the included Motor Adapter Plate on the motor install the motor.
Motor, coupling and motor mounting screws are not included.

Part Number	D	Applicable Adapter Plate	d	D1	d1	L	T	ℓ	Unit Price 1 - 5 pc(s).
JIGLX30	30	A3038/A3040	10	20	6	52.5	13	10	
	38.1	T3056.4				51	12		
	36	T3060				53			

For orders larger than indicated quantity, please check with WOS.

Ordering Example

Part Number	-	D
JIGLX30	-	30

Sensor Sets for Single Axis Actuators LX30 (Alterations)

■Proximity Sensor (SUNX) - Set Part Specification

LX Part Number	Code (□ is Sensor Qty.) *For L≤150, Max. 2 For L≥200, Max. 3	Sensor Type/Qty. GX-F12A (ON when near)	Sensor Type/Qty. GX-F12B (ON when away)	Sensor Rail Rail (1 pc.)	Sensor Rail Mounting Screw (Pitch +1 pc.)	Sensor (* Qty per Sensor Included) Sensor Mounting Screw (1 pc.)	Sensor (* Qty per Sensor Included) Mounting Nut (1 pc.)	Sensor Flag (1 pc.)	Sensor Flag Mounting Screw	Unit Price (L≤300) Sensor Qty. 1 pc.	Unit Price (L≤300) Sensor Qty. 2 pcs.	Unit Price (L≤300) Sensor Qty. 3 pcs.	Unit Price (L≥350) Sensor Qty. 1 pc.	Unit Price (L≥350) Sensor Qty. 2 pcs.	Unit Price (L≥350) Sensor Qty. 3 pcs.
LX30□□-B□	XA□	□ pc(s).	-	SENC3□H	SCB3-5	CBSST3-8	LBNR3	Dedicated	Flat Head Machine Screw M2.6-4 (1 pc.)						
LX30□□-S□	XB□	-	□ pc(s).												
	XAS□	□ pc(s).	-												
	XBS□	-	□ pc(s).												
LX30□□C-B□	FA□	□ pc(s).	-	SENAT3□H					SCB3-6 (2 pcs.)						
	FB□	-	□ pc(s).												
LX30□□C-S□	FAS□	□ pc(s).	-												
	FBS□	-	□ pc(s).												
LX30□□-B□	XW1	1 pc.	1 pc.	SENC3□H					Flat Head Machine Screw M2.6-4 (1 pc.)	-	-	-	-	-	-
	XW2		2 pcs.								-			-	
	XW3	2 pcs.	1 pc.									-			-
LX30□□-S□	XWS1	1 pc.	1 pc.								-			-	
	XWS2		2 pcs.									-			-
	XWS3	2 pcs.	1 pc.												
LX30□□C-B□	FW1	1 pc.	1 pc.	SENAT3□H					SCB3-6 (2 pcs.)		-			-	
	FW2		2 pcs.									-			-
	FW3	2 pcs.	1 pc.												
LX30□□C-S□	FWS1	1 pc.	1 pc.								-			-	
	FWS2		2 pcs.									-			-
	FWS3	2 pcs.	1 pc.												

■Photo Sensor (SUNX) - Set Part Specification

LX Part Number	Code (□ is the number of pcs.) *For L≤150, Max. 2 For L≥200, Max. 3	Photo Sensor	Sensor Rail Rail (1 pc.)	Sensor Rail Mounting Screw (Pitch +1 pc.)	Sensor (* Qty per Sensor Included) Sensor Bracket	Sensor (* Qty per Sensor Included) Bracket Mounting Screw Nut	Sensor (* Qty per Sensor Included) Sensor Mounting Screw	Sensor (* Qty per Sensor Included) Sensor Mounting Washer	Sensor Flag (1 pc.)	Sensor Flag Mounting Screw	Unit Price (L≤300) Sensor Qty. 1 pc.	Unit Price (L≤300) Sensor Qty. 2 pcs.	Unit Price (L≤300) Sensor Qty. 3 pcs.	Unit Price (L≥350) Sensor Qty. 1 pc.	Unit Price (L≥350) Sensor Qty. 2 pcs.	Unit Price (L≥350) Sensor Qty. 3 pcs.
LX30□□-B□	SP□	PM-L24	SENC3□H	SCB3-5	Dedicated	SCB3-5 (2 pcs.) LBNR3 (2 pcs.)	SCB2-6 (2 pcs.)	M2 Small Flat Washer (2 pcs.) M2 Spring Washer (2 pcs.)	Dedicated	Flat Head Machine Screw M2.6-4 (1 pc.)						
LX30□□-S□	SPS□															
LX30□□C-B□	MP□		SENAT3□H							SCB3-6 (2 pcs.)						
LX30□□C-S□	MPS□															

■Photo Sensor (Omron) - Set Part Specification

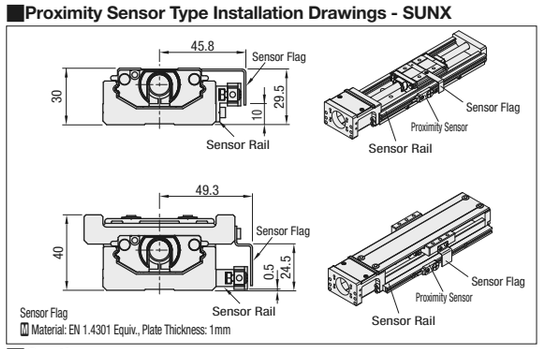
LX Part Number	Code (□ is the number of pcs.) *For L≤150, Max. 2 For L≥200, Max. 3	Photo Sensor	Sensor Rail Rail (1 pc.)	Sensor Rail Mounting Screw (Pitch +1 pc.)	Sensor (* Qty per Sensor Included) Sensor Bracket	Sensor (* Qty per Sensor Included) Bracket Mounting Screw Nut	Sensor (* Qty per Sensor Included) Sensor Mounting Screw	Sensor (* Qty per Sensor Included) Sensor Mounting Washer	Sensor Flag (1 pc.)	Sensor Flag Mounting Screw	Unit Price (L≤300) Sensor Qty. 1 pc.	Unit Price (L≤300) Sensor Qty. 2 pcs.	Unit Price (L≤300) Sensor Qty. 3 pcs.	Unit Price (L≥350) Sensor Qty. 1 pc.	Unit Price (L≥350) Sensor Qty. 2 pcs.	Unit Price (L≥350) Sensor Qty. 3 pcs.
LX30□□-B□	OP□	EE-SX911-R 1M	SENC3□H	SCB3-5	Dedicated	SCB3-5 (2 pcs.) LBNR3 (2 pcs.)	SCB3-6 (2 pcs.)	M3 Small Flat Washer (2 pcs.)	Dedicated	Flat Head Machine Screw M2.6-4 (1 pc.)						
LX30□□-S□	OPS□															
LX30□□C-B□	EP□		SENAT3□H							SCB3-6 (2 pcs.)						
LX30□□C-S□	EPS□															

* Sensors are not sold separately.
EE-SX911-R1M is scheduled to change to EE-SX951-R1M from April 2015.

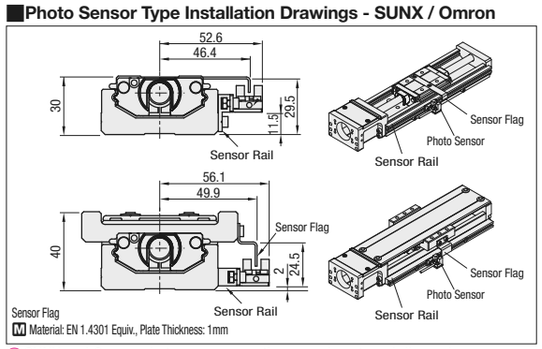
Alterations

Part Number	-	Block Qty.	-	Motor Adapter Plates	-	Base Length (L)	-	(Code)
LX3010	-	B1	-	A3040	-	600	-	XW1
LX3005	-	S1	-	A3040	-	600	-	SPS3

■Proximity Sensor Type Installation Drawings - SUNX



■Photo Sensor Type Installation Drawings - SUNX / Omron



■Cautions

· Sensor set is shipped with LX Actuator. Assembly required.
· Please check for all included parts immediately after unpacking. Some small parts can be lost. Please handle the products with great care.

SUNX and Omron photo sensors are the same in external dimensions.
Please access each sensor manufacture's website for the specifications of sensors in use.
For L=250, 350, 450, 550, keep the sensor rail mounting direction is as per the above figure.

Single Axis Actuators LX45 Standard / Cover Type

Convenient Sensor Sets are also available. P.392

Design / Utility Model Registered



<Standard Long Block Type> <Long Blocks with Cover> <No Motor Bracket Type>

RoHS

For Material table, see P.411

Specifications	
LX45	
Standard / Cover	
Screw Shaft Dia. (mm)	15
Lead (mm)	10, 20
Accuracy	High Grade / Precision Grade

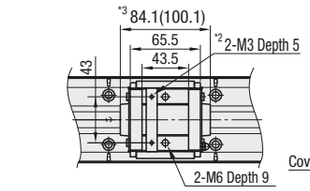
A Accessory

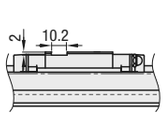
① Motor Adapter Plates M EN AW-5052 Equiv. S Black Anodize
② Adapter Plate Screw 4 pcs. M EN 1.4567 Equiv.
No accessory is included with No Motor Bracket Type.

Part Number	Standard Grease		Low Dust Generation Grease		Lubrication Unit MX-equipped (Standard Grease)	
	High Grade	Precision Grade	High Grade	Precision Grade	High Grade	Precision Grade
Lead 10	LX4510 (C)	LX4510 (C) P	LX4510 (C) G	LX4510 (C) PG	LX4510 (C) -MX	LX4510 (C) P-MX
Lead 20	LX4520 (C)	LX4520 (C) P	LX4520 (C) G	LX4520 (C) PG	LX4520 (C) -MX	LX4520 (C) P-MX

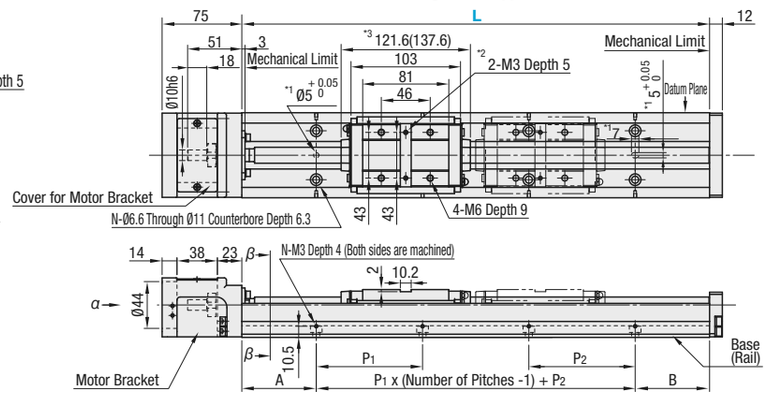
(C) is for Cover Type. Low Dust Generation Grease Information P.414 Lubrication Unit MX Information P.408

Standard Short Block Type

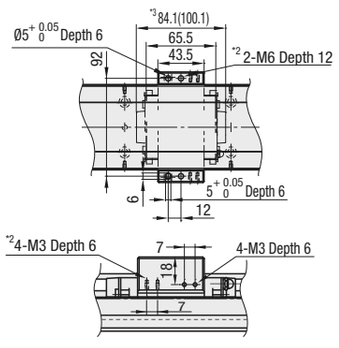




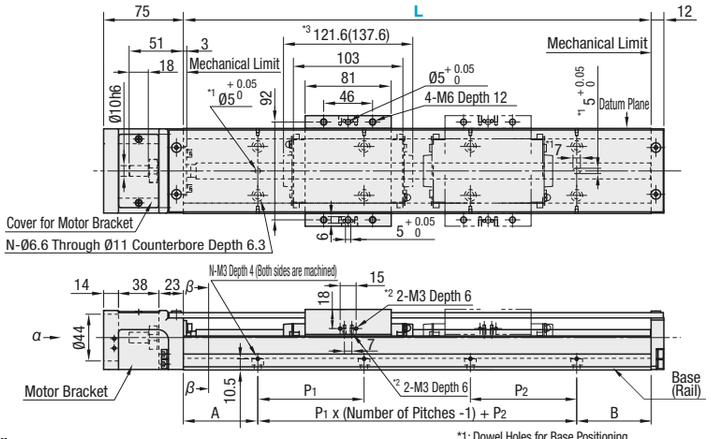
Standard Long Block Type



Short Blocks with Cover



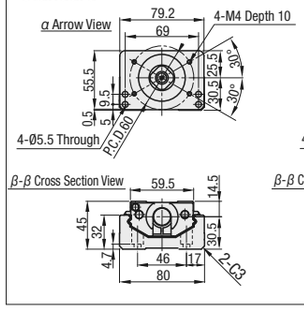
Long Blocks with Cover



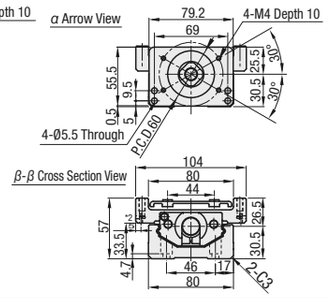
*1: Dowel Holes for Base Positioning
*2: Tapped Holes for Sensor Flag Mount
*3: Value in ( ) is for Lubrication Unit MX-equipped Type.

Effective stroke is the value with 2.5mm margin on each side from mechanical limits, i.e., 5mm in total.
For Double Block Type, double-dashed lined blocks are not connected with the ball screw.
For Double Block Type, effective strokes are the values when two blocks contact with each other.
Precision specification value is the value achieved after fixing rails. (It is not a value before tightening the rail screws.) For values, see P.413

Standard

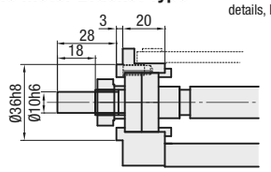


Cover



No Motor Bracket Type

*For mounting details, P.431



Part Number			Block Qty.	Motor Adapter Plates	Base Length (L)	Mounting Hole Dimensions					
High Grade	* Precision Grade					A	P1	P2	B	Number of Pitches	Number of Holes (N)
(Standard Grease) LX4510 (C) LX4520 (C)	(Standard Grease) LX4510 (C) P LX4520 (C) P		Long Blocks (1 pc.) B1 (2 pcs.) B2	(Servo Motor) A4538 A4540 MA4560 A4560 E4540 E4555	340	70	100	100	70	2	6
					390			50		3	8
(Low Dust Generation Grease) LX4510 (C) G LX4520 (C) G	(Low Dust Generation Grease) LX4510 (C) PG LX4520 (C) PG		Short Blocks (1 pc.) S1 (2 pcs.) S2	(Stepping Motor) T4560 T4556.4 T4585	440			100			
					490			50		4	10
(Lubrication Unit MX-equipped, Standard Grease) LX4510 (C) -MX LX4520 (C) -MX	(Lubrication Unit MX-equipped, Standard Grease) LX4510 (C) P-MX LX4520 (C) P-MX		*Lubrication Units MX-equipped types are available in B1/S1 only.	*(No Adapter Plate) N	540			100			
				(No Motor Bracket) F	590			50		5	12

* Precision Certificate is enclosed with precision grade products. * Motor adapter plate and mounting screws are not included with No Adapter Plate Type. * (C) is for Cover Type.

Accuracy Standards

Accuracy Standards	High Grade	Precision Grade
Positioning (mm)	0.1	0.025
Backlash (mm)	0.02	0.003
Positioning Repeatability (mm)	±0.005	±0.003
Running Parallelism (mm)	0.035	0.015
Starting Torque (N·cm)	10	

See P.413 for Maximum Velocity.
See P.412 for Moment of Inertia.

Effective Stroke, Total Mass

Base Overall Length (L)	* Effective Stroke						* Total Mass (kg)							
	MX-unequipped				MX-equipped		Standard				Cover			
	B1	B2	S1	S2	B1	S1	B1	B2	S1	S2	B1	B2	S1	S2
340	210.4	88.8	247.9	163.8	194.4	231.9	5.77	6.69	5.37	5.91	6.59	8.09	5.94	6.78
390	260.4	138.8	297.9	213.8	244.4	281.9	6.37	7.29	5.98	6.51	7.23	8.73	6.57	7.41
440	310.4	188.8	347.9	263.8	294.4	331.9	6.97	7.9	6.58	7.11	7.86	9.36	7.2	8.04
490	360.4	238.8	397.9	313.8	344.4	381.9	7.57	8.5	7.18	7.71	8.49	9.99	7.84	8.68
540	410.4	288.8	447.9	363.8	394.4	431.9	8.18	9.1	7.78	8.31	9.13	10.63	8.47	9.31
590	460.4	338.8	497.9	413.8	444.4	481.9	8.78	9.7	8.39	8.92	9.76	11.26	9.1	9.94

* Effective stroke is indicated in dimensions with a margin of 2.5mm each from the ends.
* MX-equipped types are +0.024kg.

Servo Motor Application Table

Part Number	Flange Size	Manufacturer	Wattage
A4538	□38	Panasonic	50W/100W
A4540	□40	Yasukawa Electric Corporation	
		Mitsubishi Electric Corporation	
		Keyence Corporation	
		Omron Corporation	
		Sanyo Denki Co., Ltd.	30W/50W/100W
A4560	□60	Yasukawa Electric Corporation	200W/400W
		Mitsubishi Electric Corporation	
		Sanyo Denki Co., Ltd.	
		Omron Corporation	
		Keyence Corporation	
MA4560		Panasonic	100W/200W/300W

For detailed diagram of Motor Adapter Plates, see P.431
For details on supported motor types, see P.437

Servo Motor Application Table

Part Number	Flange Size	Manufacturer	Wattage
E4540	□40	SIEMENS	50W/100W
E4555	□55		380W

Stepping Motor Application Table

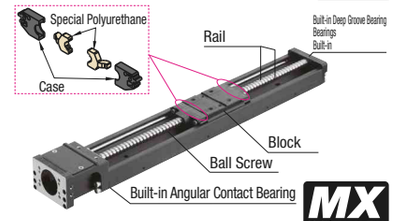
Part Number	Flange Size	Manufacturer	Type
T4560	□60	Oriental Motor	5-phase / α-Step
T4556.4	□56.4	NEMA standards	-
T4585	□85		

NEMA standards are a set of standards stipulated by National Electrical Manufacturers Association of United States.
For details on supported motor types and detailed diagram of Motor Adapter Plates, see P.437

Ordering Example

Part Number	-	Block Qty.	-	Motor Adapter Plates	-	Base Length (L)
LX4510C	-	B1	-	A4540	-	540
LX4520-MX	-	B1	-	A4560	-	390

Lubrication Unit MX-equipped Patented



Provides long term maintenance-free operation.
For details, see P.408

Unit price for Precision Grade / Low Particle Generation Grease Option / Lubrication Unit MX-equipped

Specifications	Unit Price
Precision Grade	
Low Dust Generation Grease	
Lubrication Unit MX-equipped	

Listed Price + Unit Price = Product Price
Volume Discount Rate is applicable.

High Grade Unit Price										
Part Number	L=340	L=390	L=440	L=490	L=540	L=590	Motor Adapter Plates	Block Qty.	Screw Shaft Dia.	Lead
LX45□□-B1/S1-□							Servo Stepping No Adapter Plate	1	15	10
LX45□□-B2/S2-□								2		
LX45□□-B1/S1-F							No Bracket	1		20
LX45□□-B2/S2-F								2		
LX45□□C-B1/S1-□							Servo Stepping No Adapter Plate	1	15	10
LX45□□C-B2/S2-□								2		
LX45□□C-B1/S1-F							No Bracket	1		20
LX45□□C-B2/S2-F								2		

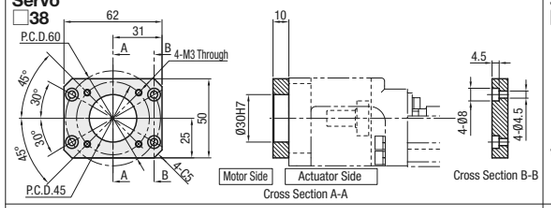
LX45□□(C) Series sensor set can be specified as an alteration. For Detailed alteration diagram, see P.432

Motor Adapter Plates for Single Axis Actuator LX45, Motor Adapter Centering Tools

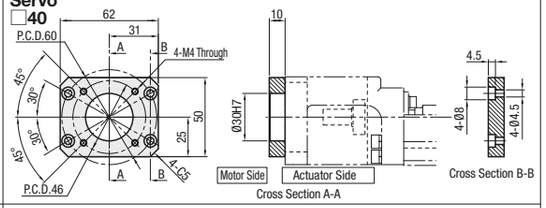
■Motor Adapter Plate Dimensional Drawing

Note: Note that the Motor Adapter protrudes beyond the rail at * marked area.

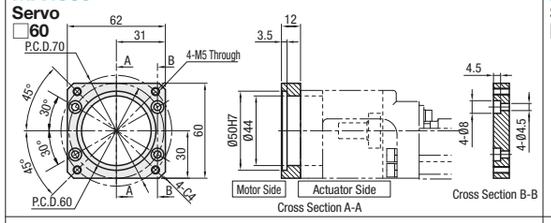
A4538
Servo
□38



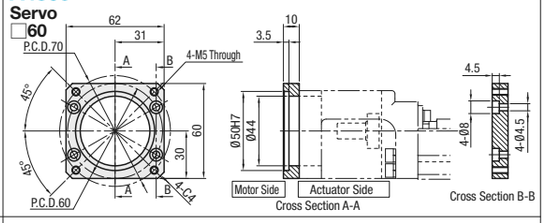
A4540
Servo
□40



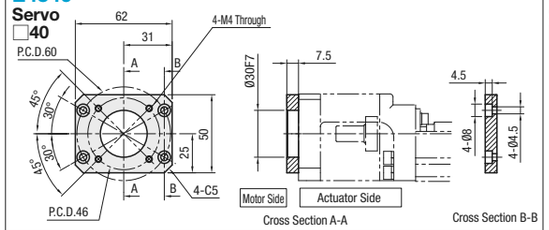
MA4560
Servo
□60



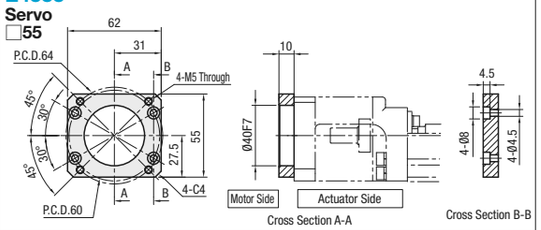
A4560
Servo
□60



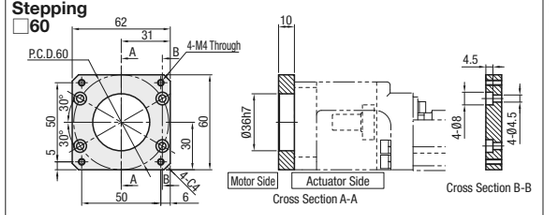
E4540
Servo
□40



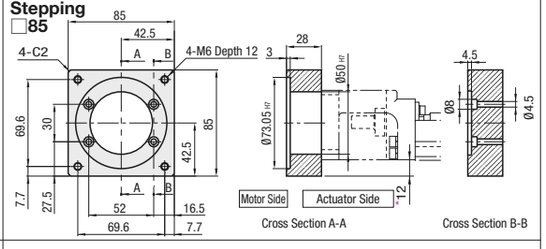
E4555
Servo
□55



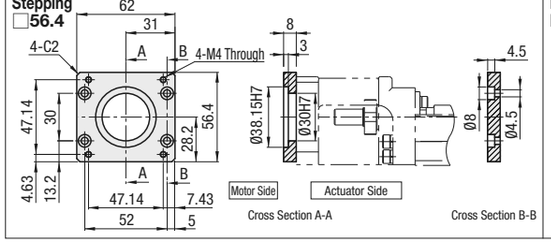
T4560
Stepping
□60



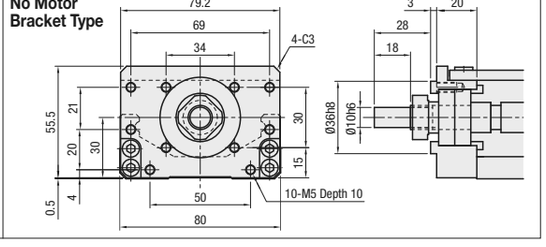
T4585
Stepping
□85



T4556.4
Stepping
□56.4



F
No Motor Bracket Type

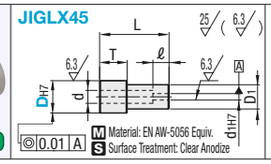


■Motor Adapter Centering Tool

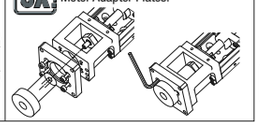


RoHS

JIGLX45



ex Please use for centering of Motor Adapter Plates.



Part Number	D	Applicable Adapter Plate	d	D1	d1	L	T	ℓ	Unit Price 1 - 5 pc(s).
JIGLX45	30	A4538 / A4540 / T4556.4	15	25	10	62	22	20	
	36	T4560				62	22		
	50	A4560 / MA4560 / T4585				61.5	13.5		

For orders larger than indicated quantity, please check with WOS.

Ordering Example: Part Number - D
JIGLX45 - 30

Sensor Sets for Single Axis Actuators LX45 (Alterations)

■Proximity Sensor (SUNX) - Set Part Specification

LX Part Number	Code (□ is Sensor Qty.) * Up to 3 Sensors	Sensor Type/Qty. GX-F12A (ON when near)	Sensor Type/Qty. GX-F12B (ON when away)	Sensor Rail Rail (1 pc.)	Sensor Rail Mounting Screw (Pitch +1 pc.)	Sensor (* Qty per Sensor Included) Sensor Mounting Screw (1 pc.)	Sensor (* Qty per Sensor Included) Mounting Nut (1 pc.)	Sensor Flag (1 pc.)	Sensor Flag Mounting Screw	Unit Price (L≤440) Sensor Qty. 1 pc.	Unit Price (L≤440) Sensor Qty. 2 pcs.	Unit Price (L≤440) Sensor Qty. 3 pcs.	Unit Price (L≥490) Sensor Qty. 1 pc.	Unit Price (L≥490) Sensor Qty. 2 pcs.	Unit Price (L≥490) Sensor Qty. 3 pcs.
LX45□□-B□	XA□	□pc(s).	-	SENC3□H	SCB3-5	CBSST3-8	LBNR3	Dedicated	Flat Head Machine Screw M3-5 (1 pc.)						
LX45□□-S□	XB□	-	□pc(s).												
LX45□□C-B□	FA□	□pc(s).	-						SCB3-6 (2 pcs.)						
	FB□	-	□pc(s).												
LX45□□C-S□	FAS□	□pc(s).	-												
	FBS□	-	□pc(s).												
LX45□□-B□	XW1	1 pc.	1 pc.						Flat Head Machine Screw M3-5 (1 pc.)			-			-
LX45□□-S□	XW2		2 pcs.								-			-	
	XW3	2 pcs.	1 pc.							-			-		
LX45□□C-B□	FW1	1 pc.	1 pc.						SCB3-6 (2 pcs.)			-			-
	FW2		2 pcs.								-			-	
	FW3	2 pcs.	1 pc.									-			-
LX45□□C-S□	FWS1	1 pc.	1 pc.									-			-
	FWS2		2 pcs.								-			-	
	FWS3	2 pcs.	1 pc.									-			-

■Photo Sensor (SUNX) - Set Part Specification

LX Part Number	Code (□ is the number of Sensors) * Up to 3 Sensors	Photo Sensor	Sensor Rail Rail (1 pc.)	Sensor Rail Mounting Screw (Pitch +1 pc.)	Sensor(* Qty per Sensor Included) Sensor Bracket	Sensor(* Qty per Sensor Included) Bracket Mounting Screw Nut	Sensor(* Qty per Sensor Included) Sensor Mounting Screw	Sensor(* Qty per Sensor Included) Sensor Mounting Washer	Sensor Flag (1 pc.)	Sensor Flag Mounting Screw	Unit Price (L≤440) Sensor Qty. 1 pc.	Unit Price (L≤440) Sensor Qty. 2 pcs.	Unit Price (L≤440) Sensor Qty. 3 pcs.	Unit Price (L≥490) Sensor Qty. 1 pc.	Unit Price (L≥490) Sensor Qty. 2 pcs.	Unit Price (L≥490) Sensor Qty. 3 pcs.
LX45□□-B□	SP□	PM-L24	SENC3□H	SCB3-5	Dedicated	SCB3-5 (2 pcs.) LBNR3 (2 pcs.)	SCB2-6 (2 pcs.)	M2 Small Flat Washer (2 pcs.) M2 Spring Washer (2 pcs.)	Dedicated	Flat Head Machine Screw M2.6-4 (1 pc.)						
LX45□□-S□																
LX45□□C-B□	MP□								Dedicated	SCB3-6 (2 pcs.)						
LX45□□C-S□	MPS□															

■Photo Sensor (Omron) - Set Part Specification

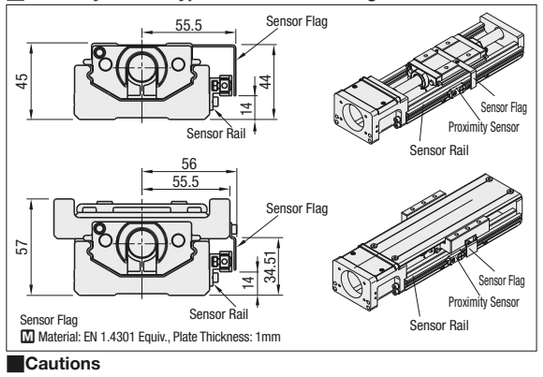
LX Part Number	Code (□ is the number of Sensors) * Up to 3 Sensors	Photo Sensor	Sensor Rail Rail (1 pc.)	Sensor Rail Mounting Screw (Pitch +1 pc.)	Sensor(* Qty per Sensor Included) Sensor Bracket	Sensor(* Qty per Sensor Included) Bracket Mounting Screw Nut	Sensor(* Qty per Sensor Included) Sensor Mounting Screw	Sensor(* Qty per Sensor Included) Sensor Mounting Washer	Sensor Flag (1 pc.)	Sensor Flag Mounting Screw	Unit Price (L≤440) Sensor Qty. 1 pc.	Unit Price (L≤440) Sensor Qty. 2 pcs.	Unit Price (L≤440) Sensor Qty. 3 pcs.	Unit Price (L≥490) Sensor Qty. 1 pc.	Unit Price (L≥490) Sensor Qty. 2 pcs.	Unit Price (L≥490) Sensor Qty. 3 pcs.
LX45□□-B□	OP□	EE-SX911-R 1M	SENC3□H	SCB3-5	Dedicated	SCB3-5 (2 pcs.) LBNR3 (2 pcs.)	SCB3-6 (2 pcs.)	M3 Small Flat Washer (2 pcs.)	Dedicated	Flat Head Machine Screw M2.6-4 (1 pc.)						
LX45□□-S□																
LX45□□C-B□	EP□								Dedicated	SCB3-6 (2 pcs.)						
LX45□□C-S□	EPS□															

* Sensors are not sold separately.
EE-SX911-R1M is scheduled to change to EE-SX951-R1M from April 2015.

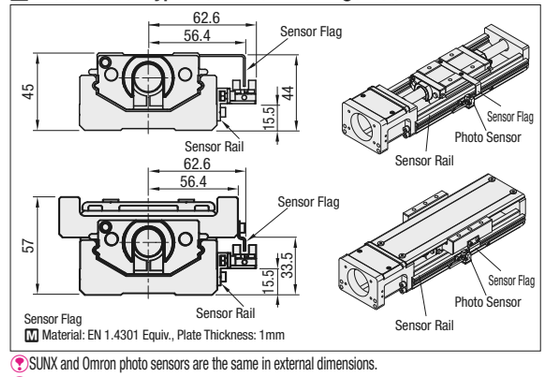
Alterations

Part Number	-	Block Qty.	-	Motor Adapter Plates	-	Base Length (L)	-	(Code)
LX4510	-	B1	-	A4540	-	590	-	XW1
LX4520C	-	B1	-	A4560	-	340	-	EP2

■Proximity Sensor Type Installation Drawings - SUNX



■Photo Sensor Type Installation Drawings - SUNX / Omron



■Cautions

- Sensor set is shipped with LX Actuator. Assembly required.
- Please check for all included parts immediately after unpacking. Some small parts can be lost.
  Please handle the products with great care.

SUNX and Omron photo sensors are the same in external dimensions.
Please access each sensor manufacture's website for the specifications of sensors in use.
For L=390, 490, 590, mounting of sensor rail is enabled only in the direction shown on the above drawing.

Single Axis Actuators LX30 Motor Folded Type

■LX Related Information
Specifications P.411 ~ P.414
Selection / Life Calculation Example P.2235~P.2238

Convenient Sensor Sets are also available. P.428



RoHS

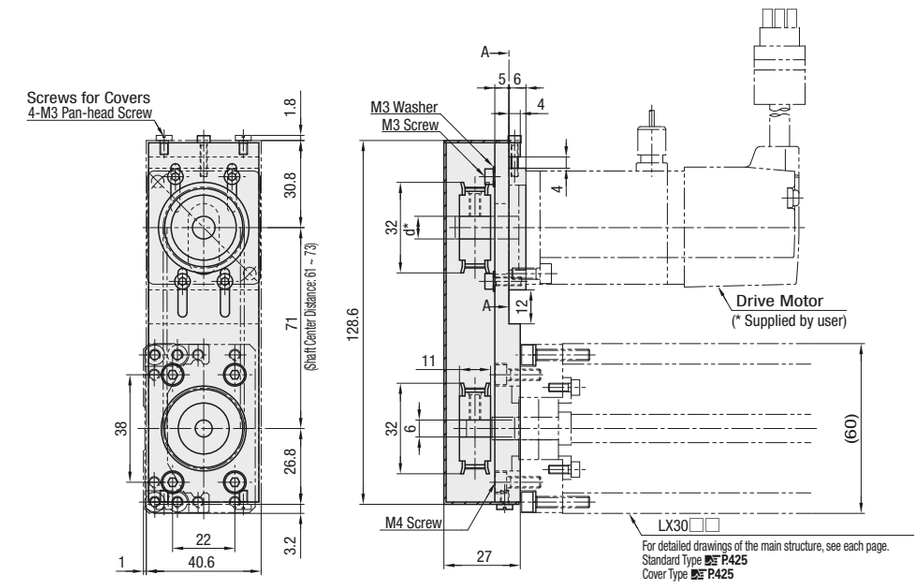
Specifications	
LX30	
Standard / Cover	
Screw Shaft Dia. (mm)	10
Lead (mm)	5, 10
Accuracy	High Grade

AAccessory

①Motor Adapter Plates
M Steel S Low Temperature Black Chrome Plating
②Adapter Plate Screw 4 pcs. M EN 1.4567 Equiv.
③High Torque Timing Pulley Part Number: HTPA44S2M060
④High Torque Timing Belt Part Number: HTBN230S2M-60

Part Number	Standard Grease		Lubrication Unit MX-equipped (Standard Grease)	
	High Grade Standard	High Grade with Cover	High Grade Standard	High Grade with Cover
Lead 5	LXR3005	LXR3005C	LXR3005-MX	LXR3005C-MX
Lead 10	LXR3010	LXR3010C	LXR3010-MX	LXR3010C-MX

Components	Base (Rail)	Block	Motor Bracket	Support Side Bearing with Housing	Cover	Stopper	Precision Ball Screw (Ground)
MMaterial	Carbon Steel	SCM Material	EN AW-5052 Equiv.	EN AW-5052 Equiv.	EN AW-6063 Equiv.	NBR	EN 1.7242 Equiv.
SSurface Treatment	LTBC Plating	LTBC Plating	Black Baked Paint	Black Anodize	Black Anodize	-	-
HHardness	Induction Hardened HRC58 ~ 64	HRC58~62	-	-	-	-	HRC58~62



<Motor Adapter Plates>
*For details of motor adapter plate dimensions, see the right-hand page.

For detailed drawings of the main structure, see each page.
Standard Type P.425
Cover Type P.425

* d is Pulley Inner Dia..
Ø8 for Servo Motor Type and Ø5 for Stepping Motor Type. Selectable for No Adapter Plate Type.

For recommended shaft center distance for belt tension 71mm, deflection when the center of belt is pressed with less than 1N is 1.1mm.
Precision specification value is the value achieved after fixing rails. (It is not a value before tightening the rail screws.) For values, see P.413.
The actuator shaft end is of D cut specification.

■Included High Torque Timing Pulley Part Number

Pulley mounting side		Part Number
Actuator side		HTPA44S2M060-A-P6
Motor Side	For Adapter Plate RA3038	HTPA44S2M060-A-N8
	For Adapter Plate RA3040	
	For Adapter Plate RT3042	HTPA44S2M060-A-P5
	No Adapter Plate N5	HTPA44S2M060-A-N8
	No Adapter Plate N8	

Part numbers with P at the end are of round hole+tap type.
Part numbers with N at the end are of Key-slot hole+tap type.

Part Number		Block Qty.	Motor Adapter Plate	Base Overall Length (L)	Details of Mounting Hole Dimensions P.425, 426					
					A	P1	P2	B	Number of Pitches	Number of Holes (N)
(High Grade Standard) LXR3005 LXR3010	(High Grade with Cover) LXR3005C LXR3010C	Long Blocks (1 pc.)B1 (2 pcs.)B2 For B2, L≥300	(Servo) RA3038 RA3040	125	12.5	-	100	12.5	1	4
			(Stepping) RT3042	150	25			25		
			*(No Adapter Plate) N5 (Pulley Inner Dia. Ø5) N8 (Pulley Inner Dia. Ø8)	200	50	100		50	2	6
				250						
				300				100		
		Short Blocks (1 pc.)S1 (2 pcs.)S2 *Lubrication Units MX-equipped types are available in B1/S1 only.		350				50	3	8
				400				100		
(Lubrication Unit MX Standard) LXR3005-MX LXR3010-MX	(Lubrication Unit MX with Cover) LXR3005C-MX LXR3010C-MX			450				50	4	10
				500				100		
				550				50	5	12
				600				100		

* Motor adapter plate and mounting screws are not included with No Adapter Plate Type.

■Effective Stroke / Mass

Base Length (L)	* Effective Stroke						Total Mass (kg)							
	MX-unequipped				MX-equipped		LXR30□□				LXR30□□C			
	B1	B2	S1	S2	B1	S1	B1	B2	S1	S2	B1	B2	S1	S2
125	29	-	54.5	-	-	-	1.55	-	1.43	-	2.01	-	1.75	-
150	54	-	79.5	17	-	65.5	1.72	-	1.60	1.78	2.17	-	1.92	2.23
200	104	-	129.5	67	90	115.5	2.06	-	1.93	2.11	2.50	-	2.25	2.57
250	154	-	179.5	117	140	165.5	2.39	-	2.27	2.45	2.84	-	2.59	2.91
300	204	116	229.5	167	190	215.5	2.73	3.04	2.60	2.78	3.17	3.74	2.92	3.24
350	254	166	279.5	217	240	265.5	3.06	3.37	2.94	3.12	3.51	4.08	3.26	3.58
400	304	216	329.5	267	290	315.5	3.40	3.71	3.27	3.46	3.85	4.41	3.60	3.91
450	354	266	379.5	317	340	365.5	3.74	4.04	3.61	3.79	4.18	4.75	3.93	4.25
500	404	316	429.5	367	390	415.5	4.07	4.38	3.95	4.13	4.52	5.08	4.27	4.58
550	454	366	479.5	417	440	465.5	4.41	4.72	4.28	4.46	4.85	5.42	4.60	4.92
600	504	416	529.5	467	490	515.5	4.74	5.05	4.62	4.80	5.19	5.76	4.94	5.26

* Effective stroke is indicated in dimensions with a margin of 2.5mm each from the ends.
0.011kg will be added to MX-equipped types.

■Accuracy Standards

Accuracy Standards	L≤400	L≥450
	High Grade	
Positioning (mm)	0.06	0.1
Backlash (mm)	0.02	0.02
Positioning Repeatability (mm)	±0.005	±0.005
Running Parallelism (mm)	0.025	0.035
Starting Torque (N · cm)	4	

■Static Load Capacity / Allowable Moment

Block Qty.	Block Qty.	Static Load Capacity (N)	Allowable Static Moment (N • m)		
			Ma	Mb	Mc
Long Block	B1	17218	126	126	387
	B2	34436	1515	1515	774
Short Block	S1	9271	63	63	208
	S2	18542	579	579	417

Reference values are for a static state. For life calculation, use our technical calculation software.
For Allowable Static Moment, see P.411.

■Max. Velocity

Max. Velocity (mm/sec)	L125~L450	L500	L550	L600
LXR3005□□	410	370	300	250
LXR3010□□	830	740	600	500

The Max. Velocity is reference values derived from ball screw critical speeds and DN values but not guarantee data considering the motor's conditions.

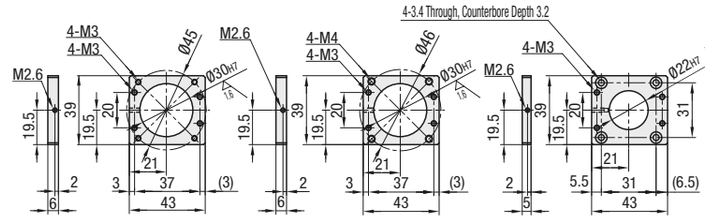
■Servo Motor Application Table

Part Number	Flange Size	Manufacturer	Product Number	Wattage	Applicable Motor Shaft Dia.
RA3038	□38	Panasonic	MSMD5A	50W	Ø8
			MSME5A		
			MSMD01*	100W	
			MSME01*		
RA3040	□40	Yaskawa Electric Corporation	SGMJV-A5	50W	
			SGMAH-01	100W	
		Mitsubishi Electric Corporation	HG-MR053	50W	
			HG-MR13	100W	
		Sanyo Denki Co., Ltd.	Q1AA04005D	50W	
			Q1AA04010D	100W	
		Omron Corporation	R88M-K10030		
		Keyence Corporation	MV-M05	50W	
			SV-M005		
			MV-M10	100W	
			SV-M010		

■Stepping Motor Application Table

Part Number	Flange Size	Manufacturer	Product Number	Type	Applicable Motor Shaft Dia.
RT3042	□42	Oriental Motor	PK24*	2-phase	Ø5
			PK54*/RKS54*	5-phase	
			AS46/ASC46	αStep	

Motor Adapter Plate Dimensional Drawing



Adapter Plate Part Number: RA3038
Adapter Plate Part Number: RA3040
Adapter Plate Part Number: RT3042

Ordering Example

Part Number	Block Qty.	Motor Adapter Plates	Base Length (L)	
LXR3010C	B1	RA3040	600	
LXR3005-MX	B1	RA3040	600	
LXR3010C	B1	RA3040	600	NBP

Alterations

Alteration	Code	Spec.
No Belt / No Pulley	NBP	Excluded from the set.

