Single Axis Robots RS3 - Motor Folded

RS
SINGLE AXIS ROBOT

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

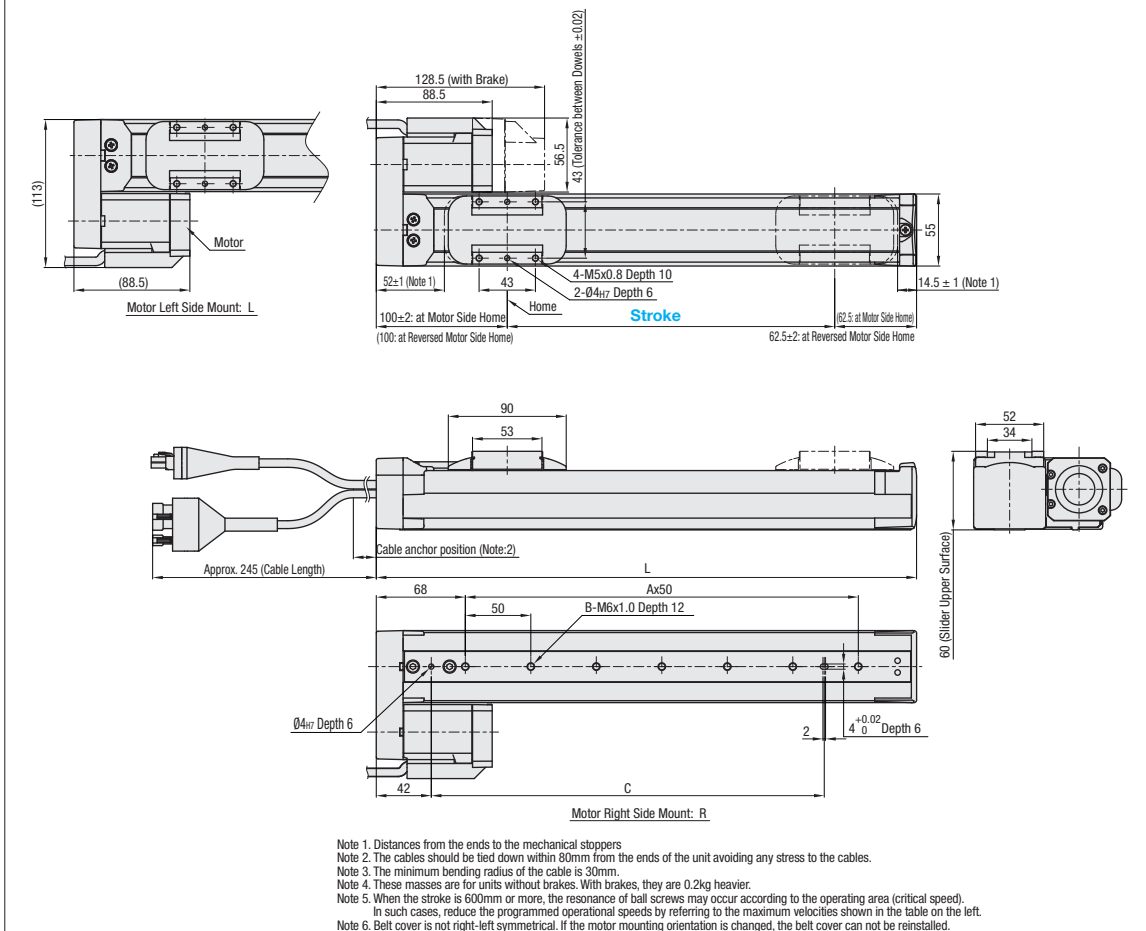See notes on CE Marking. ☞ P.456

Actuator

Cable

Controller

Instruction Manual CD-ROM

Controller Specifications ☞ P.497~506

■**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
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	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.

128.5 (with Brake)
88.5
56.5
43 (Tolerance between Dowels ±0.02)
(113)
Motor
(88.5)
Motor Left Side Mount: L
52±1 (Note 1)
43
4-M5x0.8 Depth 10
2-Ø4H7 Depth 6
Home
Stroke
100±2: at Motor Side Home
(100: at Reversed Motor Side Home)
62.5±2: at Reversed Motor Side Home
(62.5 at Motor Side Home)
14.5 ± 1 (Note 1)
55

90
53
L
68
50
Ax50
B-M6x1.0 Depth 12
Ø4H7 Depth 6
42
C
60 (Slider Upper Surface)
2
4 +0.02 / 0 Depth 6
Approx. 245 (Cable Length)
Cable anchor position (Note:2)
Motor Right Side Mount: R
52
34

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 / Selection

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

■**Cable Price**

Cable Length (m)	Unit Price
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 · Wall Mounted Use · Vertical Use

■**Allowable Static Moment**
· Moment Diagram

MY	MP	MR	N·m
32	38	34	

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

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

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

■**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

☎ Values in ( ) are for vertical applications.
☎ 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 Type	-	Cable Length	-	Stroke	-	(G, E···etc.)
RS306B	-	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 MJ5: Body KJ3:Controller (C1) KJ4:Controller (P1)	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 ☞ 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.

Communication Specifications: RS232C (under S)
Communication Specifications: RS232C (under R)
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.
☎ For details on daisy-chain, see ☞ **P.505** ☎ Please select the correct I/O cable type for the appropriate controller type.