








# Single Axis Robots RSB1 - Belt Type -



Dedicated Website: <http://www.misumiusa.com/robot/>  
Useful Selection Software and Instruction Manuals can be downloaded.

CE Compliant

See notes on CE Marking. P456

Controller Specifications P497~506

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

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

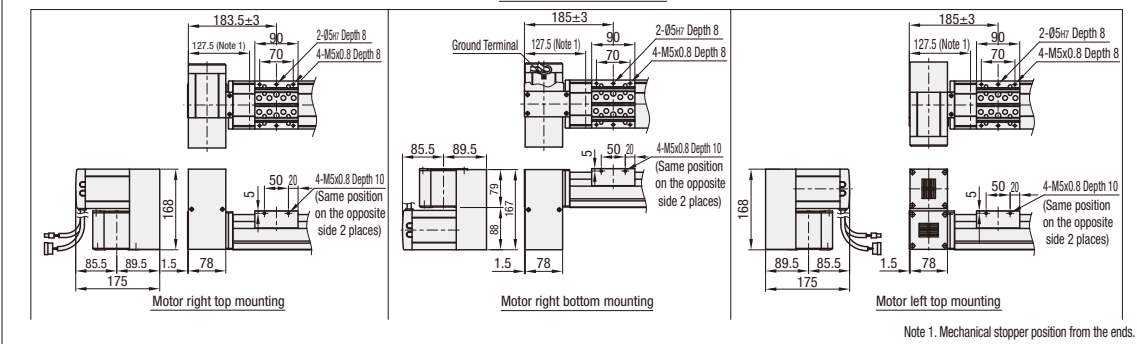
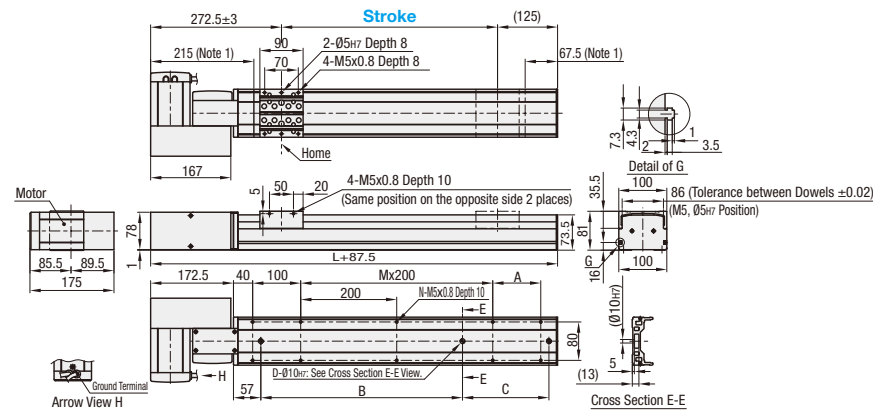
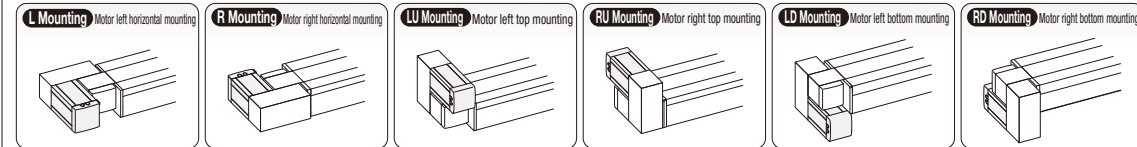
| Robot Material / Surface Treatment |            |          |          |
|------------------------------------|------------|----------|----------|
| Components                         | Guide Rail | Slider   | Cover    |
| M Material                         | Steel      | Aluminum | Aluminum |
| S Surface 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 P504

| 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 Equivalent | ±0.04                          | 10                                       | 150~2550 (50 Pitch) | 10,000km                  | AC100V~115V<br>AC200~230V<br>±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.