Sensor Set P.428

■High Grade Unit Price

Part Number	L=125 (Lead 5 only)	L=150	L=200	L=250	L=300	L=350	L=400	L=450	L=500	L=550	L=600	Motor Adapter Plates	Block Qty.	Screw Shaft Dia.	Lead
LXR30□□-B1/S1-□												Servo Stepping No Adapter Stepping No Adapter Plate	1	10	5
LXR30□□-B2/S2-□	-												2		
LXR30□□C-B1/S1-□													1		10
LXR30□□C-B2/S2-□	-												2		

Single Axis Actuators LX45 Motor Folded Type

■LX Related Information
Specifications P.411 ~ P.414
Selection / Life Calculation Example P.2235~P.2238

Convenient Sensor Sets are also available. P.432



RoHS

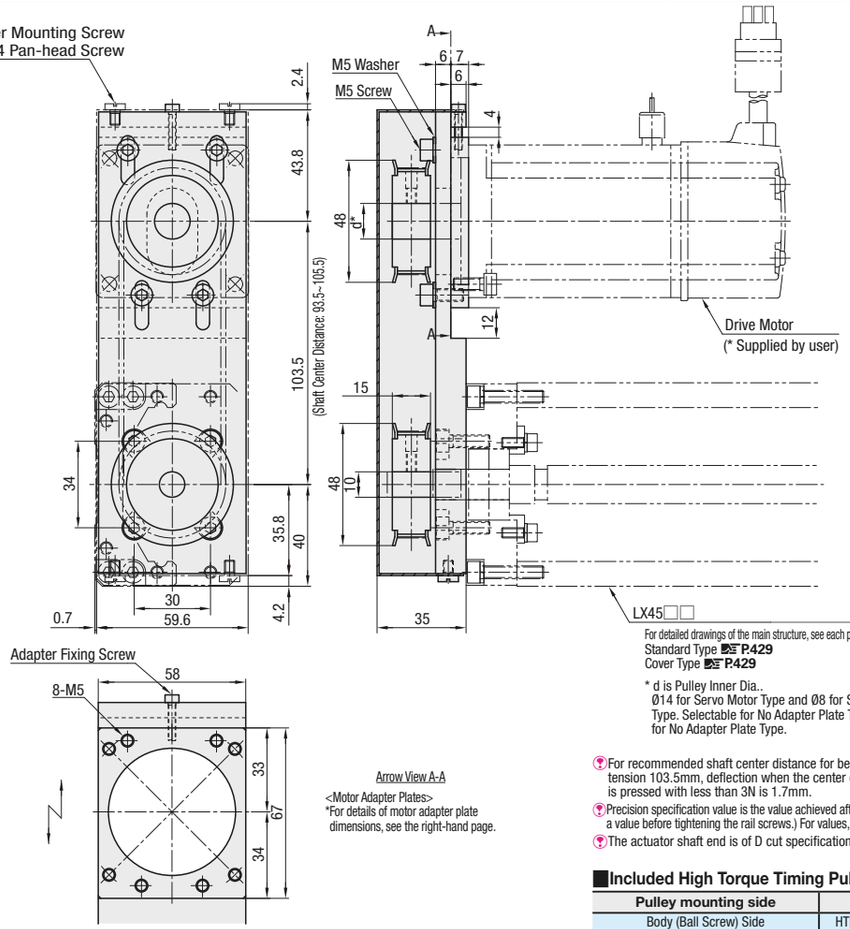
Specifications	
LX45	
Standard / Cover	
Screw Shaft Dia. (mm)	15
Lead (mm)	10, 20
Accuracy	High Grade

AAccessory

①Motor Adapter Plates
M Steel S Low Temperature Black Chrome Plating
②Adapter Plate Screw 4 pcs. M EN 1.4567 Equiv.
③High Torque Timing Pulley Part Number: HTPA44S3M100
④High Torque Timing Belt Part Number: HTBN339S3M-100

Part Number	Standard Grease		Lubrication Unit MX-equipped (Standard Grease)	
	High Grade Standard	High Grade with Cover	High Grade Standard	High Grade with Cover
Lead 10	LXR4510	LXR4510C	LXR4510-MX	LXR4510C-MX
Lead 20	LXR4520	LXR4520C	LXR4520-MX	LXR4520C-MX

Components	Base (Rail)	Block	Motor Bracket	Support Side Bearing with Housing	Cover	Stopper	Precision Ball Screw (Ground)
MMaterial	Carbon Steel	SCM Material	EN AW-5052 Equiv.	EN AW-5052 Equiv.	EN AW-6063 Equiv.	NBR	EN 1.7242 Equiv.
SSurface Treatment	LTBC Plating	LTBC Plating	Black Baked Paint	Black Anodize	Black Anodize	-	-
HHardness	Induction Hardened HRC58 ~ 64	HRC58~62	-	-	-	-	HRC58~62



For detailed drawings of the main structure, see each page.
Standard Type P.429
Cover Type P.429

* d is Pulley Inner Dia..
Ø14 for Servo Motor Type and Ø8 for Stepping Motor Type. Selectable for No Adapter Plate Type. Selectable for No Adapter Plate Type.

For recommended shaft center distance for belt tension 103.5mm, deflection when the center of belt is pressed with less than 3N is 1.7mm.
Precision specification value is the value achieved after fixing rails. (It is not a value before tightening the rail screws.) For values, see P.413.
The actuator shaft end is of D cut specification.

<Motor Adapter Plates>
*For details of motor adapter plate dimensions, see the right-hand page.

■Included High Torque Timing Pulley Part Number

Pulley mounting side		Part Number
Body (Ball Screw) Side		HTPA44S3M100-A-P10
Motor Side	For Adapter Plate RA4560	HTPA44S3M100-A-N14
	For Adapter Plate RT4560	HTPA44S3M100-A-P8
	No Adapter Plate N8	
	No Adapter Plate N14	HTPA44S3M100-A-N14

Part numbers with P at the end are of round hole+tap type.
Part numbers with N at the end are of Key-slot hole+tap type.

Part Number	Block Qty.	Motor Adapter Plates	Base Length (L)	Details of Mounting Hole Dimensions P.429, 430					
				A	P_1	P_2	B	Number of Pitches	Number of Holes (N)
(High Grade Standard) LXR4510 LXR4520	Long Blocks (1 pc.)B1 (2 pcs.)B2	(Servo) RA4560	340	70	100	100	70	2	6
(High Grade with Cover) LXR4510C LXR4520C	Short Blocks (1 pc.)S1 (2 pcs.)S2	(Stepping) RT4560	390			50		3	8
(Lubrication Unit MX Standard) LXR4510-MX LXR4520-MX	*Lubrication Units MX-equipped types are available in B1/S1 only.	*(No Adapter Plate) N8(Pulley Inner Dia. Ø8) N14(Pulley Inner Dia. Ø14)	440			100			
(Lubrication Unit MX with Cover) LXR4510C-MX LXR4520C-MX			490			50		4	10
			540			100			
			590			50		5	12

* Motor adapter plate and mounting screws are not included with No Adapter Plate Type.

■Effective Stroke / Mass

Base Length (L)	* Effective Stroke						Total Mass (kg)							
	MX-unequipped				MX-equipped		LXR45□□				LXR45□□C			
	B1	B2	S1	S2	B1	S1	B1	B2	S1	S2	B1	B2	S1	S2
340	210.4	88.8	247.9	163.8	194.4	231.9	6.42	7.34	6.02	6.56	7.24	8.74	6.59	7.43
390	260.4	138.8	297.9	213.8	244.4	281.9	7.02	7.94	6.63	7.16	7.88	9.38	7.22	8.06
440	310.4	188.8	347.9	263.8	294.4	331.9	7.62	8.55	7.23	7.76	8.51	10.01	7.85	8.69
490	360.4	238.8	397.9	313.8	344.4	381.9	8.22	9.15	7.83	8.36	9.14	10.64	8.49	9.33
540	410.4	288.8	447.9	363.8	394.4	431.9	8.83	9.75	8.43	8.96	9.78	11.28	9.12	9.96
590	460.4	338.8	497.9	413.8	444.4	481.9	9.43	10.35	9.04	9.57	10.41	11.91	9.75	10.59

* Effective stroke is indicated in dimensions with a margin of 2.5mm each from the ends.
0.024kg will be added to MX-equipped types.

■Accuracy Standards

Accuracy Standards	High Grade
Positioning (mm)	0.1
Backlash (mm)	0.02
Positioning Repeatability (mm)	±0.005
Running Parallelism (mm)	0.035
Starting Torque (N・cm)	10

■Static Load Capacity / Allowable Moment

Block Qty.	Block Qty.	Static Load Capacity (N)	Allowable Static Moment (N・m)		
			Ma	Mb	Mc
Long Block	B1	32441	291	291	972
	B2	64882	3945	3945	1944
Short Block	S1	17175	145	145	515
	S2	34350	1444	1444	1029

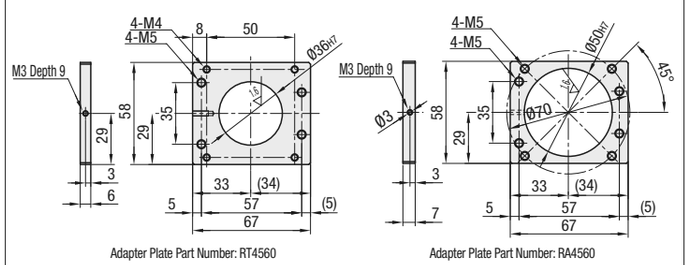
Reference values are for a static state. For life calculation, use our technical calculation software.
For Allowable Static Moment, see P.411.

■Max. Velocity

Max. Velocity (mm/s)	
LXR4510□	550
LXR4520□	1110

The Max. Velocity is reference values derived from ball screw critical speeds and DN values but not guarantee data considering the motor's conditions.

Motor Adapter Plate Dimensional Drawing



■Servo Motor Application Table

Part Number	Flange Size	Manufacturer	Product Number	Wattage	Applicable Motor Shaft Dia.
RA4560	□60	Yasukawa Electric Corporation	SGMJV-02	200W	Ø14
			SGMJV-04	400W	
		Mitsubishi Electric Corporation	HG-MR23	200W	
			HG-KR23		
			HG-MR43	400W	
			HG-KR43		
		Sanyo Denki Co., Ltd.	Q1AA06020D	200W	
			Q1AA06040D	400W	
		Omron Corporation	R88M-K20030	200W	
			R88M-K40030	400W	
		Keyence Corporation	MV-M20	200W	
			SV-M020		
			MV-M40	400W	
			SV-M040		

■Stepping Motor Application Table

Part Number	Flange Size	Manufacturer	Product Number	Type	Applicable Motor Shaft Dia.
RT4560	□60	Oriental Motor	RKS56*/PK56*	5-phase	Ø8
			AS6*/ASC66/AR66	α-Step	

Ordering Example

Part Number	Block Qty.	Motor Adapter Plates	Base Length (L)	(NBP)
LXR4510	B1	RA4560	540	
LXR4510C-MX	B1	RA4560	540	
LXR4510	B1	RA4560	540	NBP

Alterations

Alteration	Code	Spec.
No Belt / No Pulley	NBP	Excluded from the set.

Sensor Set P.432

Part Number	High Grade Unit Price						Motor Adapter Plates	Block Qty.	Screw Shaft Dia.	Lead
	L=340	L=390	L=440	L=490	L=540	L=590				
LXR45□□-B1/S1-□							Servo Stepping No Adapter Stepping	1	15	10
LXR45□□-B2/S2-□								2		
LXR45□□C-B1/S1-□							No Adapter Plate	1		20
LXR45□□C-B2/S2-□								2		

Single Axis Actuator LXMotor Adapter Plate / Motor Compatibility Chart

Servo Motor Application Table

LX Type	Motor Adapter Plates Part Number	Flange Size	Manufacturer	Product Number	Wattage	Recommended Coupling
LX15	A1525	□25	Yasukawa Electric Corporation	SGMMV-A1E	10W	MCGLC13 (P.1084) XBW-15C2 (Made by Nabeya Bi-tech) RCLA13C (Made by ISEL)
				SGMMV-A2E	20W	
			Mitsubishi Electric Corporation	HG-AK0136	10W	
				HG-AK0236	20W	
	A1528	□28	Mitsubishi Electric Corporation	HC-AQ013	10W	
				HC-AQ023	20W	
LX20	A2025	□25	Yasukawa Electric Corporation	SGMMJ-A1	10W	SCPW16 (P.1076)
				SGMMJ-A2	20W	
				SGMMJ-A3	30W	
			Mitsubishi Electric Corporation	HG-AK0136	10W	
				HG-AK0236	20W	
				HG-AK0336	30W	
	A2028	□28	Mitsubishi Electric Corporation	HC-AQ013	10W	
				HC-AQ023	20W	
				HC-AQ033	30W	
	A2038	□38	Panasonic	MSMD5A	50W	CPDT19 (P.1075)
				MSME5A		
				MSMD01*	100W	
				MSME01*		
	A2040	□40	Yasukawa Electric Corporation	SGMJV-A5	50W	SCPW16 (P.1076) CPDT19 (P.1075)
				SGMAH-A5		
				SGMAS-A5		
			Mitsubishi Electric Corporation	HG-MR053		
				HG-KR053		
				HF-KP053		
			Sanyo Denki Co., Ltd.	Q1AA04003D	30W	
				Q1AA04005D	50W	
			Omron Corporation	R88M-K05030		
			Keyence Corporation	MV-M05		
				SV-M005		
	E2040	□40	SIEMENS	1FK7011-5	50W	CPDW19 (P.1075)
				1FK7015-5	100W	
LX26	A2625	□25	Yasukawa Electric Corporation	SGMMJ-A1	10W	SCXW21(P.1076) SCPW21(P.1076) CPDW19(P.1075)
				SGMMJ-A2	20W	
				SGMMJ-A3	30W	
			Mitsubishi Electric Corporation	HG-AK0136	10W	
				HG-AK0236	20W	
				HG-AK0336	30W	
	A2628	□28	Mitsubishi Electric Corporation	HC-AQ013	10W	
				HC-AQ023	20W	
				HC-AQ033	30W	
	A2638	□38	Panasonic	MSMD5A	50W	
				MSME5A		
				MSMD01*	100W	
				MSME01*		
	A2640	□40	Yasukawa Electric Corporation	SGMJV-A5	50W	
				SGMAH-A5		
				SGMAS-A5		
			Mitsubishi Electric Corporation	HG-MR053		
				HG-KR053		
				HF-KP053		
			Sanyo Denki Co., Ltd.	Q1AA04003D	30W	
				Q1AA04005D	50W	
			Omron Corporation	R88M-K05030		
			Keyence Corporation	MV-M05		
				SV-M005		
	E2640	□40	SIEMENS	1FK7011-5	50W	CPDW19(P.1075)
				1FK7015-5	100W	
LX30	A3038	□38	Panasonic	MSMD5A	50W	SCXW21 (P.1076) SCPW21 (P.1076) CPDW19 (P.1075)
				MSME5A		
				MSMD01*	100W	
				MSME01*		
	A3040	□40	Yasukawa Electric Corporation	SGMJV-A5	50W	
				SGMAH-A5		
				SGMAH-01	100W	
			Mitsubishi Electric Corporation	HG-MR053	50W	
				HG-MR13	100W	
			Sanyo Denki Co., Ltd.	Q1AA04003D	30W	
				Q1AA04005D	50W	
				Q1AA04010D	100W	
			Omron Corporation	R88M-K05030	50W	
				R88M-K10030	100W	
			Keyence Corporation	MV-M05	50W	
				SV-M005		
				MV-M10	100W	
				SV-M010		
	E3040	□40	SIEMENS	1FK7011-5	50W	CPDW25(P.1075)
				1FK7015-5	100W	

Servo Motor Application Table

LX Type	Motor Adapter Plates Part Number	Flange Size	Manufacturer	Product Number	Wattage	Recommended Coupling
LX45	A4538	□38	Panasonic	MSMD5A	50W	SCXW28 (P.1076) SCPW28 (P.1076) CPDW25 (P.1075)
				MSME5A		
				MSMD01*	100W	
				MSME01*		
	A4540	□40	Yasukawa Electric Corporation	SGMJV-A5	50W	
				SGMAH-A5		
				SGMAH-01	100W	
				SGMPH-01		
			Mitsubishi Electric Corporation	HG-MR053	50W	
				HG-MR13	100W	
			Sanyo Denki Co., Ltd.	Q1AA04003D	30W	
				Q1AA04005D	50W	
				Q1AA04010D	100W	
			Omron Corporation	R88M-K05030	50W	
				R88M-K10030	100W	
			Keyence Corporation	MV-M05	50W	
				SV-M005		
				MV-M10	100W	
				SV-M010		
	MA4560	□60	Panasonic	MQMA-01	100W	
				MQMA-02	200W	
				MQMA-03	300W	
	E4540	□40	SIEMENS	1FK7011-5	50W	SCXW34 (P.1076) SCPW34 (P.1076) CPDW32 (P.1075)
				1FK7015-5	100W	
	E4555	□55	SIEMENS	1FK7022-5	380W	
	A4560	□60	Yasukawa Electric Corporation	SGMJV-02	200W	
				SGMJV-04	400W	
			Mitsubishi Electric Corporation	HG-MR23	200W	
				HG-KR23		
				HG-MR43	400W	
				HG-KR43		
			Sanyo Denki Co., Ltd.	Q1AA06020D	200W	
				Q1AA06040D	400W	
			Omron Corporation	R88M-K20030	200W	
				R88M-K40030	400W	
			Keyence Corporation	MV-M20	200W	
				SV-M020		
				MV-M40	400W	
				SV-M040		

Stepping Motor Application Table

LX Type	Motor Adapter Plates Part Number	Flange Size	Manufacturer	Motor Part Number	Type	Recommended Coupling
LX15	T1528	□28	Oriental Motor	CSK52	5-phase	MCGLC13 (P.1084) XBW-15C2 (Made by Nabeya Bi-tech) RCLA13C (Made by ISEL)
				ASC3	α- Step	
	ST1528	□28	NEMA standards	NEMA11	-	MCGLC13 (P.1084)
	UT1542	□42		NEMA17		
	ST1542					
LX20	T2028	□28	Oriental Motor	CSK22	2-phase	SCPW16 (P.1076)
				CSK52	5-phase	
				ASC3*	α- Step	
	T2042	□42		PK24*	2-phase	
				CSK24		
				RK54	5-phase	
				RKS54*		
				PK54*		
				AS46	α- Step	
				ASC46		
				AR46		
	T2056.4	□56.4	NEMA standards	NEMA23	-	CPDW19 (P.1075)
LX26	T2628	□28	Oriental Motor Motor	CSK22	2-phase	SCXW21 (P.1076) SCPW21 (P.1076) CPDW19 (P.1075)
				CSK52	5-phase	
				ASC3*	α- Step	
	T2642	□42		PK24*	2-phase	
				CSK24		
				RK54	5-phase	
				RKS54*		
				PK54*		
				AS46	α- Step	
				ASC46		
				AR46		
	T2656.4	□56.4	NEMA standards	NEMA23	-	CPDW19(P.1075)
LX30	T3042	□42	Oriental Motor Motor	PK24*	2-phase	SCXW21 (P.1076) SCPW21 (P.1076) CPDW19 (P.1075)
				RKS54*	5-phase	
				PK54*		
				AS46	α- Step	
				ASC46		
				AR46		
	T3056.4	□56.4		PK26*	2-phase	
	T3060	□60		RKS56*	5-phase	
				PK56*		
				AS6*	α- Step	
				ASC66		
				AR66		
LX45	T4560	□60	Oriental Motor Motor	RKS56*	5-phase	SCXW28(P.1076) SCPW28(P.1076) CPDW25(P.1075)
				PK56*		
				AS6*	α- Step	
				ASC66		
				AR66		
	T4556.4	□56.4	NEMA standards	NEMA23	-	CPDW25(P.1075)
	T4585	□85		NEMA24		CPDW32(P.1075)

RS Series Single Axis Robot - Structure/Features

RS SINGLE AXIS ROBOT

RS SINGLE AXIS ROBOT

Added wide lineup!! For details, see P.455

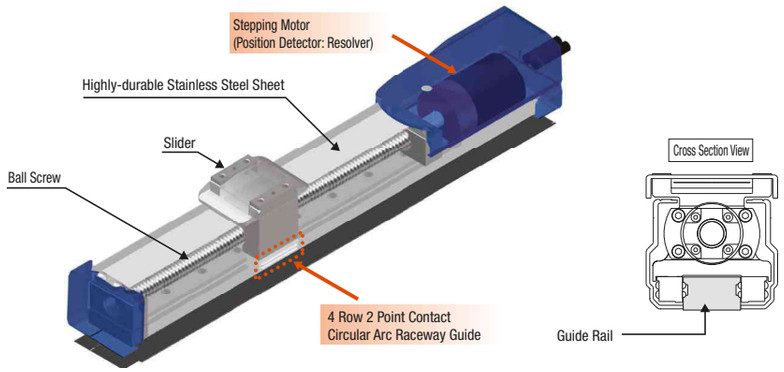
- Shortest Lead Time... **5th Day Shipping!**
- Position Sensor... **High reliability "Resolver" used.**

Small, Economical Actuators RS1/2/3 Series

Load Capacity: ~ 12kg (Horizontal) ~ 4kg (Vertical)

Controller (Incremental Type)





Cross Section View

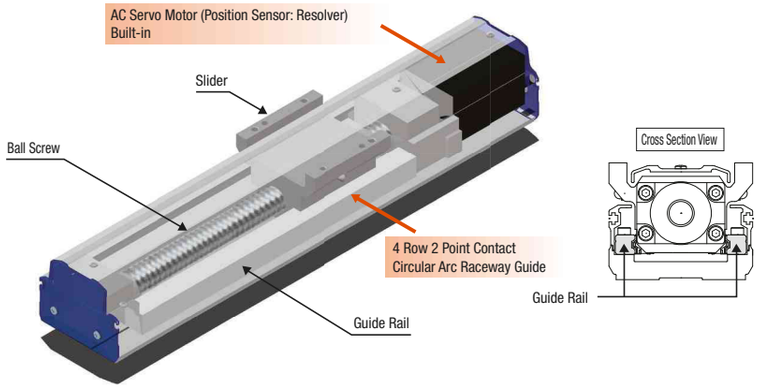
Large, High Load Capacity Actuators RSH1/2/3/4/5 Series

Load Capacity: ~80kg (Horizontal) ~20kg (Vertical)

Controller
(Absolute Type / Incremental Type)

* Absolute encoder requires no homing sequences.





Cross Section View

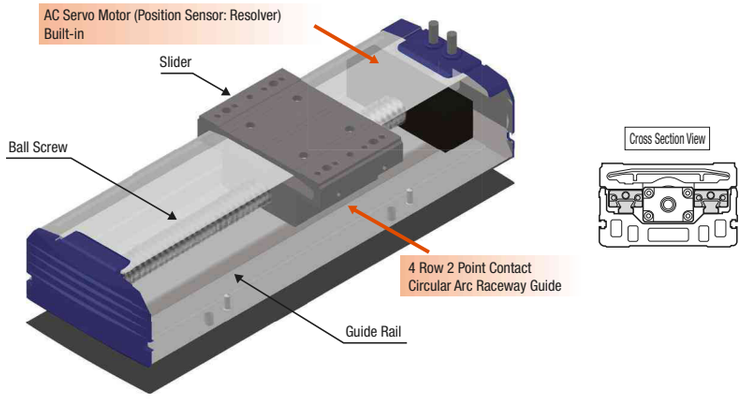
Large, High Load Capacity Actuators Width Space-saving Type RSF4 Series

Load Capacity: ~80kg (Horizontal) ~20kg (Vertical)

Controller
(Absolute Type / Incremental Type)

* Absolute encoder requires no homing sequences.





Cross Section View

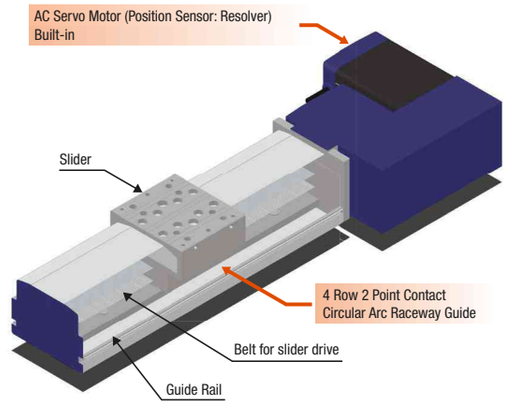
Belt Driven Type RSB1/2 Series

Load Capacity: ~20kg (Horizontal)

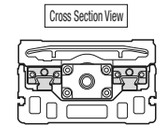
Controller
(Absolute Type / Incremental Type)

* Absolute encoder requires no homing sequences.





Cross Section View

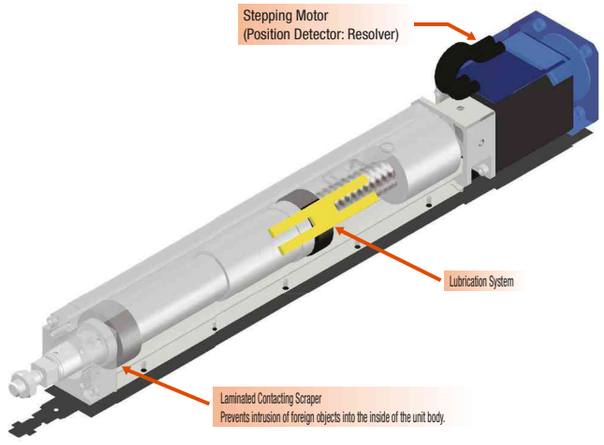


Small, Rod Type RSD·RSDG1/2/3 Series

Load Capacity: ~ 60kg (Horizontal) ~ 30kg (Vertical)

Controller
(Incremental Type)





Feature of RS Series

1 Resolver

Resolver is : Simple structure with no active electronics. Resistant to high and low temperatures, shock, electronic noises, dust, oil, etc. Used for applications including automotive, railways and aerospace.

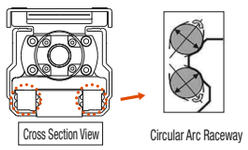
Resolver for detection of motor shaft angle has resulted in higher reliability than the conventional optical encoders.



Resolver

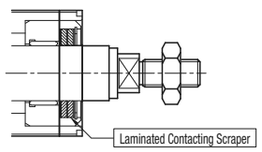
2 4 Row 2 Point Contact Circular Arc Raceway Guide

High self compensating ability leads to smooth operations even if rigidity and accuracy on actuator mounting surface are marginal.
Due to little differential slip, it can maintain stable performance under heavy loads.



3 Laminated Contacting Scraper and Lubrication System

Laminated contacting structure removes foreign objects and prevents them from intruding into the inside of the unit body.
Lubrication system inside the unit body provides long term maintenance-free operation.



RS Series Single Axis Robot - Lineup / Spec List

RS SINGLE AXIS ROBOT

Dedicated Website: http://download.misumi.jp/mol/fa_soft.html
Useful Selection Software and Instruction Manuals can be downloaded.

Slapping Motor Specifications

Slider Type

Motor Direction	Type	Lead	Maximum Load Capacity Mass (kg) Horizontal	Maximum Load Capacity Mass (kg) Vertical	Max. Push Force (N)	Max. Velocity (mm/sec) * Values in the list are the Max. Velocity. Stroke (mm)	Environmental Spec.	Position Detector	Controller Input Power Supply	Page
Straight	RS1 RS1C	2	6	4	150	50 100 150 200 250 300 350 400 450 500 550 600 650 700 750 800: 100	Standard / Clean	Resolver Incremental Type	DC24V (±10%)	P.457
		6	4	2	90	300				
		12	2	1	45	400~600				
	RS2 RS2C	6	10	2	90	300: 280 250 220 190				P.461
		12	6	1	45	400~ 600: 560 500 440 380				
		20	4	-	27	350~1000: 933 833 733 633				
	RS3 RS3C	6	12	4	120	300: 280 250 220 190				P.465
		12	8	2	60	420~ 600: 560 500 440 380				
		20	6	-	36	350~1000: 933 833 733 633				
Folded	RS1	2	6	4	150	100	Standard			P.459
		6	4	2	90	300				
		12	2	1	45	400~600				
	RS2	6	10	2	90	300: 280 250 220 190				P.463
		12	6	1	45	400~ 600: 560 500 440 380				
		20	4	-	27	350~1000: 933 833 733 633				
	RS3	6	12	4	120	300: 280 250 220 190				P.467
		12	8	2	60	420~ 600: 560 500 440 380				
		20	6	-	36	350~1000: 933 833 733 633				

Rod Type

Motor Direction	Support Guide	Type	Lead	Maximum Load Capacity Mass (kg) Horizontal	Maximum Load Capacity Mass (kg) Vertical	Max. Push Force (N)	Max. Velocity (mm/sec) * Values in the list are the Max. Velocity. Stroke (mm)	Environmental Spec.	Position Detector	Controller Input Power Supply	Page
Straight	None	RSD1	6	20	8	100	250	Standard	Resolver Incremental Type	DC24V (±10%)	P.469
			12	10	4	75	500				
		RSD2	2	45	25	600	80				P.471
			6	40	12	300	250				
			12	25	5	150	500				
		RSD3	2	60	30	900	50				P.473
			6	55	20	550	150				
			12	50	10	250	300				
	Included	RSDG1	6	20	7.5	100	250				P.475
			12	10	3.5	75	500				
		RSDG2	2	45	24	600	80				P.477
			6	40	11	300	250				
			12	25	4	150	500				
		RSDG3	2	60	28.5	900	50				P.479
			6	55	18.5	550	150				
			12	50	8.5	250	300				
Folded	None	RSD1	6	20	8	100	250				P.469
			12	10	4	75	500				
		RSD2	2	45	25	600	80				P.471
			6	40	12	300	250				
			12	25	5	150	500				
		RSD3	2	60	30	900	50				P.473
			6	55	20	550	150				
			12	50	10	250	300				
	Included	RSDG1	6	20	7.5	100	250				P.475
			12	10	3.5	75	500				
		RSDG2	2	45	24	600	80				P.477
			6	40	11	300	250				
			12	25	4	150	500				
		RSDG3	2	60	28.5	900	50				P.479
			6	55	18.5	550	150				
			12	50	8.5	250	300				

Cycle Time Graph (for reference)

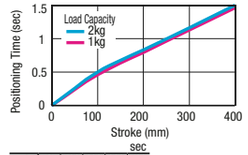
RS1

Horizontal Lead 6



sec	st	0	100	200	300	400
4kg	0	0.59	0.92	1.25	1.59	
2kg	0	0.51	0.85	1.18	1.51	
1kg	0	0.48	0.81	1.14	1.48	

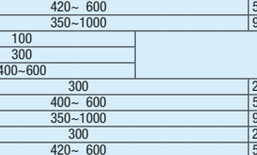
Vertical Lead 6



sec	st	0	100	200	300	400
2kg	0	0.50	0.83	1.16	1.50	
1kg	0	0.46	0.79	1.13	1.46	

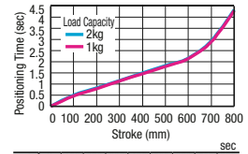
RS2

Horizontal Lead 6



sec	st	0	100	200	300	400	500	600	700	800
10kg	0	0.83	1.14	1.47	1.81	2.14	2.47	3.20	4.51	
6kg	0	0.66	0.99	1.33	1.66	1.99	2.33	3.07	4.42	
3kg	0	0.55	0.88	1.22	1.55	1.88	2.22	2.98	4.35	

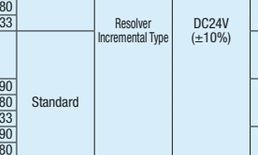
Vertical Lead 6



sec	st	0	100	200	300	400	500	600	700	800
2kg	0	0.50	0.83	1.16	1.50	1.83	2.16	2.94	4.32	
1kg	0	0.46	0.79	1.13	1.46	1.79	2.13	2.91	4.29	

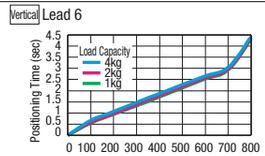
RS3

Horizontal Lead 6



sec	st	0	100	200	300	400	500	600	700	800
12kg	0	0.90	1.21	1.55	1.88	2.21	2.55	3.26	4.56	
8kg	0	0.74	1.07	1.40	1.73	2.07	2.40	3.13	4.46	
4kg	0	0.59	0.92	1.25	1.59	1.92	2.25	3.01	4.37	

Vertical Lead 6



sec	st	0	100	200	300	400	500	600	700	800
4kg	0	0.67	1.07	1.47	1.87	2.27	2.67	3.07	4.42	
2kg	0	0.58	0.98	1.38	1.78	2.18	2.58	2.98	4.35	
1kg	0	0.53	0.93	1.33	1.73	2.13	2.53	2.93	4.31	

Servo Motor Specifications

Slider Type

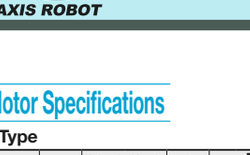
Driving	Type	Lead	Maximum Load Capacity Mass (kg) Horizontal	Maximum Load Capacity Mass (kg) Vertical	Max. Push Force (N)	Max. Velocity (mm/sec) * Values in the list are the Max. Velocity. Stroke (mm)	Environmental Spec.	Position Detector	Controller Input Power Supply	Page
Ball Screw	RSH1 RSH1C	6	40	8	238	150 200 250 300 350 400 450 500 550 600 650 700 750 800 850 900 950 1000 1050: 360 324 270 234 216 180	Standard / Clean	Resolver Absolute Incremental Type	AC Single Phase 100~115V 200~230V (±10%)	P.481
		12	20	4	141	720 648 540 468 432 360				
		20	12	-	84	780~1200: 1080 900 780 780 600				
	RSH2 RSH2C	5	50	16	339	300: 255 225 195 180 165 150 135 120				P.483
		10	40	8	169	600: 510 450 390 360 330 300 270 240				
		20	20	4	84	1020~1200: 1020 900 780 720 660 600 540 480				
		30	7	-	56	774~1800: 1530 1350 1170 1080 990 900 810 720				
	RSH3 RSH3C	5	80	-	339	300: 255 225 195 180 165 150 135 120 105				P.485
		10	60		169	600: 510 450 390 360 330 300 270 240 210				
		20	30		84	1020~1200: 1020 900 780 720 660 600 540 480 420				
	RSH4	5	60	20	399	300: 240 195 150 135	Standard			P.487
		10	40	10	169	600: 480 390 300 270				
		20	20	4	84	800~1200: 960 780 600 540				
		30	15	-	56	800~1800: 1440 1170 900 810				
	RSH5	5	80	20	399	300: 240 195 150 135				P.489
		10	55	10	169	600: 480 390 300 270				
		20	30	4	84	1000~1200: 960 780 600 540				
		30	15	-	56	900~1800: 1440 1170 900 810				
	RSF4	5	80	20	399	300: 240 195 150 135				P.491
		10	55	10	169	600: 480 390 300 270				
		20	30	4	84	1100~1200: 960 780 600 540				
		30	15	-	56	800~1800: 1440 1170 900 810				

Driving	Type	Maximum Load Capacity Mass (kg) Horizontal	Maximum Load Capacity Mass (kg) Vertical	Max. Push Force (N)	Max. Velocity (mm/sec) * Values in the list are the Max. Velocity. Stroke (mm)	Environment Specifications	Position Detector	Controller Input Power Supply	Page
Belt	RSB1	10	-	-	150 200 250 300 350 400 450 500 550 600 650 700 750 800 850 900 950 1000 1050 1100 1150 1200 1250 1300 1350 1400 1450 1500 1550 1600: ~1750: 1875; 1650 1700 1750 1800 1850 1900 1950 2000 2050 2100 2150 2200 2250 2300 2350 2400 2450 2500 2550: 1875	Standard	Resolver Absolute Type Incremental Method	AC Single Phase 100~115V 200~230V (±10%)	P.493
	RSB2	20	-	-	150 200 250 300 350 400 450 500 550 600 650 700 750 800 850 900 950 1000 1050 1100 1150 1200 1250 1300 1350 1400 1450 1500 1550 1600: ~1750: 1875; 1650 1700 1750 1800 1850 1900 1950 2000 2050 2100 2150 2200 2250 2300 2350 2400 2450 2500 2550 2600 2650 2700 2750 2800 2850 2900 2950 3000 3050: 1875				P.495

Cycle Time Graph (for reference)

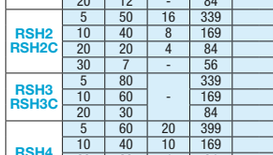
RSH1

Horizontal Lead 6



sec	st	0	100	200	300	400	500	600	700	800
40kg	0	0.76	1.08	1.36	1.63	1.91	2.29	3.15	4.34	
20kg	0	0.49	0.76	1.04	1.32	1.60	2.00	2.93	4.16	
5kg	0	0.42	0.70	0.97	1.25	1.53	1.94	2.88	4.13	

Vertical Lead 6



sec	st	0	100	200	300	400	500	600	700	800
8kg	0	0.46	0.73	1.01	1.29	1.57	1.98	2.91	4.15	
4kg	0	0.42	0.69	0.97	1.25	1.53	1.94	2.88	4.13	

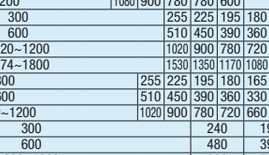
RSH2

Horizontal Lead 10



sec	st	0	100	200	300	400	500	600	700	800	900	1050
40kg	0	0.51	0.73	0.90	1.06	1.23	1.40	1.67	2.20	2.92	4.40	
20kg	0	0.41	0.58	0.75	0.92	1.08	1.25	1.54	2.10	2.84	4.33	
5kg	0	0.31	0.47	0.64	0.81	0.97	1.14	1.45	2.03	2.78	4.27	

Vertical Lead 10



sec	st	0	100	200	300	400	500	600	700	800	900	1050
8kg	0	0.35	0.51	0.68	0.85	1.01	1.18	1.48	2.05	2.80	4.29	
4kg	0	0.31	0.47	0.64	0.81	0.97	1.14	1.45	2.03	2.78	4.27	

RSH3

Horizontal Lead 10



sec	st	0	100	200	300	400	500	600	700	800	900	1050
60kg	0	0.73	0.96	1.18	1.36	1.53	1.70	2.04	2.59	3.35	4.93	
30kg	0	0.47	0.66	0.82	0.99	1.16	1.32	1.75	2.36	3.15	4.74	
5kg	0	0.31	0.47	0.64	0.81	0.97	1.14	1.61	2.24	3.05	4.64	

- Confirm the information regarding Cycle Time Graph on our website (http://jp.misumi-ec.com/maker/misumi/mech/product/rs/index.html).
- To confirm detailed information, use cycle time simulator (http://fawos.misumi.jp/FA_WEB/tkcc/cycletime/cycletime.php).

Notes on CE Marking

MISUMI Robot Series provide parts to be incorporated into customers' device and equipment. According to EC Directive, it is declared that these are supplied in an incomplete state. Therefore, no CE marks are attached.
Please check for EC Directive compatibility with actuator built-in device or equipment (finished products). For details, please see the Instruction Manual.

Warranty

■Warranty Terms Comply with "Warranty Standards" printed on "Mechanical Standard Components for Factory Automation" catalog.
■Warranty Period One year from shipment date or within the first 2400 hours of operation whichever comes first

Dedicated Contact for Queries

■Dedicated contact for queries on technical information
TEL:03-5805-7088
<Business Hours>
Mon. through Fri.: 9:00~12:00, 13:00~18:00

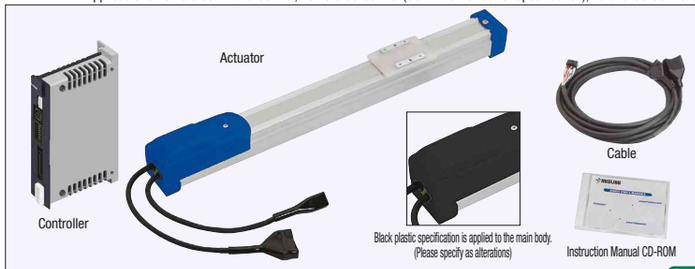
Single Axis Robots RS1 - Straight -

RS SINGLE AXIS ROBOT

Dedicated Website: http://download.misumi.jp/mol/fa_soft.html
Useful Selection Software and Instruction Manuals can be downloaded.

See notes on CE Marking. P.456

■**Features: Small, Economical Actuators:**
Applicable to Remote Command Control, Remote I/O Control (CC-Link / DeviceNet Specification), Parallel I/O Control and Online Command Control (RS232C Specification).



Cable

Instruction Manual CD-ROM

■ **Components: Actuator, Controller, Cable**

■ **Accessory**

A Accessory	Controller I/O Specifications		
	NPN, PNP	CC-Link	DeviceNet
	Instruction Manual (CD-ROM), Power Connector, Dummy Connector		
	-	CC-Link Connector	DeviceNet Connector

■ **Robot Material / Surface Treatment**

Components	Guide Rail	Slider	Side Cover
M Material	Steel	Aluminum	Aluminum
S Surface Treatment	-	-	Anodize

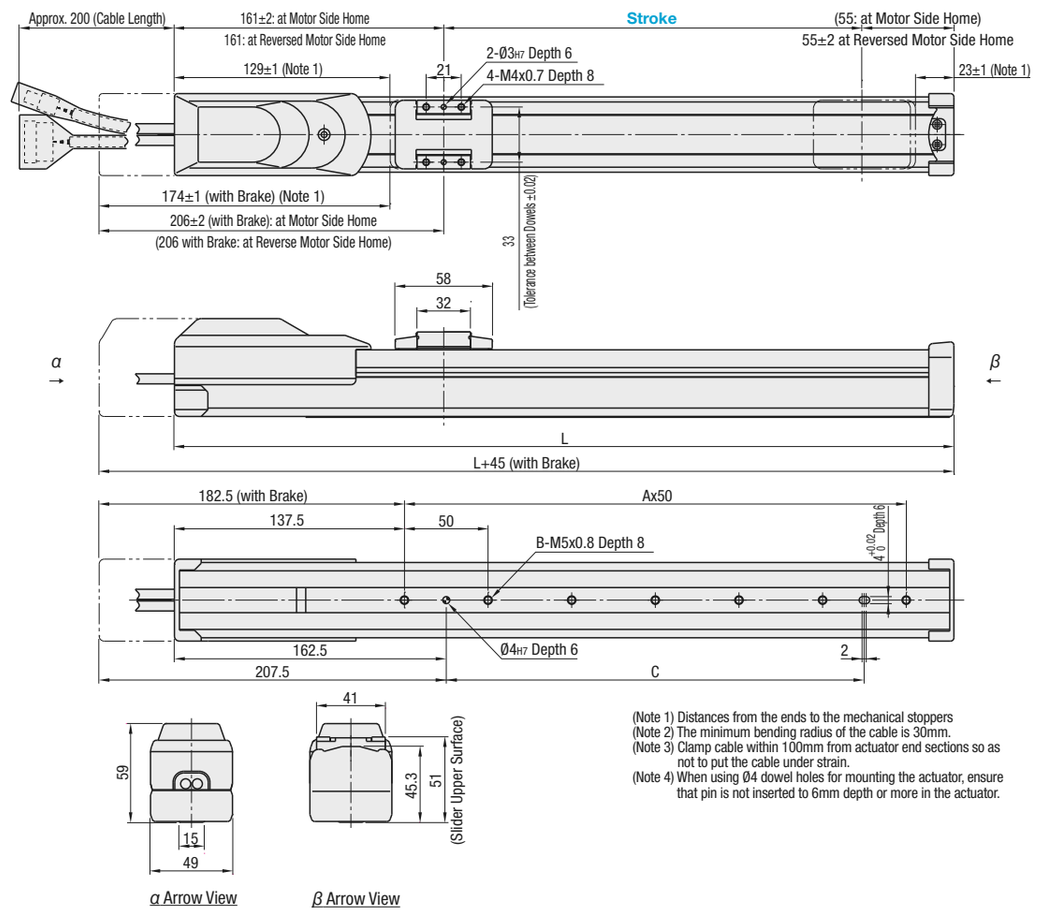
■ **General Specifications**

Ball Screw	Motor	Position Detector	Operating Ambient Temperature, Humidity
Ø8 (C10 Rolled)	Stepping	Resolver (Incremental)	0~40°C, 35~85 %RH (No Condensation)

Controller Specifications P.497~506 Clean Room Specifications are available on our website. RoHS

■**Standard Specifications** FAQ P.504

Type	Lead (mm)	Positioning Repeatability (mm)	Max Load Capacity (kg) Horizontal	Max Load Capacity (kg) Vertical	Max. Push Force (N)	Stroke (mm)	Max. Velocity (mm/sec)	Rated Running Life	Input Power Supply	Maximum Positioning Point
RS1	02	±0.02	6	4	150	50~400 (50 Pitch)	100	10,000 km or More	DC24V ±10%	255 points
	06		4	2	90		300			
	12		2	1	45		600			



(Note 1) Distances from the ends to the mechanical stoppers
(Note 2) The minimum bending radius of the cable is 30mm.
(Note 3) Clamp cable within 100mm from actuator end sections so as not to put the cable under strain.
(Note 4) When using Ø4 dowel holes for mounting the actuator, ensure that pin is not inserted to 6mm depth or more in the actuator.

■**Dimensions / Mass**

Type	Dimensions / Mass	Stroke (mm) 50	100	150	200	250	300	350	400
RS1	L (mm)	266	316	366	416	466	516	566	616
	A (mm)	2	3	4	5	6	7	8	9
	B (mm)	3	4	5	6	7	8	9	10
	C (mm)	50	100	150	200	250	300	350	400
	Mass (kg)	1.5	1.6	1.7	1.8	2.0	2.1	2.2	2.3

(?)The brake adds 0.2kg to the total mass.

