SR04 Rod type

● CE compliance   ● Origin on the non-motor side is selectable: Lead 6, 12

SR04-S   SR04-R

■ Ordering method

SR04 - [ ] [ ] [ ] [ ] [ ] [ ] [ ]

Model	Lead	Model	Brake	Origin position Note 2	Bracket plate	Stroke	Cable length Note 4
	12: 12mm	S: Straight model	N: With no brake	N: Standard Note 3	N: No plate	50 to 300	1K: 1m
	06: 6mm	R: Space-saving model Note 1 (motor installed on right)	B: With brake	Z: Non-motor side	H: With plate	(50mm pitch)	3K: 3m
	02: 2mm	L: Space-saving model Note 1 (motor installed on left)			V: With flange		5K: 5m
							10K: 10m

S2

Robot positioner	I/O
S2: TS-S2 Note 5	NP: NPN
	PN: PNP
	CC: CC-Link
	DN: DeviceNet™
	EP: EtherNet/IP™
	PT: PROFINET
	GW: No I/O board Note 6

SH

Robot positioner	I/O	Battery
SH: TS-SH	NP: NPN	B: With battery (Absolute)
	PN: PNP	N: None (Incremental)
	CC: CC-Link	
	DN: DeviceNet™	
	EP: EtherNet/IP™	
	PT: PROFINET	
	GW: No I/O board Note 6	

SD   **1**

Robot driver	I/O cable
SD: TS-SD	1: 1m

Note 1. See P.153 for grease gun nozzles.
Note 2. When "2mm lead" is selected, the origin position cannot be changed (to non-motor side).
Note 3. If changing from the origin position at the time of purchase, the machine reference amount must be reset. For details, refer to the manual.
Note 4. The robot cable is flexible and resists bending.
Note 5. See P.522 for DIN rail mounting bracket.
Note 6. Select this selection when using the gateway function. For details, see P.66.

■ Basic specifications

Motor		42 □ Step motor		
Resolution (Pulse/rotation)		20480		
Repeatability (mm)		+/-0.02		
Deceleration mechanism		Ball screw φ8		Ball screw φ10
Ball screw lead (mm)		12	6	2
Maximum speed Note 1 (mm/sec)		500	250	80
Maximum payload (kg)	Horizontal	25	40	45
	Vertical	5	12	25
Max. pressing force (N)		150	300	600
Stroke (mm)		50 to 300 (50pitch)		
Lost motion		0.1mm or less		
Rotating backlash (°)		+/-1.0		
Overall length (mm)	Horizontal	Stroke+263		
	Vertical	Stroke+303		
Maximum outside dimension of body cross-section (mm)		W48 × H58		
Cable length (m)		Standard: 1 / Option: 3, 5, 10		

Note 1. The maximum speed needs to be changed in accordance with the payload.
See the "Speed vs. payload" graph shown on the right. For details, see P. 152. Additionally, when the stroke is long, the maximum speed is decreased due to the critical speed of the ball screw. See the maximum speed table shown at the lower portion of the drawing.

■ Speed vs. payload

Horizontal

(graph: Payload (kg) vs Speed (mm/s), showing Lead 2, Lead 6, Lead 12 curves)

Vertical

(graph: Payload (kg) vs Speed (mm/s), showing Lead 2, Lead 6, Lead 12 curves)

■ Running life

5000 km on models other than shown below.
Running life of only the model shown below becomes shorter than 5000 km depending on the payload, so check the running life curve.

Vertical **Lead 2**

(graph: Running life (km) vs Payload (kg))

Vertical **Lead 12**

(graph: Running life (km) vs Payload (kg))

Note. See P.153 for running life distance to life time conversion example.

■ Motor installation (Space-saving model)

R type Motor installed on right

L type Motor installed on left

■ Controller

Controller	Operation method	Controller	Operation method
TS-S2 TS-SH	I/O point trace / Remote command	TS-SD	Pulse train control

SR04 Straight model S

A
See Note 6.   9.5   67.5   Ball screw greasing port (φ6.5)
M4×0.7 Depth 5 (For securing cable)   9.5   28.5
Approx. 250 (Cable length)
58   (22.5)   48
M4×0.7 Depth 5 (For securing cable)   9.5   16.5   L1(T-slot range)
L
L+40 (with brake)
(10) 32.5   9 22   8.5 (Width across flat part)   M10×1.25   φ20
(7)   (5)
Origin on motor side   42.5+/-2   Effective stroke   Origin on non-motor side (Note 4)

View A
14   (Width across flat)   45   25   45°   P.C.D.53
4-M4×0.7 Depth 10 (90°-equal division)   25   14 (Width across flat)   45   T-slot for M3 (8 locations)

Option: Horizontal installation plate (foot)

* Contents of option: Plate, 2 pcs., Nut, 12 pcs.
See our robot manuals for additional settings.