### 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 |      | 1500 |      | 1680 |      | 1860 |      | 2040 |      | 2220 |      | 2400 |      |  |  |  |  |
|           | C (mm)            | -           |      |      |      |      |      |      |      |      |      |      |      |      |      |      | -    |      |      |      |      |      |      |      |      |      |      |  |  |  |  |
|           | D (mm)            | -           |      |      |      |      |      |      |      |      |      |      |      |      |      |      | -    |      |      |      |      |      |      |      |      |      |      |  |  |  |  |
|           | M (mm)            | -           |      |      |      |      |      |      |      |      |      |      |      |      |      |      | -    |      |      |      |      |      |      |      |      |      |      |  |  |  |  |
|           | N (mm)            | -           |      |      |      |      |      |      |      |      |      |      |      |      |      |      | -    |      |      |      |      |      |      |      |      |      |      |  |  |  |  |
|           | 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 |      |  |  |  |  |
|           | 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 | 2910 | 2960 |  |  |  |  |
|           | 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  | 250  |      |  |  |  |  |
|           | B (mm)            | 240         |      | 420  |      | 600  |      | 780  |      | 960  |      | 1140 |      | 1320 |      | 1500 |      | 1680 |      | 1860 |      | 2040 |      | 2220 |      | 2400 |      |  |  |  |  |
|           | C (mm)            | -           |      |      |      |      |      |      |      |      |      |      |      |      |      |      | -    |      |      |      |      |      |      |      |      |      |      |  |  |  |  |
|           | D (mm)            | -           |      |      |      |      |      |      |      |      |      |      |      |      |      |      | -    |      |      |      |      |      |      |      |      |      |      |  |  |  |  |
|           | M (mm)            | -           |      |      |      |      |      |      |      |      |      |      |      |      |      |      | -    |      |      |      |      |      |      |      |      |      |      |  |  |  |  |
| N (mm)    | -                 |             |      |      |      |      |      |      |      |      |      |      |      |      |      | -    |      |      |      |      |      |      |      |      |      |      |      |  |  |  |  |
| 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 | 26.7 |      |      |  |  |  |  |

| Part Number | Motor Mounting Position   | Controller (1)  | I/O Module   | W/ or w/o Noise Filter (2)       | Cable  | Stroke (mm)                                     |   |
|-------------|---|---|--|----------------------------------|--|---|---|
|             |   |   |  |                                  |  |   | Type  |
| RSB1        | Motor left horizontal: L<br>Motor right horizontal: R<br>Motor left top: LU<br>Motor right top: RU<br>Motor left bottom: LD<br>Motor right bottom: RD | Specifications<br>Power Supply<br>AC100V~<br>AC200~230V | Absolute Encoders<br>(w/ Data Storage Battery)<br>C21A<br>C22A | Incremental Type<br>C21B<br>C22B | NPN: N<br>PNP: P<br>CC-Link: C<br>DeviceNet: D | None: F0<br>Included: F1<br>Specifications P508 | Standard<br>3.5m: R3<br>5m: R5<br>10m: R10<br>Flexible<br>3.5m: R3<br>5m: R5<br>10m: R10<br>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 Position - Controller Type - I/O Type - Noise Filter - Cable Length - Stroke Days to Ship [Configure Online](#)

RSB1 - L - C21A - 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).                               |   |
|----------|---|---|
|          | C21A/C22A Absolute Encoders (w/ Data Storage Battery) | C21B/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

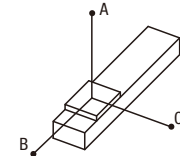
| W/ or w/o Noise Filter | Unit Price 1 ~ 5 pc(s). |
|------------------------|-------------------------|
| None: F0               |                         |
| Included: F1           |                         |

(Robot Body Price) + (Controller Price) + (Cable Price) + (Noise Filter) = Total Price  
<Ex> For RSB1-L-C21A-N-F1-5-2550,  
(Robot Body Price) + (Controller Price) + (Cable Price) + (Noise Filter Price) = Total Price

[Configure Online](#)

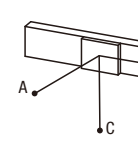
### Allowable Overhang Load

Horizontal Use



|      | mm   |      |      |
|------|------|------|------|
|      | A    | B    | C    |
| 3kg  | 1800 | 1392 | 1084 |
| 5kg  | 1574 | 826  | 696  |
| 8kg  | 1221 | 509  | 474  |
| 10kg | 1171 | 403  | 407  |

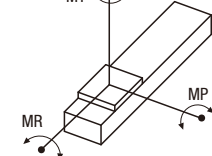
Wall Mounted Use



|      | 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 |

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

| Part Number | Stroke (mm) |          |
|-------------|-------------|----------|
|             | 150~350     | 450~2250 |
| RSB1        | ~1750       | 1875     |

Alterations Part Number - Motor Mounting Position - Controller Type - I/O Type - W/ or w/o Noise Filter - Cable Length - Stroke  
RSB1 - L - C21A - N - F1 - 5 - 2550

| Alterations | Grease Type Alteration   | 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 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. |

(1) For optional items, see P507 (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 P505