YA | Articulated robots
LCM | Linear conveyor modules
GX | Single-axis robots
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
T type
F type
GF type
N type
R type

R5

■ Ordering method

R5 [Model] [Cable entry location] [Cable length Note 1]

Cable entry location:
No entry: Standard (S)
B: From the side

Cable length Note 1:
3L: 3.5m
5L: 5m
10L: 10m
3K/5K/10K (Flexible cable)

TSX — [Positioner Note 2] [Driver: Power-supply voltage / Power capacity] [LCD monitor] [I/O selection] [Battery]

Positioner Note 2: TSX: TS-X

Driver: Power-supply voltage / Power capacity:
105: 100V/100W or less
205: 200V/100W or less

LCD monitor:
No entry: None
L: With LCD

I/O selection:
NP: NPN
PN: PNP
CC: CC-Link
DN: DeviceNet™
EP: EtherNet/IP™
PT: PROFINET
GW: No I/O board Note 3

Battery:
B: With battery (Absolute)
N: None (Incremental)

SR1-X [Controller] **05** [Driver: Power capacity] [Usable for CE] [I/O selection] [Battery]

Driver: Power capacity:
05: 100W or less

Usable for CE:
No entry: Standard
E: CE marking

I/O selection:
N: NPN
P: PNP
CC: CC-Link
DN: DeviceNet™
PB: PROFIBUS

Battery:
B: With battery (Absolute)
N: None (Incremental)

RDV-X [Driver] **2** [Power-supply voltage] **05** [Driver: Power capacity] — **RBR1** [Regenerative unit]

Power-supply voltage:
2: AC200V

Driver: Power capacity:
05: 100W or less

Note 1. The robot cable is standard cable (3L/5L/10L), but can be changed to flexible cable. See P.732 for details on robot cable.
Note 2. See P.634 for DIN rail mounting bracket.
Note 3. Select this selection when using the gateway function. For details, see P.96.

■ Specifications

AC servo motor output (W)	50
Repeatability (°)	+/-0.0083
Maximum speed (°/sec)	360
Maximum allowable moment inertia (kgm²[kgfcms²])	0.12 [1.2]
Rated torque (Nm[kgfm])	5.29 [0.54]
Speed reduction ratio	1/50
Rotation range (°)	360
Cable length (m)	Standard: 3.5 / Option: 5,10
Speed reducer type	Harmonic drive
Position detector	Resolvers
Resolution (Pulse/rotation)	16384

■ Maximum allowable moment inertia

Payload parameters W (kg)	1	2	3	4	5	6	7	8	9	10
Maximum allowable moment inertia J (kgfcms²)	0.12	0.24	0.36	0.48	0.60	0.72	0.84	0.96	1.08	1.20

Note. When the weight of a tool or workpiece attached to the shaft R5 is W (kg), its moment of inertia (J) must be smaller than the values shown in the table above. (For example, enter 4kg if W is 3kg and J is 0.48kgf cm sec².) Enter the above mass parameter value for the controller, and optimum acceleration is automatically set based on this value.

Note. For calculation (equation) of the inertia moment, please refer to P.746.

■ Controller

Controller	Operation method
SR1-X05 RCX320 RCX221/222 RCX340	Programming / I/O point trace / Remote command / Operation using RS-232C communication
TS-X105 TS-X205	I/O point trace / Remote command
RDV-X205-RBR1	Pulse train control

R5

Cable take out direction

Weight (kg) | 3.0 | Note 1.The cable extraction port can be changed.