10 (22.5)   71
2-φ6.6   20   10
Installed within the T-slot range of the main unit.
Hex. socket head cap bolt (M3×0.5), Length under head 10
*Six bolts are required for one plate.
57   (25)

Option: Vertical installation plate (flange)

Hex. socket head cap bolt (M4×0.7), Length under head 14

45   34   (22.5)   60   73
10   (42.5)   4-φ6.6

2.4   5.5 (7.8)   M3×0.5
Dimensions of attached square nut for T-slot (6 pcs.)

3.5   5.8   1.5   3.3
Details of T-slot

6   17   M10×1.25   (19.6)
Dimensions of attached nut

Effective stroke	50	100	150	200	250	300
L1	162.5	212.5	262.5	312.5	362.5	412.5
L	270.5	320.5	370.5	420.5	470.5	520.5
Weight (kg) Note 8	1.4	1.7	1.9	2.2	2.4	2.7
Maximum speed for each stroke (mm/sec)	Lead 12	500				440	320
	Lead 6	250				220	160
	Lead 2	80				72	53

Note 1. It is possible to apply only the axial load. Use the external guide together so that any radial load is not applied to the rod.
Note 2. The orientation of the width across flat part is undefined to the base surface.
Note 3. Use the support guide together to maintain the straightness.
Note 4. For lead 2mm specifications, the origin on the non-motor side cannot be set.
Note 5. When running the cables, secure cables so that any load is not applied to them.
Note 6. Remove the M4 hex. socket head cap set bolts and use them to secure the cables. (Effective screw thread depth 5)
Note 7. The cable's minimum bend radius is R30.
Note 8. Models with a brake will be 0.2kg heavier.
Note 9. Distance to mechanical stopper.

Controller   TS-S2 ▶ 514 | TS-SH ▶ 514 | TS-SD ▶ 524

SR04

YA — Articulated robots
LCM100 — Linear conveyor modules
Robonity — Motor-less single axis actuator
TRANSERVO — Compact single-axis robots
FLIP-X — Single-axis robots
PHASER — Linear motor single-axis robots
XY-X — Cartesian robots
YK-X — SCARA robots
YP-X — Pick & place robots
CLEAN
CONTROLLER
INFORMATION

SR04 Space-saving model (motor installed on right) R

Approx. 245 (Cable length)
152 (with brake)
112
L
42.5+/-2
(7(Note 8))
Effective stroke
(5(Note 8))
Origin on motor side
Origin on non-motor side (Note 9)

5.8
3.3
M10×1.25
17
6
(19.6)
1.5
5

Detail of section B   **Dimensions of attached nut**

6
See Note 5.
67.5
Ball screw greasing port (φ6.5)
9.5
L1(T-slot range)

(40) (24)
(15) (31)
44
100 0.5 0.5

M4×0.7 Depth 5 (For securing cable)
16.5
9.5
M10×1.25
φ20
8.5
9 22
(10) 32.5
(Width across flat part)
14 (Width across flat)
45
25
48
56.5
1.5
4-M4x0.7 Depth 10 (90°-equal division)
45
25
48
102.5
56
45°
14 (Width across flat)
P.C.D.53
T-slot for M3 (8 locations)
B

Option: Horizontal installation plate (foot)
* Contents of option: Plate, 2 pcs., Nut, 12 pcs.
  See our robot manuals for additional settings.

M4×0.7 Depth 5 (For securing cable)
9.5
6
5.5 (7.8)
M3x0.5
2.4
Dimensions of attached square nut for T-slot (6 pcs.)