Part Number Type	Part Number Lead (mm)	Part Number With or w/o Brake (?1)	Selection Controller (?2)	Selection I/O Module	Selection Cable Length (m)	Selection Stroke (mm)
RS1	02	None : Leave blank Included: B	Point Control: C1 Pulse Control: P1 (DC24V ±10%)	NPN: N PNP: P CC-Link: C DeviceNet: D	1 3 5 10 (Flexible Cable)	50~400 (50mm Increment)
	06					
	12					

(?1) Choose the "Brake" option for use in vertical applications. (?2) When the pulse train type controller is selected, the I/O type selection is not required.

Ordering Example

Part Number	-	Controller	-	I/O Module	-	Cable Length	-	Stroke	
RS102B	-	C1	-	N	-	3	-	400	
RS102B	-	P1			-	3	-	400	(Controller: P1)

■**Robot Body Price**

Part Number	Unit Price 1 ~ 5 pc(s) Stroke (mm) 50	100	150	200	250	300	350	400
RS1□□								
RS1□□B								

■**Controller Price**

Type	I/O Module	Unit Price 1 ~ 5 pc(s)
C1	N	
	P	
	C	
	D	
P1	-	

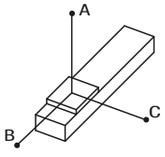
■**Cable Price**

Cable Length (m)	Unit Price 1 ~ 5 pc(s).
1	
3	
5	
10	

Note
Power interruption circuit is not provided in this controller in order to provide maximum flexibility for customer specific safety scheme.
Please be sure to provide an external power interruption circuit and form an emergency stop circuit. For Circuit examples, see P.503

■**Allowable Overhang Load**

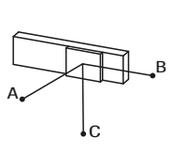
• Horizontal Use



mm

Lead	Mass	A	B	C
02	6kg	863	40	60
	4kg	869	61	92
06	4kg	567	56	84
	3kg	556	76	112
	2kg	687	116	169
12	2kg	667	107	152
	1kg	807	218	292

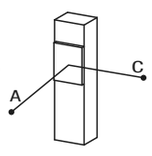
• Wall Mounted Use



mm

Lead	Mass	A	B	C
02	6kg	39	26	789
	4kg	72	48	829
06	4kg	63	43	507
	3kg	92	62	516
	2kg	149	102	656
12	2kg	133	93	611
	1kg	274	204	776

• Vertical Use

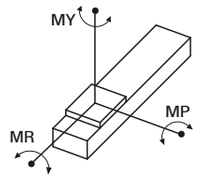


mm

Lead	Mass	A	C
02	4kg	53	53
	2kg	118	118
06	2kg	107	107
	1kg	223	223
12	1kg	204	204
	0.5kg	407	408

■**Allowable Static Moment**

• Moment Diagram



N・m

MY	MP	MR
16	19	17

■**Max. Velocity (mm/sec)** (?)Please confirm the details of the Max. Speeds based on various strokes with MISUMI Web Simulator.

Type	Lead (mm)	Stroke (mm) 50	100	150	200	250	300	350	400
RS1	02	100							
	06	300							
	12	400~600							

<Price Example> The prices are for the part numbers on the left.
(Robot Body Price) + (Controller Price) + (Cable Price) + (Grease Type Alteration Charge) + (Home Position Alteration Charge) = Total Price

Alterations

Part Number	-	Controller Type	-	I/O Type	-	Cable Length	-	Stroke	-	(G, E···etc.)
RS102B	-	C1	-	N	-	3	-	400	-	G-E

Alterations	Grease Type Alteration	Change of Home Position	Handset Terminal Standard Specification	Handset Terminal w/ Deadman's Switch	Support Software w/ USB Communication Cable	Support Software D-Sub with Communication Cable	I/O Cable	Cable for daisy-chain connection	Instruction Manual	Main Body Plastic Color Alterations
					Communication Specifications: RS232C	Communication Specifications: RS232C	T: Controller C1 TP: Controller P1	Length: 300mm	MJ5: Body KJ3: Controller (C1) KJ4: Controller (P1)	
Code	G	E	H	D	S	R	T/TP	C	MJ5/KJ3/KJ4	BC
Spec.	Grease is changed to low particle generation grease. (NSK LG2)	The home position is relocated to the opposite side of the motor.	Handset Terminal is included. Specifications P.503, 507	Handset Terminal w/ Deadman's Switch is included. Specifications P.503, 507	Support Software w / USB Communication Cable is included. Specifications P.503, 507	Support Software w/ D-Sub Communication Cable is included. Specifications P.507	I/O Cable is included. Required for NPN/PNP configurations. Specifications P.507	A cable to connect multiple controllers. Up to 16 controllers can be connected. Specifications P.507	Operation Manual is included. For Actuator MJ5: For Controller KJ3: KJ4:	Change the actuator plastic parts color to black.

(?)For optional items, see P.507 (?)It is more economical to order the optional items as alterations than purchasing them individually.
(?)Entering point data requires the handy terminal or the support software.
(?)An I/O Cable is required for Parallel Communication I/O Control. (?)Please select the correct I/O cable type for the appropriate controller type.

Single Axis Robots RS1 - Motor Folded -

RS
SINGLE AXIS ROBOT

See notes on CE Marking. P.456



Controller Specifications P.497~506

RoHS

■ **Components:** Actuator, Controller, Cable

■ Accessory

	Controller I/O Specifications		
A Accessory	NPN,PNP	CC-Link	DeviceNet
	Instruction Manual (CD-ROM), Power Connector, Dummy Connector		
	-	CC-Link Connector	DeviceNet Connector

■ Robot Material / Surface Treatment

Components	Guide Rail	Slider	Side Cover
M Material	Steel	Aluminum	Aluminum
S Surface Treatment	-	-	Anodize

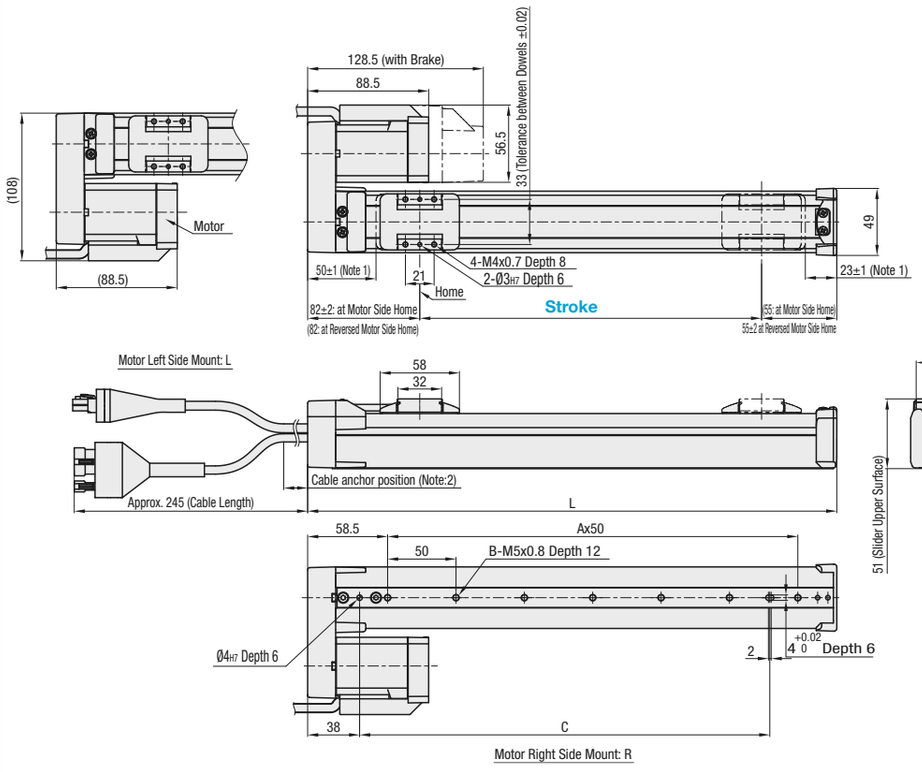
■ General Specifications

Ball Screw	Motor	Position Detector	Operating Ambient Temperature, Humidity
Ø8 (C10 Rolled)	Stepping	Resolver (Incremental)	0~40°C, 35~85%RH (No Condensation)

■Standard Specifications

FAQ P.504

Type	Lead (mm)	Positioning Repeatability (mm)	Max Load Capacity (kg) Horizontal	Max Load Capacity (kg) Vertical	Max. Push Force (N)	Stroke (mm)	Max. Velocity (mm/sec)	Rated Running Life	Input Power Supply	Maximum Positioning Point
RS1	02	±0.02	6	4	150	50~400 (50 Pitch)	100	10,000 km or More	DC24V ±10%	255 points
	06		4	2	90		300			
	12		2	1	45		600			



(Note 1) Distances from the ends to the mechanical stoppers
(Note 2) The cables should be tied down within 80mm from the ends of the unit avoiding any stress to the cables.
(Note 3) The minimum bending radius of the cable is 30mm.
(Note 4) These masses are for units without brakes. With brakes, they are 0.2 kg heavier.
(Note 5) Belt cover is not right-left symmetrical. If the motor mounting orientation is changed, the belt cover can not be reinstalled.

■Dimensions / Mass

Type	Dimensions / Mass	Stroke (mm) 50	100	150	200	250	300	350	400
RS1	L (mm)	187	237	287	337	387	437	487	537
	A (mm)	2	3	4	5	6	7	8	9
	B (mm)	3	4	5	6	7	8	9	10
	C (mm)	100	150	200	250	300	350	400	450
	Mass (kg)	1.2	1.4	1.5	1.6	1.7	1.8	1.9	2.1

(?)The brake adds 0.2kg to the total mass.

Part Number Type	Part Number Lead (mm)	Part Number With or w/o Brake (?1)	Selection Motor Mounting Direction	Selection Controller (?2)	Selection I/O Module	Selection Cable Length (m)	Selection Stroke (mm)
RS1	02	None : Leave blank Included: B	Right Side Mount: R Left Side Mount : L	Point Control: C1 Pulse Control: P1 (DC24V ±10%)	NPN: N PNP: P CC-Link: C DeviceNet: D	1 3 5 10 (Flexible Cable)	50~400 (50mm Increment)
	06						
	12						

(?)1) Choose the "Brake" option for use in vertical applications. (?)2) When the pulse train type controller is selected, the I/O type selection is not required.

Ordering Example

Part Number	Motor Mounting Direction	Controller	I/O Module	Cable Length	Stroke	
RS102B	L	C1	N	3	400	
RS102B	L	P1		3	400	(Controller: P1)

■Robot Body Price

Part Number	Unit Price 1 ~ 5 pc(s). Stroke (mm) 50	100	150	200	250	300	350	400
RS1□□								
RS1□□B								

■Controller Price

Type	I/O Module	Unit Price 1 ~ 5 pc(s).
C1	N	
	P	
	C	
	D	
P1	-	

■Cable Price

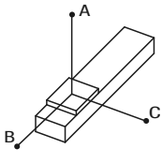
Cable Length (m)	Unit Price 1 ~ 5 pc(s).
1	
3	
5	
10	

Note

Power interruption circuit is not provided in this controller in order to provide maximum flexibility for customer specific safety scheme.
Please be sure to provide an external power interruption circuit and form an emergency stop circuit. For Circuit examples, see P503

■Allowable Overhang Load

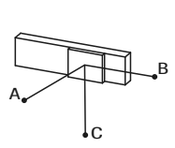
・Horizontal Use



Lead	Mass	A	B	C
02	6kg	863	40	60
	4kg	869	61	92
06	4kg	567	56	84
	3kg	556	76	112
	2kg	687	116	169
12	2kg	667	107	152
	1kg	807	218	292

mm

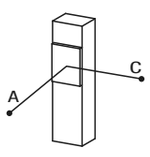
・Wall Mounted Use



Lead	Mass	A	B	C
02	6kg	39	26	789
	4kg	72	48	829
06	4kg	63	43	507
	3kg	92	62	516
	2kg	149	102	656
12	2kg	133	93	611
	1kg	274	204	776

mm

・Vertical Use

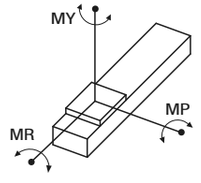


Lead	Mass	A	C
02	4kg	53	53
	2kg	118	118
06	2kg	107	107
	1kg	223	223
12	1kg	204	204
	0.5kg	407	408

mm

■Allowable Static Moment

・Moment Diagram



N·m

MY	MP	MR
16	19	17

■Max. Velocity (mm/sec)

(?)Please confirm the details of the Max. Speeds based on various strokes with MISUMI Web Simulator.

Type	Lead (mm)	Stroke (mm) 50	100	150	200	250	300	350	400
RS1	02	100							
	06	300							
	12	400~600							

<Price Example> The prices are for the part numbers on the left.
(Actuator) + (Controller) + (Cable) + (Grease Type Alteration) + (Change of Home Position) = Total Price

Alterations

Part Number	Motor Mounting Direction	Controller Type	I/O Type	Cable Length	Stroke	(G, E···etc.)
RS102B	L	C1	N	3	400	G-E

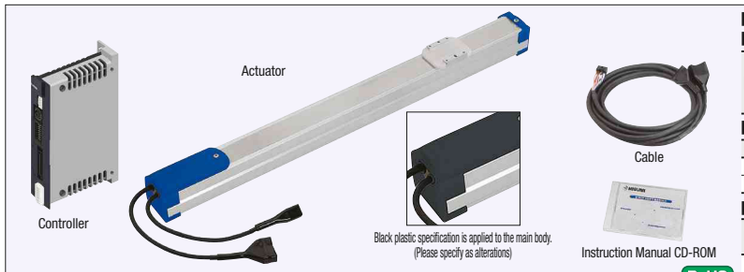
Alterations	Grease Type Alteration	Change of Home Position	Handset Terminal Standard Specification	Handset Terminal w/ Deadman's Switch	Support Software w/ USB Communication Cable	Support Software W / D-Sub Communication Cable	I/O Cable	Cable for daisy-chain connection	Instruction Manual	Main Body Plastic Color Alterations
					Communication Specifications: RS232C	Communication Specifications: RS232C	T: Controller C1 TP: Controller P1	Length: 300mm	MJ5: Body KJ3:Controller (C1) KJ4:Controller (P1)	
Code	G	E	H	D	S	R	T/TP	C	MJ5/KJ3/KJ4	BC
Spec.	Grease is changed to low particle generation grease. (NSK LG2)	The home position is relocated to the opposite side of the motor.	Handset Terminal is included. Specifications P503, 507	Handset Terminal w/ Deadman's Switch is included. Specifications P503, 507	Support Software w / USB Communication Cable is included. Specifications P503, 507	Support Software w/ D-Sub Communication Cable is included. Specifications P507	I/O Cable is included. Required for NPN/PNP configurations. Specifications P507	A cable to connect multiple controllers. It can connect maximum 16 controllers. Specifications P507	Operation Manual is included. For Actuator MJ5: For Controller KJ3: KJ4:	Change the actuator plastic parts color to black.

(?)For optional items, see P507 (?)It is more economical to order the optional items as alterations than purchasing them individually.
(?)Entering point data requires the handy terminal or the support software. (?)An I/O Cable is required for Parallel Communication I/O Control.
(?)For details on daisy-chain, see P507 (?)Please select the correct I/O cable type for the appropriate controller type.

Single Axis Robots RS2 - Straight

RS
SINGLE AXIS ROBOT

See notes on CE Marking. P.456



Controller Specifications P.497~506 Cycle Time Graph P.455 Clean Room Specifications are available on our website. RoHS

■**Components:** Actuator, Controller, Cable

■**Accessory**

Accessory	Controller I/O Specifications		
	NPN, PNP	CC-Link	DeviceNet
	Instruction Manual (CD-ROM), Power Connector, Dummy Connector		
	-	CC-Link Connector	DeviceNet Connector

■**Robot Material / Surface Treatment**

Components	Guide Rail	Slider	Side Cover
M Material	Steel	Aluminum	Aluminum
S Surface Treatment	-	-	Anodize

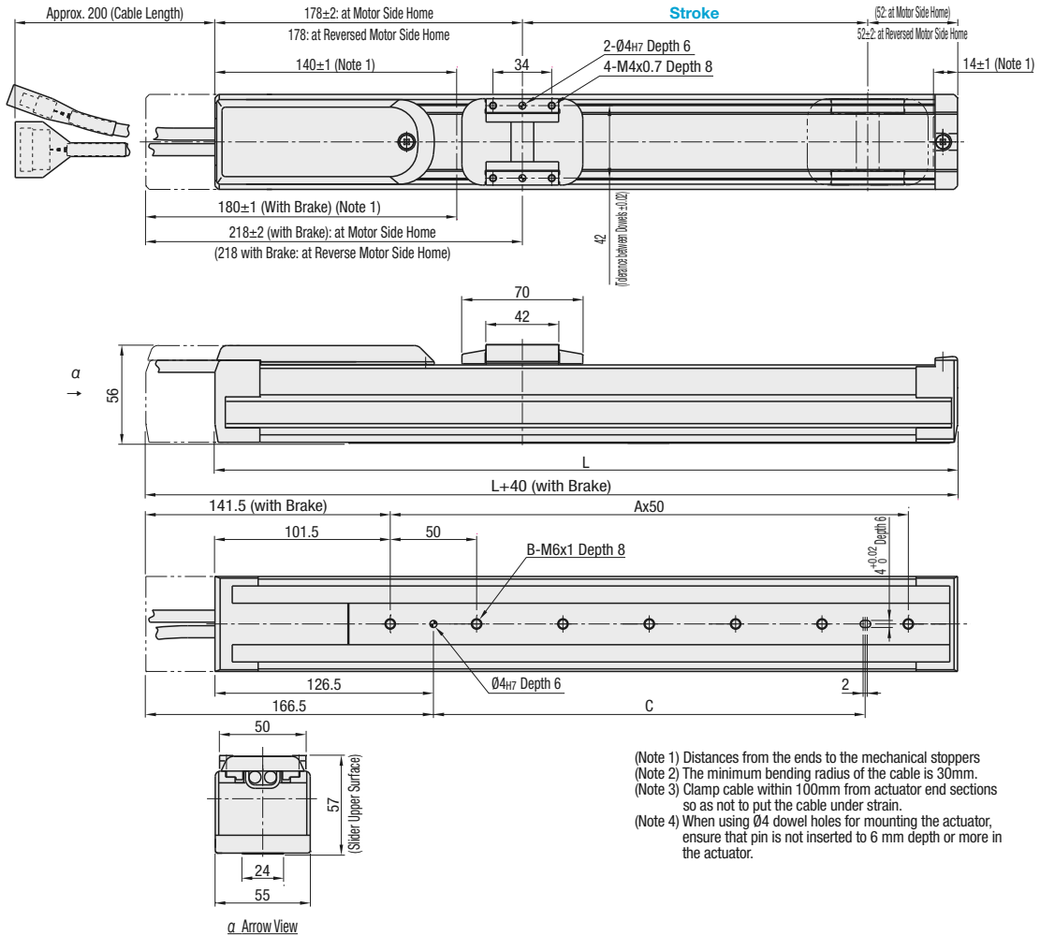
■**General Specifications**

Ball Screw	Motor	Position Detector	Operating Ambient Temperature, Humidity
Ø12 (C10 Rolled)	Stepping	Resolver (Incremental)	0~40°C, 35~85%RH (No Condensation)

■**Standard Specifications** FAQ P.504

Type	Lead (mm)	Positioning Repeatability (mm)	Max Load Capacity (kg) Horizontal	Max Load Capacity (kg) Vertical	Max. Push Force (N)	Stroke (mm)	Max. Velocity (Note) (mm/sec)	Rated Running Life	Input Power Supply	Maximum Positioning Point
RS2	06	±0.02	10	2	90	50~800 (50 Pitch)	300~190	10,000 km or More	DC24V ±10%	255 points
	12		6	1	45		600~380			
	20		4	-	27		1000~633			

(Note) Maximum velocities allowed may vary depending on the stroke length selected. Please refer to the "Recommended Maximum Velocities" table.



(Note 1) Distances from the ends to the mechanical stoppers
(Note 2) The minimum bending radius of the cable is 30mm.
(Note 3) Clamp cable within 100mm from actuator end sections so as not to put the cable under strain.
(Note 4) When using Ø4 dowel holes for mounting the actuator, ensure that pin is not inserted to 6 mm depth or more in the actuator.

■**Dimensions / Mass**

Type	Dimensions / Mass	Stroke (mm) 50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800
RS2	L (mm)	280	330	380	430	480	530	580	630	680	730	780	830	880	930	980	1030
	A (mm)	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
	B (mm)	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
	C (mm)	100	150	200	250	300	350	400	450	500	500	500	500	500	500	500	500
	Mass (kg)	2.1	2.3	2.5	2.7	2.8	3.0	3.2	3.4	3.6	3.8	4.0	4.2	4.4	4.6	4.8	5.0

The brake adds 0.2 kg to the total mass.

Part Number: Type	Part Number: Lead (mm)	Part Number: With or w/o Brake (1)	Selection: Controller (2)	Selection: I/O Module	Selection: Cable Length (m)	Selection: Stroke (mm)
RS2	06	None: Leave blank	Point Control: C1	NPN: N	1	50~800 (50mm Increment)
	12	Included: B	Pulse Control: P1	PNP: P	3	
	20		(DC24V ±10%)	CC-Link: C	5	
				DeviceNet: D	10 (Flexible Cable)	

(1) Choose the "Brake" option for use in vertical applications. (The brake option is not available for Lead 20) (2) When the pulse train type controller is selected, the I/O type selection is not required.

Ordering Example

Part Number		Controller		I/O Module		Cable Length		Stroke	
RS206B	-	C1	-	N	-	3	-	400	
RS206B	-	P1			-	3	-	400	(Controller: P1)

■**Robot Body Price**

Part Number	Unit Price 1 ~ 5 pc(s) Stroke (mm) 50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800
RS2□□																
RS2□□B																

■**Controller Price**

Type	I/O Module	Unit Price 1 ~ 5 pc(s).
C1	N	
	P	
	C	
	D	
P1	-	

■**Cable Price**

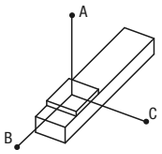
Cable Length (m)	Unit Price 1 ~ 5 pc(s).
1	
3	
5	
10	

Note

Power interruption circuit is not provided in this controller in order to provide maximum flexibility for customer specific safety scheme.
Please be sure to provide an external power interruption circuit and form an emergency stop circuit. For Circuit examples, see P.503.

■**Allowable Overhang Load**

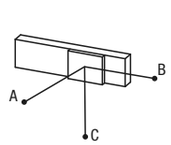
• Horizontal Use



mm

Lead	Mass	A	B	C
06	10kg	344	29	62
	8kg	332	37	79
	4kg	503	78	165
12	6kg	335	47	95
	4kg	347	72	139
20	4kg	334	67	120
	2kg	413	139	218

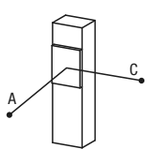
• Wall Mounted Use



mm

Lead	Mass	A	B	C
06	8kg	47	22	355
	6kg	76	35	377
	4kg	134	63	496
12	6kg	63	31	263
	4kg	109	57	300
20	4kg	92	51	265
	2kg	192	123	372

• Vertical Use

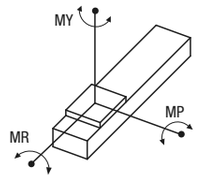


mm

Lead	Mass	A	C
06	2kg	148	148
	1kg	312	312
12	1kg	286	286
	0.5kg	578	579

■**Allowable Static Moment**

• Moment Diagram



N·m

MY	MP	MR
25	33	30

■**Max. Velocity (mm/sec)** Please confirm the details of the Max. Speeds based on various strokes with MISUMI web Simulator.

Type	Lead (mm)	Stroke (mm) 50~600	650	700	750	800
RS2	06	300	280	250	220	190
	12	400~ 600	560	500	440	380
	20	350~1000	933	833	733	633

For stroke ranges 650mm or more, ball screws may resonate in certain operation areas (critical speed). In that case, reduce the operation speed by referring to the Max. Velocity shown in the table above.

<Price Example> The prices are for the part numbers on the left.
(Robot Body Price) + (Controller Price) + (Cable Price) +
(Grease Type Alteration Charge) + (Home Position Alteration Charge) = Total Price

Alterations

Part Number		Controller Type		I/O Module		Cable Length		Stroke		(G, E⋯etc.)
RS206B	-	C1	-	N	-	3	-	400	-	G-E

Alterations	Grease Type Alteration	Change of Home Position	Handset Terminal Standard Specification	Handset Terminal w/ Deadman's Switch	Support Software w/ USB Communication Cable	Support Software w/ D-Sub Communication Cable	I/O Cable	Cable for daisy-chain connection	Instruction Manual	Main Body Plastic Color Alterations
										
Code	G	E	H	D	S	R	T/TP	C	MJ5/KJ3/KJ4	BC
Spec.	Grease is changed to low particle generation grease. (NSK LG2)	The home position is relocated to the opposite side of the motor.	Handset Terminal is included. Specifications P.503, 507	Handset Terminal w/ Deadman's Switch is included. Specifications P.503, 507	Support Software w / USB Communication Cable is included. Specifications P.503, 507	Support Software w/ D-Sub Communication Cable is included. Specifications P.507	I/O Cable is included. Required for NPN/ PNP configurations. Specifications P.507	A cable to connect multiple controllers. Up to 16 controllers can be connected. Specifications P.507	Operation Manual is included. For Actuator MJ5: For Controller KJ3: KJ4:	Change the actuator plastic parts color to black.
					Communication Spec: RS232C	Communication Spec: RS232C	T: Controller C1 TP: Controller P1	Length: 300mm		

For optional items, see P.507. It is more economical to order the optional items as alterations than purchasing them individually.
Entering point data requires the handy terminal or the support software. An I/O Cable is required for Parallel Communication I/O Control.
Please select the correct I/O cable type for the appropriate controller type.

Single Axis Robots RS2 - Motor Folded -

RS
SINGLE AXIS ROBOT

See notes on CE Marking. P.456



Controller Specifications P.497~506

RoHS

■**Components:** Actuator, Controller, Cable

■**Accessory**

	Controller I/O Specifications		
	NPN, PNP	CC-Link	DeviceNet
A Accessory	Instruction Manual (CD-ROM), Power Connector, Dummy Connector		
	-	CC-Link Connector	DeviceNet Connector

■**Robot Material / Surface Treatment**

Components	Guide Rail	Slider	Side Cover
M Material	Steel	Aluminum	Aluminum
S Surface Treatment	-	-	Anodize

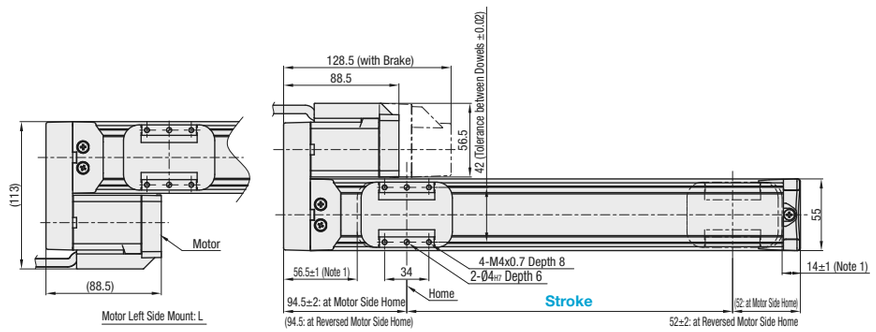
■**General Specifications**

Ball Screw	Motor	Position Detector	Operating Ambient Temperature, Humidity
Ø12 (C10 Rolled)	Stepping	Resolver (Incremental)	0~40°C, 35~85%RH (No Condensation)

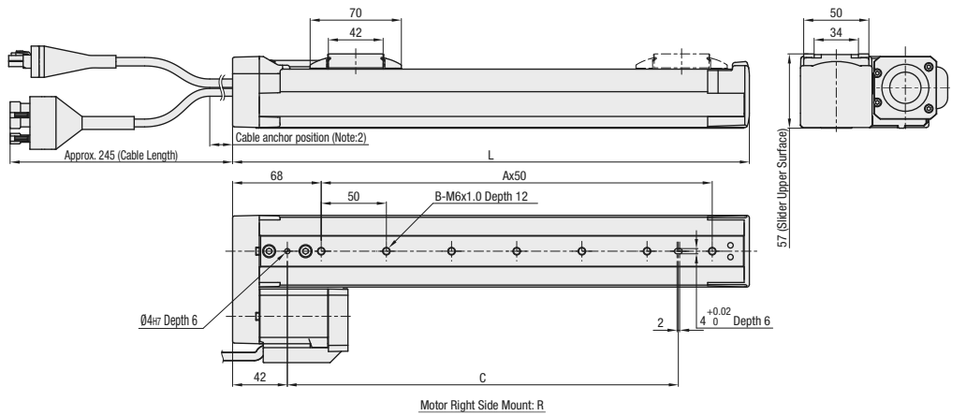
■**Standard Specifications** FAQ P.504

Type	Lead (mm)	Positioning Repeatability (mm)	Max Load Capacity (kg) Horizontal	Max Load Capacity (kg) Vertical	Max. Push Force (N)	Stroke (mm)	Max. Velocity (Note) (mm/sec)	Rated Running Life	Input Power Supply	Maximum Positioning Point
RS2	06	±0.02	10	2	90	50~800 (50 Pitch)	300~190	10,000 km or More	DC24V ±10%	255 points
	12		6	1	45		600~380			
	20		4	-	27		1000~633			

(Note) Maximum velocities allowed may vary depending on the stroke length selected. Please refer to the "Recommended Maximum Velocities" table.



Motor Left Side Mount: L



Motor Right Side Mount: R

Note 1. Distances from the ends to the mechanical stoppers
Note 2. The cables should be tied down within 80mm from the ends of the unit avoiding any stress to the cables.
Note 3. The minimum bending radius of the cable is 30mm.
Note 4. These masses are for units without brakes. With brakes, they are 0.2kg heavier.
Note 5. When the stroke is 600mm or more, the resonance of ball screws may occur according to the operating area (critical speed).
In such cases, reduce the programmed operational speeds by referring to the maximum velocities shown in the table on the left.
Note 6. Belt cover is not right-left symmetrical. If the motor mounting orientation is changed, the belt cover can not be reinstalled.

■**Dimensions / Mass**

Type	Dimensions / Mass	Stroke (mm) 50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800
RS2	L (mm)	196.5	246.5	296.5	346.5	396.5	446.5	496.5	546.5	596.5	646.5	696.5	746.5	796.5	846.5	896.5	946.5
	A (mm)	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	B (mm)	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
	C (mm)	100	150	200	250	300	350	400	450	500	500	500	500	500	500	500	500
	Mass (kg)	1.6	1.8	2	2.2	2.4	2.6	2.8	3	3.2	3.4	3.6	3.8	4	4.1	4.3	4.5

The brake adds 0.2kg to the total mass.

Part Number: Type	Part Number: Lead (mm)	Part Number: With or w/o Brake (1)	Selection: Motor Mounting Direction	Selection: Controller (2)	Selection: I/O Module	Selection: Cable Length (m)	Selection: Stroke (mm)
RS2	06	None: Leave blank Included: B	Right Side Mount: R Left Side Mount: L	Point Control: C1 Pulse Control: P1 (DC24V ±10%)	NPN: N PNP: P CC-Link: C DeviceNet: D	1 3 5 10 (Flexible Cable)	50~800 (50mm Increment)
	12						
	20						

(1) Choose the "Brake" option for use in vertical applications. (The brake option is not available for Lead 20) (2) When the pulse train type controller is selected, the I/O type selection is not required.

Ordering Example

Part Number	Motor Mounting Direction	Controller	I/O Module	Cable Length	Stroke
RS206B	L	C1	N	3	400
RS206B	L	P1		3	400

(Controller: P1)

■**Robot Body Price**

Part Number	Unit Price 1 ~ 5 pc(s) Stroke (mm) 50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800
RS2□□																
RS2□□B																

■**Controller Price**

Type	I/O Module	Unit Price 1 ~ 5 pc(s)
C1	N	
	P	
	C	
	D	
P1	-	

■**Cable Price**

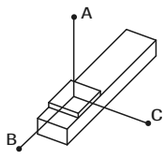
Cable Length (m)	Unit Price 1 ~ 5 pc(s).
1	
3	
5	
10	

Note

Power interruption circuit is not provided in this controller in order to provide maximum flexibility for customer specific safety scheme.
Please be sure to provide an external power interruption circuit and form an emergency stop circuit. For Circuit examples, see P503.

■**Allowable Overhang Load**

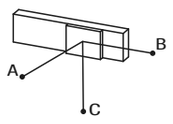
・Horizontal Use



mm

Lead	Mass	A	B	C
06	10kg	344	29	62
	8kg	332	37	79
	4kg	503	78	165
12	6kg	335	47	95
	4kg	347	72	139
20	4kg	334	67	120
	2kg	413	139	218

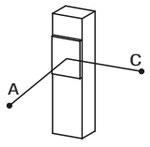
・Wall Mounted Use



mm

Lead	Mass	A	B	C
06	8kg	47	22	355
	6kg	76	35	377
	4kg	134	63	496
12	6kg	63	31	263
	4kg	109	57	300
20	4kg	92	51	265
	2kg	192	123	372

・Vertical Use

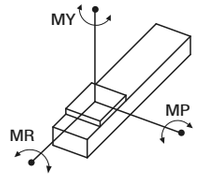


mm

Lead	Mass	A	C
06	2kg	148	148
	1kg	312	312
12	1kg	286	286
	0.5kg	578	579

■**Allowable Static Moment**

・Moment Diagram



N-m

MY	MP	MR
25	33	30

■**Max. Velocity (mm/sec)** Please confirm the details of the Max. Speeds based on various strokes with MISUMI Web Simulator.

Type	Lead (mm)	Stroke (mm) 50~600	650	700	750	800
RS2	06	300	280	250	220	190
	12	400~600	560	500	440	380
	20	350~1000	933	833	733	633

For stroke ranges 650mm or more, ball screws may resonate in certain operation areas (critical speed). In that case, reduce the operation speed by referring to the Max. Velocity shown in the table above.

<Price Example> The prices are for the part numbers on the left.
(Robot Body Price) + (Controller Price) + (Cable Price) + (Grease Type Alteration Charge) + (Home Position Alteration Charge) = Total Price

Alterations

Part Number	Motor Mounting Direction	Controller Type	I/O Module	Cable Length	Stroke	(G, E···etc.)
RS206B	L	C1	N	3	400	G-E

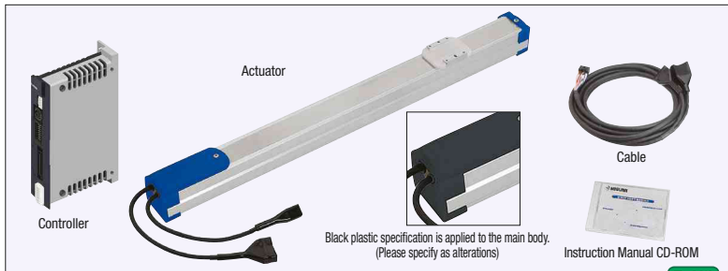
Alterations	Grease Type Alteration	Change of Home Position	Handset Terminal Standard Specification	Handset Terminal w/ Deadman's Switch	Support Software w/ USB Communication Cable	Support Software w/ D-Sub Communication Cable	I/O Cable	Cable for daisy-chain connection	Instruction Manual	Main Body Plastic Color Alterations
					Communication Specifications: RS232C	Communication Specifications: RS232C	T: Controller C1 TP: Controller P1	Length: 300mm	MJ5: Body KJ3: Controller (C1) KJ4: Controller (P1)	
Code	G	E	H	D	S	R	T/TP	C	MJ5/KJ3/KJ4	BC
Spec.	Grease is changed to low particle generation grease. (NSK LG2)	The home position is relocated to the opposite side of the motor.	Handset Terminal is included. Specifications P503, 507	Handset Terminal w/ Deadman's Switch is included. Specifications P503, 507	Support Software w / USB Communication Cable is included. Specifications P503, 507	Support Software w/ D-Sub Communication Cable is included. Specifications P507	I/O Cable is included. Required for NPN/PNP configurations. Specifications P507	A cable to connect multiple controllers. Up to 16 controllers. can be connected. Specifications P507	Operation Manual is included. For Actuator MJ5: For Controller KJ3: KJ4:	Change the actuator plastic parts color to black.

For optional items, see P507. It is more economical to order the optional items as alterations than purchasing them individually.
Entering point data requires the handy terminal or the support software. An I/O Cable is required for Parallel Communication I/O Control.
For details on daisy-chain, see P505 Please select the correct I/O cable type for the appropriate controller type.

Single Axis Robots RS3 - Straight

RS SINGLE AXIS ROBOT

See notes on CE Marking. P.456



Controller Specifications P.497~506 Cycle Time Graph P.455 Clean Room Specifications are available on our website. RoHS

■**Components:** Actuator, Controller, Cable

■**Accessory**

Accessory	Controller I/O Specifications		
	NPN,PNP	CC-Link	DeviceNet
	Instruction Manual (CD-ROM), Power Connector, Dummy Connector		
	-	CC-Link Connector	DeviceNet Connector

■**Robot Material / Surface Treatment**

Components	Guide Rail	Slider	Side Cover
M Material	Steel	Aluminum	Aluminum
S Surface Treatment	-	-	Anodize

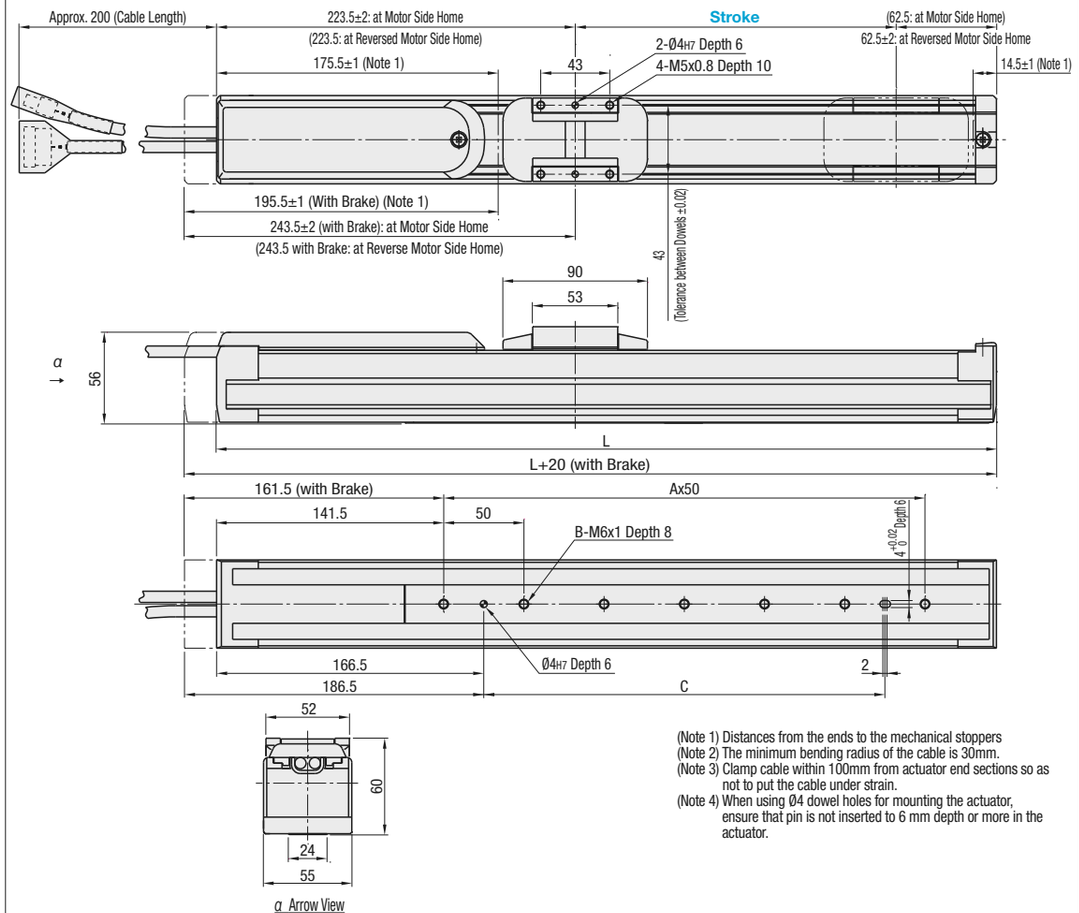
■**General Specifications**

Ball Screw	Motor	Position Detector	Operating Ambient Temperature, Humidity
Ø12 (C10 Rolled)	Stepping	Resolver (Incremental)	0~40°C, 35~85%RH (No Condensation)

■**Standard Specifications** FAQ P.504

Type	Lead (mm)	Positioning Repeatability (mm)	Max Load Capacity (kg) Horizontal	Max Load Capacity (kg) Vertical	Max. Push Force (N)	Stroke (mm)	Max. Velocity (Note) (mm/sec)	Rated Running Life	Input Power Supply	Maximum Positioning Point
RS3	06	±0.02	12	4	120	50~800 (50 Pitch)	300~190	10,000 km or More	DC24V ±10%	255 points
	12		8	2	60		600~380			
	20		6	-	36		1000~633			

(Note) Maximum velocities allowed may vary depending on the stroke length selected. Please refer to the "Recommended Maximum Velocities" table.



(Note 1) Distances from the ends to the mechanical stoppers
(Note 2) The minimum bending radius of the cable is 30mm.
(Note 3) Clamp cable within 100mm from actuator end sections so as not to put the cable under strain.
(Note 4) When using Ø4 dowel holes for mounting the actuator, ensure that pin is not inserted to 6 mm depth or more in the actuator.

■**Dimensions / Mass**

Type	Dimensions / Mass	Stroke (mm) 50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800
RS3	L (mm)	336	386	436	486	536	586	636	686	736	786	836	886	936	986	1036	1086
	A (mm)	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
	B (mm)	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
	C (mm)	100	150	200	250	300	350	400	450	500	500	500	500	500	500	500	500
	Mass (kg)	2.4	2.6	2.8	3.0	3.2	3.4	3.6	3.8	4.0	4.2	4.4	4.5	4.7	4.9	5.1	5.3

(?)The brake adds 0.2 kg to the total mass.

Part Number Type	Lead (mm)	With or w/o Brake (?1)	Selection Controller (?2)	I/O Module	Cable Length (m)	Stroke (mm)
RS3	06	None: Leave blank Included: B	Point Control: C1 Pulse Control: P1 (DC24V ±10%)	NPN: N PNP: P CC-Link: C DeviceNet: D	1 3 5 10 (Flexible Cable)	50~800 (50mm Increment)
	12					
	20					

(?1) Choose the "Brake" option for use in vertical applications. (The brake option is not available for Lead 20) (?2) When the pulse train type controller is selected, the I/O type selection is not required.

Ordering Example

Part Number	Controller	I/O Module	Cable Length	Stroke
RS306B	C1	N	3	400
RS306B	P1		3	400

■**Robot Body Price**

Part Number	Unit Price 1 ~ 5 pc(s) Stroke (mm) 50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800
RS3□□																
RS3□□B																

■**Controller Price**

Type	I/O Module	Unit Price 1 ~ 5 pc(s).
C1	N	
	P	
	C	
	D	
P1	-	

■**Cable Price**

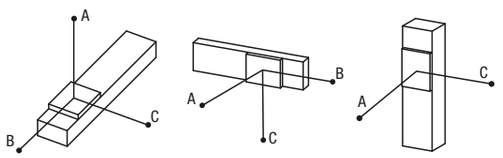
Cable Length (m)	Unit Price 1 ~ 5 pc(s).
1	
3	
5	
10	

Note

Power interruption circuit is not provided in this controller in order to provide maximum flexibility for customer specific safety scheme.
Please be sure to provide an external power interruption circuit and form an emergency stop circuit. For Circuit examples, see P503.

