

# Single Axis Robots RS3 - Straight



Dedicated Website: [http://download.misumi.jp/mol/fa\\_soft.html](http://download.misumi.jp/mol/fa_soft.html)  
Useful Selection Software and Instruction Manuals can be downloaded.

See notes on CE Marking. P456

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

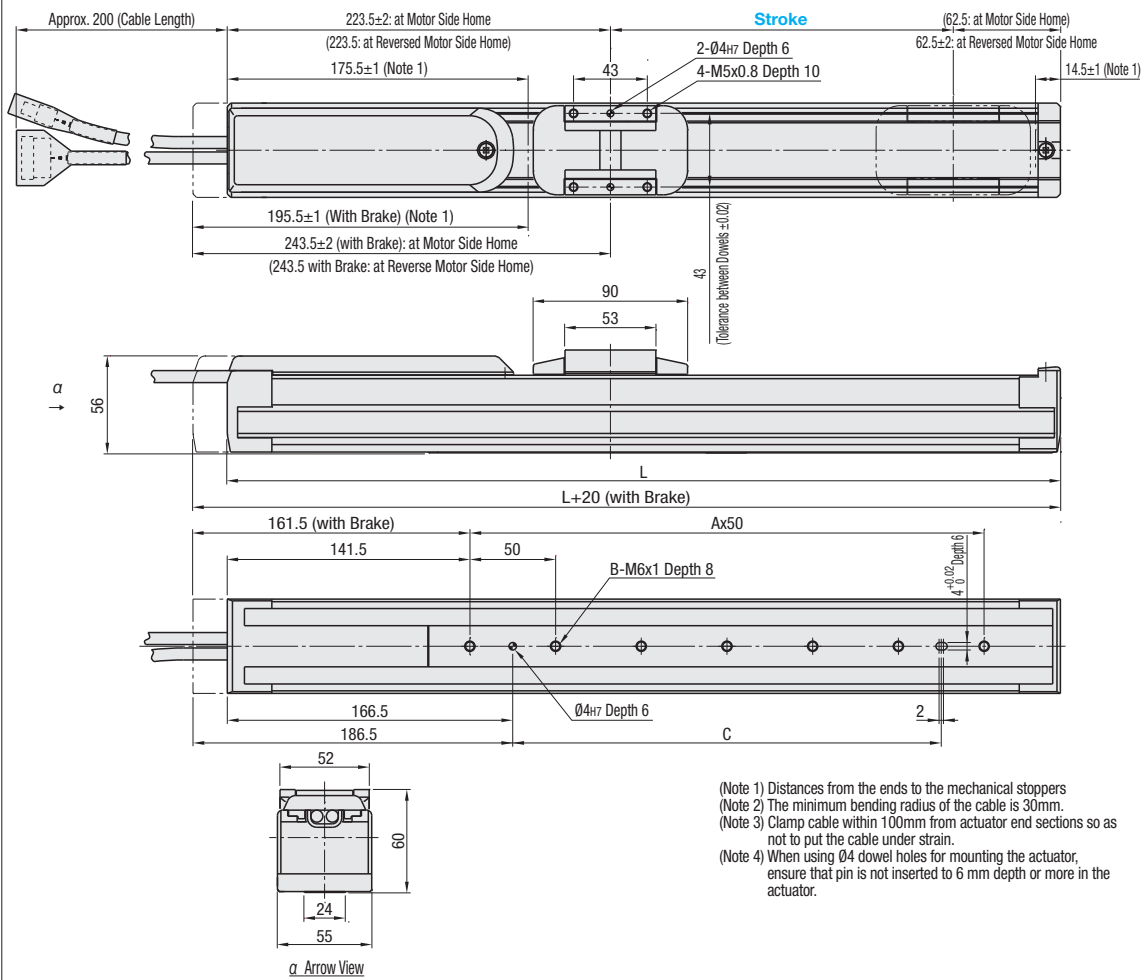
**Robot Material / Surface Treatment**  
**Components** Guide Rail Slider Side Cover  
**M Material** Steel Aluminum Aluminum  
**S Surface Treatment** - - Anodize

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

**Standard Specifications** FAQ P504

Type	Lead (mm)	Positioning Repeatability (mm)	Max Load Capacity (kg)		Max. Push Force (N)	Stroke (mm)	Max. Velocity (Note) (mm/sec)	Rated Running Life	Input Power Supply	Maximum Positioning Point
			Horizontal	Vertical						
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	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	

Part Number		Selection				
Type	Lead (mm)	With or w/o Brake (1)	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 ~ 2 pc(s)															
	Stroke (mm)															
RS3□□	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800
RS3□□B																

### Controller Price

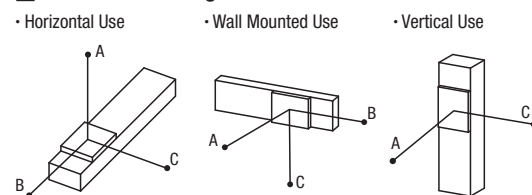
Type	I/O Module	Unit Price
C1	N	
	P	
	C	
	D	
P1	-	

### Cable Price

Cable Length (m)	Unit Price
1	
3	
5	
10	

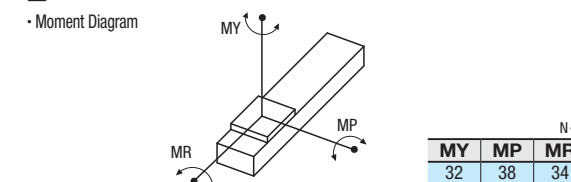
**Note**  
 Power interruption circuit is not provided in this controller in order to provide maximum flexibility for customer specific safety scheme. Please be sure to provide an external power interruption circuit and form an emergency stop circuit. For Circuit examples, see P503.

### Allowable Overhang Load



Lead	Mass	mm			Lead	Mass	mm			Lead	Mass	mm		
		A	B	C			A	B	C			A	B	C
06	12kg	465	39	64	06	12kg	28	17	338	06	4kg	113	113	
	10kg	442	47	78		10kg	43	26	355		2kg	244	245	
	8kg	480	61	100		8kg	64	39	413		1kg	458	459	
12	8kg	403	56	88	12	8kg	55	34	305	12	6kg	85	55	334
	6kg	399	76	118		6kg	85	55	334		4kg	146	96	449
	4kg	500	118	179		4kg	146	96	449		6kg	71	49	262
20	6kg	352	71	104	20	4kg	118	88	309	20	4kg	118	88	309
	4kg	366	109	148		2kg	262	203	554					
	2kg	599	225	291										

### Allowable Static Moment



### 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.

<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.)
Grease Type Alteration	RS306B	C1	N	3	400	G-E
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						

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.  
 Please select the correct I/O cable type for the appropriate controller type.