2-φ6.6 drill-through
20
10
(22.5)
10
Installed within the T-slot range of the main unit. (Hex. socket head cap bolt (M3×0.5), Length under head 10)
* Six bolts are required for one plate.
(25)
57
71

Option: Vertical installation plate (flange)
Hex. socket head cap bolt (M4×0.7), Length under head 14
(42.5)
10
4-φ6.6 drill-through
73
60
45
34
(22.5)

Effective stroke		50	100	150	200	250	300
L1		162.5	212.5	262.5	312.5	362.5	412.5
L		209.5	259.5	309.5	359.5	409.5	459.5
Weight (kg) Note 7		1.6	1.9	2.1	2.4	2.6	2.9
Maximum speed for each stroke (mm/sec)	Lead 12	500				440	320
	Lead 6	250				220	160
	Lead 2	80				72	53

Note 1. It is possible to apply only the axial load.
Use the external guide together so that any radial load is not applied to the rod.
Note 2. The orientation of the width across flat part is undefined to the base surface.
Note 3. Use the support guide together to maintain the straightness.
Note 4. When running the cables, secure cables so that any load is not applied to them.
Note 5. Remove the M4 hex. socket head cap set bolts and use them to secure the cables. (Effective screw thread depth 5)
Note 6. The cable's minimum bend radius is R30.
Note 7. Models with a brake will be 0.2kg heavier.
Note 8. Distance to mechanical stopper.
Note 9. For lead 2mm specifications, the origin on the non-motor side cannot be set.
Note 10. This unit can be installed with the motor facing up (turned 90 degrees from the position in this drawing).

SR04 Space-saving model (motor installed on left) L

M4×0.7 Depth 5 (For securing cable)
9.5
28.5
View A

Approx. 245 (Cable length)
L
L1(T-slot range)
42.5+/-2
Effective stroke
(5(Note 8))
(7(Note 8))
Origin on motor side
Origin on non-motor side (Note 9)
A
9.5
See Note 5.
67.5
Ball screw greasing port (φ6.5)
6

M10x1.25
17
6
(19.6)
Dimensions of attached nut

3.3
5.8
1.5
5
Detail of section B

T-slot for M3 (8 locations)

(40) (24)
(15) (31)
44
0.5 100 0.5

112
152 (with brake)

M10×1.25
φ20
8.5
9 22
(10) 32.5
(Width across flat part)
56
45°
56.5
48
1.5
B
P.C.D.53
14 (Width across flat)
4-M4x0.7 Depth 10 (90°-equal division)
48
102.5
25
45
14 (Width across flat)
25

Option: Horizontal installation plate (foot)
* Contents of option: Plate, 2 pcs., Nut, 12 pcs.
  See our robot manuals for additional settings.

M4×0.7 Depth 5 (For securing cable)
9.5
6
5.5 (7.8)
M3x0.5
2.4
Dimensions of attached square nut for T-slot (6 pcs.)

(22.5)
10

Option: Vertical installation plate (flange)
Hex. socket head cap bolt (M4×0.7), Length under head 14

2-φ6.6 drill-through
20
10
Installed within the T-slot range of the main unit. (Hex. socket head cap bolt (M3×0.5), Length under head 10)
* Six bolts are required for one plate.
(25)
57
71

(42.5)
10
4-φ6.6 drill-through
73
60
34
45
(22.5)

Effective stroke		50	100	150	200	250	300
L1		162.5	212.5	262.5	312.5	362.5	412.5
L		209.5	259.5	309.5	359.5	409.5	459.5
Weight (kg) Note 7		1.6	1.9	2.1	2.4	2.6	2.9
Maximum speed for each stroke (mm/sec)	Lead 12	500				440	320
	Lead 6	250				220	160
	Lead 2	80				72	53

Note 1. It is possible to apply only the axial load.
Use the external guide together so that any radial load is not applied to the rod.
Note 2. The orientation of the width across flat part is undefined to the base surface.
Note 3. Use the support guide together to maintain the straightness.
Note 4. When running the cables, secure cables so that any load is not applied to them.
Note 5. Remove the M4 hex. socket head cap set bolts and use them to secure the cables. (Effective screw thread depth 5)
Note 6. The cable's minimum bend radius is R30.
Note 7. Models with a brake will be 0.2kg heavier.
Note 8. Distance to mechanical stopper.
Note 9. For lead 2mm specifications, the origin on the non-motor side cannot be set.
Note 10. This unit can be installed with the motor facing up (turned 90 degrees from the position in this drawing).

Controller   TS-S2 ▶ 514 | TS-SH ▶ 514 | TS-SD ▶ 524