■**Allowable Overhang Load**

・Horizontal Use ・Wall Mounted Use ・Vertical Use



mm

Lead	Mass	A	B	C
06	12kg	465	39	64
	10kg	442	47	78
	8kg	480	61	100
	6kg	573	83	136
12	8kg	403	56	88
	6kg	399	76	118
	4kg	500	118	179
20	6kg	352	71	104
	4kg	366	109	148
	2kg	599	225	291

mm

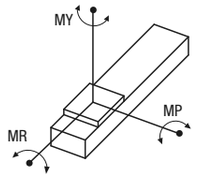
Lead	Mass	A	B	C
06	12kg	28	17	338
	10kg	43	26	355
	8kg	64	39	413
	6kg	101	62	519
12	8kg	55	34	305
	6kg	85	55	334
	4kg	146	96	449
20	6kg	71	49	262
	4kg	118	88	309
	2kg	262	203	554

mm

Lead	Mass	A	C
06	4kg	113	113
	2kg	244	245
12	2kg	224	224
	1kg	458	459

■**Allowable Static Moment**

・Moment Diagram



N・m

MY	MP	MR
32	38	34

■**Max. Velocity (mm/sec)** (?)Please confirm the details of the Max. Speeds based on various strokes with Cycle Simulator.

Type	Lead (mm)	Stroke (mm) 50~600	650	700	750	800
RS2	06	300 (250)	280 (250)	250	220	190
	12	400~600 (500)	560 (500)	500	440	380
	20	350~1000	933	833	733	633

(?)Values in ( ) are for vertical application.
(?)For stroke ranges 650mm or more, ball screws may resonate in certain operation areas (critical speed). In that case, reduce the operation speed by referring to the Max. Velocity shown in the table above.

Alterations

Part Number	Controller Type	I/O Type	Cable Length	Stroke	(G, E…etc.)
RS306B	C1	N	3	400	G-E

<Price Example> The prices are for the part numbers on the left.
(Robot Body Price) + (Controller Price) + (Cable Price) + (Grease Type Alteration Charge) + (Home Position Alteration Charge) = Total Price

Alterations	Grease Type Alteration	Change of Home Position	Handset Terminal Standard Specification	Handset Terminal w/ Deadman's Switch	Support Software w/ USB Communication Cable	Support Software w/ D-Sub Communication Cable	I/O Cable	Cable for daisy-chain connection	Instruction Manual	Main Body Plastic Color Alterations
					Communication Spec: RS232C	Communication Spec: RS232C	T: Controller C1 TP: Controller P1	Length: 300mm	MJ5: Body KJ3:Controller (C1) KJ4:Controller (P1)	
Code	G	E	H	D	S	R	T/TP	C	MJ5/KJ3/KJ4	BC
Spec.	Grease is changed to low particle generation grease. (NSK LG2)	The home position is relocated to the opposite side of the motor.	Handset Terminal is included. Specifications P503, 507	Handset Terminal w/ Deadman's Switch is included. Specifications P503, 507	Support Software w / USB Communication Cable is included. Specifications P503, 507	Support Software w / USB Communication Cable is included. Specifications P507	I/O Cable is included. Required for NPN/ PNP configurations. Specifications P507	A cable to connect multiple controllers. Up to 16 controllers can be connected. Specifications P507	Operation Manual is included. For Actuator MJ5: For Controller KJ3: KJ4:	Change the actuator plastic parts color to black.

(?)For optional items, see P.507. (?)It is more economical to order the optional items as alterations than purchasing them individually.
(?)Entering point data requires the handy terminal or the support software. (?)An I/O Cable is required for Parallel Communication I/O Control.
(?)Please select the correct I/O cable type for the appropriate controller type.

Single Axis Robots RS3 - Motor Folded

RS
SINGLE AXIS ROBOT

See notes on CE Marking. P.456



Controller Specifications P.497~506

RoHS

■**Components:** Actuator, Controller, Cable

■**Accessory**

A Accessory	Controller I/O Specifications		
	NPN, PNP	CC-Link	DeviceNet
	Instruction Manual (CD-ROM), Power Connector, Dummy Connector		
	-	CC-Link Connector	DeviceNet Connector

■**Robot Material / Surface Treatment**

Components	Guide Rail	Slider	Side Cover
M Material	Steel	Aluminum	Aluminum
S Surface Treatment	-	-	Anodize

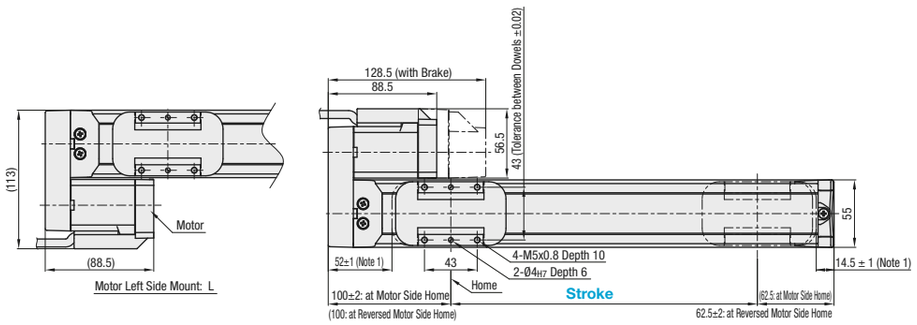
■**General Specifications**

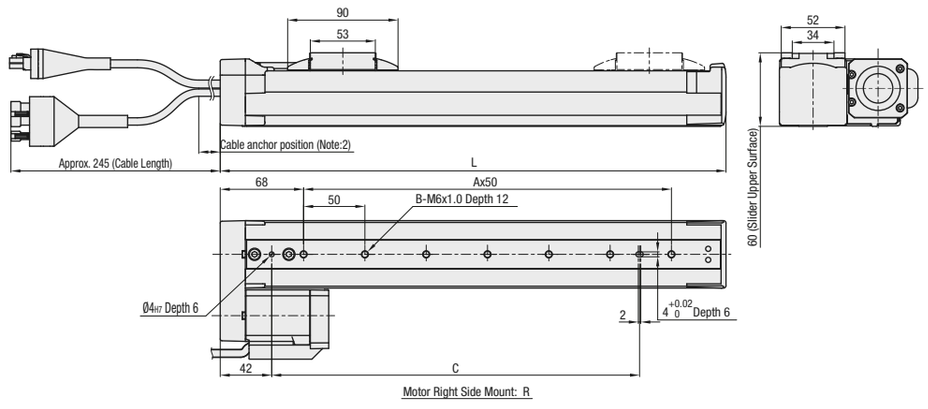
Ball Screw	Motor	Position Detector	Operating Ambient Temperature, Humidity
Ø12 (C10 Rolled)	Stepping	Resolver (Incremental)	0~40°C, 35~85%RH (No Condensation)

■**Standard Specifications** FAQ P.503

Type	Lead (mm)	Positioning Repeatability (mm)	Max Load Capacity (kg) Horizontal	Vertical	Max. Push Force (N)	Stroke (mm)	Max. Velocity (Note) (mm/sec)	Rated Running Life	Input Power Supply	Maximum Positioning Point
RS3	06	±0.02	12	4	120	50~800 (50 Pitch)	300~190	10,000 km or More	DC24V ±10%	255 points
	12		8	2	60		600~380			
	20		6	-	36		1000~633			

(Note) Maximum velocities allowed may vary depending on the stroke length selected. Please refer to the "Recommended Maximum Velocities" table.





Note 1. Distances from the ends to the mechanical stoppers
Note 2. The cables should be tied down within 80mm from the ends of the unit avoiding any stress to the cables.
Note 3. The minimum bending radius of the cable is 30mm.
Note 4. These masses are for units without brakes. With brakes, they are 0.2kg heavier.
Note 5. When the stroke is 600mm or more, the resonance of ball screws may occur according to the operating area (critical speed). In such cases, reduce the programmed operational speeds by referring to the maximum velocities shown in the table on the left.
Note 6. Belt cover is not right-left symmetrical. If the motor mounting orientation is changed, the belt cover can not be reinstalled.

■**Dimensions / Mass**

Type	Dimensions / Mass	Stroke (mm) 50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800
RS3	L (mm)	212.5	262.5	312.5	362.5	412.5	462.5	512.5	562.5	612.5	662.5	712.5	762.5	812.5	862.5	912.5	962.5
	A (mm)	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	B (mm)	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
	C (mm)	100	150	200	250	300	350	400	450	500	500	500	500	500	500	500	500
	Mass (kg)	1.7	1.9	2.1	2.3	2.5	2.7	2.8	3.0	3.2	3.4	3.6	3.8	4.0	4.2	4.4	4.6

The brake adds 0.2kg to the total mass.

Part Number Type	Lead (mm)	With or w/o Brake (1)	Selection: Motor Mounting Direction	Controller (2)	I/O Module	Cable Length (m)	Stroke (mm)
RS3	06	None : Leave blank Included: B	Right Side Mount: R Left Side Mount: L	Point Control: C1 Pulse Control: P1 (DC24V ±10%)	NPN: N PNP: P CC-Link: C DeviceNet: D	1 3 5 10 (Flexible Cable)	50~800 (50mm Increment)
	12						
	20						

(1) Choose the "Brake" option for use in vertical applications. (The brake option is not available for Lead 20) (2) When the pulse train type controller is selected, the I/O type selection is not required.

Ordering Example

Part Number	-	Motor Mounting Direction	-	Controller	-	I/O Module	-	Cable Length	-	Stroke
RS306B	-	L	-	C1	-	N	-	3	-	400
RS306B	-	L	-	P1			-	3	-	400

(Controller: P1)

■**Robot Body Price**

Part Number	Unit Price 1 ~ 5 pc(s) Stroke (mm) 50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800
RS3□□																
RS3□□B																

■**Controller Price**

Type	I/O Module	Unit Price 1 ~ 5 pc(s).
C1	N	
	P	
	C	
	D	
P1	-	

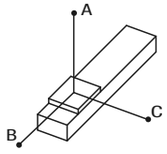
■**Cable Price**

Cable Length (m)	Unit Price 1 ~ 5 pc(s).
1	
3	
5	
10	

Note
Power interruption circuit is not provided in this controller in order to provide maximum flexibility for customer specific safety scheme.
Please be sure to provide an external power interruption circuit and form an emergency stop circuit. For Circuit examples, see P.503

■**Allowable Overhang Load**

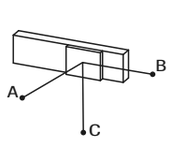
• Horizontal Use



mm

Lead	Mass	A	B	C
06	12kg	465	39	64
	10kg	442	47	78
	8kg	480	61	100
	6kg	573	83	136
12	8kg	403	56	88
	6kg	399	76	118
	4kg	500	118	179
20	6kg	352	71	104
	4kg	366	109	148
	2kg	599	225	291

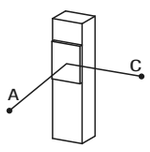
• Wall Mounted Use



mm

Lead	Mass	A	B	C
06	12kg	28	17	338
	10kg	43	26	355
	8kg	64	39	413
	6kg	101	62	519
12	8kg	55	34	305
	6kg	85	55	334
	4kg	146	96	449
	6kg	71	49	262
20	4kg	118	88	309
	2kg	262	203	554

• Vertical Use

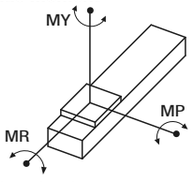


mm

Lead	Mass	A	C
06	4kg	113	113
	2kg	244	245
12	2kg	224	224
	1kg	458	459

■**Allowable Static Moment**

• Moment Diagram



N・m

MY	MP	MR
32	38	34

■**Max. Velocity (mm/sec)** Please confirm the details of the Max. Speeds based on various strokes with MISUMI Web Simulator.

Type	Lead (mm)	Stroke (mm) 50~600	650	700	750	800
RS3	06	300(250)	280(250)	250	220	190
	12	400~600(500)	560(500)	500	440	380
	20	350~1000	933	833	733	633

For stroke ranges 650mm or more, ball screws may resonate in certain operation areas (critical speed). In that case, reduce the operation speed by referring to the Max. Velocity shown in the table above.

Alterations

Part Number	-	Motor Mounting Direction	-	Controller Type	-	I/O Type	-	Cable Length	-	Stroke	-	(G, E···etc.)
RS306B	-	L	-	C1	-	N	-	3	-	400	-	G-E

<Price Example> The prices are for the part numbers on the left.
(Robot Body Price) + (Controller Price) + (Cable Price) + (Grease Type Alteration Charge) + (Home Position Alteration Charge) = Total Price

Alterations	Grease Type Alteration	Change of Home Position	Handset Terminal Standard Specification	Handset Terminal w/ Deadman's Switch	Support Software w/ USB Communication Cable	Support Software w/ D-Sub Communication Cable	I/O Cable	Cable for daisy-chain connection	Instruction Manual	Main Body Plastic Color Alterations
		Motor			Communication Specifications: RS232C	Communication Specifications: RS232C	T: Controller C1 TP: Controller P1	Length: 300mm	MJ5: Body KJ3:Controller (C1) KJ4:Controller (P1)	
Code	G	E	H	D	S	R	T/TP	C	MJ5/KJ3/KJ4	BC
Spec.	Grease is changed to low particle generation grease. (NSK LG2)	The home position is relocated to the opposite side of the motor.	Handset Terminal is included. Specifications P503, 507	Handset Terminal w/ Deadman's Switch is included. Specifications P503, 507	Support Software w / USB Communication Cable is included. Specifications P503, 507	Support Software w/ D-Sub Communication Cable is included. Specifications P507	I/O Cable is included. Required for NPN/PNP configurations. Specifications P507	A cable to connect multiple controllers. It can connect maximum 16 controllers. Specifications P507	Operation Manual is included. For Actuator MJ5: For Controller KJ3: KJ4:	Change the actuator plastic parts color to black.

For optional items, see P507 It is more economical to order the optional items as alterations than purchasing them individually.
Entering point data requires the handy terminal or the support software. An I/O Cable is required for Parallel Communication I/O Control.
For details on daisy-chain, see P505 Please select the correct I/O cable type for the appropriate controller type.

Single Axis Robots RSD1 - Rod Type -

RS
SINGLE AXIS ROBOT

See notes on CE Marking. P.456



Controller Specifications P497~506

RoHS

■**Components:** Actuator, Controller, Cable

■**Accessory**

	Controller I/O Specifications		
A Accessory	NPN, PNP	CC-Link	DeviceNet
	Instruction Manual (CD-ROM), Power Connector, Dummy Connector		
	-	CC-Link Connector	DeviceNet Connector

■**Robot Material / Surface Treatment**

Components	Body	Rod	Cover
M Material	Aluminum	Steel	ABS
S Surface Treatment	Acrylic Paint	-	-

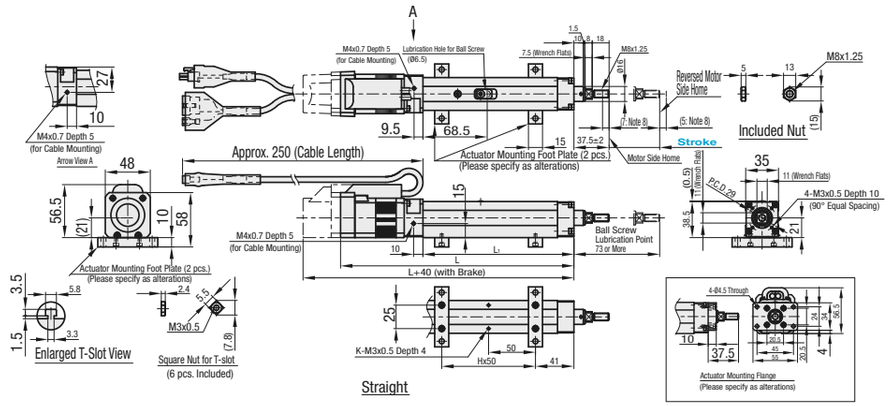
■**General Specifications**

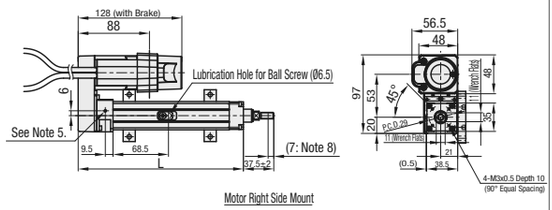
Ball Screw	Motor	Position Detector	Operating Ambient Temperature, Humidity
Ø8 (C10 Rolled)	Stepping	Resolver (Incremental)	0~40°C, 35~85%RH (No Condensation)

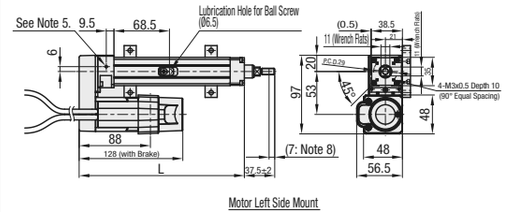
■**Standard Specifications** FAQ P503

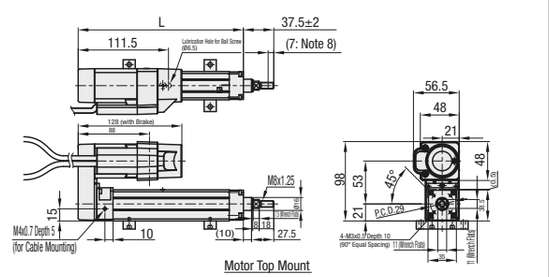
Type	Lead (mm)	Positioning Repeatability (mm)	Max Load Capacity (kg) Horizontal	Max Load Capacity (kg) Vertical	Max. Push Force (N)	Rated Running Life ?1	Lost Motion (mm)	Rod Non-Rotational Accuracy (degrees)	Stroke (mm)	Max. Velocity ?2 (mm/sec)	Input Power Supply	Maximum Positioning Point
RSD1	6	±0.02	~20	~8	100	5,000km or More	0.1 or Less	±1.0	50~200 (50 Pitch)	~250	DC24V ±10%	255 points
	12		~10	~4	75					~500		

?1. The Service life in the vertical use may vary depending on the load capacity. Please refer to the "Service Life Table." ?2. The maximum velocities may vary depending on the load capacity. Please refer to the "Velocity - Maximum Load Capacity Table."









Note 1. Load can be applied only in axial direction. Please use externally mounted guides together to avoid application of radial loads on the rods.
Note 2. Orientation of the wrench flats is not fixed in relation to the base surface.
Note 3. In order to ensure running straightness, use externally mounted linear guides.
Note 4. The cable should be fastened without excessive strains.
Note 5. The M4 hex-socket head screw can be utilized to fasten the cable (effective screw depth is 5mm).
Note 6. The minimum bending radius of the cable is 30mm.
Note 7. The brake adds 0.2kg to the mass.
Note 8. Indicates the distance to the mechanical stopper.

■**Dimensions / Mass**

Type	Dimensions / Mass	Motor Mounting Direction: Straight, Stroke (mm) 50	100	150	200	Motor Mounting Direction: R/L/U, Stroke (mm) 50	100	150	200
RSD1	L1 (mm)	161	211	261	311	161	211	261	311
	L (mm)	249	299	349	399	204	254	304	354
	H (mm)	2	3	4	5	2	3	4	5
	K (mm)	6	8	10	12	6	8	10	12
	Mass (kg)	1.1	1.3	1.4	1.6	1.3	1.5	1.6	1.8

?The brake adds 0.2kg to the total mass.

Part Number: Type	Lead (mm)	With or w/o Brake (?1)	Selection: Motor Mounting Direction	Controller (?2)	I/O Module	Cable Length (m)	Stroke (mm)
RSD1	06	None: Leave blank Included: B	Straight: Leave blank Right Side Mount: R Left Side Mount: L Top mounting: U	Point Control: C1 Pulse Control: P1 (DC24V ±10%)	NPN: N PNP: P CC-Link: C DeviceNet: D	1 3 5 10 (Flexible Cable)	50~200 (50mm Increment)
	12						

(?1) Choose the "Brake" option for use in vertical applications. (?2) When the pulse train type controller is selected, the I/O type selection is not required.

Ordering Example

Part Number	-	Motor Mounting Direction	-	Controller	-	I/O Module	-	Cable Length	-	Stroke	
RSD106B	-	L	-	C1	-	N	-	3	-	200	(Motor Mounting Direction: L)
RSD106B			-	C1	-	N	-	3	-	200	(Motor Mounting Direction: Straight)
RSD106B	-	L	-	P1			-	3	-	200	(Motor Mounting Direction: L, Controller: P1)

■**Robot Body Price**

Part Number	Unit Price 1 ~ 3 pc(s). Stroke (mm) 50	100	150	200
RSD1□□				
RSD1□□B				

■**Controller Price**

Type	I/O Module	Unit Price 1 ~ 3 pc(s).
C1	N	
	P	
	C	
	D	
P1	-	

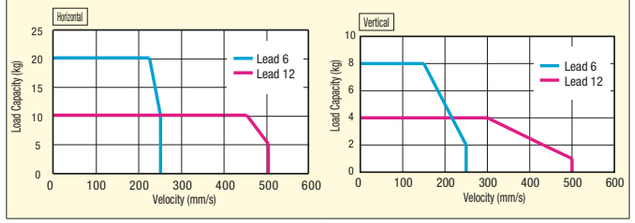
■**Cable Price**

Cable Length (m)	Unit Price 1 ~ 3 pc(s).
1	
3	
5	
10	

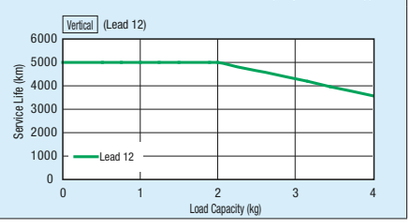
Note

Power interruption circuit is not provided in this controller in order to provide maximum flexibility for customer specific safety scheme.
Please be sure to provide an external power interruption circuit and form an emergency stop circuit. For Circuit examples, see P.503

■**Velocity - Maximum Load Capacity Table**

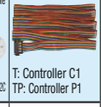
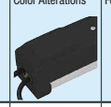
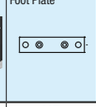
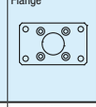
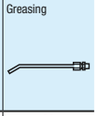


■**Service Life Table** ?Rated Running Life is 5,000km or more. For the following types, however, service life varies depending on its maximum load capacity, and how it is applied.



Alterations

Part Number	-	Motor Mounting Direction	-	Controller Type	-	I/O Type	-	Cable Length	-	Stroke	-	(G, E···etc.)
RSD1B	-	L	-	C1	-	N	-	3	-	200	-	G-E

Alterations	Handset Terminal Standard Specification	Handset Terminal w/ Deadman's Switch	Support Software w/ USB Communication Cable	Support Software w/ D-Sub Communication Cable	I/O Cable	Cable for daisy-chain connection	Instruction Manual	Main Body Plastic Color Alterations	Actuator Mounting Foot Plate	Actuator Mounting Flange	Shaft Nozzle for Greasing
			 Communication Specifications: RS232C	 Communication Specifications: RS232C	 T: Controller C1 TP: Controller P1	 Length: 300mm	MJ5: Body KJ3:Controller (C1) KJ4:Controller (P1)				
Code	H	D	S	R	T/TP	C	MJ5/KJ3/KJ4	BC	HP	VP	N
Spec.	Handset Terminal is included. Specifications P503, 507	Handset Terminal w/ Deadman's Switch is included. Specifications P503, 507	Support Software w / USB Communication Cable is included. Specifications P503, 507	Support Software w/ D-Sub Communication Cable is included. Specifications P507	I/O Cable is included. Required for NPN/PNP configurations. Specifications P507	A cable to connect multiple controllers. Up to 16 controllers can be connected. Specifications P507	Operation Manual is included. For Actuator MJ5: For Controller KJ3: KJ4:	Change the actuator plastic parts color to black.	2 plates are included for horizontal mounting. Specifications P507	1 plate is included for vertical mounting. Specifications P507	Use this nozzle to apply grease to the ball screw of top motor mounted type.

?For optional items, see **P.507** ?It is more economical to order the optional items as alterations than purchasing them individually.
?Entering point data requires the handy terminal or the support software. ?An I/O Cable is required for Parallel Communication I/O Control.
?For details on daisy-chain, see **P.505** ?Please select the correct I/O cable type for the appropriate controller type.

Single Axis Robots RSD2 - Rod Type -

RS
SINGLE AXIS ROBOT

See notes on CE Marking. P.456



Controller Specifications P.497~506

RoHS

■**Components:** Actuator, Controller, Cable

■**Accessory**

	Controller I/O Specifications		
A Accessory	NPN, PNP	CC-Link	DeviceNet
	Instruction Manual (CD-ROM), Power Connector, Dummy Connector, 6 Mounting Nuts		
	-	CC-Link Connector	DeviceNet Connector

■**Robot Material / Surface Treatment**

Components	Body	Rod	Cover
M Material	Aluminum	Steel	ABS
S Surface Treatment	Acrylic Paint	-	-

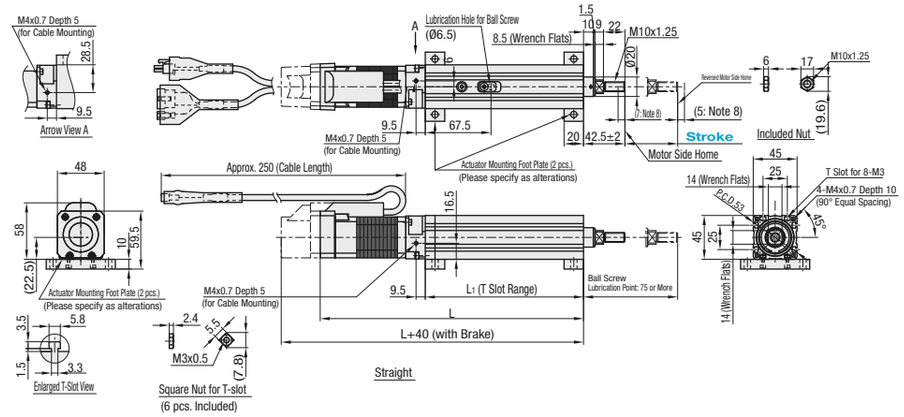
■**General Specifications**

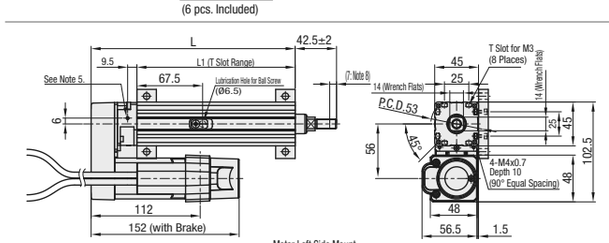
Ball Screw	Motor	Position Detector	Operating Ambient Temperature, Humidity
Ø8 (C10 Rolled)	Stepping	Resolver (Incremental)	0~40°C, 35~85%RH (No Condensation)

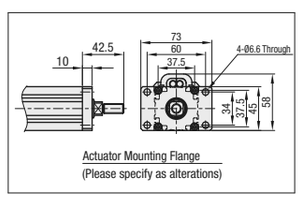
■**Standard Specifications** FAQ P.503

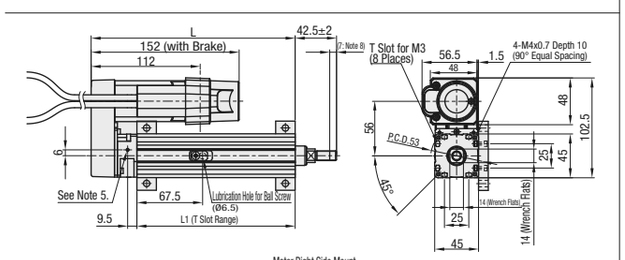
Type	Lead (mm)	Positioning Repeatability (mm)	Max Load Capacity (kg) Horizontal	Max Load Capacity (kg) Vertical	Max. Push Force (N)	Rated Running Life (?)1	Lost Motion (mm)	Rod Non-Rotational Accuracy (degrees)	Stroke (mm)	Max. Velocity (?)2 (mm/sec)	Input Power Supply	Maximum Positioning Point
RSD2	02	±0.02	45	25	600	5,000km or More	0.1 or Less	±1.0	50~300 (50 Pitch)	~80	DC24V ±10%	255 points
	06		40	12	300					~250		
	12		25	5	150					~500		

(?)1. The Service life in the vertical use may vary depending on the load capacity. Please refer to the "Service Life Table." (?)2. The maximum velocities may vary depending on the load capacity. Please refer to the "Velocity - Maximum Load Capacity Table."









Note 1. Load can be applied only in axial direction. Please use externally mounted guides together to avoid application of radial loads on the rods.
Note 2. Orientation of the wrench flats is not fixed in relation to the base surface.
Note 3. In order to ensure running straightness, use externally mounted linear guides.
Note 4. Reversed Motor Side Home cannot be set in case of Lead 2mm specifications.
Note 5. The cable should be fastened without excessive strains.
Note 6. The M4 hex-socket head screw can be utilized to fasten the cable (effective screw depth is 5mm).
Note 7. The minimum bending radius of the cable is 30mm.
Note 8. The brake adds 0.2kg to the masses.
Note 9. Indicates the distance to the mechanical stopper.

■**Dimensions / Mass**

Type	Dimensions / Mass	Motor Mounting Direction: Straight Stroke (mm) 50	100	150	200	250	300	Motor Mounting Direction: R/L Stroke (mm) 50	100	150	200	250	300
RSD2	L1 (mm)	162.5	212.5	262.5	312.5	362.5	412.5	162.5	212.5	262.5	312.5	362.5	412.5
	L (mm)	270.5	320.5	370.5	420.5	470.5	520.5	209.5	259.5	309.5	359.5	409.5	459.5
	Mass (kg)	1.4	1.7	1.9	2.2	2.4	2.7	1.6	1.9	2.1	2.4	2.6	2.9

(?)The brake adds 0.2kg to the total mass.

Part Number: Type	Lead (mm)	With or w/o Brake ((?)1)	Selection: Motor Mounting Direction	Controller ((?)2)	I/O Module	Cable Length (m)	Stroke (mm)
RSD2	02	None: Leave blank Included: B	Straight: Leave blank Right Side Mount: R Left Side Mount: L	Point Control: C1 Pulse Control: P1 (DC24V ±10%)	NPN: N PNP: P CC-Link: C DeviceNet: D	1 3 5 10 (Flexible Cable)	50~300 (50mm Increment)
	06						
	12						

(?)1) Choose the "Brake" option for use in vertical applications. (?)2) When the pulse train type controller is selected, the I/O type selection is not required.

Ordering Example

Part Number	Motor Mounting Direction	Controller	I/O Module	Cable Length	Stroke	
RSD206B	L	C1	N	3	200	(Motor Mounting Direction: L)
RSD206B		C1	N	3	200	(Motor Mounting Direction: Straight)
RSD206B	L	P1		3	200	(Motor Mounting Direction: L, Controller: P1)

■**Robot Body Price**

Part Number	Unit Price 1 ~ 3 pc(s). Stroke (mm) 50	100	150	200	250	300
RSD2□□						
RSD2□□B						

■**Controller Price**

Type	I/O Module	Unit Price 1 ~ 3 pc(s).
C1	N	
	P	
	C	
	D	
P1	-	

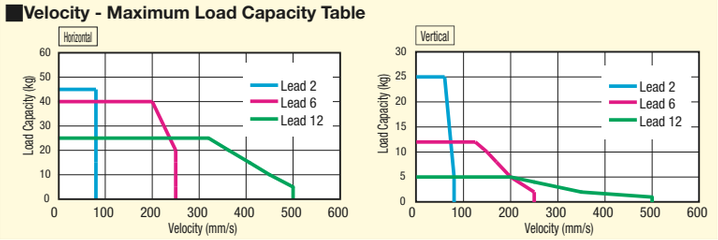
■**Cable Price**

Cable Length (m)	Unit Price 1 ~ 3 pc(s).
1	
3	
5	
10	

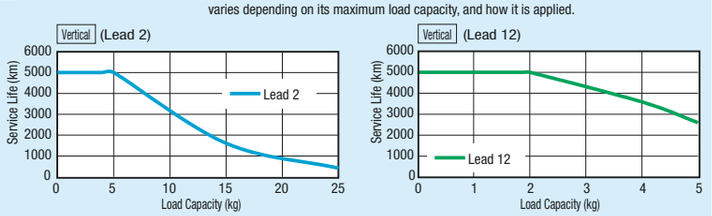
Note

Power interruption circuit is not provided in this controller in order to provide maximum flexibility for customer specific safety scheme.
Please be sure to provide an external power interruption circuit and form an emergency stop circuit. For Circuit examples, see P.503

■**Velocity - Maximum Load Capacity Table**



■**Service Life Table** (?)Rated Running Life is 5,000km or more. For the following types, however, service life varies depending on its maximum load capacity, and how it is applied.



Alterations

Part Number	Motor Mounting Direction	Controller Type	I/O Type	Cable Length	Stroke	(G, E…etc.)
RSD2B	L	C1	N	3	200	G-E

Alterations	Handset Terminal Standard Specification	Handset Terminal w/ Deadman's Switch	Support Software w/ USB Communication Cable	Support Software w/ D-Sub Communication Cable	I/O Cable	Cable for daisy-chain connection	Instruction Manual	Main Body Plastic Color Alterations	Actuator Mounting Foot Plate	Actuator Mounting Flange
			Communication Specifications: RS232C	Communication Specifications: RS232C	T: Controller C1 TP: Controller P1	Length: 300mm	MJ5: Body KJ3:Controller (C1) KJ4:Controller (P1)			
Code	H	D	S	R	T/TP	C	MJ5/KJ3/KJ4	BC	HP	VP
Spec.	Handset Terminal is included. Specifications P503, 507	Handset Terminal w/ Deadman's Switch is included. Specifications P503, 507	Support Software w / USB Communication Cable is included. Specifications P503, 507	Support Software w/ D-Sub Communication Cable is included. Specifications P507	I/O Cable is included. Required for NPN/PNP configurations. Specifications P507	A cable to connect multiple controllers. Up to 16 controllers can be connected. Specifications P507	Operation Manual is included. For Actuator MJ5: For Controller KJ3: KJ4:	Change the actuator plastic parts color to black.	2 plates are included for horizontal mounting. Specifications P507	1 plate is included for vertical mounting. Specifications P507

(?)For optional items, see P.507. (?)It is more economical to order the optional items as alterations than purchasing them individually.
(?)Entering point data requires the handy terminal or the support software. (?)An I/O Cable is required for Parallel Communication I/O Control.
(?)For details on daisy-chain, see P.505 (?)Please select the correct I/O cable type for the appropriate controller type.

Single Axis Robots RSD3 - Rod Type -

RS
SINGLE AXIS ROBOT

See notes on CE Marking. P.456



Controller Specifications P497~506

RoHS

■**Components:** Actuator, Controller, Cable

■**Accessory**

A Accessory	Controller I/O Specifications		
	NPN,PNP	CC-Link	DeviceNet
	Instruction Manual (CD-ROM), Power Connector, Dummy Connector, 6 Mounting Nuts		
	-	CC-Link Connector	DeviceNet Connector

■**Robot Material / Surface Treatment**

Components	Body	Rod	Cover
M Material	Aluminum	Steel	ABS
S Surface Treatment	Acrylic Paint	-	-

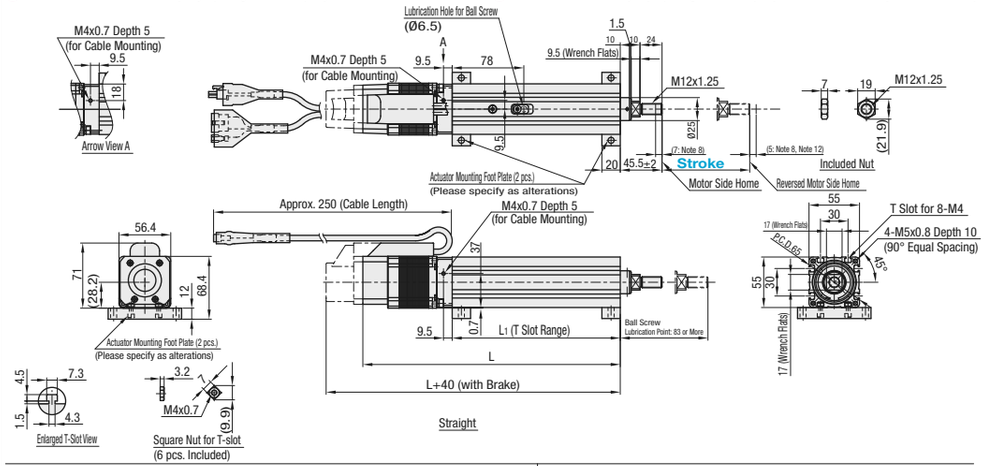
■**General Specifications**

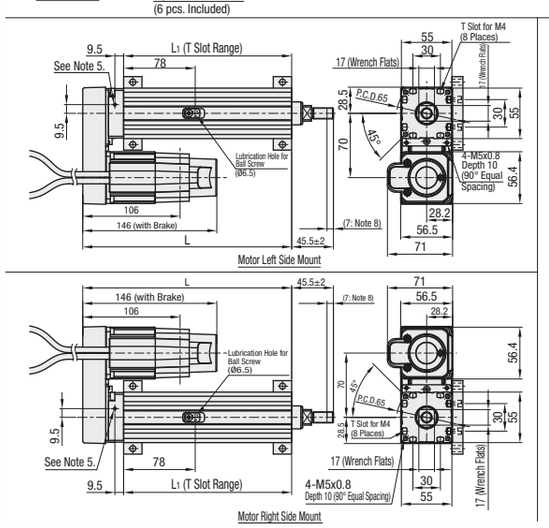
Ball Screw	Motor	Position Detector	Operating Ambient Temperature, Humidity
Ø12 (C10 Rolled)	Stepping	Resolver (Incremental)	0~40°C, 35~85%RH (No Condensation)

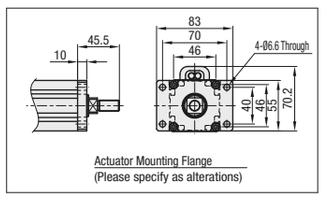
■**Standard Specifications** FAQ P503

Type	Lead (mm)	Positioning Repeatability (mm)	Max Load Capacity (kg) Horizontal	Max Load Capacity (kg) Vertical	Max. Push Force (N)	Rated Running Life 1	Lost Motion (mm)	Rod Non-Rotational Accuracy (degrees)	Stroke (mm)	Max. Velocity 2 (mm/sec)	Input Power Supply	Maximum Positioning Point
RSD3	02	±0.02	60	30	900	5,000km or More	0.1 or Less	±1.0	50~300 (50 Pitch)	~ 50	DC24V ±10%	255 points
	06		55	20	550					~150		
	12		50	10	250					~300		

1. The Service life in the vertical use may vary depending on the load capacity. Please refer to the "Service Life Table." 2. The maximum velocities may vary depending on the load capacity. Please refer to the "Velocity - Maximum Load Capacity Table."







Note 1. Load can be applied only in axial direction. Please use externally mounted guides together to avoid application of radial loads on the rods.
Note 2. Orientation of the wrench flats is not fixed in relation to the base surface.
Note 3. In order to ensure running straightness, use externally mounted linear guides.
Note 4. Reversed Motor Side Home cannot be set in case of Lead 2mm specifications.
Note 5. In case of Lead 2mm, it is 27mm.
Note 6. The cable should be fastened without excessive strains.
Note 7. The M4 hex-socket head screw can be utilized to fasten the cable (effective screw depth is 5mm).
Note 8. The minimum bending radius of the cable is 30mm.
Note 9. Note that the motor protrudes from the bottom of the actuator unit.
Note 10. The brake adds 0.2kg to the masses.
Note 11. Indicates the distance to the mechanical stopper.

■**Dimensions / Mass**

Type	Dimensions / Mass	Motor Mounting Direction: Straight, Stroke (mm) 50	100	150	200	250	300	Motor Mounting Direction: R/L, Stroke (mm) 50	100	150	200	250	300
RSD3	L1 (mm)	183	223	283	333	383	433	183	223	283	333	383	433
	L (mm)	280.5	330.5	380.5	430.5	480.5	530.5	227.5	277.5	327.5	377.5	427.5	477.5
	Mass (kg)	2.2	2.6	3.0	3.3	3.7	4.1	2.4	2.8	3.2	3.5	3.9	4.3

The brake adds 0.2kg to the total mass.

Part Number				Selection				
Type	Lead (mm)	With or w/o Brake (1)		Motor Mounting Direction	Controller (2)	I/O Module	Cable Length (m)	Stroke (mm)
RSD3	02 06 12	None: Leave blank Included: B		Straight: Leave blank Right Side Mount: R Left Side Mount: L	Point Control: C1 Pulse Control: P1 (DC24V ±10%)	NPN: N PNP: P CC-Link: C DeviceNet: D	1 3 5 10 (Flexible Cable)	50~300 (50mm Increment)

(1) Choose the "Brake" option for use in vertical applications. (2) When the pulse train type controller is selected, the I/O type selection is not required.

Ordering Example

Part Number	-	Motor Mounting Direction	-	Controller	-	I/O Module	-	Cable Length	-	Stroke	
RSD306B	-	L	-	C1	-	N	-	3	-	200	(Motor Mounting Direction: L)
RSD306B			-	C1	-	N	-	3	-	200	(Motor Mounting Direction: Straight)
RSD306B	-	L	-	P1			-	3	-	200	Motor Mounting Direction: L, Controller: P1)

■**Robot Body Price**

Part Number	Unit Price 1 ~ 3 pc(s). Stroke (mm) 50	100	150	200	250	300
RSD3□□						
RSD3□□B						

■**Controller Price**

Type	I/O Module	Unit Price 1 ~ 3 pc(s).
C1	N	
	P	
	C	
	D	
P1	-	

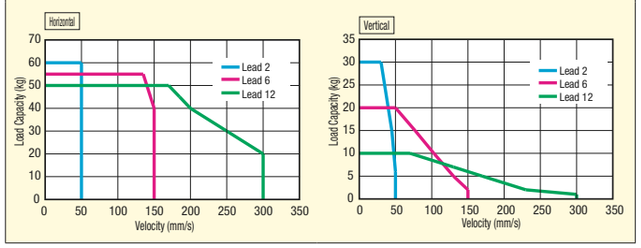
■**Cable Price**

Cable Length (m)	Unit Price 1 ~ 3 pc(s).
1	
3	
5	
10	

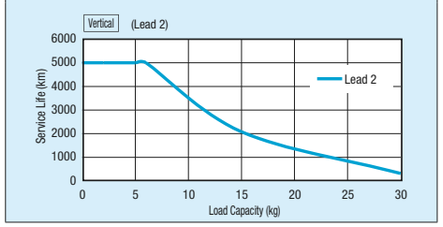
Note

Power interruption circuit is not provided in this controller in order to provide maximum flexibility for customer specific safety scheme.
Please be sure to provide an external power interruption circuit and form an emergency stop circuit. For Circuit examples, see P.503

■**Velocity - Maximum Load Capacity Table**



■**Service Life Table** (1) Rated Running Life is 5,000km or more. For the following types, however, service life varies depending on its maximum load capacity, and how it is applied.



Alterations

Part Number	-	Motor Mounting Direction	-	Controller Type	-	I/O Type	-	Cable Length	-	Stroke	-	(G, E···etc.)
RSD3B	-	L	-	C1	-	N	-	3	-	200	-	G-E

Alterations	Handset Terminal Standard Specification	Handset Terminal w/ Deadman's Switch	Support Software w/ USB Communication Cable	Support Software W / D-Sub Communication Cable	I/O Cable	Cable for daisy-chain connection	Instruction Manual	Main Body Plastic Color Alterations	Actuator Mounting Foot Plate	Actuator Mounting Flange
			Communication Specifications: RS232C	Communication Specifications: RS232C	T: Controller C1 TP: Controller P1	Length: 300mm	MJ5: Body KJ3: Controller (C1) KJ4: Controller (P1)			
Code	H	D	S	R	T/TP	C	MJ5/KJ3/KJ4	BC	HP	VP
Spec.	Handset Terminal is included. Specifications P503, 507	Handset Terminal w/ Deadman's Switch is included. Specifications P503, 507	Support Software w / USB Communication Cable is included. Specifications P503, 507	Support Software w/ D-Sub Communication Cable is included. Specifications P507	I/O Cable is included. Required for NPN/PNP configurations. Specifications P507	A cable to connect multiple controllers. Up to 16 controllers can be connected. Specifications P507	Operation Manual is included. For Actuator MJ5: For Controller KJ3: KJ4:	Change the actuator plastic parts color to black.	2 plates are included for horizontal mounting. Specifications P507	1 plate is included for vertical mounting. Specifications P507

For optional items, see P507 (1) It is more economical to order the optional items as alterations than purchasing them individually.
(2) Entering point data requires the handy terminal or the support software. (3) An I/O Cable is required for Parallel Communication I/O Control.
(4) For details on daisy-chain, see P505 (5) Please select the correct I/O cable type for the appropriate controller type.