R10

YA Articulated robots

LCM Linear conveyor modules

GX Single-axis robots

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

T type

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GF type

N type

R type

Ordering method

R10 - [ ] [ ] - [ ]

Model

Cable entry location
No entry: Standard (S)
B: From the side

Cable length Note 1
3L: 3.5m
5L: 5m
10L: 10m
3K/5K/10K (Flexible cable)

TSX [ ] - [ ] - [ ] - [ ] - [ ]

Positioner Note 2
TSX: TS-X

Driver: Power-supply voltage / Power capacity
105: 100V/100W or less
205: 200V/100W or less

LCD monitor
No entry: None
L: With LCD

I/O selection
NP: NPN
PN: PNP
CC: CC-Link
DN: DeviceNet™
EP: EtherNet/IP™
PT: PROFINET
GW: No I/O board Note 3

Battery
B: With battery (Absolute)
N: None (Incremental)

SR1-X [ ] **05** - [ ] - [ ] - [ ]

Controller

Driver: Power capacity
05: 100W or less

Usable for CE
No entry: Standard
E: CE marking

I/O selection
N: NPN
P: PNP
CC: CC-Link
DN: DeviceNet™
PB: PROFIBUS

Battery
B: With battery (Absolute)
N: None (Incremental)

RDV-X **2** **05** - **RBR1**

Driver

Power-supply voltage
2: AC200V

Driver: Power capacity
05: 100W or less

Regenerative unit

Note 1. The robot cable is standard cable (3L/5L/10L), but can be changed to flexible cable.
See P.732 for details on robot cable.
Note 2. See P.634 for DIN rail mounting bracket.
Note 3. Select this selection when using the gateway function. For details, see P.96.

Specifications

AC servo motor output (W)	100
Repeatability (°)	+/-0.0083
Maximum speed (°/sec)	360
Maximum allowable moment inertia (kgm^2[kgfcms^2])	0.36 [3.71]
Rated torque (Nm[kgfm])	10.78 [1.10]
Speed reduction ratio	1/50
Rotation range (°)	360
Cable length (m)	Standard: 3.5 / Option: 5,10
Speed reducer type	Harmonic drive
Position detector	Resolvers
Resolution (Pulse/rotation)	16384

Maximum allowable moment inertia

Payload parameters W (kg)	1	2	3	4	5	6	7	8	9	10
Maximum allowable moment inertia J (kgfcms^2)	0.25	0.49	0.74	0.99	1.24	1.48	1.73	1.98	2.23	2.47

