RCD-RA1DA

ROBO Cylinder, Ultra-Compact Rod Type, Actuator Width 12mm, DC24V Brushless Motor

Model Specification Items: **RCD** — **RA1DA** — **I** — **3** — **2** — **□** — **D3** — **□**

RCD	RA1DA	I	3	2	□	D3	□
Series	Type	Encoder type	Motor type	Lead	Stroke	Applicable Controller	Cable length
		I: Incremental	3: DC Brushless Motor 2.5W	2: 2mm	10: 10mm ~ 30: 30mm (Every 10mm)	D3: DSEP	N: None P: 1m S: 3m M: 5m X□□: Custom length R□□: Robot cable

* See page Pre-47 for details on the model descriptions.

CE RoHS

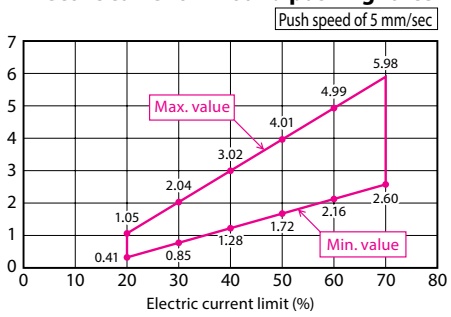
Technical References → Appendix P.5

POINT Notes on Selection

(1) The load capacity is based on operation at an acceleration of 1G. This is the upper limit of the acceleration/deceleration speed.
(2) The horizontal payload is the value when used in combination with an external guide. Please note that if an external force is applied to the rod in a direction other than the proper direction the rod travels, the detent may get damaged.
(3) The push motion is when operated at 5mm/s.
(4) Since this model uses a lead screw, the actuator specifications may change according to the usage.
(5) Take note that, since there is no brake, the rod may come down when the power is turned off if the actuator is used vertically.
(6) See page A-71 for details on push motion.

■ Electric Current Limit and Pushing Force

Electric current limit and pushing force



* The ranges shown in this graph take into account efficiency deterioration caused by wear on the lead screw. Always use the product within the maximum and minimum values.

Actuator Specifications

■ Lead and Payloads

Model number	Motor output (W)	Feed Screw	Lead (mm)	Maximum payload Horizontal (kg)	Maximum payload Vertical (kg)	Maximum push force (N)	Stroke (mm)
RCD-RA1DA-I-3-2-①-D3-②	2.5	Lead screw	2	0.7	0.3	4.2	10 to 30 (every 10 mm)

■ Stroke and Maximum Speed

Lead (mm)	10~30 (every 10mm)
2	300

(Unit: mm/s)

Legend ① Stroke ② Cable length *See page A-71 for details on push motion.

①Stroke

Stroke (mm)	Standard price
10	—
20	—
30	—

②Cable Length

Type	Cable symbol	Standard price
Standard type	**P** (1m)	—
	S (3m)	—
	M (5m)	—
Special length	**X06** (6m) ~ **X10** (10m)	—
	X11 (11m) ~ **X15** (15m)	—
	X16 (16m) ~ **X20**(20m)	—
Robot cable	**R01** (1m) ~ **R03**(3m)	—
	R04 (4m) ~ **R05**(5m)	—
	R06 (6m) ~ **R10** (10m)	—
	R11 (11m) ~ **R15** (15m)	—
	R16 (16m) ~ **R20**(20m)	—

* See page A-59 for cables for maintenance.

Actuator Specifications

Item	Description
Drive method	Ball screw, ø3mm
Positioning repeatability	±0.05mm
Lost motion	0.2mm or less
Encoder resolution	400 pulses/rev
Base	Material: Aluminum, white alumite treated
Allowable static moment	0.02 N•m
Rod non-rotation precision	±3 deg
Ambient operating temperature/humidity	0 to 40°C, 85% RH max. (Non-condensing)
Service life	10 million cycles (for horizontal and vertical)

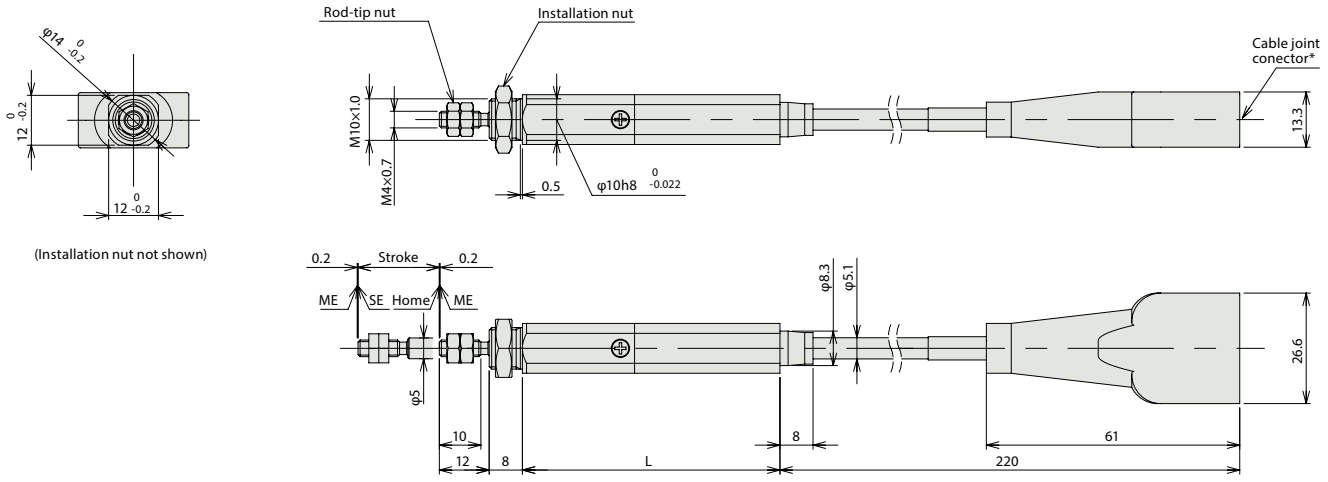
Dimensional Drawings

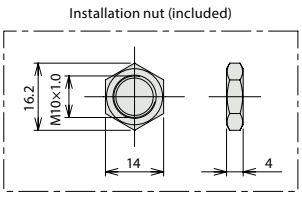
CAD drawings can be downloaded from the website. www.intelligentactuator.com

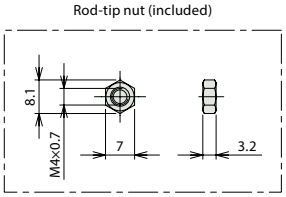
Technical References Appendix P.15

2D CAD 3D CAD

(*) Connect the motor-encoder integrated cable here. (See page A-59 for details on cables.)







ME: Mechanical end
SE: Stroke end

Stroke	10	20	30
L	52	62	72
Weight (g)	47	51	55

Applicable Controllers

RCD series actuators can be operated with the controllers indicated below. Select the type according to your intended application.

Name	External view	Model	Description	Maximum number of positioning points	Input Voltage	Power-supply capacity	Standard price	See Page
Solenoid valve type		DSEP-C-3I-Ⓘ-2-0	Operable with the same signal as a solenoid valve. Supports both single and double solenoid types.	3 points	DC24V	(Standard specification) Rated: 0.7A Maximum: 2.5A	—	→ P547
Dust-proof solenoid valve type		DSEP-CW-3I-Ⓘ-2-0						

* Ⓘ indicates I/O type (NP/PN).