Single Axis Robots RSDG1 - Rod Type with Support Guide -

RS
SINGLE AXIS ROBOT

See notes on CE Marking. P.456



Controller Specifications P.497~506

RoHS

Components: Actuator, Controller, Cable

Accessory

	Controller I/O Specifications		
A Accessory	NPN, PNP	CC-Link	DeviceNet
	Instruction Manual (CD-ROM), Power Connector, Dummy Connector		
	-	CC-Link Connector	DeviceNet Connector

Robot Material / Surface Treatment

Components	Body	Rod	Cover	Shaft	Ball Bushing
M Material	Aluminum	Steel	ABS	Steel	Steel
S Surface Treatment	Acrylic Paint	-	-	-	-

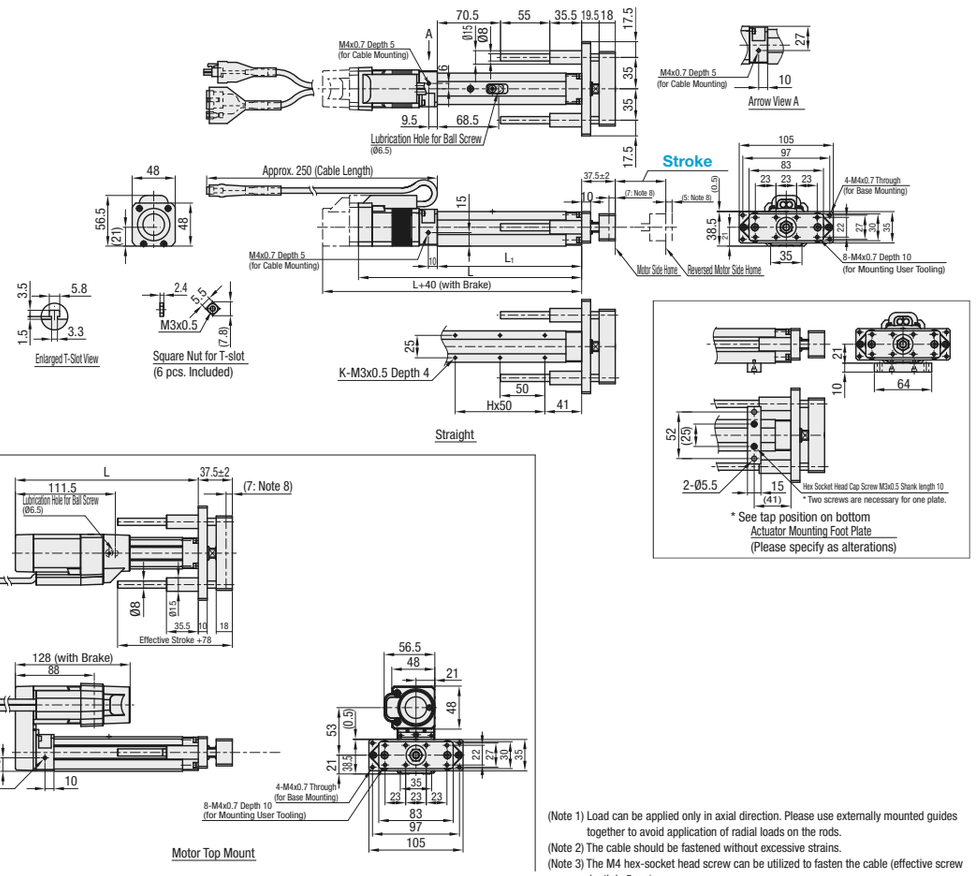
General Specifications

Ball Screw	Motor	Position Detector	Operating Ambient Temperature, Humidity
Ø8 (C10 Rolled)	Stepping	Resolver (Incremental)	0~40°C, 35~85%RH (No Condensation)

Standard Specifications FAQ P.504

Type	Lead (mm)	Positioning Repeatability (mm)	Max Load Capacity (kg) Horizontal	Max Load Capacity (kg) Vertical	Max. Push Force (N)	Rated Running Life (1)	Lost Motion (mm)	Rod Non-Rotational Accuracy (degrees)	Stroke (mm)	Max. Velocity (2) (mm/sec)	Input Power Supply	Maximum Positioning Point
RSDG1	6	±0.02	20	7.5	100	5,000 km or More	0.1 or Less	±0.05	50~200 (50 Pitch)	~250	DC24V ±10%	255 points
	12		10	3.5	75					~500		

(1) The Service life in the vertical use may vary depending on the load capacity. Please refer to the "Service Life Table." (2) The maximum velocities may vary depending on the load capacity. Please refer to the "Velocity - Maximum Load Capacity Table."



(Note 1) Load can be applied only in axial direction. Please use externally mounted guides together to avoid application of radial loads on the rods.
(Note 2) The cable should be fastened without excessive strains.
(Note 3) The M4 hex-socket head screw can be utilized to fasten the cable (effective screw depth is 5mm).
(Note 4) The minimum bending radius of the cable is 30mm.
(Note 5) The brake adds 0.2kg to the mass.
(Note 6) Indicates the distance to the mechanical stopper.

Dimensions / Mass

Type	Dimensions / Mass	Motor Mounting Direction: Straight, Stroke (mm) 50	100	150	200	Motor Mounting Direction: U, Stroke (mm) 50	100	150	200
RSDG1	L1 (mm)	161	211	261	311	161	211	261	311
	L (mm)	249	299	349	399	204	254	304	354
	H (mm)	2	3	4	5	2	3	4	5
	K (mm)	6	8	10	12	6	8	10	12
	Mass (kg)	1.5	1.7	1.9	2.1	1.7	1.9	2.1	2.3

(1) The brake adds 0.2kg to the total mass.

Part Number: Type	Part Number: Lead (mm)	Part Number: With or w/o Brake ((1))	Selection: Motor Mounting Direction	Selection: Controller ((2))	Selection: I/O Module	Selection: Cable Length (m)	Selection: Stroke (mm)
RSDG1	06	None: Leave blank Included: B	Straight: Leave blank Top mounting: U	Point Control: C1 Pulse Control: P1 (DC24V ±10%)	NPN: N PNP: P CC-Link: C DeviceNet: D	1 3 5 10 (Flexible Cable)	50~200 (50mm Increment)
	12						

((1) Choose the "Brake" option for use in vertical applications. (2) When the pulse train type controller is selected, the I/O type selection is not required.

Ordering Example

Part Number	Motor Mounting Direction	Controller	I/O Module	Cable Length	Stroke	
RSDG106B	U	C1	N	3	200	(Motor Mounting Direction: U)
RSDG106B		C1	N	3	200	(Motor Mounting Direction: Straight)
RSDG106B	U	P1		3	200	(Motor Mounting Direction: U, Controller: P1)

Robot Body Price

Part Number	Unit Price 1 ~ 3 pc(s). Stroke (mm) 50	100	150	200
RSDG1□□				
RSDG1□□B				

Controller Price

Type	I/O Module	Unit Price 1 ~ 3 pc(s).
C1	N	
	P	
	C	
	D	
P1	-	

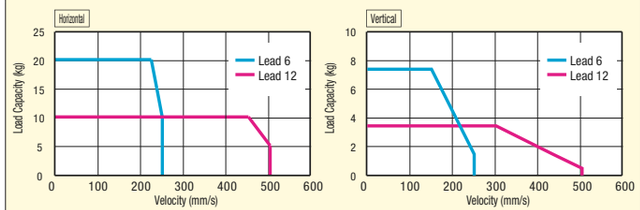
Cable Price

Cable Length (m)	Unit Price 1 ~ 3 pc(s).
1	
3	
5	
10	

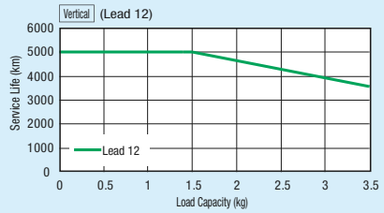
Note

Power interruption circuit is not provided in this controller in order to provide maximum flexibility for customer specific safety scheme.
Please be sure to provide an external power interruption circuit and form an emergency stop circuit. For Circuit examples, see P.503

Velocity - Maximum Load Capacity Table

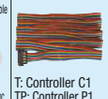
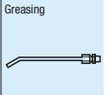


Service Life Table (1) Rated Running Life is 5,000km or more. For the following types, however, service life varies depending on its maximum load capacity, and how it is applied.



Alterations

Part Number	Motor Mounting Direction	Controller Type	I/O Type	Cable Length	Stroke	(G, E···etc.)
RSDG1B	U	C1	N	3	200	G-E

Alterations	Handset Terminal Standard Specification	Handset Terminal w/ Deadman's Switch	Support Software w/ USB Communication Cable	Support Software D-Sub/With Communication Cable	I/O Cable	Cable for daisy-chain connection	Instruction Manual	Main Body Plastic Color Alterations	Actuator Mounting Foot Plate	Shaft Nozzle for Greasing
			 Communication Specifications: RS232C	 Communication Specifications: RS232C	 T: Controller C1 TP: Controller P1	 Length: 300mm	MJ5: Body KJ3:Controller (C1) KJ4:Controller (P1)			
Code	H	D	S	R	T/TP	C	MJ5/KJ3/KJ4	BC	HP	N
Spec.	Handset Terminal is included. Specifications P.503, 507	Handset Terminal w/ Deadman's Switch is included. Specifications P.503, 507	Support Software w / USB Communication Cable is included. Specifications P.503, 507	Support Software w/ D-Sub Communication Cable is included. Specifications P.507	I/O Cable is included. Required for NPN/ PNP configurations. Specifications P.507	A cable to connect multiple controllers. It can connect maximum 16 controllers. Specifications P.507	Operation Manual is included. For Actuator MJ5: For Controller KJ3: KJ4:	Change the actuator plastic parts color to black.	2 plates are included for horizontal mounting. Specifications P.507	Use this nozzle to apply grease to the ball screw of top motor mounted type.

(1) For optional items, see P.507 (2) It is more economical to order the optional items as alterations than purchasing them individually.
(3) Entering point data requires the handy terminal or the support software. (4) An I/O Cable is required for Parallel Communication I/O Control.
(5) For details on daisy-chain, see P.505 (6) Please select the correct I/O cable type for the appropriate controller type.

Single Axis Robots RSDG2 - Rod Type with Support Guide -

RS
SINGLE AXIS ROBOT

See notes on CE Marking. P.456



Controller Specifications P.497~506

RoHS

■**Components:** Actuator, Controller, Cable

■**Accessory**

A Accessory	Controller I/O Specifications		
	NPN, PNP	CC-Link	DeviceNet
	Instruction Manual (CD-ROM), Power Connector, Dummy Connector, 6 Mounting Nuts		
	-	CC-Link Connector	DeviceNet Connector

■**Robot Material / Surface Treatment**

Components	Body	Rod	Cover	Shaft	Ball Bushing
M Material	Aluminum	Steel	ABS	Steel	Steel
S Surface Treatment	Acrylic Paint	-	-	-	-

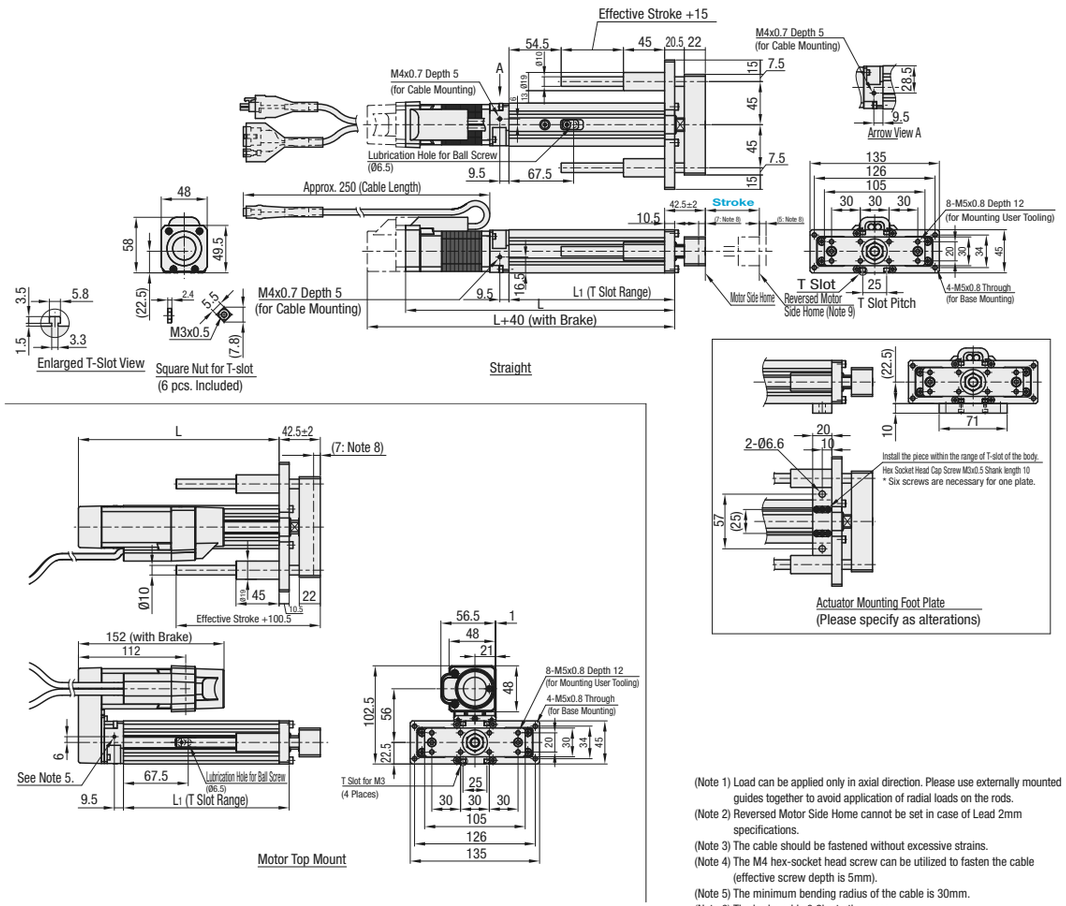
■**General Specifications**

Ball Screw	Motor	Position Detector	Operating Ambient Temperature, Humidity
Ø8 (C10 Rolled)	Stepping	Resolver (Incremental)	0~40°C, 35~85%RH (No Condensation)

■**Standard Specifications** FAQ P.504

Type	Lead (mm)	Positioning Repeatability (mm)	Max Load Capacity (kg) Horizontal	Max Load Capacity (kg) Vertical	Max. Push Force (N)	Rated Running Life (1)	Lost Motion (mm)	Rod Non-Rotational Accuracy (degrees)	Stroke (mm)	Max. Velocity (2) (mm/sec)	Input Power Supply	Maximum Positioning Point
RSDG2	02	±0.02	45	24	600	5,000km or More	0.1 or Less	±0.05	50~300 (50 Pitch)	~80	DC24V ±10%	255 points
	06		40	11	300					~250		
	12		25	4	150					~500		

(1. The Service life in the vertical use may vary depending on the load capacity. Please refer to the "Service Life Table." (2. The maximum velocities may vary depending on the load capacity. Please refer to the "Velocity - Maximum Load Capacity Table."



(Note 1) Load can be applied only in axial direction. Please use externally mounted guides together to avoid application of radial loads on the rods.
(Note 2) Reversed Motor Side Home cannot be set in case of Lead 2mm specifications.
(Note 3) The cable should be fastened without excessive strains.
(Note 4) The M4 hex-socket head screw can be utilized to fasten the cable (effective screw depth is 5mm).
(Note 5) The minimum bending radius of the cable is 30mm.
(Note 6) The brake adds 0.2kg to the mass.
(Note 7) Indicates the distance to the mechanical stopper.

■**Dimensions / Mass**

Type	Dimensions / Mass	Motor Mounting Direction: Straight, Stroke (mm) 50	100	150	200	250	300	Motor Mounting Direction: U, Stroke (mm) 50	100	150	200	250	300
RSDG2	L1 (mm)	162.5	212.5	262.5	312.5	362.5	412.5	162.5	212.5	262.5	312.5	362.5	412.5
	L (mm)	270.5	320.5	370.5	420.5	470.5	520.5	209.5	259.5	309.5	359.5	409.5	459.5
	Mass (kg)	2.0	2.4	2.7	3.0	3.3	3.7	2.2	2.6	2.9	3.2	3.5	3.9

(The brake adds 0.2kg to the total mass.

Part Number: Type	Lead (mm)	With or w/o Brake (1)	Selection: Motor Mounting Direction	Controller (2)	I/O Module	Cable Length (m)	Stroke (mm)
RSDG2	02	None: Leave blank Included: B	Straight: Leave blank Top mounting: U	Point Control: C1 Pulse Control: P1 (DC24V ±10%)	NPN: N PNP: P CC-Link: C DeviceNet: D	1 3 5 10 (Flexible Cable)	50~300 (50mm Increment)
	06						
	12						

(1) Choose the "Brake" option for use in vertical applications. (2) When the pulse train type controller is selected, the I/O type selection is not required.

Ordering Example

Part Number	Motor Mounting Direction	Controller	I/O Module	Cable Length	Stroke	
RSD206B	U	C1	N	3	200	(Motor Mounting Direction: U)
RSD206B		C1	N	3	200	(Motor Mounting Direction: Straight)
RSD206B	U	P1		3	200	(Motor Mounting Direction: U, Controller: P1)

■**Robot Body Price**

Part Number	Unit Price 1 ~ 3 pc(s). Stroke (mm) 50	100	150	200	250	300
RSDG2						
RSDG2 B						

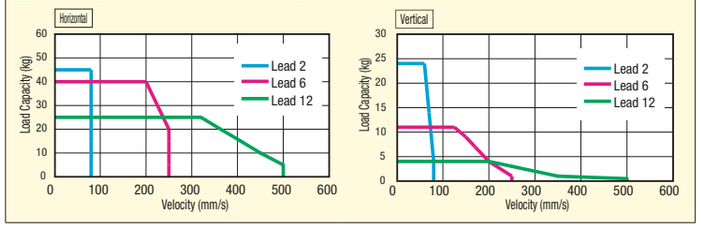
■**Controller Price**

Type	I/O Module	Unit Price 1 ~ 3 pc(s).
C1	N	
	P	
	C	
	D	
P1	-	

■**Cable Price**

Cable Length (m)	Unit Price 1 ~ 3 pc(s).
1	
3	
5	
10	

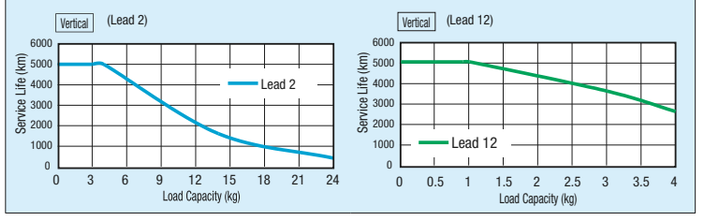
■**Velocity - Maximum Load Capacity Table**



Note

Power interruption circuit is not provided in this controller in order to provide maximum flexibility for customer specific safety scheme.
Please be sure to provide an external power interruption circuit and form an emergency stop circuit. For Circuit examples, see P.503

■**Service Life Table** (Rated Running Life is 5,000km or more. For the following types, however, service life varies depending on its maximum load capacity, and how it is applied.



Alterations

Part Number	Motor Mounting Direction	Controller Type	I/O Type	Cable Length	Stroke	(G, E…etc.)
RSDG2B	U	C1	N	3	200	G-E

Alterations	Handset Terminal Standard Specification	Handset Terminal w/ Deadman's Switch	Support Software w/ USB Communication Cable	Support Software w/ D-Sub Communication Cable	I/O Cable	Cable for daisy-chain connection	Instruction Manual	Main Body Plastic Color Alterations	Actuator Mounting Foot Plate
			Communication Specifications: RS232C	Communication Specifications: RS232C	T: Controller C1 TP: Controller P1	Length: 300m	MJ5: Body KJ3: Controller (C1) KJ4: Controller (P1)		
Code	H	D	S	R	T/TP	C	MJ5/KJ3/KJ4	BC	HP
Spec.	Handset Terminal is included. Specifications P.503, 507	Handset Terminal w/ Deadman's Switch is included. Specifications P.503, 507	Support Software w / USB Communication Cable is included. Specifications P.503, 507	Support Software w/ D-Sub Communication Cable is included. Specifications P.507	I/O Cable is included. Required for NPN/PNP configurations. Specifications P.507	A cable to connect multiple controllers. Up to 16 controllers can be connected. Specifications P.507	Operation Manual is included. For Actuator MJ5: For Controller KJ3: KJ4:	Change the actuator plastic parts color to black.	2 plates are included for horizontal mounting. Specifications P.507

(For optional items, see P.507 (It is more economical to order the optional items as alterations than purchasing them individually.
(Entering point data requires the handy terminal or the support software. (An I/O Cable is required for Parallel Communication I/O Control.
(For details on daisy-chain, see P.505 (Please select the correct I/O cable type for the appropriate controller type.

Single Axis Robots RSDG3 - Rod Type with Support Guide -

RS
SINGLE AXIS ROBOT

See notes on CE Marking. P.456



Controller Specifications P.497~506

RoHS

■**Components:** Actuator, Controller, Cable

■**Accessory**

	Controller I/O Specifications		
A Accessory	NPN, PNP	CC-Link	DeviceNet
	Instruction Manual (CD-ROM), Power Connector, Dummy Connector, 6 Mounting Nuts		
	-	CC-Link Connector	DeviceNet Connector

■**Robot Material / Surface Treatment**

Components	Body	Rod	Cover	Shaft	Ball Bushing
M Material	Aluminum	Steel	ABS	Steel	Steel
S Surface Treatment	Acrylic Paint	-	-	-	-

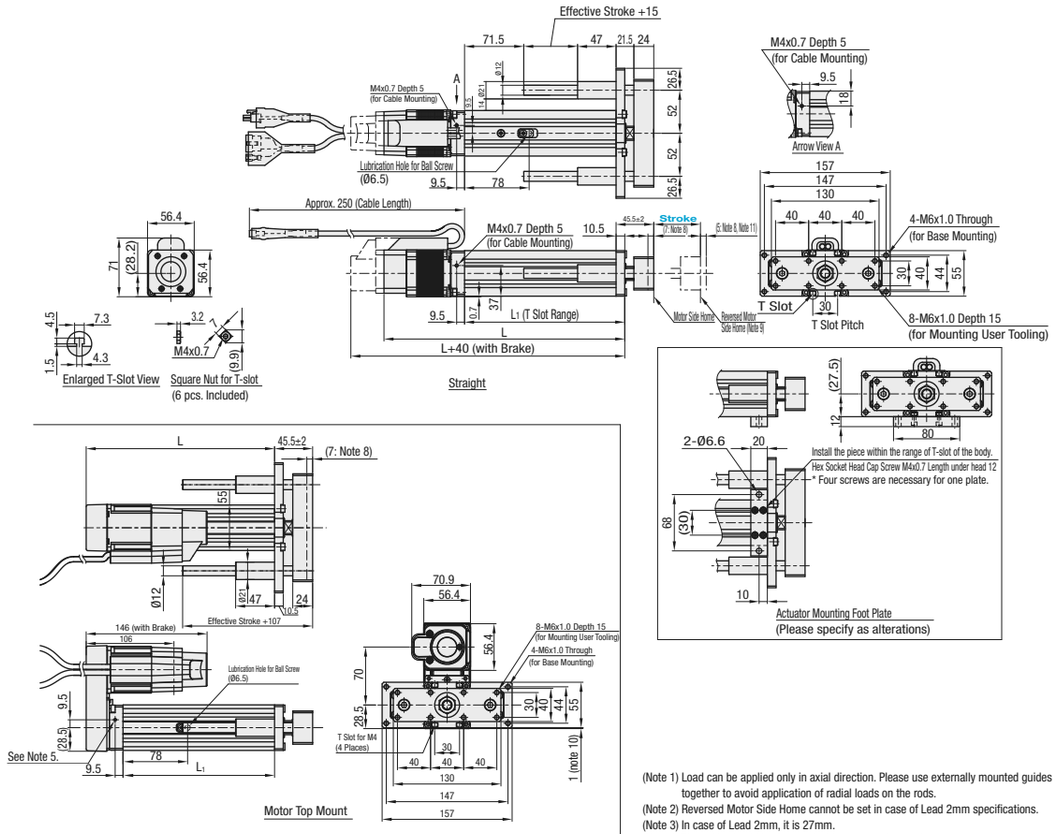
■**General Specifications**

Ball Screw	Motor	Position Detector	Operating Ambient Temperature, Humidity
Ø12 (C10 Rolled)	Stepping	Resolver (Incremental)	0~40°C, 35~85%RH (No Condensation)

■**Standard Specifications** FAQ P.504

Type	Lead (mm)	Repeatability Positioning Accuracy (mm)	Max Load Capacity (kg) Horizontal	Max Load Capacity (kg) Vertical	Max. Push Force (N)	Rated Running Life (?)1	Lost Motion (mm)	Rod Non-Rotational Accuracy (degrees)	Stroke (mm)	Max. Velocity (?)2 (mm/sec)	Input Power Supply	Maximum Positioning Point
RSDG3	02	±0.02	60	28.5	900	5,000km or More	0.1 or Less	±0.05	50~300 (50 Pitch)	~50	DC24V ±10%	255 points
	06		55	18.5	550					~150		
	12		50	8.5	250					~300		

(?)1. The Service life in the vertical use may vary depending on the load capacity. Please refer to the "Service Life Table." (?)2. The maximum velocities may vary depending on the load capacity. Please refer to the "Velocity - Maximum Load Capacity Table."



(Note 1) Load can be applied only in axial direction. Please use externally mounted guides together to avoid application of radial loads on the rods.
(Note 2) Reversed Motor Side Home cannot be set in case of Lead 2mm specifications.
(Note 3) In case of Lead 2mm, it is 27mm.
(Note 4) The cable should be fastened without excessive strains.
(Note 5) The M4 hex-socket head screw can be utilized to fasten the cable (effective screw depth is 5mm).
(Note 6) The minimum bending radius of the cable is 30mm.
(Note 7) Note that the motor protrudes from the bottom of the actuator.

■**Dimensions / Mass**

Type	Dimensions / Mass	Motor Mounting Direction: Straight, Stroke (mm) 50	100	150	200	250	300	Motor Mounting Direction: U, Stroke (mm) 50	100	150	200	250	300
RSDG3	L_1 (mm)	183	223	283	333	383	433	183	223	283	333	383	433
	L (mm)	280.5	330.5	380.5	430.5	480.5	530.5	227.5	277.5	327.5	377.5	427.5	477.5
	Mass (kg)	3.1	3.6	4.1	4.5	5	5.5	3.3	3.8	4.3	4.7	5.2	5.7

(?)The brake adds 0.2kg to the total mass.

Part Number: Type	Part Number: Lead (mm)	Part Number: With or w/o Brake (?)1	Selection: Motor Mounting Direction	Selection: Controller (?)2	Selection: I/O Module	Selection: Cable Length (m)	Selection: Stroke (mm)
RSDG3	02	None: Leave blank Included: B	Straight: Leave blank Top mounting: U	Point Control: C1 Pulse Control: P1 (DC24V ±10%)	NPN: N PNP: P CC-Link: C DeviceNet: D	1 3 5 10 (Flexible Cable)	50~300 (50mm Increment)
	06						
	12						

(?)1) Choose the "Brake" option for use in vertical applications. (?)2) When the pulse train type controller is selected, the I/O type selection is not required.

Ordering Example

Part Number	Motor Mounting Direction	Controller	I/O Module	Cable Length	Stroke	
RSD306B	U	C1	N	3	200	(Motor Mounting Direction: U)
RSD306B		C1	N	3	200	(Motor Mounting Direction: Straight)
RSD306B	U	P1		3	200	(Motor Mounting Direction: U, Controller: P1)

■**Robot Body Price**

Part Number	Unit Price 1 ~ 3 pc(s). Stroke (mm) 50	100	150	200	250	300
RSDG3□□						
RSDG3□□B						

■**Controller Price**

Type	I/O Module	Unit Price 1 ~ 3 pc(s).
C1	N	
	P	
	C	
	D	
P1	-	

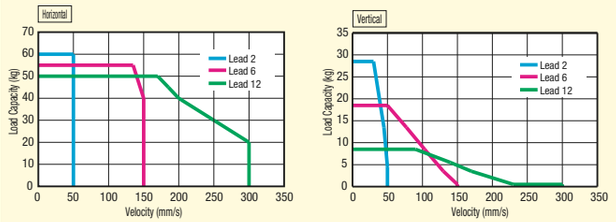
■**Cable Price**

Cable Length (m)	Unit Price 1 ~ 3 pc(s).
1	
3	
5	
10	

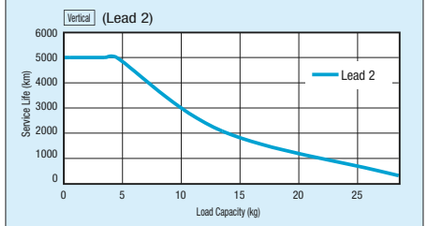
Note

Power interruption circuit is not provided in this controller in order to provide maximum flexibility for customer specific safety scheme.
Please be sure to provide an external power interruption circuit and form an emergency stop circuit. For Circuit examples, see P.503

■**Velocity - Maximum Load Capacity Table**



■**Service Life Table** (?)Rated Running Life is 5,000km or more. For the following types, however, service life varies depending on its maximum load capacity, and how it is applied.



Alterations

Part Number	Controller Type	I/O Type	Cable Length	Stroke	(G, E…etc.)
RSD306B -	C1 -	N -	3 -	200 -	G-E

Alterations	Handset Terminal Standard Specification	Handset Terminal w/ Deadman's Switch	Support Software w/ USB Communication Cable	Support Software w/ D-Sub Communication Cable	I/O Cable	Cable for daisy-chain connection	Instruction Manual	Main Body Plastic Color Alterations	Actuator Mounting Foot Plate
			Communication Specifications: RS232C	Communication Specifications: RS232C	T: Controller C1 TP: Controller P1	Length: 300mm	MJ5: Body KJ3: Controller (C1) KJ4: Controller (P1)		
Code	H	D	S	R	T/TP	C	MJ5/KJ3/KJ4	BC	HP
Spec.	Handset Terminal is included. Specifications P503, 507	Handset Terminal w/ Deadman's Switch is included. Specifications P503, 507	Support Software w / USB Communication Cable is included. Specifications P503, 507	Support Software w/ D-Sub Communication Cable is included. Specifications P507	I/O Cable is included. Required for NPN/PNP configurations. Specifications P507	A cable to connect multiple controllers. Up to 16 controllers can be connected. Specifications P507	Operation Manual is included. For Actuator MJ5: For Controller KJ3: KJ4:	Change the actuator plastic parts color to black.	2 plates and 8 nuts are included for horizontal mounting. Specifications P507

(?)For optional items, see P.507 (?)It is more economical to order the optional items as alterations than purchasing them individually.
(?)Entering point data requires the handy terminal or the support software. (?)An I/O Cable is required for Parallel Communication I/O Control.
(?)For details on daisy-chain, see P.505 (?)Please select the correct I/O cable type for the appropriate controller type.

Single Axis Robot RSH1 - Straight

RS
SINGLE AXIS ROBOT

See notes on CE Marking. P.456



Controller Specifications P.497~506 Cycle Time Graph P.455 Clean Room Specifications are available on our website.

■Components: Actuator, Controller, Cable, (Battery), (Noise Filter)

■Accessory

Accessory	Controller I/O Specifications		
	NPN, PNP	CC-Link	DeviceNet
	Instruction Manual (CD-ROM), Power Connector, EXT Connector, Dummy Connector		
	-	CC-Link Connector	DeviceNet Connector

■Robot Material / Surface Treatment

Components	Base Frame	Guide Rail	Slider	Side Cover
M Material	Aluminum	Steel	Aluminum	Aluminum
S Surface Treatment	Anodize	-	Anodize	Anodize

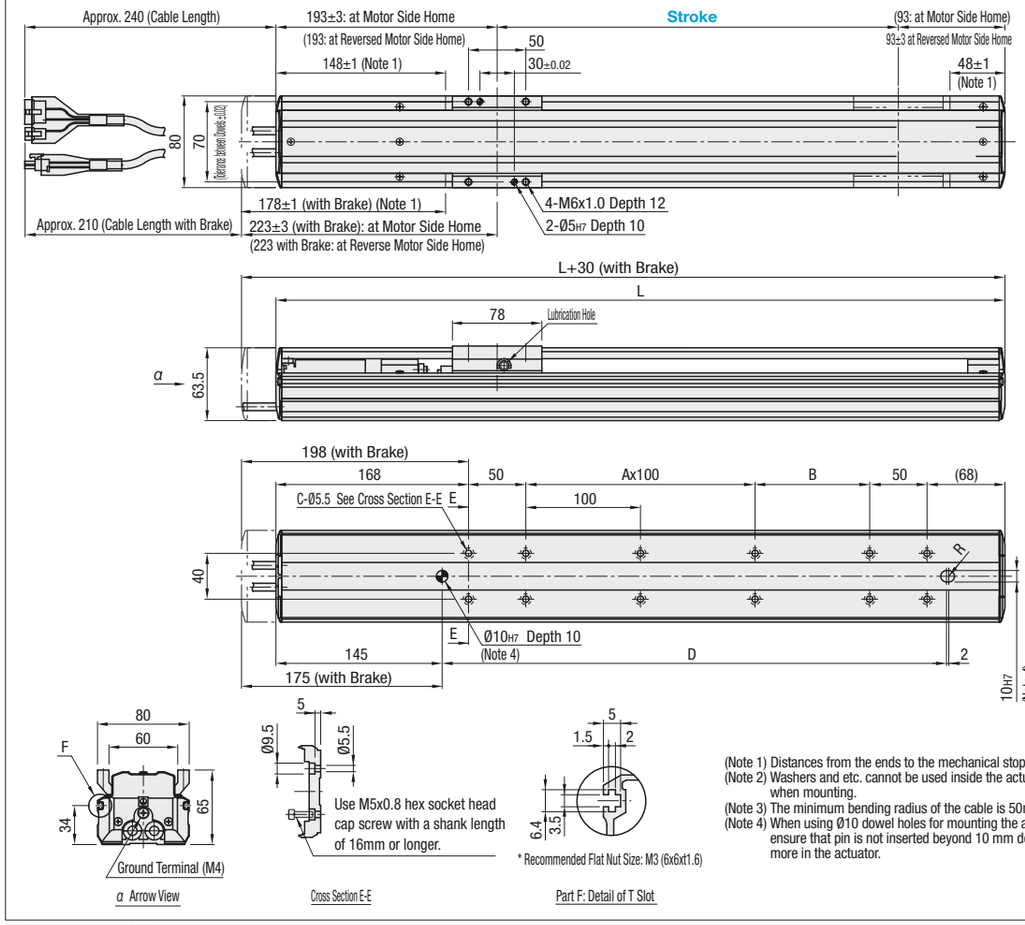
■General Specifications

Ball Screw	Motor	Position Detector	Operating Ambient Temperature, Humidity
Ø12 (C10 Rolled)	AC Servo 100W	Resolver	0~40°C, 35~85%RH (No Condensation)

■Standard Specifications FAQ P.504

Type	Lead (mm)	Positioning Repeatability (mm)	Max Load Capacity (kg) Horizontal	Max Load Capacity (kg) Vertical	Rated Force (N)	Max. Velocity (Note) (mm/sec)	Stroke (mm)	Rated Running Life	Input Power Supply	Maximum Positioning Point
RSH1	06	±0.02	40	8	283	360~180	150~800 (50 Pitch)	10,000 km or More	Single-phase AC 100~115V 200~230V ±10%	255 points
	12		20	4	141	720~360				
	20		12	-	84	1200~600				

(Note) Maximum velocities allowed may vary depending on the stroke length selected. Please refer to the "Recommended Maximum Velocities" table.



(Note 1) Distances from the ends to the mechanical stoppers
(Note 2) Washers and etc. cannot be used inside the actuators when mounting.
(Note 3) The minimum bending radius of the cable is 50mm.
(Note 4) When using Ø10 dowel holes for mounting the actuator, ensure that pin is not inserted beyond 10 mm depth or more in the actuator.

■Dimensions / Mass

Type	Dimensions / Mass	Stroke (mm) 150	200	250	300	350	400	450	500	550	600	650	700	750	800
RSH1	L(mm)	436	486	536	586	636	686	736	786	836	886	936	986	1036	1086
	A(mm)	0	0	1	1	2	2	3	3	4	4	5	5	6	6
	B(mm)	100	150	100	150	100	150	100	150	100	150	100	150	100	150
	C(mm)	8	8	10	10	12	12	14	14	16	16	18	18	20	20
	D(mm)	240	290	340	390	440	490	540	590	640	690	740	790	840	890
	Mass (kg)	3.6	3.9	4.2	4.4	4.7	5.0	5.3	5.6	5.9	6.2	6.4	6.7	7.0	7.3

(?)The brake adds 0.3 kg to the mass.

Part Number: Type	Part Number: Lead (mm)	Part Number: With or w/o Brake (?)1)	Selection: Controller (?)2)	I/O Module	W/ or w/o Nose Filter (?)3)	Cable	Stroke (mm)
RSH1	06	None: Leave blank	Power Supply: AC100~115V / AC200~230V; Absolute Encoders (w/ Data Storage Battery): C22A; Incremental Type: C22B	NPN: N	None: F0	Standard: 3.5m:3, 5m:5, 10m:10	150~800 (50mm Increment)
	12	Included: B		PNP: P	Included: F1	Flexible: 3.5m:R3, 5m:R5, 10m:R10	
	20			CC-Link: C	Specifications P.508		
				DeviceNet: D			

(?)1) Choose the "Brake" option for use in vertical applications. (W/ brake type is not available for Lead 20) (?)2) Controllers are shipped with preset parameters for each type. Data storage batteries are outside the scope of RoHS Directive.
(?)3) A noise filter is required for this product. When the customer is purchasing the noise filter separately, please select "none". Be sure to install a surge absorber on the primary side of a noise filter. For details, please see the Instruction Manual.

Ordering Example

Part Number	-	Controller	-	I/O Module	-	W/ or w/o Nose Filter	-	Cable	-	Stroke
RSH106B	-	C22A	-	N	-	F1	-	3	-	400

Note

Power interruption circuit is not provided in this controller in order to provide maximum flexibility for customer specific safety scheme.
Please be sure to provide an external power interruption circuit and form an emergency stop circuit. For Circuit examples, see P.503.

■Robot Body Price

Part Number	Unit Price 1 ~ 5 pc(s) Stroke (mm) 150/200	250/300	350/400	450/500	550/600	650/700	750/800
RSH1□□							
RSH1□□B							

■Controller Price

I/O \ Type	Unit Price 1 ~ 5 pc(s). /C22A Absolute Encoders (w/ Data Storage Battery)	/C22B Incremental Type
N		
P		
C		
D		

■Cable Price

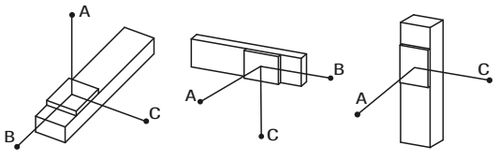
Cable (Standard)	Unit Price 1 ~ 5 pc(s).	Cable (Flexible)	Unit Price 1 ~ 5 pc(s).
3		R3	
5		R5	
10		R10	

■Noise Filter Price

W/ or w/o Nose Filter	Unit Price 1 ~ 5 pc(s)
None: F0	
Included: F1	

■Allowable Overhang Load

• Horizontal Use • Wall Mounted Use • Vertical Use



mm

Lead	Mass	A	B	C
06	40kg	113	0	8
	30kg	140	6	20
	20kg	214	16	43
	10kg	403	43	113
12	20kg	103	14	33
	15kg	139	22	51
	10kg	203	39	87
	5kg	364	89	188
20	12kg	85	25	43
	10kg	100	32	54
	5kg	197	76	120

mm

Lead	Mass	A	B	C
06	40kg	0	0	0
	30kg	0	0	14
	20kg	25	9	157
	10kg	94	36	369
12	20kg	15	6	55
	15kg	33	15	100
	10kg	69	32	172
	5kg	171	81	340
20	12kg	27	15	55
	10kg	37	23	72
	5kg	104	67	174

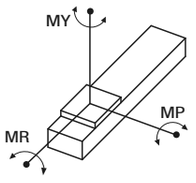
mm

Lead	Mass	A	C
06	8kg	46	46
	6kg	69	69
	4kg	113	113
	2kg	244	245
12	4kg	98	99
	3kg	137	138
	2kg	214	216
	1kg	447	448

(?)When the overhang equals 0, use externally mounted linear guides to support the load mass.

■Allowable Static Moment

• Moment Diagram



N · m

MY	MP	MR
70	95	110

■Max. Velocity (mm/sec) (?)Please confirm the details of the Max. Speeds based on various strokes with web-Cycle Time Simulator.

Type	Lead (mm)	Stroke (mm) 150~550	600	650	700	750	800
RSH1	06	360	324	270	234	216	180
	12	720	648	540	468	432	360
	20	780~1200	1080	900	780	720	600

(?)When the stroke is 600mm or more, the resonance of ball screws may occur according to the operating area (critical speed). In that case, reduce the operation speed by referring to the Max. Velocity shown in the table above.

Alterations

Part Number	-	Controller Type	-	I/O Type	-	Noise Filter Presence	-	Cable	-	Stroke	-	(G, œE···etc.)
RSH106B	-	C22A	-	N	-	F1	-	3	-	400		G-E

<Price Example> The prices are for the part numbers on the left.
(Robot Body Price) + (Controller Price) + (Noise Filter Price) + (Cable Price) + (Grease Type Alteration Charge) + (Home Position Alteration Charge) = Total Price

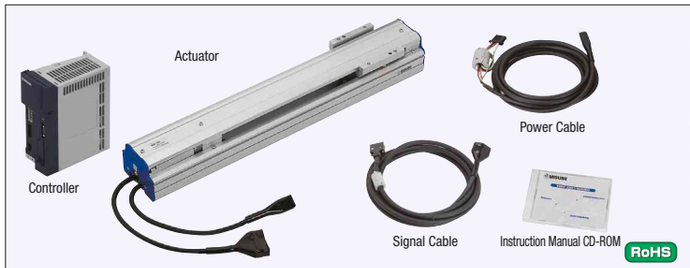
Alterations	Grease Type Alteration	Change of Home Position	Handset Terminal Standard Specification	Handset Terminal w/ Deadman's Switch	Support Software w/ USB Communication Cable	Support Software w/ D-Sub Communication Cable	I/O Cable	Cable for daisy-chain connection	Instruction Manual
Code	G	E	H	D	S	R	T	C	MJ5/KJ3
Spec.	Grease is changed to low particle generation grease. (NSK LG2)	The home position is relocated to the opposite side of the motor.	Handset Terminal Handset Terminal is included. Specifications P.503, 507	Handset Terminal Handset Terminal w/ Deadman's Switch is included. Specifications P.503, 507	Support Software w / USB Communication Cable is included. Specifications P.503, 507	Support Software w/ D-Sub Communication Cable is included. Specifications P.507	I/O Cable is included. Required for NPN/PNP configurations. Specifications P.507	A cable to connect multiple controllers. Up to 16 controllers max. can be connected. Specifications P.507	Operation Manual is included. For Actuator MJ5: Body For Controller KJ3:
		Motor			Communication Specifications: RS232C	Communication Specifications: RS232C		Length: 300mm	

(?)For optional items, see P. 507. (?)It is more economical to order the optional items as alterations than purchasing them individually.
(?)Entering point data requires the handy terminal or the support software.
(?)An I/O Cable is required for Parallel Communication I/O Control.