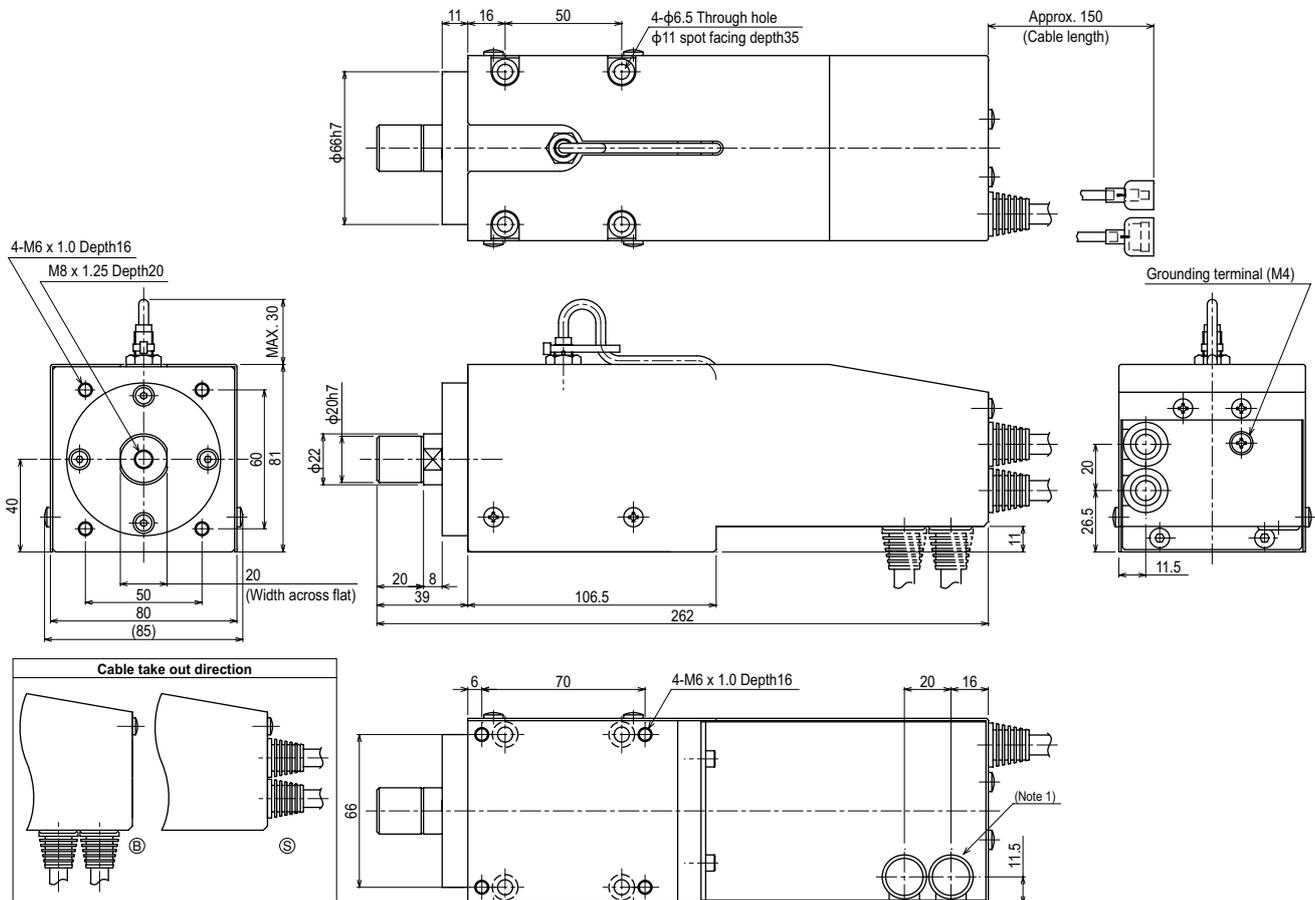| Payload parameters W (kg)	11	12	13	14	15
Maximum allowable moment inertia J (kgfcms^2)	2.72	2.97	3.22	3.46	3.71
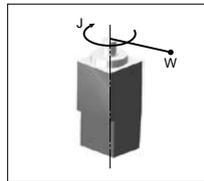
Note. When the weight of a tool or workpiece attached to the shaft R10 is W (kg), its moment of inertia (J) must be smaller than the values shown in the table above. (For example, enter 4kg if W is 3kg and J is 0.99kgf cm sec^2.) Enter the above mass parameter value for the controller, and optimum acceleration is automatically set based on this value.

Note. For calculation (equation) of the inertia moment, please refer to P.746.

Controller

Controller	Operation method
SR1-X05 RCX320 RCX221/222 RCX340	Programming / I/O point trace / Remote command / Operation using RS-232C communication
TS-X105 TS-X205	I/O point trace / Remote command
RDV-X205-RBR1	Pulse train control

R10

4-φ6.5 Through hole φ11 spot facing depth35

Approx. 150 (Cable length)

φ66h7

11 16 50

4-M6 x 1.0 Depth16
M8 x 1.25 Depth20

MAX. 30

φ20h7

φ22

60
81
40

50
80
(85)

20 (Width across flat)

20 8
39

106.5

262

Grounding terminal (M4)

20
26.5
11.5

11

Cable take out direction

B   S

6 70
4-M6 x 1.0 Depth16

20 16

66

(Note 1)

11.5

Weight (kg)	3.5

Note 1. The cable extraction port can be changed.