Single Axis Robot RSH2 - Straight

RS
SINGLE AXIS ROBOT

See notes on CE Marking. P.456



■Components: Actuator, Controller, Cable, (Battery), (Noise Filter)

■Accessory

Accessory	Controller I/O Specifications		
	NPN,PNP	CC-Link	DeviceNet
	Instruction Manual (CD-ROM), Power Connector, EXT Connector, Dummy Connector		
	-	CC-Link Connector	DeviceNet Connector

■Robot Material / Surface Treatment

Components	Base Frame	Guide Rail	Slider	Side Cover
M Material	Aluminum	Steel	Aluminum	Aluminum
S Surface Treatment	Anodize	-	Anodize	Anodize

■General Specifications

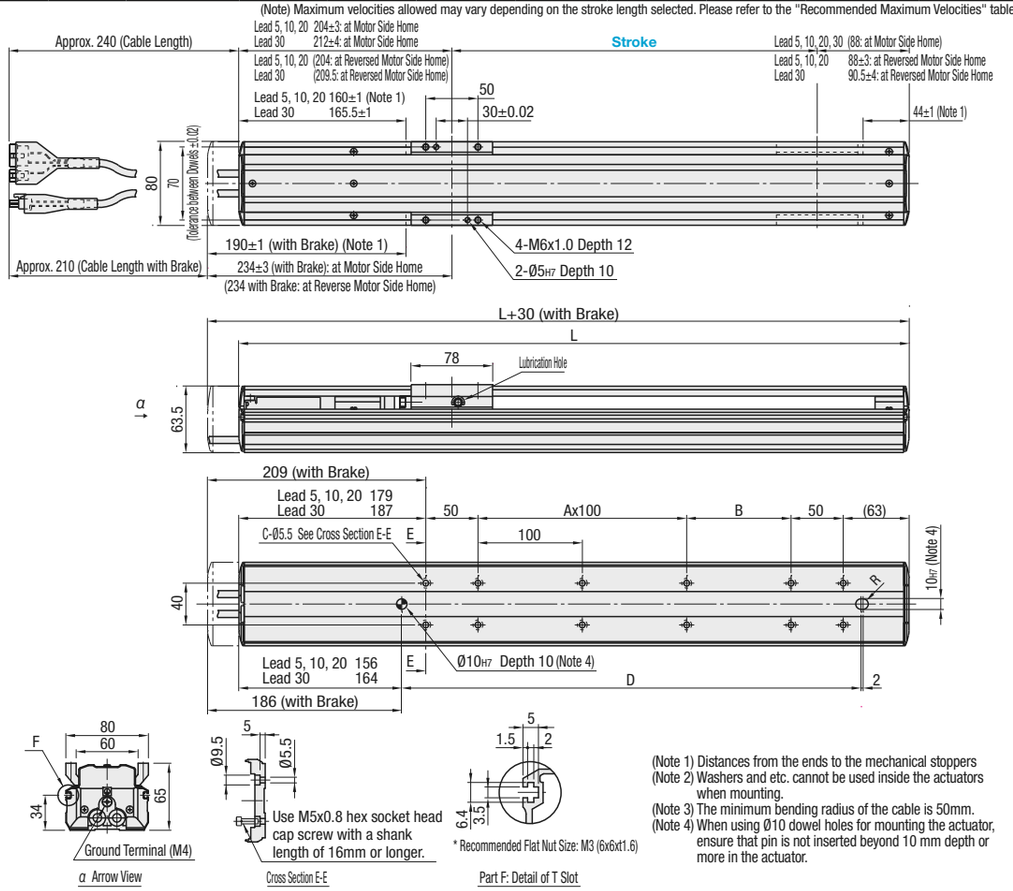
Ball Screw	Motor	Position Detector	Operating Ambient Temperature, Humidity
Ø15 (C7 Rolled)	AC Servo 100W	Resolver	0~40°C, 35~85%RH (No Condensation)

Controller Specifications P.497~506 Cycle Time Graph P.455 Clean Room Specifications are available on our website.

■Standard Specifications FAQ P.504

Type	Lead (mm)	Positioning Repeatability (mm)	Max Load Capacity (kg) Horizontal	Max Load Capacity (kg) Vertical	Rated Force (N)	Max. Velocity (Note) (mm/sec)	Stroke (mm)	Rated Running Life	Input Power Supply	Maximum Positioning Point
RSH2	05	±0.01	50	16	339	300~120	150~1050 (50 Pitch)	10,000 km or More	Single-phase AC 100~115V 200~230V ±10%	255 points
	10		40	8	169	600~240				
	20		20	4	84	1200~480				
	30		7	-	56	1800~720				

(Note) Maximum velocities allowed may vary depending on the stroke length selected. Please refer to the "Recommended Maximum Velocities" table.



(Note 1) Distances from the ends to the mechanical stoppers
(Note 2) Washers and etc. cannot be used inside the actuators when mounting.
(Note 3) The minimum bending radius of the cable is 50mm.
(Note 4) When using Ø10 dowel holes for mounting the actuator, ensure that pin is not inserted beyond 10 mm depth or more in the actuator.

■Dimensions / Mass

Type	Dimensions / Mass	Stroke (mm) 150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050
RSH2	L (Lead 5, 10, 20)	442	492	542	592	642	692	742	792	842	892	942	992	1042	1092	1142	1192	1242	1292	1342
	L (Lead30)	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100	1150	1200	1250	1300	1350
	A(mm)	0	0	1	1	2	2	3	3	4	4	5	5	6	6	7	7	8	8	9
	B(mm)	100	150	100	150	100	150	100	150	100	150	100	150	100	150	100	150	100	150	100
	C(mm)	8	8	10	10	12	12	14	14	16	16	18	18	20	20	22	22	24	24	26
	D(mm)	240	290	340	390	440	490	540	590	640	690	740	790	840	890	940	990	1040	1090	1140
	Mass (kg)	3.9	4.2	4.5	4.8	5.1	5.4	5.7	6.1	6.4	6.7	7.0	7.3	7.6	7.9	8.2	8.5	8.8	9.2	9.5

The brake adds 0.3 kg to the mass.

Part Number: Type	Lead (mm)	With or w/o Brake (1)	Selection: Controller (2)	I/O Module	W/ or w/o Nose Filter (3)	Cable	Stroke (mm)
RSH2	05	None: Leave blank	Power Supply: AC100~115V / AC200~230V; Absolute Encoders (w/ Data Storage Battery): C22A; Incremental Type: C22B	NPN: N PNP: P CC-Link: C DeviceNet: D	None: F0 Included: F1 Specifications P.508	Standard: 3.5m:3, 5m:5, 10m:10; Flexible: 3.5m:R3, 5m:R5, 10m:R10	150~1050 (50mm Increment)
	10						
	20	Included: B					
	30						

(1)Choose the "Brake" option for use in vertical applications. (W/ brake type is not available for Lead 30)
(2)Controllers are shipped with preset parameters for each type. Data storage batteries are outside the scope of RoHS Directive.
(3)A noise filter is required for this product. When the customer is purchasing the noise filter separately, please select "none". Be sure to install a surge absorber on the primary side of a noise filter. For details, please see the Instruction Manual.

Ordering Example

Part Number	-	Controller	-	I/O Module	-	W/ or w/o Nose Filter	-	Cable	-	Stroke
RSH205B	-	C22A	-	N	-	F1	-	3	-	400

Note
Power interruption circuit is not provided in this controller in order to provide maximum flexibility for customer specific safety scheme.
Please be sure to provide an external power interruption circuit and form an emergency stop circuit. For Circuit examples, see P.503.

■Robot Body Price

Part Number	Unit Price 1 ~ 5 pc(s) Stroke (mm) 150/200	250/300	350/400	450/500	550/600	650/700	750/800	850/900	950/1000	1050
RSH2□□										
RSH2□□B										

■Controller Price

I/O \ Type	Unit Price 1 ~ 5 pc(s). /C22A Absolute Encoders (w/ Data Storage Battery)	/C22B Incremental Type
N		
P		
C		
D		

■Cable Price

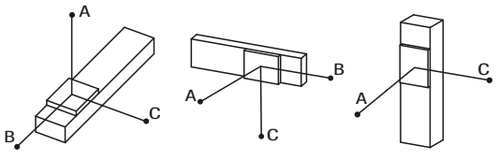
Cable (Standard)	Unit Price 1 ~ 5 pc(s).	Cable (Flexible)	Unit Price 1 ~ 5 pc(s).
3		R3	
5		R5	
10		R10	

■Noise Filter Price

W/ or w/o Nose Filter	Unit Price 1 ~ 5 pc(s)
None: F0	
Included: F1	

■Allowable Overhang Load

• Horizontal Use • Wall Mounted Use • Vertical Use



mm

Lead	Mass	A	B	C
05	50kg	51	0	0
	40kg	138	4	12
	30kg	170	10	29
	20kg	249	23	62
10	40kg	35	0	6
	30kg	74	8	20
	20kg	121	20	46
	10kg	251	56	122
20	20kg	58	14	26
	15kg	76	24	39
	10kg	116	45	69
	5kg	211	108	147
30	7kg	78	43	49
	5kg	112	80	80

mm

Lead	Mass	A	B	C
05	50kg	0	0	0
	40kg	0	0	0
	30kg	0	0	0
	20kg	19	7	140
10	40kg	0	0	0
	30kg	0	0	0
	20kg	7	0	30
	10kg	85	39	202
20	20kg	0	0	0
	15kg	7	0	16
	10kg	38	26	69
	5kg	119	89	176
30	7kg	21	19	34
	5kg	55	57	77

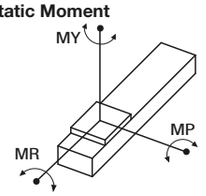
mm

Lead	Mass	A	C
05	16kg	19	19
	15kg	22	22
	10kg	47	48
	5kg	123	124
10	8kg	57	58
	6kg	85	86
	4kg	141	143
	2kg	310	311
20	4kg	106	110
	2kg	236	240

When the overhang equals 0, use externally mounted linear guides to support the load mass.

■Allowable Static Moment

• Moment Diagram



N · m

MY	MP	MR
70	95	110

■Max. Velocity (mm/sec) Please confirm the details of the Max. Speeds based on various strokes with web-Cycle Time Simulator.

Type	Lead (mm)	Stroke (mm) 150~650	700	750	800	850	900	950	1000	1050
RSH2	05	300	225	195	195	180	165	150	135	120
	10	600	510	450	390	360	330	300	270	240
	20	1020~1200	1020	900	780	720	660	600	540	480
	30	774~1800	1530	1350	1170	1080	990	900	810	720

When the stroke is 700mm or more, the resonance of ball screws may occur according to the operating area (critical speed). In that case, reduce the operation speed by referring to the Max. Velocity shown in the table above.

Alterations

Part Number	-	Controller Type	-	I/O Type	-	Noise Filter Presence	-	Cable	-	Stroke	-	(G, E···etc.)
RSH205B	-	C22A	-	N	-	F1	-	3	-	400	-	G-E

<Price Example> The prices are for the part numbers on the left.
(Robot Body Price) + (Controller Price) + (Noise Filter Price) + (Cable Price) + (Grease Type Alteration Charge) + (Home Position Alteration Charge) = Total Price

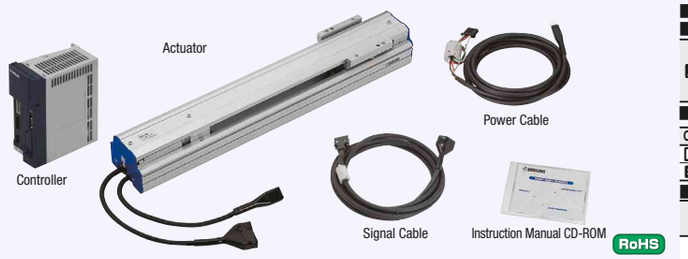
Alterations	Grease Type Alteration	Change of Home Position	Handset Terminal Standard Specification	Handset Terminal w/ Deadman's Switch	Support Software w/ USB Communication Cable	Support Software w/ D-Sub Communication Cable	I/O Cable	Cable for daisy-chain connection	Instruction Manual
		Motor			Communication Specifications: RS232C	Communication Specifications: RS232C		Length: 300m	MJ5: Body KJ3:Controller (C1)
Code	G	E	H	D	S	R	T	C	MJ5/KJ3
Spec.	Grease is changed to low particle generation grease. (NSK LG2)	The home position is relocated to the opposite side of the motor.	Handset Terminal Handset Terminal is included. Specifications P.503, 507	Handset Terminal Handset Terminal w/ Deadman's Switch is included. Specifications P.503, 507	Support Software w / USB Communication Cable is included. Specifications P.503, 507	Support Software w/ D-Sub Communication Cable is included. Specifications P.507	I/O Cable is included. Required for NPN/PNP configurations. Specifications P.507	A cable to connect multiple controllers. It can connect maximum 16 controllers. Specifications P.507	Operation Manual is included. For Actuator MJ5: For Controller KJ3:

For optional items, see P. 507. It is more economical to order the optional items as alterations than purchasing them individually.
Entering point data requires the handy terminal or the support software. An I/O Cable is required for Parallel Communication I/O Control.

Single Axis Robot RSH3 - Straight

RS
SINGLE AXIS ROBOT

See notes on CE Marking. P.456



■Components: Actuator, Controller, Cable, (Battery), (Noise Filter)

■Accessory

Accessory	Controller I/O Specifications		
	NPN,PNP	CC-Link	DeviceNet
	Instruction Manual (CD-ROM), Power Connector, EXT Connector, Dummy Connector		
	-	CC-Link Connector	DeviceNet Connector

■Robot Material / Surface Treatment

Components	Base Frame	Guide Rail	Slider	Side Cover
M Material	Aluminum	Steel	Aluminum	Aluminum
S Surface Treatment	Anodize	-	Anodize	Anodize

■General Specifications

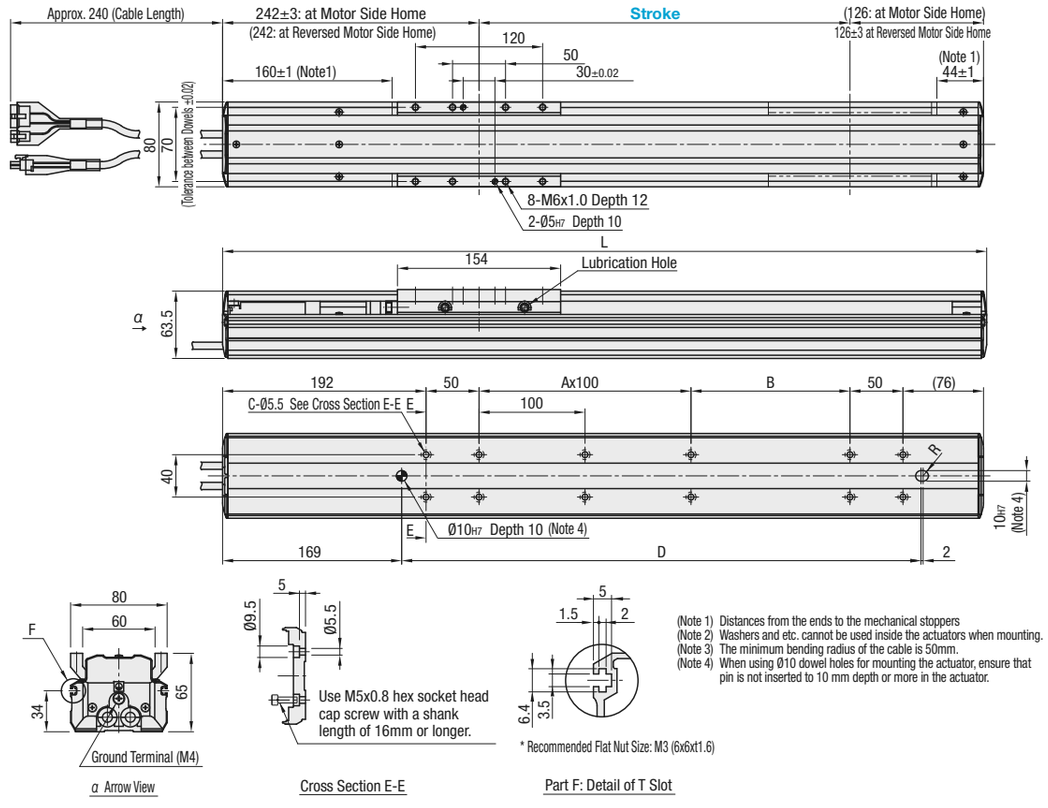
Ball Screw	Motor	Position Detector	Operating Ambient Temperature, Humidity
Ø15 (C7 Rolled)	AC Servo 100W	Resolver	0~40°C, 35~85%RH (No Condensation)

Controller Specifications P.497~506 Cycle Time Graph P.455 Clean Room Specifications are available on our website.

■Standard Specifications FAQ P.504

Type	Lead (mm)	Positioning Repeatability (mm)	Max Load Capacity (kg) Horizontal	Rated Force (N)	Max. Velocity (Note) (mm/sec)	Stroke (mm)	Rated Running Life	Input Power Supply	Maximum Positioning Point
RSH3	05	±0.01	80	339	300~105	150~1050 (50 Pitch)	10,000 km or More	AC100~115V AC200~230V ±10%	255 points
	10		60	169	600~210				
	20		30	84	1200~420				

(Note) Maximum velocities allowed may vary depending on the stroke length selected. Please refer to the "Recommended Maximum Velocities" table.



(Note 1) Distances from the ends to the mechanical stoppers
(Note 2) Washers and etc. cannot be used inside the actuators when mounting.
(Note 3) The minimum bending radius of the cable is 50mm.
(Note 4) When using Ø10 dowel holes for mounting the actuator, ensure that pin is not inserted to 10 mm depth or more in the actuator.

* Recommended Flat Nut Size: M3 (6x6x1.6)

■Dimensions / Mass

Type	Dimensions / Mass	Stroke (mm) 150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050
RSH3	L(mm)	518	568	618	668	718	768	818	868	918	968	1018	1068	1118	1168	1218	1268	1318	1368	1418
	A(mm)	0	1	1	2	2	3	3	4	4	5	5	6	6	7	7	8	8	9	9
	B(mm)	150	100	150	100	150	100	150	100	150	100	150	100	150	100	150	100	150	100	150
	C(mm)	8	10	10	12	12	14	14	16	16	18	18	20	20	22	22	24	24	26	26
	D(mm)	290	340	390	440	490	540	590	640	690	740	790	840	890	940	990	1040	1090	1140	1190
	Mass (kg)	4.7	5.0	5.3	5.6	5.9	6.2	6.6	6.9	7.2	7.5	7.8	8.1	8.4	8.7	9.0	9.3	9.7	10.0	10.3

Part Number Type	Lead (mm)	Selection Controller (1)	I/O Module	W/ or w/o Nose Filter (2)	Cable	Stroke (mm)
RSH3	05	Specifications / Power Supply: Absolute Encoders (w/ Data Storage Battery) / Incremental Type	NPN: N PNP: P CC-Link: C DeviceNet: D	None: F0 Included: F1 Specifications P.508	Standard / Flexible: 3.5m:3 / 3.5m:R3; 5m:5 / 5m:R5; 10m:10 / 10m:R10	150~1050 (50mm Increment)
	10					
	20	AC100~115V: C22A / C22B; AC200~230V: C22A / C22B				

(1) Controllers are shipped with preset parameters for each type. Data storage batteries are outside the scope of RoHS Directive.
(2) A noise filter is required for this product. When the customer is purchasing the noise filter separately, please select "none". Be sure to install a surge absorber on the primary side of a noise filter. For details, please see the Instruction Manual.

Ordering Example

Part Number	-	Controller	-	I/O Module	-	W/ or w/o Nose Filter	-	Cable	-	Stroke
RSH305	-	C22A	-	N	-	F1	-	3	-	400

Note
Power interruption circuit is not provided in this controller in order to provide maximum flexibility for customer specific safety scheme. Please be sure to provide an external power interruption circuit and form an emergency stop circuit. For Circuit examples, see P.503.

■Robot Body Price

Part Number	Unit Price 1 ~ 5 pc(s) Stroke (mm) 150/200	250/300	350/400	450/500	550/600	650/700	750/800	850/900	950/1000	1050
RSH3□□										

■Controller Price

I/O \ Type	Unit Price 1 ~ 5 pc(s). /C22A Absolute Encoders (w/ Data Storage Battery)	/C22B Incremental Type
N		
P		
C		
D		

■Cable Price

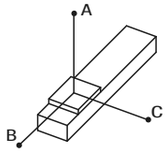
Cable (Standard)	Unit Price 1 ~ 5 pc(s).	Cable (Flexible)	Unit Price 1 ~ 5 pc(s).
3		R3	
5		R5	
10		R10	

■Noise Filter Price

W/ or w/o Nose Filter	Unit Price 1 ~ 5 pc(s)
None: F0	
Included: F1	

■Allowable Overhang Load

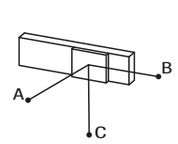
• Horizontal Use



mm

Lead	Mass	A	B	C
05	80kg	601	20	17
	60kg	714	34	29
	40kg	851	63	54
	20kg	1094	148	127
10	60kg	382	30	25
	40kg	479	57	47
	20kg	629	137	111
20	30kg	279	70	50
	20kg	334	116	81
	10kg	573	256	176

• Wall Mounted Use



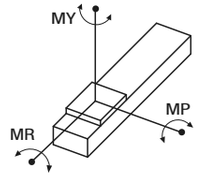
mm

Lead	Mass	A	B	C
05	80kg	0	0	0
	60kg	0	0	0
	40kg	22	26	604
	20kg	96	112	1005
10	60kg	0	0	0
	40kg	15	19	270
	20kg	80	99	545
20	30kg	20	29	160
	20kg	53	75	255
	10kg	147	215	515

When the overhang equals 0, use externally mounted linear guides to support the load mass.

■Allowable Static Moment

• Moment Diagram



N · m

MY	MP	MR
128	163	143

■Max. Velocity (mm/sec) Please confirm the details of the Max. Speeds based on various strokes with web-Cycle Time Simulator.

Type	Lead (mm)	Stroke (mm) 150~600	650	700	750	800	850	900	950	1000	1050
RSH3	05	300	255	225	195	180	165	150	135	120	105
	10	600	510	450	390	360	330	300	270	240	210
	20	1020~1200	1020	900	780	720	660	600	540	480	420

For stroke ranges 650mm or more, ball screws may resonate in certain operation areas (critical speed). In that case, reduce the operation speed by referring to the Max. Velocity shown in the table above.

Alterations

Part Number	-	Controller Type	-	I/O Type	-	Noise Filter Presence	-	Cable	-	Stroke	- (G, E···etc.)
RSH305	-	C22A	-	N	-	F1	-	3	-	400	- G-E

<Price Example> The prices are for the part numbers on the left.
(Robot Body Price) + (Controller Price) + (Noise Filter Price) +
(Cable Price) + (Grease Type Alteration Charge) + (Home Position Alteration Charge) = Total Price

Alterations	Grease Type Alteration	Change of Home Position	Handset Terminal Standard Specification	Handset Terminal w/ Deadman's Switch	Support Software w/ USB Communication Cable	Support Software W / D-Sub Communication Cable	I/O Cable	Cable for daisy-chain connection	Instruction Manual
Code	G	E	H	D	S	R	T	C	MJ5/KJ3
Spec.	Grease is changed to low particle generation grease. (NSK LG2)	The home position is relocated to the opposite side of the motor.	Handset Terminal is included. Specifications P.503, 507	Handset Terminal w/ Deadman's Switch is included. For specifications, see P.503, 507	Support Software w / USB Communication Cable is included. Specifications P.503, 507	Support Software w/ D-Sub Communication Cable is included. Specifications P.507	I/O Cable is included. Required for NPN/PNP configurations. Specifications P.507	A cable to connect multiple controllers. Up to 16 controllers max. can be connected. Specifications P.507	Operation Manual is included. For Actuator MJ5: For Controller KJ3:

For optional items, see P. 507. It is more economical to order the optional items as alterations than purchasing them individually.
Entering point data requires the handy terminal or the support software.
An I/O Cable is required for Parallel Communication I/O Control.

Single Axis Robots RSH4 - Straight -

RS
SINGLE AXIS ROBOT

See notes on CE Marking. P.456



Controller Specifications P.497~506

■**Components:** Actuator, Controller, Cable, (Battery), (Noise Filter)

■**Accessory**

A Accessory	Controller I/O Specifications		
	NPN, PNP	CC-Link	DeviceNet
	Instruction Manual (CD-ROM), Power Connector, EXT Connector, Dummy Connector		
	-	CC-Link Connector	DeviceNet Connector

■**Robot Material / Surface Treatment**

Components	Base Frame	Guide Rail	Slider	Side Cover
M Material	Aluminum	Steel	Aluminum	Aluminum
S Surface Treatment	Anodize	-	Anodize	Anodize

■**General Specifications**

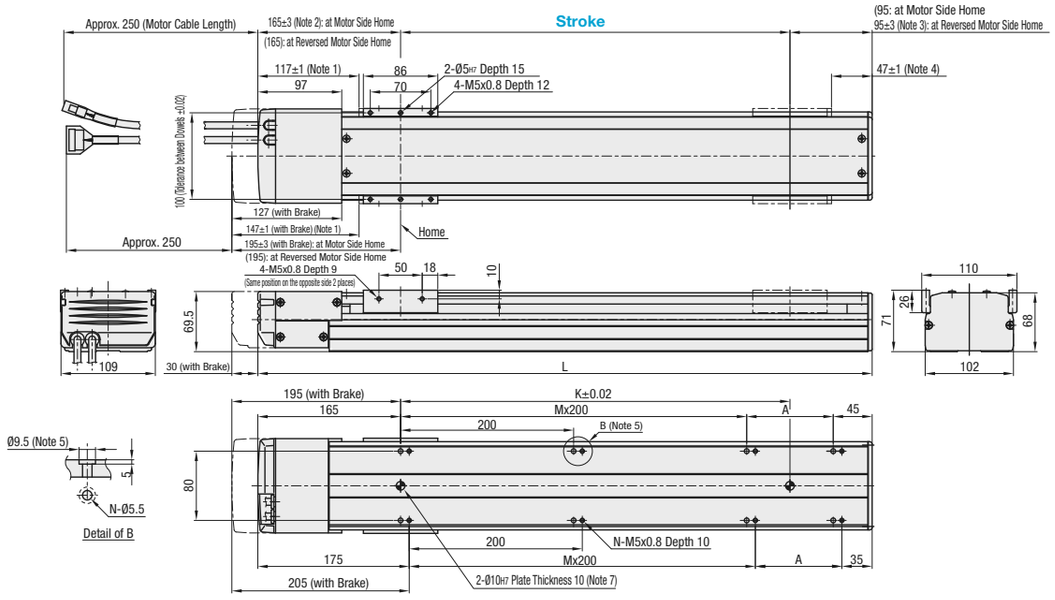
Ball Screw	Motor	Position Detector	Operating Ambient Temperature, Humidity
Ø15 (C7 Rolled)	AC Servo 100W	Resolver	0~40°C, 35~85%RH (No Condensation)

RoHS

■**Standard Specifications** FAQ P.504

Type	Lead (mm)	Positioning Repeatability (mm)	Max Load Capacity (kg) Horizontal	Max Load Capacity (kg) Vertical	Rated Force (N)	Max. Velocity (Note) (mm/sec)	Stroke (mm)	Rated Running Life	Input Power Supply	Maximum Positioning Point
RSH4	05	±0.01	60	20	339	~300	150~1050 (50 Pitch)	10,000km or More	Single-phase AC 100~115V 200~230V ±10%	255 points
	10		40	10	169	~600				
	20		20	4	84	~1200				
	30		15	-	56	~1800				

(Note) The maximum velocities may vary depending on the load capacity. Please refer to the "Recommended Maximum Velocities" table.



Note 1. Mechanical stopper position from the ends.
Note 2. For Large Lead Type (Lead 30), 167.5±4.
Note 3. For Large Lead Type (Lead 30), 95±4.
Note 4. For Large Lead Type (Lead 30), 44.5±1.
Note 5. When mounting, washers cannot be used in Ø9.5 counter bored holes.
Note 6. The minimum bending radius of the motor cable is 50mm.
Note 7. When using Ø10 dowel holes for mounting the actuator, ensure that pin is not inserted beyond 10mm depth or more in the actuator.

■**Dimensions / Mass**

Type	Dimensions / Mass	Stroke (mm) 150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050
RSH4	L (mm)	410	460	510	560	610	660	710	760	810	860	910	960	1010	1060	1110	1160	1210	1260	1310
	A (mm)	200	50	100	150	200	50	100	150	200	50	100	150	200	50	100	150	200	50	100
	M (mm)	0	1	1	1	1	2	2	2	2	3	3	3	3	4	4	4	4	5	5
	N (mm)	4	6	6	6	6	8	8	8	8	10	10	10	10	12	12	12	12	14	14
	K (mm)	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050
	Mass (kg)	5.5	5.7	5.8	6.2	6.5	6.9	7.3	7.7	8.1	8.5	8.8	9.2	9.6	10.0	10.4	10.8	11.1	11.5	11.9

(?)The brake adds 0.6kg to the mass.

Part Number Type	Lead (mm)	With or w/o Brake (?1)	Selection Controller	I/O Module	W/ or w/o Nose Filter (?3)	Cable Length (m)	Stroke (mm)	Regenerative unit
RSH4	05	None: Leave blank	Specifications / Power Supply: Absolute Encoders (w/ Data Storage Battery) / Incremental Type	NPN: N	None: F0	Standard: 3.5m: 3, 5m: 5, 10m: 10	150~1050 (50mm Increment)	RGT
	10		AC100~115V	PNP: P	Included: F1	Flexible: 3.5m: R3, 5m: R5, 10m: R10		(?)Always select this option when using 700mm or more strokes in vertical applications.
	20	Included: B	AC200~230V: C22A / C22B	CC-Link: C	Specifications P.508			
	30			DeviceNet: D				

(?1) Choose the "Brake" option for use in vertical applications. (W/ brake type is not available for Lead 30)
(?2) Controllers are shipped with preset parameters for each type. Data storage batteries are outside the scope of RoHS Directive.
(?3) A noise filter is required for this product. When the customer is purchasing the noise filter separately, please select "none". Be sure to install a surge absorber on the primary side of a noise filter. For details, please see the Instruction Manual.

Ordering Example

Part Number	Controller	I/O Module	W/ or w/o Nose Filter	Cable Length	Stroke
RSH420B	C22A	N	F1	3	200

(?)To order actuators with regenerative unit, specify -RGT after Stroke.

■**Robot Body Price**

Part Number	Unit Price 1 ~ 5 pc(s). Stroke (mm) 150	200/250	300/350	400/450	500/550	600/650	700/750	800/850	900/950	1000/1050
RSH4□□										
RSH4□□B										

■**Controller Price**

I/O Type	Unit Price 1 ~ 5 pc(s). /C22A Absolute Encoders (w/ Data Storage Battery)	/C22B Incremental Type
N		
P		
C		
D		

■**Cable Price**

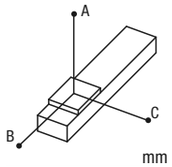
Cable (Standard)	Unit Price 1 ~ 5 pc(s).	Cable (Flexible)	Unit Price 1 ~ 5 pc(s).
3		R3	
5		R5	
10		R10	

■**Noise Filter Price**

W/ or w/o Nose Filter	Unit Price 1 ~ 5 pc(s).
None: F0	
Included: F1	

■**Allowable Overhang Load**

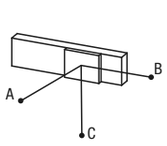
• Horizontal Use



mm

Lead	Mass	A	B	C
05	30kg	419	19	20
	50kg	0	0	0
	60kg	0	0	0
10	15kg	389	71	74
	30kg	179	17	20
	40kg	106	0	0
20	5kg	937	282	259
	10kg	487	121	116
	20kg	236	40	44
30	5kg	491	273	215
	15kg	223	61	63

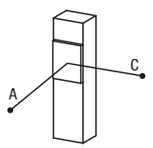
• Wall Mounted Use



mm

Lead	Mass	A	B	C
05	10kg	107	54	1410
	20kg	22	0	540
	30kg	0	0	0
10	10kg	105	53	550
	20kg	22	0	230
	30kg	0	0	0
20	5kg	250	213	905
	10kg	99	51	438
	20kg	21	0	149
30	5kg	206	209	480
	15kg	45	0	177

• Vertical Use



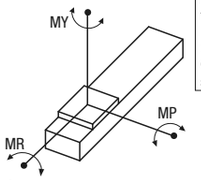
mm

Lead	Mass	A	C
05	10kg	105	146
	15kg	51	93
	20kg	25	66
10	4kg	338	380
	8kg	142	183
	10kg	102	144
20	1kg	600	600
	2kg	649	691
	4kg	306	347

(?)When the overhang equals 0, use externally mounted linear guides to support the load mass.

■**Allowable Static Moment**

• Moment Diagram



N·m

MY	MP	MR
131	131	115

Note

Power interruption circuit is not provided in this controller in order to provide maximum flexibility for customer specific safety scheme. Please be sure to provide an external power interruption circuit and form an emergency stop circuit. For Circuit examples, see P.503

■**Max. Velocity (mm/sec)** (?)Please confirm the details of the Max. Speeds based on various strokes with MISUMI Web Simulator.

Type	Lead (mm)	Stroke (mm) 150~700	750	800	850	900	950	1000	1050
RSH4	05	300	240	195	150	135			
	10	600	480	390	300	270			
	20	800~1200	960	780	600	540			
	30	800~1800	1440	1170	900	810			

(?)For stroke ranges 650mm or more, ball screws may resonate in certain operation areas (critical speed). In that case, reduce the operation speed by referring to the Max. Velocity shown in the table above.

Alterations

Part Number	Controller Type	I/O Type	Noise Filter Presence	Cable Length	Stroke	(G, E···etc.)
RSH420B	C22A	N	F1	3	200	G-E

<Price Example> The prices are for the part numbers on the left.
(Actuator) + (Controller) + (Cable) + (Noise Filter) + (Grease Type Alteration) + (Change of Home Position) = Total Price

Alterations	Grease Type Alteration	Change of Home Position	Handset Terminal Standard Specification	Handset Terminal w/ Deadman's Switch	Support Software w/ USB Communication Cable	Support Software w/ D-Sub Communication Cable	I/O Cable	Cable for daisy-chain connection	Instruction Manual
					 Communication Specifications: RS232C	 Communication Specifications: RS232C		 Length: 300mm	MJ5: Body KJ3:Controller (C1)
Code	G	E	H	D	S	R	T	C	MJ5/KJ3
Spec.	Grease is changed to low particle generation grease. (NSK LG2)	The home position is relocated to the opposite side of the motor.	Handset Terminal is included. Specifications P.503, 507	Handset Terminal w/ Deadman's Switch is included. Specifications P.503, 507	Support Software w / USB Communication Cable is included. Specifications P.503, 507	Support Software w/ D-Sub Communication Cable is included. Specifications P.507	I/O Cable is included. Required for NPN/PNP configurations. Specifications P.507	A cable to connect multiple controllers. It can connect maximum 16 controllers. Specifications P.507	Operation Manual is included. For Actuator MJ5: For Controller KJ3:

(?)For optional items, see P.507 (?)It is more economical to order the optional items as alterations than purchasing them individually.
(?)Entering point data requires the handy terminal or the support software. (?)An I/O Cable is required for Parallel Communication I/O Control. (?)For details on daisy-chain, see P.505

Single Axis Robots RSH5 - Straight -

RS
SINGLE AXIS ROBOT

See notes on CE Marking. P.456



Controller Specifications P.497~506

RoHS

■**Components:** Actuator, Controller, Cable, (Battery), (Noise Filter)

■**Accessory**

A Accessory	Controller I/O Specifications		
	NPN, PNP	CC-Link	DeviceNet
	Instruction Manual (CD-ROM), Power Connector, EXT Connector, Dummy Connector		
	-	CC-Link Connector	DeviceNet Connector

■**Robot Material / Surface Treatment**

Components	Base Frame	Guide Rail	Slider	Side Cover
M Material	Aluminum	Steel	Aluminum	Aluminum
S Surface Treatment	Anodize	-	Anodize	Anodize

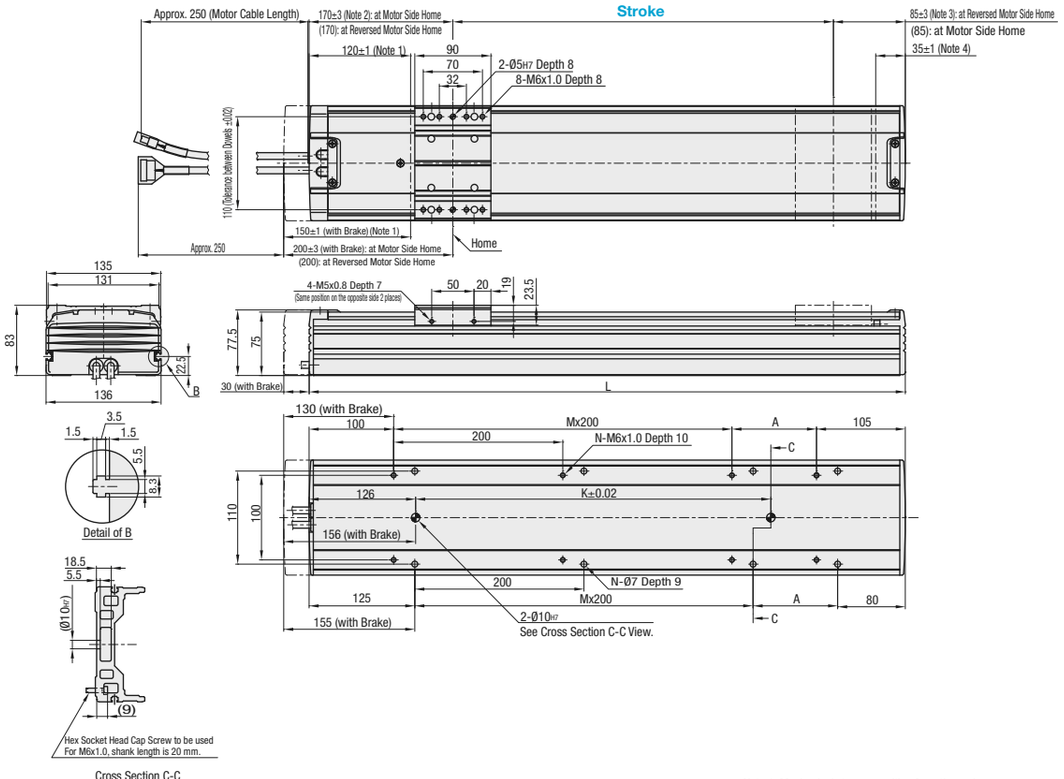
■**General Specifications**

Ball Screw	Motor	Position Detector	Operating Ambient Temperature, Humidity
Ø15 (C7 Rolled)	AC Servo 100W	Resolver	0~40°C, 35~85%RH (No Condensation)

■**Standard Specifications** FAQ P.504

Type	Lead (mm)	Positioning Repeatability (mm)	Max Load Capacity (kg) Horizontal	Max Load Capacity (kg) Vertical	Rated Force (N)	Max. Velocity (Note) (mm/sec)	Stroke (mm)	Rated Running Life	Input Power Supply	Maximum Positioning Point
RSH5	05	±0.01	80	20	339	~300	150~1050 (50 Pitch)	10,000km or More	Single-phase AC 100~115V 200~230V ±10%	255 points
	10		55	10	169	~600				
	20		30	4	84	~1200				
	30		15	-	56	~1800				

(Note) The maximum velocities may vary depending on the load capacity. Please refer to the "Recommended Maximum Velocities" table.



Note 1. Mechanical stopper position from the ends.
Note 2. For Large Lead Type (Lead 30), 172.5±4.
Note 3. For Large Lead Type (Lead 30), 85±4.
Note 4. For Large Lead Type (Lead 30), 32.5±1.
Note 5. The minimum bending radius of the motor cable is 50mm.

■**Dimensions / Mass**

Type	Dimensions / Mass	Stroke (mm) 150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050
RSH5	L (mm)	405	455	505	555	605	655	705	755	805	855	905	955	1005	1055	1105	1155	1205	1255	1305
	A (mm)	200	50	100	150	200	50	100	150	200	50	100	150	200	50	100	150	200	50	100
	M (mm)	0	1	1	1	1	2	2	2	2	3	3	3	3	4	4	4	4	5	5
	N (mm)	4	6	6	6	6	8	8	8	8	10	10	10	10	12	12	12	12	14	14
	K (mm)	240	240	240	240	420	420	420	420	600	600	600	600	780	780	780	780	960	960	960
	Mass (kg)	6.2	6.9	7.5	8.2	8.8	9.5	10.1	10.8	11.4	12.1	12.6	13.4	13.9	14.6	15.2	15.9	16.5	17.2	17.8

The brake adds 0.7kg to the mass.

Part Number Type	Part Number Lead (mm)	Part Number With or w/o Brake (1)	Selection Controller	I/O Module	W/ or w/o Nose Filter (3)	Cable Length (m)	Stroke (mm)	Regenerative unit
RSH5	05	None: Leave blank	Specifications / Power Supply: Absolute Encoders (w/ Data Storage Battery) / Incremental Type Specifications	NPN: N	None: F0	Standard: 3.5m: 3, 5m: 5, 10m: 10	150~1050 (50mm Increment)	RGT (2) Always select this option when using 700mm or more strokes in vertical applications.
	10	Included: B	AC100~115V	PNP: P	Included: F1	Flexible: 3.5m: R3, 5m: R5, 10m: R10		
	20		AC200~230V: C22A / C22B	CC-Link: C	Specifications P.508			
	30			DeviceNet: D				

(1) Choose the "Brake" option for use in vertical applications. (W/ brake type is not available for Lead 30)
(2) Controllers are shipped with preset parameters for each type. Data storage batteries are outside the scope of RoHS Directive.
(3) A noise filter is required for this product. When the customer is purchasing the noise filter separately, please select "none". Be sure to install a surge absorber on the primary side of a noise filter. For details, please see the Instruction Manual.

Ordering Example

Part Number	Controller	I/O Module	W/ or w/o Nose Filter	Cable Length	Stroke
RSH520B	C22A	N	F1	3	200

(2) To order actuators with regenerative unit, specify -RGT after Stroke.

■**Robot Body Price**

Part Number	Unit Price 1 ~ 5 pc(s). Stroke (mm) 150	200/250	300/350	400/450	500/550	600/650	700/750	800/850	900/950	1000/1050
RSH5□□										
RSH5□□B										

■**Controller Price**

I/O \ Type	Unit Price 1 ~ 5 pc(s). /C22A Absolute Encoders (w/ Data Storage Battery)	/C22B Incremental Type
N		
P		
C		
D		

■**Cable Price**

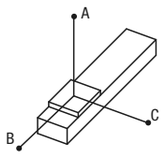
Cable (Standard)	Unit Price 1 ~ 5 pc(s).	Cable (Flexible)	Unit Price 1 ~ 5 pc(s).
3		R3	
5		R5	
10		R10	

■**Noise Filter Price**

W/ or w/o Nose Filter	Unit Price 1 ~ 5 pc(s).
None: F0	
Included: F1	

■**Allowable Overhang Load**

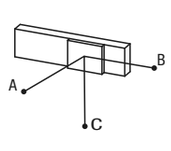
・Horizontal Use



mm

Lead	Mass	A	B	C
05	50kg	1575	158	222
	60kg	1493	135	194
	80kg	1466	107	159
10	15kg	1132	353	361
	40kg	872	183	218
	55kg	946	140	184
20	5kg	2153	1366	980
	15kg	1193	465	430
	30kg	1266	245	294
30	5kg	1756	1364	863
	15kg	1236	467	438

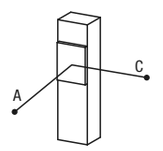
・Wall Mounted Use



mm

Lead	Mass	A	B	C
05	30kg	246	107	1095
	40kg	167	64	798
	60kg	88	20	508
10	10kg	312	189	690
	20kg	140	57	402
	30kg	92	0	345
20	5kg	1066	974	1578
	10kg	402	276	775
	30kg	219	105	678
30	5kg	951	969	1286
	15kg	408	277	803

・Vertical Use



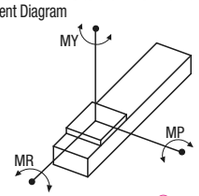
mm

Lead	Mass	A	C
05	10kg	587	456
	15kg	383	297
	20kg	281	218
10	4kg	1232	956
	8kg	634	492
	10kg	499	387
20	1kg	600	600
	2kg	1200	1200
	4kg	1154	895

When the overhang equals 0, use externally mounted linear guides to support the load mass.

■**Allowable Static Moment**

・Moment Diagram



N·m

MY	MP	MR
232	233	204

Note

Power interruption circuit is not provided in this controller in order to provide maximum flexibility for customer specific safety scheme. Please be sure to provide an external power interruption circuit and form an emergency stop circuit. For Circuit examples, see P.503

■**Max. Velocity (mm/sec)**

Please confirm the details of the Max. Speeds based on various strokes with MISUMI Web Simulator.

Type	Lead (mm)	Stroke (mm) 150~700	750	800	850	900	950	1000	1050
RSH5	05	300	240	195	150	135			
	10	600	480	390	300	270			
	20	1000~1200	960	780	600	540			
	30	900~1800	1440	1170	900	810			

For stroke ranges 650mm or more, ball screws may resonate in certain operation areas (critical speed). In that case, reduce the operation speed by referring to the Max. Velocity shown in the table above.

<Price Example> The prices are for the part numbers on the left.
(Actuator) + (Controller) + (Cable) + (Noise Filter) + (Grease Type Alteration) + (Change of Home Position) = Total Price

Alterations

Part Number	Controller Type	I/O Type	Noise Filter Presence	Cable Length	Stroke	(G, E···etc.)
RSH520B	C22A	N	F1	3	200	G-E

Alterations	Grease Type Alteration	Change of Home Position	Handset Terminal Standard Specification	Handset Terminal w/ Deadman's Switch	Support Software w/ USB Communication Cable	Support Software D-Sub/With Communication Cable	I/O Cable	Cable for daisy-chain connection	Instruction Manual
					 Communication Specifications: RS232C	 Communication Specifications: RS232C		 Length: 300mm	MJ5: Body KJ3: Controller (C21/C22)
Code	G	E	H	D	S	R	T	C	MJ5/KJ3
Spec.	Grease is changed to low particle generation grease. (NSK LG2)	The home position is relocated to the opposite side of the motor.	Handset Terminal is included. Specifications P.503, 507	Handset Terminal w/ Deadman's Switch is included. Specifications P.503, 507	Support Software w / USB Communication Cable is included. Specifications P.503, 507	Support Software w/ D-Sub Communication Cable is included. Specifications P.507	I/O Cable is included. Required for NPN/PNP configurations. Specifications P.507	A cable to connect multiple controllers. It can connect maximum 16 controllers. Specifications P.507	Operation Manual is included. For Actuator MJ5: For Controller KJ3:

For optional items, see P.507 It is more economical to order the optional items as alterations than purchasing them individually.
Entering point data requires the handy terminal or the support software. An I/O Cable is required for Parallel Communication I/O Control.
For details on daisy-chain, see P.505

Single Axis Robots RSF4 - Straight Width Space-saving type

RS
SINGLE AXIS ROBOT

See notes on CE Marking. P.456



Controller Specifications P.497~506

RoHS

■ **Components:** Actuator, Controller, Cable, (Battery), (Noise Filter)

■ **Accessory**

Accessory	Controller I/O Specifications		
	NPN, PNP	CC-Link	DeviceNet
	Instruction Manual (CD-ROM), Power Connector, EXT Connector, Dummy Connector		
	-	CC-Link Connector	DeviceNet Connector

■ **Robot Material / Surface Treatment**

Components	Base Frame	Guide Rail	Slider	Side Cover
M Material	Aluminum	Steel	Aluminum	Aluminum
S Surface Treatment	Anodize	-	Anodize	Anodize

■ **General Specifications**

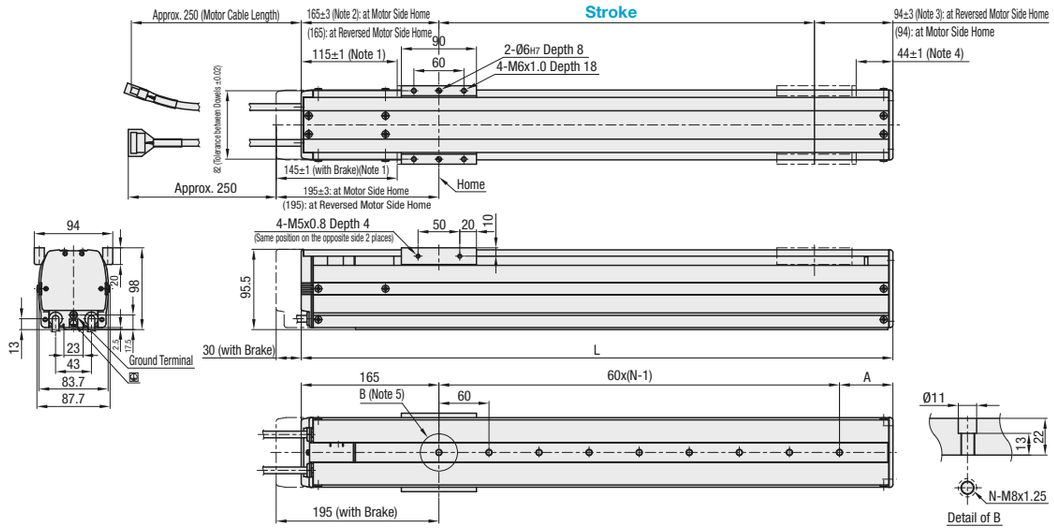
Ball Screw	Motor	Position Detector	Operating Ambient Temperature, Humidity
Ø15 (C7 Rolled)	AC Servo 100W	Resolver	0~40°C, 35~85%RH (No Condensation)

■ Standard Specifications

FAQ P.504

Type	Lead (mm)	Repeatability (mm)	Max Load Capacity (kg) Horizontal	Max Load Capacity (kg) Vertical	Rated Force (N)	Max. Velocity (Note) (mm/sec)	Stroke (mm)	Rated Running Life	Controller Input Power Supply	Maximum Positioning Point
RSF4	05	±0.01	80	20	339	~ 300	150~1050 (50 Pitch)	10,000km or More	Single-phase AC 100~115V 200~230V ±10%	255 points
	10		55	10	169	~ 600				
	20		30	4	84	~1200				
	30		15	-	56	~1800				

(Note) Maximum velocities allowed may vary depending on the stroke length selected. Please refer to the "Recommended Maximum Velocities" table.



Note 1. Mechanical stopper position from the ends.
Note 2. For Large Lead Type (Lead 30), 167.5±4.
Note 3. For Large Lead Type (Lead 30), 94±4.
Note 4. For Large Lead Type (Lead 30), 41.5±1.
Note 5. When mounting, washers cannot be used in Ø11 counter bored holes.
Note 6. The minimum bending radius of the motor cable is 50mm.

■ Dimensions / Mass

Type	Dimensions / Mass	Stroke (mm) 150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050
RSF4	L (mm)	409	459	509	559	609	659	709	759	809	859	909	959	1009	1059	1109	1159	1209	1259	1309
	A (mm)	64	54	44	94	84	74	64	54	44	94	84	74	64	54	44	94	84	74	64
	N (mm)	4	5	6	6	7	8	9	10	11	11	12	13	14	15	16	16	17	18	19
	Mass (kg)	5.5	5.9	6.2	6.6	6.9	7.3	7.6	8.0	8.3	8.7	9.0	9.4	9.7	10.0	10.3	10.7	11.0	11.4	11.7

The brake adds 0.5kg to the masses.

Part Number: Type	Part Number: Lead (mm)	Part Number: With or w/o Brake (1)	Selection: Controller (Power Supply \ Specifications)	Absolute Encoders (w/ Data Storage Battery)	Incremental Type Specifications	I/O Module	W/ Nose Filter (3)	Cable Length (m) Standard	Cable Length (m) Flexible	Stroke (mm)	Regenerative unit
RSF4	05	None: Leave blank	AC100~115V			NPN: N	None: F0	3.5m: 3	3.5m: R3	150~1050 (50mm Increment)	RGT
	10	Included: B	AC200~230V	C22A	C22B	PNP: P	Included: F1	5m: 5	5m: R5		Always select this option when using 700mm or more strokes in vertical applications.
	20					CC-Link: C	Specifications P.508	10m: 10	10m: R10		
	30					DeviceNet: D					

(1) Choose the "Brake" option for use in vertical applications. (W/ brake type is not available for Lead 30) (2) Controllers are shipped with preset parameters for each type. Data storage batteries are outside the scope of RoHS Directive. (3) A noise filter is required for this product. When the customer is purchasing the noise filter separately, please select "none". Be sure to install a surge absorber on the primary side of a noise filter. For details, please see the Instruction Manual.

Ordering Example

Part Number	Controller	I/O Module	W/ or w/o Nose Filter	Cable	Stroke
RSF420B	C22A	N	F1	3	200

To order actuators with regenerative unit, specify -RGT after Stroke.

■ Robot Body Price

Part Number	Unit Price 1 ~ 5 pc(s). Stroke (mm) 150	200/250	300/350	400/450	500/550	600/650	700/750	800/850	900/950	1000/1050
RSF4□□										
RSF4□□B										

■ Controller Price

I/O \ Type	Unit Price 1 ~ 5 pc(s). /C22A Absolute Encoders (w/ Data Storage Battery)	/C22B Incremental Type
N		
P		
C		
D		

■ Cable Price

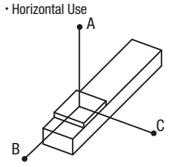
Cable (Standard)	Unit Price 1 ~ 5 pc(s).	Cable (Flexible)	Unit Price 1 ~ 5 pc(s).
3			
5			
10			

■ Noise Filter Price

W/ or w/o Nose Filter	Unit Price 1 ~ 5 pc(s).
None: F0	
Included: F1	

■ Allowable Overhang Load

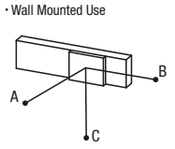
・Horizontal Use



mm

Lead	Mass	A	B	C
05	50kg	722	42	47
	60kg	657	33	37
	80kg	577	23	25
10	20kg	617	119	127
	40kg	422	53	59
	55kg	420	36	40
20	5kg	1292	505	462
	15kg	572	158	151
	30kg	455	73	75
30	5kg	864	501	383
	15kg	491	156	140

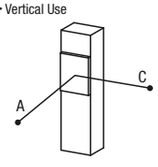
・Wall Mounted Use



mm

Lead	Mass	A	B	C
05	10kg	197	133	2360
	20kg	54	0	985
	30kg	0	0	427
10	10kg	193	132	910
	20kg	53	0	400
	30kg	0	0	109
20	5kg	416	388	1186
	10kg	92	42	386
	30kg	0	0	61
30	5kg	349	384	776
	15kg	87	40	306

・Vertical Use



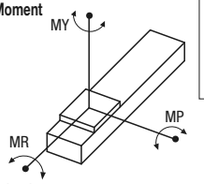
mm

Lead	Mass	A	C
05	10kg	221	221
	15kg	135	135
	20kg	92	92
10	4kg	594	594
	8kg	280	280
	10kg	217	217
20	1kg	600	600
	2kg	1098	1098
	4kg	545	545

When the overhang equals 0, use externally mounted linear guides to support the load mass.

■ Allowable Static Moment

・Moment Diagram



N・m

MY	MP	MR
86	133	117

Note

Power interruption circuit is not provided in this controller in order to provide maximum flexibility for customer specific safety scheme. Please be sure to provide an external power interruption circuit and form an emergency stop circuit. For Circuit examples, see P.503

■ Max. Velocity (mm/sec)

Please confirm the details of the Max. Speeds based on various strokes with MISUMI Web Simulator.

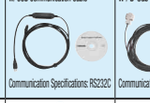
Type	Lead (mm)	Stroke (mm) 150~700	750	800	850	900	950	1000	1050
RSF4	05	300	240		195		150		135
	10	600	480		390		300		270
	20	1100~1200	960		780		600		540
	30	800~1800	1440		1170		900		810

For stroke ranges 650mm or more, ball screws may resonate in certain operation areas (critical speed). In that case, reduce the operation speed by referring to the Max. Velocity shown in the table above.

Alterations

Part Number	Controller Type	I/O Type	Noise Filter Presence	Cable Length	Stroke	(G, E…etc.)
RSF420B	C22A	N	F1	3	200	G-E

<Price Example> The prices are for the part numbers on the left.
(Actuator) + (Controller) + (Cable) + (Noise Filter) + (Grease Type Alteration) + (Change of Home Position) = Total Price

Alterations	Grease Type Alteration	Change of Home Position	Handset Terminal Standard Specification	Handset Terminal w/ Deadman's Switch	Support Software w/ USB Communication Cable	Support Software W / D-Sub Communication Cable	I/O Cable	Cable for daisy-chain connection	Instruction Manual
					 Communication Specifications: RS232C	 Communication Specifications: RS232C		 Length: 300mm	MJ5: Body KJ3: Controller (C21/C22)
Code	G	E	H	D	S	R	T	C	MJ5/KJ3
Spec.	Grease is changed to low particle generation grease. (NSK LG2)	The home position is relocated to the opposite side of the motor.	Handset Terminal is included. Specifications P.503, 507	Handset Terminal w/ Deadman's Switch is included. Specifications P.503, 507	Support Software w / USB Communication Cable is included. Specifications P.503, 507	Support Software w/ D-Sub Communication Cable is included. Specifications P.507	I/O Cable is included. Required for NPN/PNP configurations. Specifications P.507	A cable to connect multiple controllers. Up to 16 controllers max. can be connected. Specifications P.507	Operation Manual is included. For Actuator MJ5: For Controller KJ3:

For optional items, see P.507 It is more economical to order the optional items as alterations than purchasing them individually.
Entering point data requires the handy terminal or the support software. An I/O Cable is required for Parallel Communication I/O Control.
For details on daisy-chain, see P.505

Single Axis Robots RSB1 - Belt Type -

RS
SINGLE AXIS ROBOT

See notes on CE Marking. P.456



Controller Specifications P.497~506

RoHS

■ **Components:** Actuator, Controller, Cable, (Battery), (Noise Filter)

■ **Accessory**

Accessory	Controller I/O Specifications		
	NPN, PNP	CC-Link	DeviceNet
	-	CC-Link Connector	DeviceNet Connector
	Instruction Manual (CD-ROM), Power Connector, Dummy Connector		

■ **Robot Material / Surface Treatment**

Components	Guide Rail	Slider	Cover
M Material	Steel	Aluminum	Aluminum
S Surface Treatment	-	Anodize	Anodize

■ **General Specifications**

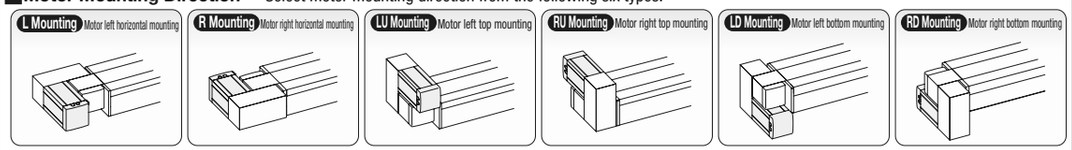
Drive	Motor	Position Detection	Operating Ambient Temperature, Humidity
Belt	AC Servo 100W	Resolver	0~40°C, 35~85%RH (No Condensation)

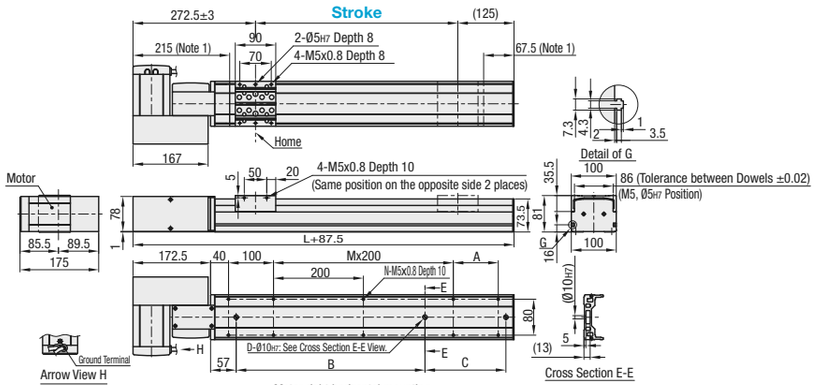
■ **Standard Specifications** FAQ P.504

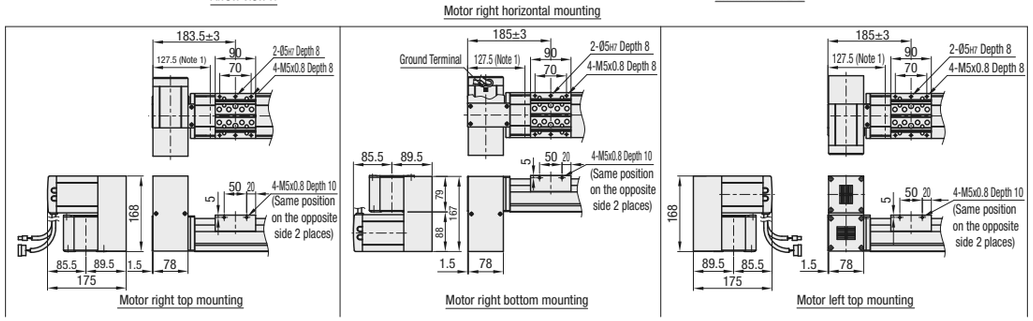
Type	Belt (mm)	Positioning Repeatability (mm)	Max Load Capacity (kg) (Horizontal only)	Stroke (mm)	Rated Running Life (Note)	Input Power Supply	Maximum Positioning Point
RSB1	Lead 25 Equiv.	±0.04	10	150~2550 (50 Pitch)	10,000km	AC100V~115V AC200~230V ±10%	255 points

(Note) Reference running life value with the max. overhang load on the guides.

■ **Motor Mounting Direction** Select motor mounting direction from the following six types:







Note 1. Mechanical stopper position from the ends.

■ Dimensions / Mass

TYPE	Dimensions / Mass	Stroke (mm)																								
		150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100	1150	1200	1250	1300	1350
RSB1	L (mm)	460	510	560	610	660	710	760	810	860	910	960	1010	1060	1110	1160	1210	1260	1310	1360	1410	1460	1510	1560	1610	1660
	A (mm)	200	50	100	150	200	50	100	150	200	50	100	150	200	50	100	150	200	50	100	150	200	50	100	150	200
	B (mm)	240			420			600				780				960					1140				1320	
	C (mm)	-										2														
	D (mm)																									
	M (mm)	-	1				2				3				4				5				6			
	N (mm)	6	8				10				12				14				16				18			
	Mass (kg)	7.4	7.8	8.2	8.6	9	9.4	9.8	10.1	10.5	10.9	11.3	11.7	12.1	12.5	12.9	13.3	13.7	14.1	14.5	14.9	15.3	15.7	16.1	16.5	16.9
		1400	1450	1500	1550	1600	1650	1700	1750	1800	1850	1900	1950	2000	2050	2100	2150	2200	2250	2300	2350	2400	2450	2500	2550	
	L (mm)	1710	1760	1810	1860	1910	1960	2010	2060	2110	2160	2210	2260	2310	2360	2410	2460	2510	2560	2610	2660	2710	2760	2810	2860	
	A (mm)	50	100	150	200	50	100	150	200	50	100	150	200	50	100	150	200	50	100	150	200	50	100	150	200	
	B (mm)	1320																								
	C (mm)	-	240			420			600			780				960				1140				1320		
	D (mm)	2	3																							
	M (mm)	7			8			9			10			11			12									
	N (mm)	20			22			24			26			28			30									
	Mass (kg)	17.3	17.7	18	18.4	18.8	19.2	19.6	20	20.4	20.8	21.2	21.6	22	22.4	22.8	23.2	23.6	24	24.4	24.8	25.2	25.6	25.9	26.3	

Part Number		Selection					
Type	Motor Mounting Direction	Controller (1)	I/O Module	W/ or w/o Nose Filter (2)	Cable		Stroke (mm)
RSB1	Motor left horizontal: L Motor right horizontal: R Motor left top: LU Motor right top: RU Motor left bottom: LD Motor right bottom: RD	Specifications / Power Supply: Absolute Encoders (w/ Data Storage Battery) / Incremental Type AC100V~: / / AC200~230V: C22A / C22B	NPN: N PNP: P CC-Link: C DeviceNet: D	None: F0 Included: F1 Specifications P.508	Standard: 3.5m: 3; 5m: 5; 10m: 10 Flexible: 3.5m: R3; 5m: R5; 10m: R10		150~2550 (50mm Increment)

(1) Controllers are shipped with preset parameters for each type. Data storage batteries are outside the scope of RoHS Directive. (2) A noise filter is required for this product. When the customer is purchasing the noise filter separately, please select "none". Be sure to install a surge absorber on the primary side of a noise filter. For details, please see the Instruction Manual.

Ordering Example

Part Number	Motor Mounting Direction	Controller Type	I/O Type	Noise Filter	Cable Length	Stroke
RSB1	L		N	F1	5	2550

■ **Robot Body Price**

Part Number	Unit Price 1 ~ 5 pc(s). Stroke (mm)													
RSB1	150	200/250	300/350	400/450	500/550	600/650	700/750	800/850	900/950	1000/1050	1100/1150	1200/1250	1300/1350	
	1400/1450	1500/1550	1600/1650	1700/1750	1800/1850	1900/1950	2000/2050	2100/2150	2200/2250	2300/2350	2400/2450	2500/2550	-	
													-	

■ **Controller Price**

I/O \ Type	Unit Price 1 ~ 5 pc(s). /C22A Absolute Encoders (w/ Data Storage Battery)	/C22B Incremental Type Specifications
N		
P		
C		
D		

■ **Cable Price**

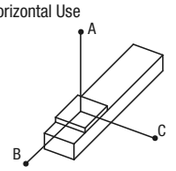
Cable (Standard)	Unit Price 1 ~ 5 pc(s).	Cable (Flexible)	Unit Price 1 ~ 5 pc(s).
3		R3	
5		R5	
10		R10	

■ **Noise Filter Price**

W/ or w/o Nose Filter	Unit Price 1 ~ 5 pc(s).
None: F0	
Included: F1	

■ **Allowable Overhang Load**

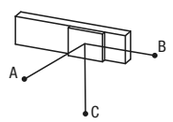
・Horizontal Use



mm

	A	B	C
3kg	1800	1392	1084
5kg	1574	826	696
8kg	1221	509	474
10kg	1171	403	407

・Wall Mounted Use

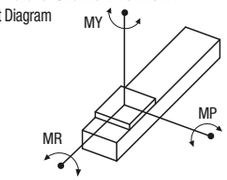


mm

	A	B	C
3kg	1144	1005	1734
5kg	724	576	1199
8kg	493	333	918
10kg	414	254	869

■ **Allowable Static Moment**

・Moment Diagram



(Unit: N · m)

MY	MP	MR
188	188	165

Note

Power interruption circuit is not provided in this controller in order to provide maximum flexibility for customer specific safety scheme. An external main power shutoff circuit to form an emergency stop circuit must be provided. Circuit Examples P.503

■ **Max. Velocity (mm/sec)** Please confirm the details of the Max. Speeds based on various strokes with MISUMI Web Simulator.

Part Number	Stroke (mm)	
	150~350	450~2250
RSB1	~1750	1875

Alterations

Part Number	Motor Mounting Direction	Controller Type	I/O Type	W/ or w/o Nose Filter	Cable Length	Stroke
RSB1	L		N	F1	5	2550

<Price Example> The prices are for the part numbers on the left: JPY399,400.
(Actuator) + (Controller) + (Cable) + (Noise Filter) + (Grease Type Alteration) + (Change of Home Position)

Alterations	Grease Type Alteration	Change of Home Position	Handset Terminal Standard Specification	Handset Terminal w/ Deadman's Switch	Support Software w/ USB Communication Cable	Support Software w/ D-Sub Communication Cable	I/O Cable	Cable for daisy-chain connection	Instruction Manual
					Communication Specifications: RS232C	Communication Specifications: RS232C		Length: 300m	MJ5: Body KJ3:Controller (C21/C22)
Code	G	E	H	D	S	R	T	C	MJ5/KJ3
Spec.	Grease is changed to low particle generation grease. (NSK LG2)	The home position is relocated to the opposite side of the motor.	Handset Terminal is included. Specifications P.503, 507	Handset Terminal w/ Deadman's Switch is included. Specifications P.503, 507	Support Software w / USB Communication Cable is included. Specifications P.503, 507	Support Software w/ D-Sub Communication Cable is included. Specifications P.507	I/O Cable is included. Required for NPN/PNP configurations. Specifications P.507	A cable to connect multiple controllers. It can connect maximum 16 controllers. Specifications P.507	Operation Manual is included. For Actuator MJ5: For Controller KJ3:

For optional items, see P.507 It is more economical to order the optional items as alterations than purchasing them individually.
Entering point data requires the handy terminal or the support software. An I/O Cable is required for Parallel Communication I/O Control.
For details on daisy-chain, see P.505

Single Axis Robots RSB2 - Belt Type -

RS
SINGLE AXIS ROBOT

See notes on CE Marking. P.456



Controller Specifications P.497~506

RoHS

■ **Components:** Actuator, Controller, Cable, (Battery), (Noise Filter)

■ **Accessory**

A Accessory	Controller I/O Specifications		
	NPN, PNP	CC-Link	DeviceNet
	-	CC-Link Connector	DeviceNet Connector
	Instruction Manual (CD-ROM), Power Connector, Dummy Connector		

■ **Robot Material / Surface Treatment**

Components	Guide Rail	Slider	Cover
M Material	Steel	Aluminum	Aluminum
S Surface Treatment	-	Anodize	Anodize

■ **For General Use**

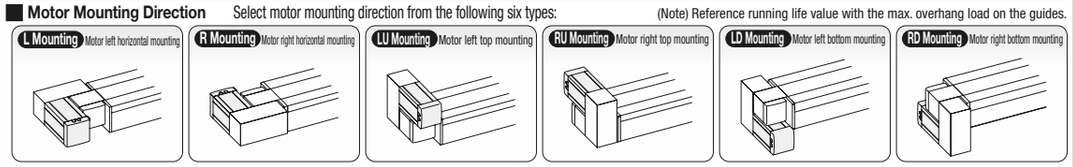
Drive	Motor	Position Detection	Operating Ambient Temperature, Humidity
Belt	AC Servo 100W	Resolver	0~40°C/35~85%RH (No Condensation)

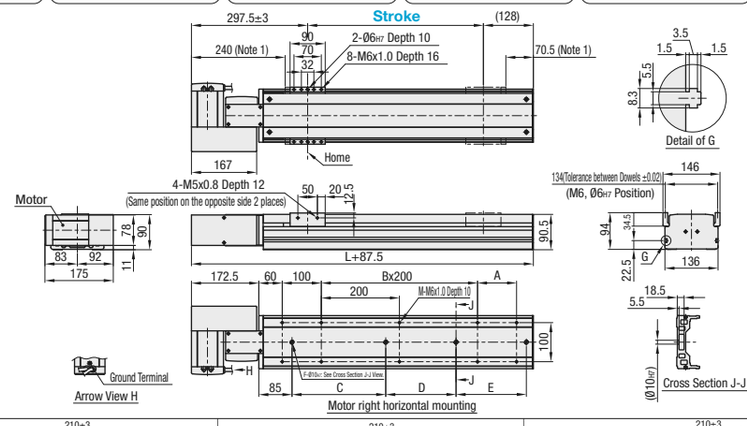
■ **Standard Specifications** FAQ P.504

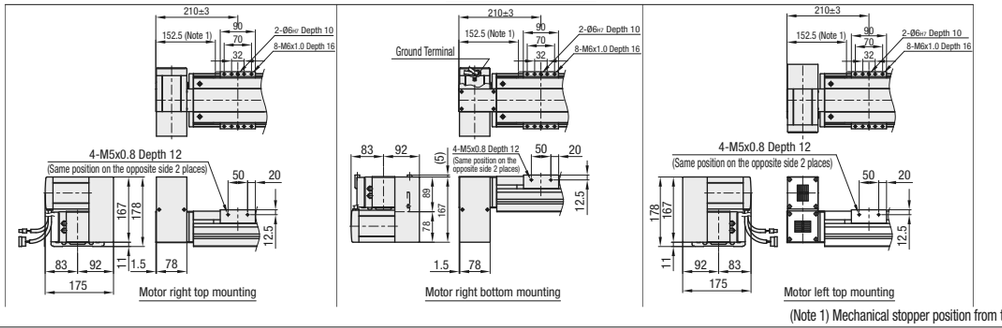
Type	Belt (mm)	Repeatability	Max Load Capacity (kg) (Horizontal only)	Stroke (mm)	Rated Running Life (Note)	Controller Input Power Supply	Maximum Positioning Point
RSB2	Lead 25 Equiv.	±0.04	20	150~3050 (100 Pitch)	10,000km	AC100V~115V AC200~230V ±10%	255 points

■ **Motor Mounting Direction** Select motor mounting direction from the following six types:

(Note) Reference running life value with the max. overhang load on the guides.







(Note 1) Mechanical stopper position from the ends.

■ **Dimensions / Mass**

TYPE	Dimensions / Mass	Stroke (mm)																													
		150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100	1150	1200	1250	1300	1350	1400	1450	1500	1550	1600
RSB2	L (mm)	488	538	588	638	688	738	788	838	888	938	988	1038	1088	1138	1188	1238	1288	1338	1388	1438	1488	1538	1588	1638	1688	1738	1788	1838	1888	1938
	M (mm)	6	8				10				12				14				16				18				20				22
	A (mm)	-	50	100	150	200	50	100	150	200	50	100	150	200	50	100	150	200	50	100	150	200	50	100	150	200	50	100	150	200	50
	B (mm)	1					2				3				4				5				6				7				8
	C (mm)	240			420			600				780				960								1140							
	D (mm)	-																							240				420		600
	E (mm)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	F (mm)	2																									3				
	Mass (kg)	9.6	10.2	10.8	11.4	12	12.5	13.1	13.7	14.3	14.9	15.5	16	16.6	17.2	17.8	18.4	19	19.5	20.2	20.7	21.3	21.9	22.5	23.1	23.7	24.2	24.8	25.4	26	26.6
RSB2		1650	1700	1750	1800	1850	1900	1950	2000	2050	2100	2150	2200	2250	2300	2350	2400	2450	2500	2550	2600	2650	2700	2750	2800	2850	2900	2950	3000	3050	
	L (mm)	1988	2038	2088	2138	2188	2238	2288	2338	2388	2438	2488	2538	2588	2638	2688	2738	2788	2838	2888	2938	2988	3038	3088	3138	3188	3238	3288	3338	3388	
	M (mm)	22				24				26				28				30				32				34				36	
	A (mm)	100	150	200	50	100	150	200	50	100	150	200	50	100	150	200	50	100	150	200	50	100	150	200	50	100	150	200	50	100	
	B (mm)	8			9			10				11				12				13				14				15			
	C (mm)	1140																													
	D (mm)	600			780				960				1140																		
	E (mm)	-															240				420				600				780		
	F (mm)	3																					4								
	Mass (kg)	27.2	27.7	28.3	28.9	29.5	30.1	30.7	31.3	31.9	32.4	33	33.6	34.2	34.8	35.4	35.9	36.5	37.1	37.7	38.3	38.9	39.4	40	40.6	41.2	41.8	42.4	43	43.6	

Part Number		Selection					
Type	Motor Mounting Direction	Controller (1)		I/O Module	W/ or w/o Nose Filter (2)	Cable	Stroke (mm)
RSB2	Motor left horizontal: L Motor right horizontal: R Motor left top: LU Motor right top: RU Motor left bottom: LD Motor right bottom: RD	Specifications / Power Supply	Absolute Encoders (w/ Data Storage Battery) / Incremental Type Specifications	NPN: N PNP: P CC-LINK: C DeviceNet: D	None: F0 Included: F1 Specifications P.508	Standard / Flexible 3.5m: 3 / 3.5m: R3 5m: 5 / 5m: R5 10m: 10 / 10m: R10	150~3050 (100mm Increment)
		AC100V~					
		AC200~230V	C22A / C22B				

(1) Controllers are shipped with preset parameters for each type. Data storage batteries are outside the scope of RoHS Directive. (2) A noise filter is required for this product. When the customer is purchasing the noise filter separately, please select "none". Be sure to install a surge absorber on the primary side of a noise filter. For details, please see the Instruction Manual.

Ordering Example

Part Number	-	Motor Mounting Direction	-	Controller Type	-	I/O Type	-	Noise Filter	-	Cable Length	-	Stroke
RSB2	-	L	-		-	N	-	F1	-	5	-	2550

■ **Robot Body Price**

Part Number	Unit Price 1 ~ 5 pc(s). Stroke (mm)									
RSB2	150	200/250	300/350	400/450	500/550	600/650	700/750	800/850	900/950	1000/1050
	1100/1150	1200/1250	1300/1350	1400/1450	1500/1550	1600/1650	1700/1750	1800/1850	1900/1950	2000/2050
	2100/2150	2200/2250	2300/2350	2400/2450	2500/2550	2600/2650	2700/2750	2800/2850	2900/2950	3000/3050

■ **Controller Price**

I/O \ Type	Unit Price 1 ~ 5 pc(s). /C22A Absolute Encoders (w/ Data Storage Battery)	/C22B Incremental Type
N		
P		
C		
D		

■ **Cable Price**

Cable (Standard)	Unit Price 1 ~ 5 pc(s).	Cable (Flexible)	Unit Price 1 ~ 5 pc(s).
3		R3	
5		R5	
10		R10	

■ **Noise Filter Price**

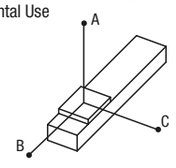
W/ or w/o Nose Filter	Unit Price 1 ~ 5 pc(s).
None: F0	
Included: F1	

Note

Power interruption circuit is not provided in this controller in order to provide maximum flexibility for customer specific safety scheme. An external main power shutoff circuit to form an emergency stop circuit must be provided. For Circuit examples, see P.503

■ **Allowable Overhang Load**

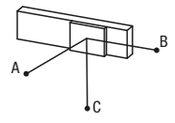
・Horizontal Use



mm

	A	B	C
5kg	2159	1228	943
10kg	1389	623	548
20kg	1102	320	348

・Wall Mounted Use

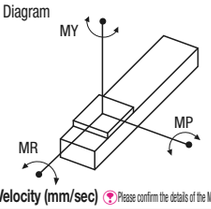


mm

	A	B	C
5kg	1064	816	1468
10kg	564	377	888
20kg	305	156	615

■ **Allowable Static Moment**

・Moment Diagram



N・m

MY	MP	MR
226	227	199

■ **Max. Velocity (mm/sec)** Please confirm the details of the Max. Speeds based on various strokes with MSUM Web Simulator.

Part Number	Stroke (mm)	
	150~350	450~3050
RSB2	~1750	1875

Alterations

Part Number	-	Motor Mounting Direction	-	Controller Type	-	I/O Type	-	Noise Filter	-	Cable Length	-	Stroke
RSB2	-	L	-		-	N	-	F1	-	5	-	2550

<Price Example> The prices are for the part numbers on the left: JPY411,500.
(Actuator) + (Controller) + (Cable) + (Noise Filter) + (Grease Type Alteration) + (Change of Home Position)

Alterations	Grease Type Alteration	Change of Home Position	Handset Terminal Standard Specification	Handset Terminal w/ Deadman's Switch	Support Software w/ USB Communication Cable	Support Software w/ D-Sub Communication Cable	I/O Cable	Cable for daisy-chain connection	Instruction Manual
					Communication Specifications: RS232C	Communication Specifications: RS232C		Length: 300mm	MJ5: Body KJ3:Controller (C21/C22)
Code	G	E	H	D	S	R	T	C	MJ5/KJ3
Spec.	Grease is changed to low particle generation grease. (NSK LG2)	The home position is relocated to the opposite side of the motor.	Handset Terminal is included. Specifications P.503, 507	Handset Terminal w/ Deadman's Switch is included. Specifications P.503, 507	Support Software w / USB Communication Cable is included. Specifications P.503, 507	Support Software w/ D-Sub Communication Cable is included. Specifications P.507	I/O Cable is included. Required for NPN/PNP configurations. Specifications P.507	A cable to connect multiple controllers. It can connect maximum 16 controllers. Specifications P.507	Operation Manual is included. For Actuator MJ5: For Controller KJ3:

For optional items, see P.507 It is more economical to order the optional items as alterations than purchasing them individually.
Entering point data requires the handy terminal or the support software. An I/O Cable is required for Parallel Communication I/O Control.
For details on daisy-chain, see P.505

Single Axis Robot-specific Controllers

Compact, Multiple Functionality and High Performance

RS
SINGLE AXIS ROBOT

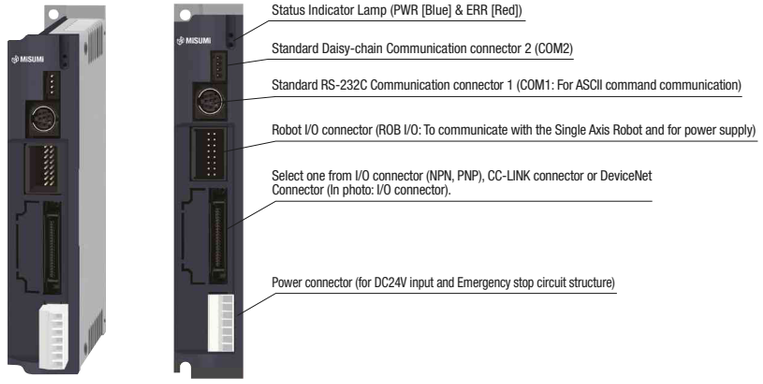
See notes on CE Marking. P.456

EXRS-C1

Dedicated position controller for RS/RSD/RSDG series with Stepping Motors

Newly Equipped as Standard Daisy-chain Function

Irrespective of controller types, up to 16 controllers can be line connected via Daisy Chaining!



Position Controller EXRS-C1

EXRS-P1

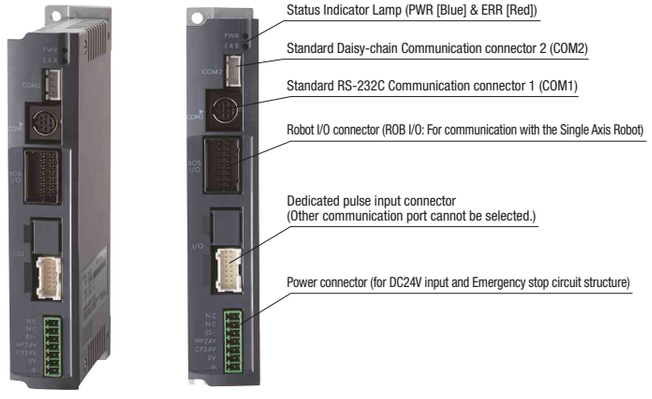
Pulse Input Controller exclusively for RS/RSD/RSDG series with Stepping Motor

NEW
Pulse Input Type

MISUMI's existing Single Axis Robots can be operated using pulse signal input!

Standard Feature
Daisy-chain Function

For details, see P.505.



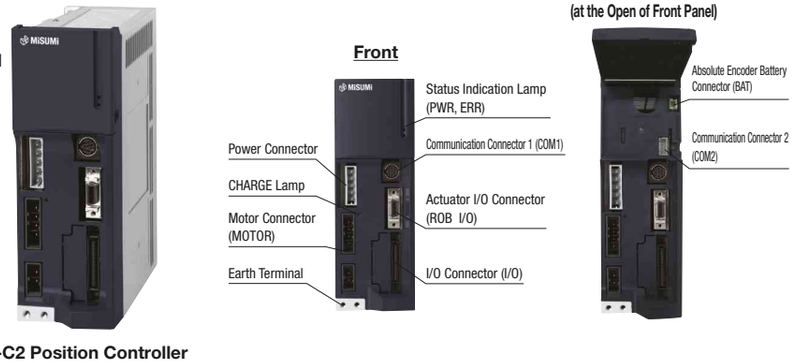
Controller EXRS-P1 for Pulse input

EXRS-C2

Dedicated position controller for RSH/RSF/RSB series with AC Servo Motor

Newly Equipped as Standard Daisy-chain Function

Irrespective of controller types, up to 16 controllers can be line connected via Daisy Chaining!



EXRS-C2 Position Controller

■EXRS-C1/EXRS-P1 Common Basic Information

Number of Controlled Axes	1 Axis (Points: 225 points)
Controllable Robots	RSDG Series with Stepping Motors, RSD Series, RSDG Series, for control of RS Clean Type robot main body [WEB listed].
Max. Power Consumption	70VA~110VA
Input Power Supply	Recommended DC24V±10% (External power source required) external power source: MISUMI part number EST20-24-100
External Dimension / Body Mass	W 30 (Width) mm x H 162 (Height) mm x D 82 (Depth) mm / Approx. 200g
Control Method	Closed Loop Vector Control Method
Position Detection Method	Resolver type rotary/angle sensor (Resolution 20480 pulse/rotation)
Homing Method	Hard Stop Method (No other homing method available)
External Communication Method	COM1 is equipped with RS-232C communication port. COM2 is equipped with Daisy-chain communication port.
Operating Temp. / Humidity	0~40°C / 35~85%RH (No Condensation)
Storage Temp. / Humidity	-10~65°C / 10~85%RH (No Condensation)
Ambience	Indoors without direct sunlight. No corrosive and flammable gases, oil mist and dust.
Vibration Resistance	In each X, Y and Z direction 10 ~ 57Hz Half amplitude 0.075mm 57 ~ 150Hz 9.8m/s^2
Point/Trace Edit/Execute method	RS-Manager : MISUMI part number EXRS-ST1 or EXRS-ST2 Handset terminal : MISUMI part number EXRS-H1 or EXRS-HD1

■EXRS-P1 Specifications

RS-P1 Pulse Command Input	Line Driver: 500kpps or less
	Open-Collector: 100kpps or less (DC5~24V±10%)
Point/Trace Edit/Execute Method	RS-Manager: MISUMI part number EXRS-ST1 or EXRS-ST2
	EXRS-P1 cannot be used in handset terminal.

■EXRS-C2 Basic Information

Number of Controlled Axes	1 Axis (Points: 225 points)
Controllable Robots	AC Servo Motor RSH Series, RSF Series, RSB Series, for control of RSH Clean Type main body [WEB listed]
Internal Power Capacity	400VA
Input Power Supply	Single-phase AC100~115V±10%(50/60Hz): Applicable Part number EXRS-C21A/B Single-phase AC200~220V±10%(50/60Hz): Applicable Part number EXRS-C22A/B (A separate external DC24V power supply is required for Single Axis Robot equipped with breaks.)
External Dimension / Body Mass	W 58 (Width) mm x H 162 (Height) mm x D 131 (Depth) mm / Approx. 900g
Control Method	Closed Loop Vector Control Method
Position Detection Method	Resolver type rotary/angle sensor (Resolution 16384 pulse/rotation)
Homing Method	Hard Stop Method (Sensor method available as special option)
External Communication Method	COM1 is equipped with RS-232C communication port. COM2 is equipped with Daisy-chain communication port. Dedicated port can be selected from I/O parallel communication, CC-LINK or DeviceNet.
Operating Temp. / Humidity	0~40°C / 35~85%RH (No Condensation)
Storage Temp. / Humidity	-10~65°C / 10~85%RH (No Condensation)
Ambience	Indoors without direct sunlight. No corrosive and flammable gases, oil mist and dust.
Vibration Resistance	In each X, Y and Z direction 10 ~ 57Hz Half amplitude 0.075mm 57 ~ 150Hz 9.8m/s^2
Point/Trace Edit/Execute Method	RS-Manager : MISUMI part number EXRS-ST1 or EXRS-ST2 Handset Terminal : MISUMI part number EXRS-H1 or EXRS-HD1

■Robot Model Support Table

EXRS-C1 **EXRS-P1**	**RS1**	**RS2**	**RS3**	**RSD1**	**RSD2**	**RSD3**	**RSDG1**	**RSDG2**	**RSDG3**
	(Supports all models of RS series with Stepping Motor and Motor folded type)								
EXRS-C21A/B **EXRS-C22A/B**	**RSH1**	**RSH2**	**RSH3**	**RSH4**	**RSH5**	**RSF4**	**RSB1**	**RSB2**	
	(100V or 200V controller models are compatible with Single Axis Robots with AC Servo Motors)								

■Cautions

The default settings of the controllers can be changed to make controllers compatible with various Single Axis Robots. Support software is required to change the default settings.
Parameters of CC-LINK such as address change required for field network settings can be changed only through support software or handy terminal.
Robots with AC Servo Motor cannot be controlled using controllers for Stepping Motor (EXRS-C1 and EXRS-P1).
Robots with Stepping Motor cannot be controlled using controllers for AC Servo Motor (all types of EXRS-C2).