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XY-X | Cartesian robots
YK-X | SCARA robots
YP-X | Pick & place robots
CLEAN
CONTROLLER
INFORMATION
T type
F type
GF type
N type
R type

R20

■ Ordering method

R20 – [Model] – [Cable entry location] – [Cable length Note 1]

Model

Cable entry location
No entry: Standard (S)
B: From the side

Cable length Note 1
3L: 3.5m
5L: 5m
10L: 10m
3K/5K/10K (Flexible cable)

TSX
Positioner Note 2
TSX: TS-X

Driver: Power-supply voltage / Power capacity
110: 100V/200W or less
210: 200V/200W or less

LCD monitor
No entry: None
L: With LCD

I/O selection
NP: NPN
PN: PNP
CC: CC-Link
DN: DeviceNet™
EP: EtherNet/IP™
PT: PROFINET
GW: No I/O board Note 3

Battery
B: With battery (Absolute)
N: None (Incremental)

SR1-X – **10**
Controller

Driver: Power capacity
10: 200W or less

Usable for CE
No entry: Standard
E: CE marking

I/O selection
N: NPN
P: PNP
CC: CC-Link
DN: DeviceNet™
PB: PROFIBUS

Battery
B: With battery (Absolute)
N: None (Incremental)

RDV-X – **2** – **10** – **RBR1**
Driver

Power-supply voltage
2: AC200V

Driver: Power capacity
10: 200W or less

Regenerative unit

Note 1. The robot cable is standard cable (3L/5L/10L), but can be changed to flexible cable. See P.732 for details on robot cable.
Note 2. See P.634 for DIN rail mounting bracket.
Note 3. Select this selection when using the gateway function. For details, see P.96.

■ Specifications

AC servo motor output (W)	200
Repeatability (°)	+/-0.0083
Maximum speed (°/sec)	360
Maximum allowable moment inertia (kgm²[kgfcms²])	1.83 [18.7]
Rated torque (Nm[kgfm])	21.46 [2.19]
Speed reduction ratio	1/50
Rotation range (°)	360
Cable length (m)	Standard: 3.5 / Option: 5,10
Speed reducer type	Harmonic drive
Position detector	–
Resolution (Pulse/rotation)	16384

■ Maximum allowable moment inertia

Payload parameters W (kg)	1	2	3	4	5	6	7	8	9	10
Maximum allowable moment inertia J (kgfcms²)	0.93	1.8	2.8	3.7	4.6	5.6	6.5	7.4	8.4	9.3

Payload parameters W (kg)	11	12	13	14	15	16	17	18	19	20
Maximum allowable moment inertia J (kgfcms²)	10.2	11.2	12.1	13.1	14	14.9	15.9	16.8	17.7	18.7
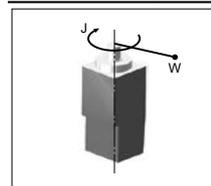
Note. When the weight of a tool or workpiece attached to the shaft R20 is W (kg), its moment of inertia (J) must be smaller than the values shown in the table above. (For example, enter 4kg if W is 3kg and J is 3.7kgf cm sec².) Enter the above mass parameter value for the controller, and optimum acceleration is automatically set based on this value.

Note. For calculation (equation) of the inertia moment, please refer to P.746.

■ Controller

Controller	Operation method
SR1-X10 RCX320 RCX221/222 RCX340	Programming / I/O point trace / Remote command / Operation using RS-232C communication
TS-X110 TS-X210	I/O point trace / Remote command
RDV-X210-RBR1	Pulse train control

R20

5-M8 x 1.25 Depth20 (P.C.D.20)

4-φ6.5 Through hole
φ11 spot facing depth40

Approx. 150 (Cable length)

Grounding terminal (M4)

4-M6 x 1.0 Depth15

MAX. 30

φ98, φ75h8, φ38, φ35h7

Cable take out direction B S

4-M6 x 1.0 Depth20

(Note 1)

Weight (kg)	5.5

Note 1. The cable extraction port can be changed.