Dedicated Single Axis Robot Position Controllers

Compact, Multiple Functionality and High Performance

RS
SINGLE AXIS ROBOT

See notes on CE Marking. P.456

For Stepping Motor



Controller Unit price

Part Number	I/O Module	Unit Price	Volume Discount Rate	
		1 pc.	2 ~ 3 pcs.	4 ~ 5 pcs.
EXRS-C1	NPN:N			
	PNP:P			
	CC-Link:C			
	DeviceNet:D			

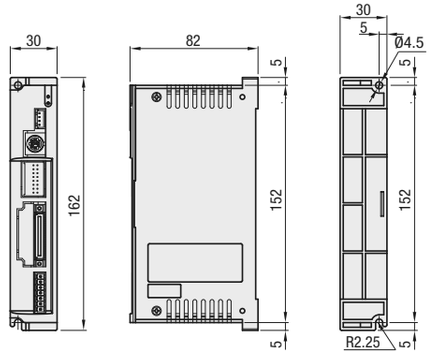
For orders larger than indicated quantity, please request a quotation.

Controlled Actuator

- RS 1/2/3
- RS 1C/2C/3C
- RSD 1/2/3
- RSDG 1/2/3

Ordering Example

Part Number	-	I/O Module
EXRS-C1	-	N



Notes

- External power source DC24V (3A or more) is to be provided by customers.
- I/O cable is not provided. Select as an optional product.
- An external E-Stop circuit is required for service use.
- No need to separately select a controller as controller is included in the purchase of a complete set of Single Axis Robots.
- When purchasing a controller as a single item, the part number of the applicable single axis robot is required.
- The Support Software is required in order to change controller/robot combinations, or address changes due to CC-Link configuration changes.
- No auxiliary power supply available.

For Servo Motor



Controller Unit price

Part Number	I/O Module	Unit Price	Volume Discount Rate	
		1 pc.	2 ~ 3 pcs.	4 ~ 5 pcs.
EXRS- C22A Absolute Encoders (with Data Storage Battery)	NPN:N			
	PNP:P			
	CC-Link:C			
	DeviceNet:D			
EXRS- C22B Incremental Type	NPN:N			
	PNP:P			
	CC-Link:C			
	DeviceNet:D			

For orders larger than indicated quantity, please request a quotation.

Controlled Actuator

- RSH 1/2/3/4/5
- RSH 1C/2C/3C
- RSF4
- RSB 1/2

Ordering Example

Part Number	-	I/O Module
EXRS-C22A	-	N

Notes

- External power source DC24V (3A or more) is to be provided by customers. Required power supplies for brake and I/O communication.
- I/O cable is not provided. Select as an optional product.
- An external E-Stop circuit is required for service use.
- No need to separately select a controller as controller is included in the purchase of a complete set of Single Axis Robots.
- When purchasing a controller as a single item, the part number of the applicable single axis robot is required.
- The Support Software is required in order to change controller/robot combinations, or address changes due to CC-Link configuration changes.
- No auxiliary power supply available.

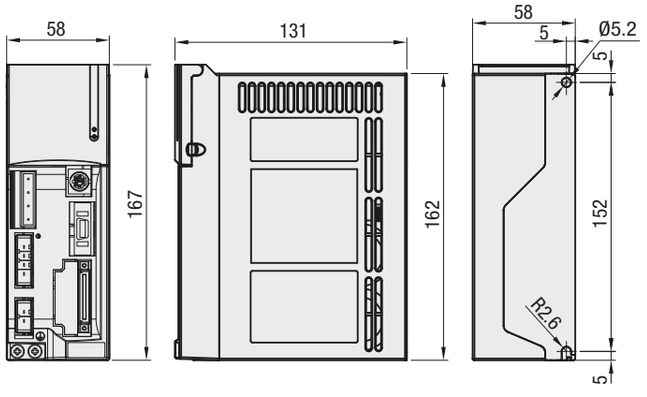


Table of EXT connector signal for EXRS-C21/C22 controller

Connectors attached to controllers. Emergency stop circuit structure and Socket for brake power supply.

Pin No.	Signal Name	Description
1	+V24	Mechanical Brake Power Input
2	0V	(DC power source is to be provided by customers)
3	ES+	Emergency Stop Input Internal Power Supply
4	ES1	Emergency Stop Input 1
5	ES2	Emergency Stop Input 2
6	ES-	Emergency Stop Ready
7	MPRDY1	Main Power Supply Ready Output Contacts
8	MPRDY2	(DC24V power source is to be provided by customers)

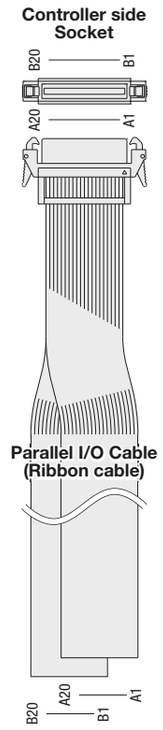
I/O Module

Select from the four types matching to the specifications of PLC.
(Common specifications of EXRS-C1 and EXRS-C2)

Type	Descriptions
NPN (Parallel I/O)	16 Inputs (External DC24V±10%, 4mA drain/1 point/+Common) 16 Outputs (External DC24V±10%, 50mA/1 point, 0.4A max. / 8 points, Sinking)
PNP (Parallel I/O)	16 Inputs (External DC24V±10%, 4mA /-Common) 16 Outputs (External DC24V±10%, 50mA/1 point, 0.4A max. / 8 points, Sourcing)
CC-LINK	CC-Link applicable to Ver1.10, Remote Device Station (1)
DeviceNet	DeviceNet Slave 1 Node (PLC settings file is available on MISUMI's website)

Parallel I/O Control Signal Function Descriptions

Type	Pin No.	Signal Name	Meaning	Description
Input	A1&A2	+COM	I/O Power Supply Input +Common (24V)	· External Power Supply (+) Terminal · DC24±10%
	A3&A4	NC	Not Connected	Not used.
	A5~A12	PIN0~7	Point No. Set (Binary)	· Specify the point No. of the set target position · Specify point No. for current position input (in manual operation mode).
	A13	JOG+	Jog Operation (+)	Inching/Jog moves in + direction (in manual mode)
	A14	JOG-	Jog Operation (-)	Inching/Jog moves in - direction (in manual mode)
	A15	MANUAL	Manual Mode	Switch to Manual Mode
	A16	ORG	Return to Home	Start Homing
	A17	/LOCK	Interlock	External input is allowed. When set to OFF during movement, deceleration is stopped.
	A18	START	Start Operation	Starts positioning operation towards specified point No.
	A19	RESET	Reset	· Reset Alarm · Reset Point No. Output · Clear remaining travel distance in relative positioning operation
	A20	SERVO	Servo ON	Motor ON/OFF
Output	B1~B8	POUT0~7	Output Point No. (Binary)	· Outputs point number to be specified by positioning operation · Outputs alarm No. in the event of alarm occurrence (Enable/Disable setting is available)
	B9	OUT0	Control Output 0	Arbitrarily allocate from the following depending on the "Parameter settings". Zone Output, Individual Zone Output, Manual Mode Status, Completion of Homing, @Hard Stop, Alarm Output, Proximity Output, In Motion
	B10	OUT1	Control Output 1	
	B11	OUT2	Control Output 2	
	B12	OUT3	Control Output 3	
	B13	BUSY	In Operation	ON in operation
	B14	END	Completion of Operation	Sets the Operation result to ON through Output, upon successful completion.
	B15	/ALM	Alarm	ON in normal status, OFF output in the event of alarm status
	B16	SRV-S	Servo Status	Set to ON at the time of power is supplied to the motor.
	B17~B18	NC	Not Connected	Not used.
	B19~B20	-COM	I/O Power Supply Input -Common (0V)	· External power supply (-) terminal · Inputs to External 0V terminal.



Communication Specifications

CC-Link Network Board Specification

Item	CC-Link Network Specification				
Communication Protocol	CC-Link V1.10				
Station	Remote Device Station				
Number of Stations Occupied	1 Station				
Station Number Setting	1~64				
Communication Speed Setting	156Kbps	625Kbps	2.5Mbps	5Mbps	10Mbps
Total Extended Distance	1200m	900m	400m	160m	100m
Monitor LED	RUN, ERR, SD, RD				

DeviceNet Network Board Specification

Item	DeviceNet Network Specification		
Compatible DeviceNet Specification	Volume 1 Release2.0/Volume 2 Release2.0		
Device Type	Generic Device		
MAC ID Setting	0~63		
Communication Speed Setting	125kpbs	250kbps	500kbps
Total Extended Distance	500m	250m	100m
Monitor LED	Module, Network		

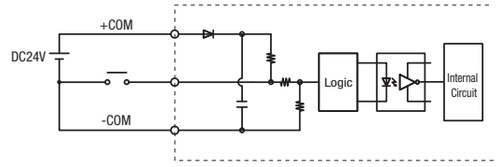
Standard COM1 port communication specifications (RS232C)

Item	Specifications
Transmission Rate	38400bps
Data Bit Length	8 bits
Stop Bit Length	1 bit
Parity	Odd
Flow control	Not provided
Communication Method	Full-duplex Communications

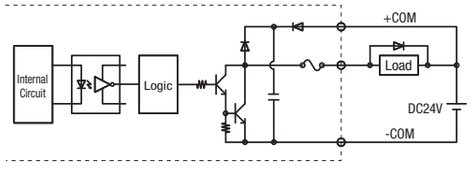
I/O Circuit Diagram

NPN Specifications

Input Area

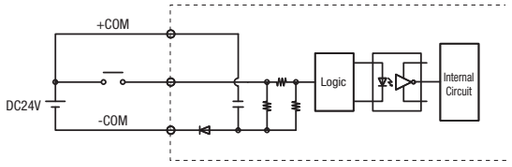


Output Area

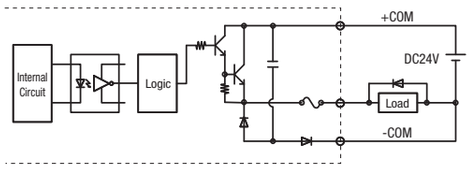


PNP Specifications

Input Area



Output Area



Dedicated Single Axis Robot Pulse Train Input Controller

Compact, Multiple Functionality and High Performance

RS
SINGLE AXIS ROBOT

See notes on CE Marking. P.456

■For Slapping Motor



■Controller Unit price

Part Number	Unit Price	Volume Discount Rate	
	1 pc.	2~3 pcs.	4~5 pcs.
	14,500	14,100	13,900

For orders larger than indicated quantity, please request a quotation.

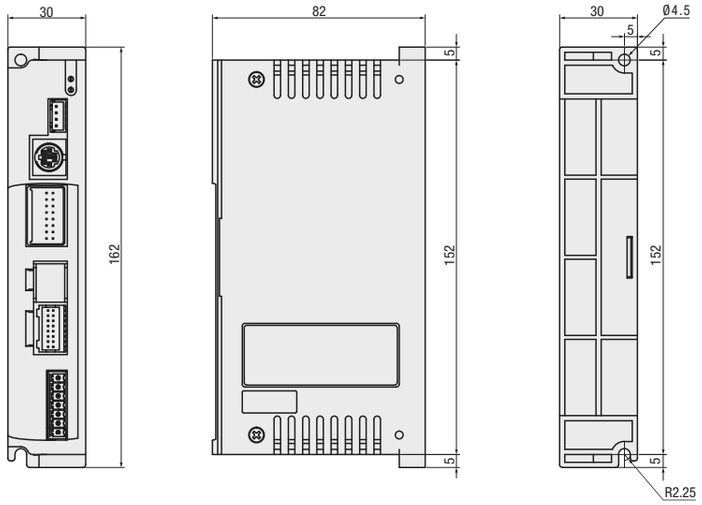
Ordering Example | Part Number

■Controlled Actuator

- RS 1/2/3
- RS 1C/2C/3C
- RSD 1/2/3
- RSDG 1/2/3

Note

- External Power Supply DC24V is to be provided by customers.
- An external E-Stop circuit is required for service use.
- This controller cannot be operated in Handset Terminal (EXRSH1/EXRS-HD).



■Five Features of New Pulse Input Driver

1. Highly Reliable Vector Control Method

Closed loop vector controls of previously well received MISUMI RS Single Axis Robot Position Controllers is adopted. This enables even the pulse control to exhibit excellent control performances, and similar to our Position Controllers, prevents torque losses at high speeds.

2. Feedback through Resolver Type Rotation Angle Sensor

High precision rotation angle sensor information essential to eliminate Stepping Motor stalls is obtained through feedback method same as MISUMI's Position Controller. Highly precise positioning is possible through high resolution resolver (20480 pulse/rotation).

3. Pulse Train Inputs are compatible with Open-collector and Line Driver types

Pulse command input method can be changed with simple change of wiring and parameter settings within the controller, matching the specifications of Upstream controller. The Open-collector method supports wide range of input voltages from DC5V to 24V.

4. Editing/Executing of parameters through RS-Manager possible

Various parameter settings, realtime trace function, and backup file outputs of condition settings, etc. that are needed to easily operate Single Axis Robots can be edited and executed through the support software "RS-Manager" just as can be through the position controller.
Handset terminals "EXRS-H1" and "EXRS-HD1" cannot be used in EXRS-P1.

5. Existing RS Robot Series is can be controlled with pulse train inputs

Existing Single Axis Robots with Stepping Motor, too, can be controlled using Pulse Control Controller. There is no need to purchase new robots. Even in case of Upstream control is pulse output, existing Single Axis Robots can be re-used just by changing the controllers.

■Input Output Signal Table

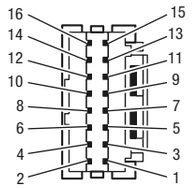
Type	Signal Name	Open Collector	Line Driver	Description
Input	OPC	Power input for Open Collector	(Connection prohibited)	Power input for Open Collector (DC5~24V±10%)
	PULS1	(Connection prohibited)	Command Pulse Input (+)	3 command types can be selected through the parameter changes at pulse command input terminal.
	DIR1	(Connection prohibited)	Direction Command Input (+)	・A phase /B phase Input
	PULS2	Pulse Command Input	Pulse Command Input (-)	・Pulse/Sign Input
	DIR2	Direction Command Input	Direction Command Input (-)	・CW/CCW Input
	ORG	Return to Home		ON signal: Begin Homing. OFF signal: Stop
	RESET	Reset		Alarm Reset
	SREVO	Servo ON		ON signal: Supply motor power. OFF signal: Stop motor power
Output	ORG-S	Completion of Homing		Signal is ON at Homing complete
	IN-POS	Positioning Complete		Outputs ON signal when the accumulated pulse of deviation counter is within the range of specified value.
	/ALM	Alarm		ON signal output in normal status, OFF signal output in the event of alarm status
	SRV-S	Servo Status		ON signal output during motor power is supplied

1. When using with Open collector, do not connect the signal line to PULS1 and DIR1. It may cause erroneous operation and damage to the driver.
2. When using with Line Driver, do not connect the signal line to OPC. It may cause erroneous operation and damage the driver.

■I/O Signal Table

Pin No.	Signal Name	Meaning
1	+COM	I/O Power Supply Input (DC24V±10%)
2	OPC	Power input for Open Collector
3	PULS1	Pulse Command Input 1
4	PULS2	Pulse Command Input 2
5	DIR1	Direction Command Input 1
6	DIR2	Direction Command Input 2
7	ORG	Return to Home
8	NC	Use prohibited
9	RESET	Reset
10	SERVO	Servo ON
11	ORG-S	Completion of Homing
12	IN-POS	Positioning Complete
13	/ALM	Alarm
14	-COM	I/O Power Supply Input (0V)
15	SRV-G	Servo Status
16	FG	Ground

■I/O Connector Pin Arrangement

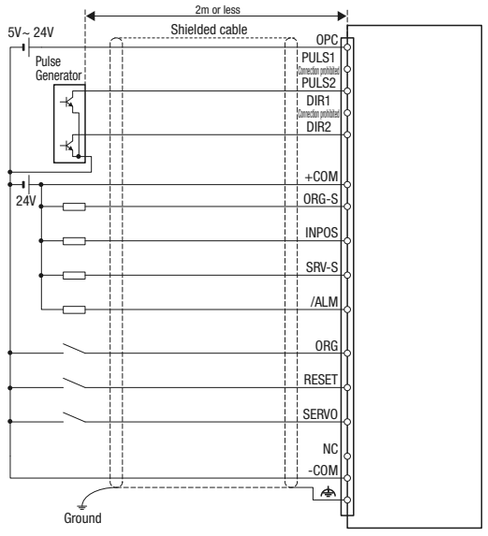


■Other Standard Specifications

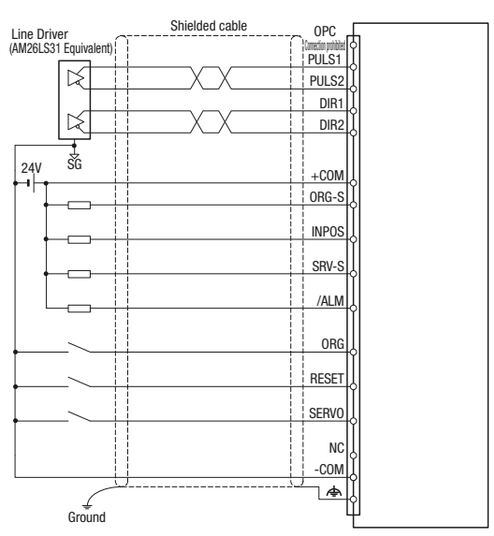
Protection Functions

Position detection error, Abnormal temperature, Overload, Over voltage, Low voltage, Excessive position error, Low control voltage, Over current, Abnormal motor current, CPU error, Motor lead disconnect, Excess command speed, Excess pulse frequency

■I/O Signal Connection Diagram [Open-Collector]



■I/O Signal Connection Diagram [Line Driver]



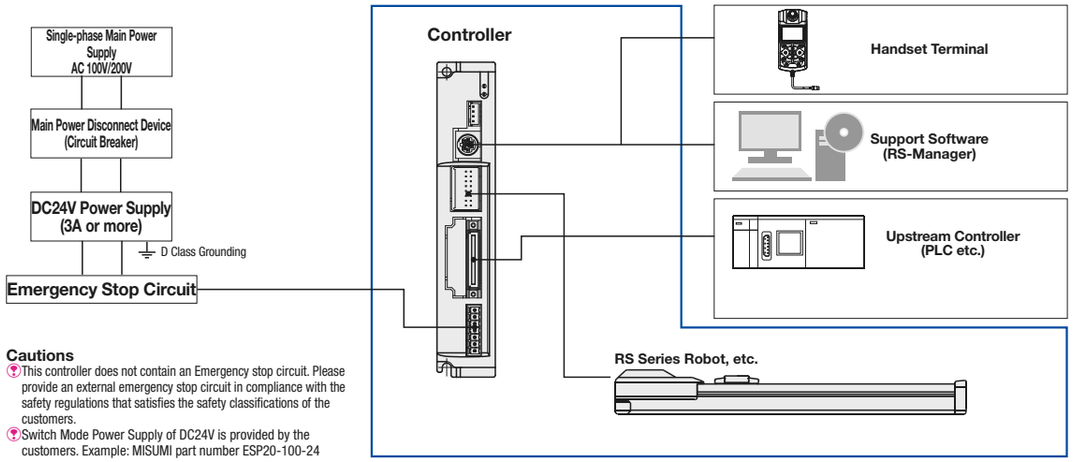
Dedicated Single Axis Robot Controller - Configuration Example / FAQ

Compact, Multiple Functionality and High Performance

RS SINGLE AXIS ROBOT

See notes on CE Marking. P.456

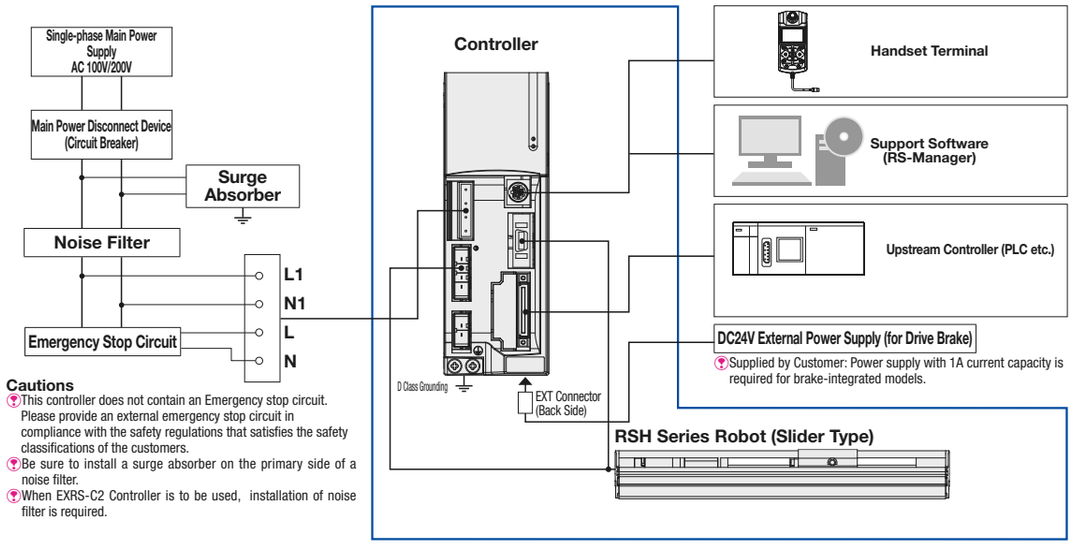
EXRS-C1 Controller System Configuration Example



Cautions

- This controller does not contain an Emergency stop circuit. Please provide an external emergency stop circuit in compliance with the safety regulations that satisfies the safety classifications of the customers.
- Switch Mode Power Supply of DC24V is provided by the customers. Example: MISUMI part number ESP20-100-24

EXRS-C2 Controller System Configuration Example



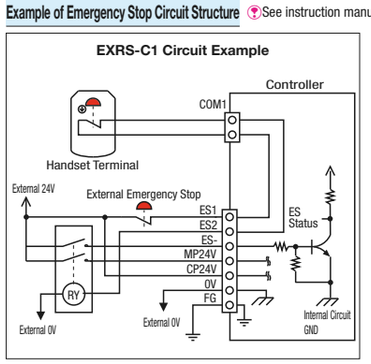
Cautions

- This controller does not contain an Emergency stop circuit. Please provide an external emergency stop circuit in compliance with the safety regulations that satisfies the safety classifications of the customers.
- Be sure to install a surge absorber on the primary side of a noise filter.
- When EXRS-C2 Controller is to be used, installation of noise filter is required.

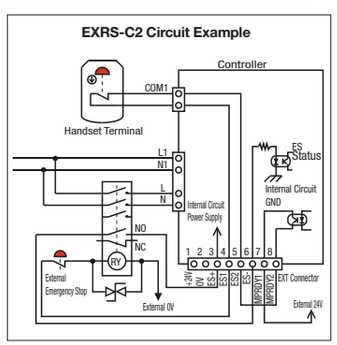
Example of Emergency Stop Circuit Structure

See instruction manual for circuits with Handset Terminal and Deadman switch.

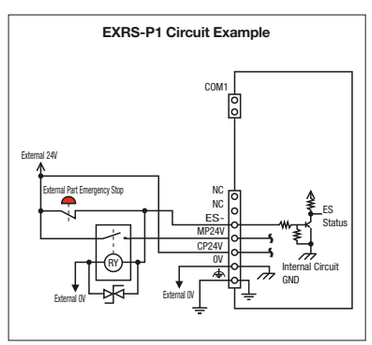
EXRS-C1 Circuit Example



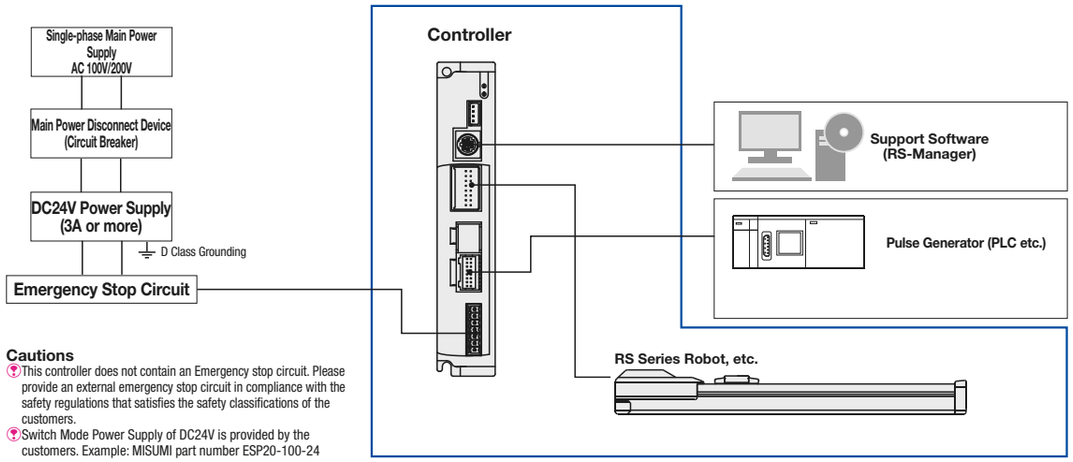
EXRS-C2 Circuit Example



EXRS-P1 Circuit Example



EXRS-P1 Controller System Configuration Example



Cautions

- This controller does not contain an Emergency stop circuit. Please provide an external emergency stop circuit in compliance with the safety regulations that satisfies the safety classifications of the customers.
- Switch Mode Power Supply of DC24V is provided by the customers. Example: MISUMI part number ESP20-100-24

Usage Instructions

System Assembly
Cable Connections
Construct Safety Measures
↓
Power-On
↓
Parameter Set Up
Create/Write Point Data
↓
Return to Home
↓
Jog Move
↓
Point Data
Point Data Trial Operation / Adjustment
↓
Alarm On ⇒ Remove the Cause of Alarm
↓
Operation

Operation may stop due to various factors during this operation. We recommended our customers using MISUMI's Single Axis Robots for the first time to purchase the Support Software that is highly useful in troubleshooting.

FAQ (MISUMI RS Single Axis Robot Technical Support Dedicated Circuit: 03-5805-7088)

Q1. I do not clearly understand the wiring technique of emergency stop circuit. I would like to perform the operation on a trial basis without building an emergency stop circuit.
A1. Contact our RS Support Representative. Guidance is provided on Wiring technique and Method for omission of emergency stop circuit.

Q2. When power is turned ON, controller's red and blue lamps flash alternately.
A2. It is an emergency stop state as nothing is inserted in COM1. Insert communication cable, handy terminal or dummy plug. Turn the locked red button (Emergency Stop Button) on the handy terminal in clockwise direction.

Q3. Cannot Return to Home due to "NG1=45 Interlock Error".
A3. Set Option Parameter to "Disable" by using Support Software or Handset Terminal.

Q4. I do not understand how to operate in Jog Mode.
A4. In case of Handy Terminal, "Point Teaching".
In case of Support Software, click the icon on the screen.

Q5. Does not seem to reach the highest speed as indicated in the catalog.
A5. The attained speed may be less than the theoretical value due to various factors.

Q6. Overload error causes operations to stop.
A6. Examine the work load or mounting orientations .

Q7. Overvoltage error causes shutdown.
A7. Examine the main power supply of the controller.

Single Axis Robot Controllers - App. Example

Compact, Multiple Functionality and High Performance

RS SINGLE AXIS ROBOT

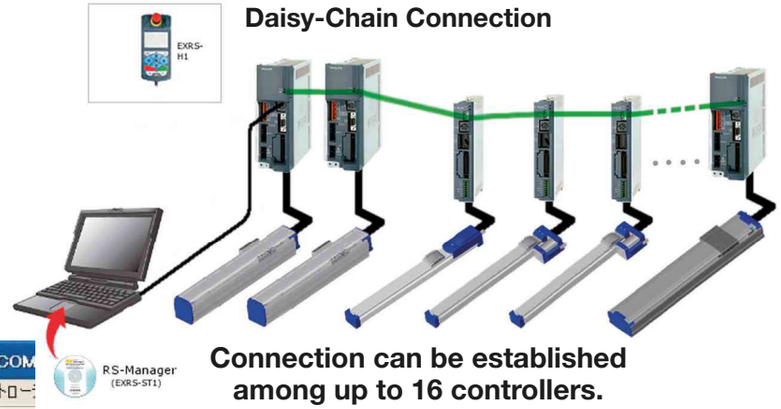
See notes on CE Marking. P.456

■Daisy-chain

Multiaxis easy editing by connecting multiple controllers with daisy-chain

Parameters of controllers of multiple PCs can be edited from one PC by merely switching the Station Address on the RS-Manager screen.

Daisy-Chain Connection



Connection can be established among up to 16 controllers.



Edit the controller to be selected by switching the Address that is automatically allocated to each controller.

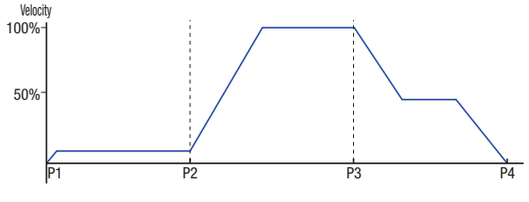
■Sequence Operation

Simple sequence and loop sequence can be realized by "Branch"

Speed change during the Effective Stroke ranges is performed by "ABS connection" or "INC connection".

■Point Data Setup Example

Point No.	Operation Type	Position (mm)	Velocity (%)	Acceleration (%)	Deceleration (%)	Branch
P1	ABS	0	100	100	100	2
P2	ABS Connection	100	10	100	100	3
P3	ABS Connection	200	100	100	100	4
P4	ABS Connection	300	40	100	100	1

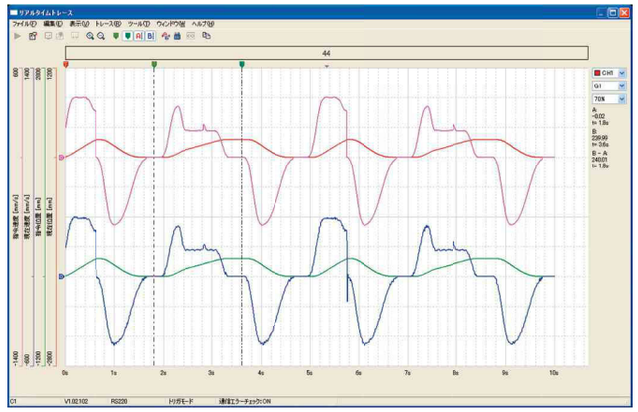


- When point data as shown on the left is entered, the slider makes the moves as shown on the line diagram below left.
- When positioning is complete at P4, the slider begins moving to 0mm position (P1) in reverse and complete a full circle sequence.
- The loop sequence continues even if started from any arbitrary point (P1 to P4).
- When started from P1 while the P4 Branch is set to "0", the motion is completed when the slider reaches 0mm position (P4) as a simple sequence.
- The above fact enables Loop operations just by specifying the positioning point once instead of specifying every point from PLC and etc., reducing communication loads.

■Tracing Functions

Visualize the running state of Single Axis Robot by "Real-Time Tracing" Functions of Support Software

Various information about Single Axis Robot can be monitored in real time.
Saving each item data will assist in scheduled maintenance, as well as helpful in event of unexpected troubles to analyze by comparing with data under normal conditions.



Real-Time Tracing Items (Simultaneous monitoring on 4 items at a max.)

- Voltage
- Current Value
- Commanded Speed
- Current Speed
- Commanded Current Value
- Present Current Value
- Motor Load Factor
- Internal Temp.
- Word I/O Status
- I/O Status

■Updating Parameters Dynamically

Speed and acceleration data can be updated on an as-needed basis by using the field network communication function

Usually the running parameters of point data are written in EEPROM that is built-in the controller. Controller performs prescribed operations based on the written information. However, at times, it may be necessary to update the positioning points on a frequent basis. EEPROM is degraded ever time when information is re-written and hence frequent parameter re-writing can shorten the life of the controller.

MISUMI's Single Axis Robot Controllers have the function to write data in the on board RAM.

For example, in case of controller equipped with CC-LINK communication, the parameters that change frequently as shown in the following chart, can be written in the RAM and executed. With this function, not only can the Single Axis Robots be operated dynamically, but degradation of EEPROM in the controller is also prevented.

■CC-LINK Command and Data Table

Command	Command Options		Unit		Data Write Destination
(WIN0)	Point No.	Data	Standard Settings	Custom Settings	ROM
0200h	1~255	Operation Type	-		RAM
0201h		Position	0.01mm		RAM
0202h		Velocity	%	0.01mm	RAM
0203h		Acceleration	%	0.01m/s²	RAM

For details, please see the Instruction Manual.
RAM write function is available in COM1 port (RC232C communication) as well.

Single Axis Robot Options / Maintenance Products

RS
SINGLE AXIS ROBOT

Options

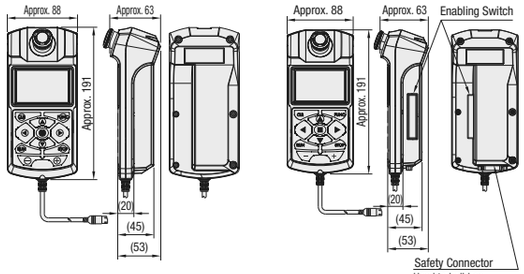
■ Handset Terminal

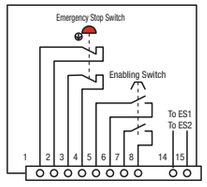


RoHS

Part Number		
Emergency Stop Button	Normally Closed Input (with Lock)	
Deadman's Switch	None	Included 3 Position Enable Switch
Operating Temp.	0°C~40°C	
Operating Humidity	35% ~ 85%RH (No Condensation)	
Body Mass	Approx. 450g	
Cable Length	3.5m	
Applicable Controller	EXRS-C1/C21/C22	

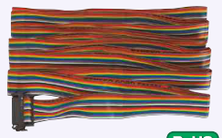
Part Number	Unit Price	Volume Discount Rate	
	1 pc.	2 ~ 3 pcs.	4 ~ 5 pcs.





When using a Handset Terminal within the area of motion of the actuator, please use EXRS-HD1 to provide an external safety circuit.

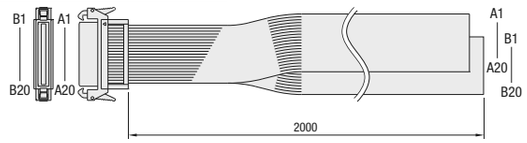
■ I/O Cable



RoHS

Part Number		
Cable Length	2m	2m
Applicable Controller	EXRS-C1/C21/C22	EXRS-P1

Part Number	Unit Price	Volume Discount Rate	
	1 pc.	2 ~ 3 pcs.	4 ~ 5 pcs.



Pin No.	Single	Cable Color
A1	+COM	BR
A2	+COM	R
A3	(NC)	OR
A4	(NC)	Y
A5	PIN0	G
A6	PIN1	BL
A7	PIN2	V
A8	PIN3	GY
A9	PIN4	W
A10	PIN5	BL

Pin No.	Single	Cable Color
A11	PIN6	BR
A12	PIN7	R
A13	JOG+	OR
A14	JOG-	Y
A15	MANUAL	G
A16	ORG	BL
A17	/LOCK	V
A18	START / TEACH	GY
A19	RESET	W
A20	SERVO	BL

Pin No.	Single	Cable Color
B1	POUT0	BR
B2	POUT1	R
B3	POUT2	OR
B4	POUT3	Y
B5	POUT4	G
B6	POUT5	BL
B7	POUT6	V
B8	POUT7	GY
B9	OUT0	W
B10	OUT1	BL

Pin No.	Single	Cable Color
B11	OUT2	BR
B12	OUT3	R
B13	BUSY	OR
B14	END	Y
B15	/ALM	G
B16	SRV-S	BL
B17	(NC)	V
B18	(NC)	GY
B19	-COM	W
B20	-COM	BL

* Connection end to external device is unterminated.

■ Support Software (with USB Communication Cable and D-Sub Communication Cable)
Communication Specifications: RS232C (EXRS-ST1/ST2)



USB Communication Cable



D-Sub Communication Cable

* USB driver is included in Support Software. (EXRS-ST1)

RoHS

Part Number	Communication Cable Length	Applicable Controller	Unit Price	Volume Discount Rate	
			1 pc.	2 ~ 3 pcs.	4 ~ 5 pcs.
	5m	EXRS-C1/P1/C21/C22			

* The cables are for communications between controller and PC. * Not compatible with Windows 7 (OS).

■ Daisy-chain Cable

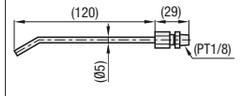


Part Number	
Cable Length	300mm
Applicable Controller	EXRS-C1/P1/C21/C22

Part Number	Unit Price	Volume Discount Rate	
	1 pc.	2 ~ 3 pcs.	4 ~ 5 pcs.

*A cable to connect multiple controllers. It can connect maximum 16 controllers.

■ Lubrication Nozzle



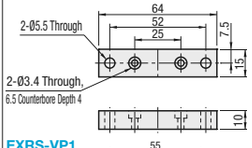
Part Number	EXRS-NZ1
Applications	For replenishing ball screw grease
Applicable Models	RSD1/RSDG1 (Motor mounted on top: U)

Part Number	Unit Price	Volume Discount Rate	
	1 pc.	2 ~ 3 pcs.	4 ~ 5 pcs.
EXRS-NZ1			

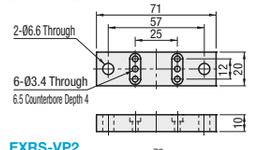
*Recommended Product.
This can be used with commercially available grease guns.

■ Dedicated Feet and Flanges for Rod Type

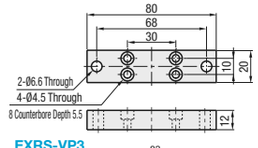
EXRS-HP1



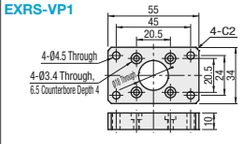
EXRS-HP2



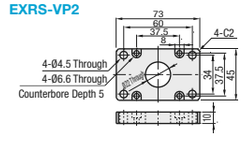
EXRS-HP3



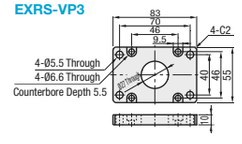
EXRS-VP1



EXRS-VP2



EXRS-VP3



Part Number	Applicable Model	Specifications	Components (1 set)
EXRS-HP1	RSD1 RSDG1	Foot	Mounting Plate 2 pcs.
EXRS-VP1	RSD1	Flange	Mounting Plate 1 pc.
EXRS-HP2	RSD2 RSDG2	Foot	Mounting Plate 2 pcs. Square Nut 12 pcs.
EXRS-VP2	RSD2	Flange	Mounting Plate 1 pc.
EXRS-HP3	RSD3 RSDG3	Foot	Mounting Plate 2 pcs. Square Nut 8 pcs.
EXRS-VP3	RSD3	Flange	Mounting Plate 1 pc.

Part Number	Unit Price		
	1 set	2 sets	3 sets
EXRS-HP1			
EXRS-VP1			
EXRS-HP2			
EXRS-VP2			
EXRS-HP3			
EXRS-VP3			

Ordering Example: Part Number

For orders larger than indicated quantity, please request a quotation.

Options can be purchased more economically as Alterations than as single items when purchasing the main products.

■ Instruction Manual



Part Number	Language	Type	Applicable Model	Unit Price 1 volume	Volume Discount Rate 2 ~ 3 Copies	4 ~ 5 Copies
	Japanese	Actuator (Standard)	RS1/2/3 RSD1/2/3 RSDG1/2/3 RSH1/2/3/4/5 RSF4			
		Actuator (Clean Spec.)	RS1C/2C/3C RSH1C/2C/3C			
		Controller	EXRS-C1/C21/C22			
			EXRS-P1			
	English	Actuator (Standard)	RS1/2/3 RSD1/2/3 RSDG1/2/3 RSH1/2/3/4/5 RSF4			
		Actuator (Clean Spec.)	RS1C/2C/3C RSH1C/2C/3C			
		Controller	EXRS-C1/C21/C22			
			EXRS-P1			

Operator's Manuals are also available for downloads on our website.

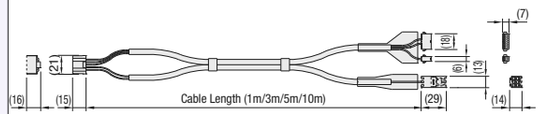
Maintenance Products

■ Power/Signal-Integrated Cables (Flex-Resistant)
(Controller EXRS-C1/P1)



RoHS

Part Number	Cable Length (m)	Unit Price 1 pc.	Volume Discount Rate 2 ~ 3 pcs.	4 ~ 5 pcs.
	1			
	3			
	5			
	10			



■ Data Storage Battery

Part Number	Unit Price 1 pc.	Volume Discount Rate 2 ~ 3 pcs.	4 ~ 5 pcs.



*Battery for absolute data back-up. (Applicable Controllers: EXRS-C21/C22)
*Included as standard to absolute model controllers. Replacement cycle is approx. one year.
*This product is outside the scope of RoHS Directive.
*Photograph is an image. Please note that the appearance may differ from the photograph.

■ Power/Signal Cables
(Controller EXRS-C21/C22)



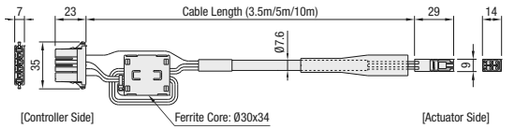
Power Cable

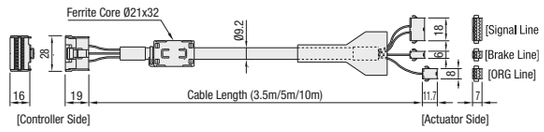


Signal Cable

RoHS

Part Number	Type	Cable Length	Unit Price 1 pc.	Volume Discount Rate 2 ~ 3 pcs.	4 ~ 5 pcs.
(Standard)	Power	3.5m: 3			
		5m: 5			
		10m: 10			
	Single	3.5m: 3			
		5m: 5			
		10m: 10			
(Flexible)		3.5m: 3			
		5m: 5			
		10m: 10			





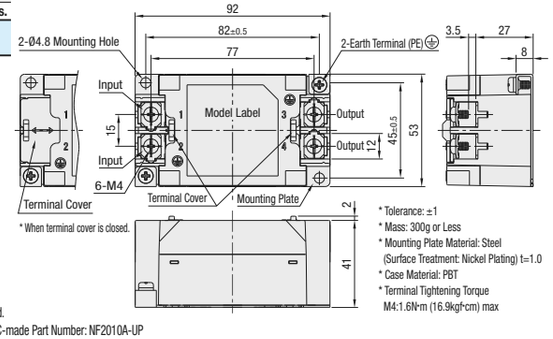
■ Noise Filter

Part Number	Rated Voltage	Rated Current	Unit Price 1 pc.	Volume Discount Rate 2 ~ 3 pcs.	4 ~ 5 pcs.
	AC250V/ DC250V	10A	4,300	3,900	3,600

As this product uses push-down type terminal block, it is shipped in the state below.
* Terminal cover is stored.
* Terminal block screws are kept on the upper side.



RoHS



* When terminal cover is closed.

* These listed products are made by COSEL Co., Ltd.
* Other Recommended Products: SOSHIN ELECTRIC-made Part Number: NF2010A-UP

* Tolerance: ±1
* Mass: 300g or Less
* Mounting Plate Material: Steel (Surface Treatment: Nickel Plating) t=1.0
* Case Material: PBT
* Terminal Tightening Torque M4:1.6N•m (16.9kgf•cm) max

Ordering Example: Part Number - Cable Length
- 5

For orders larger than indicated quantity, please request a quotation.

Options can be purchased more economically as Alterations than as single items when purchasing the main products.