

# EC-R7

Model Specification Items

EC — R7  
Series — Type

Lead

Stroke

Cable Length

Options

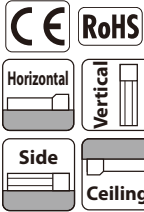
S : 24mm  
H : 16mm  
M : 8mm  
L : 4mm

50: 50mm  
300: 300mm  
(Every 50mm)

0: With terminal block type connector  
1: 1m  
10: 10m

Refer to Options below.

\* Please refer to P.13 for more information about the model specification items.



\* Depending on the model, there may be some limitations to using the vertical, side, and ceiling mount positions. Please contact IAI for more information regarding mounting positions.



- (1) The maximum acceleration/deceleration is 1G for horizontal, and 0.5G for vertical use.
- (2) The actuator specifications displays the payload's maximum value, but it will vary depending on the acceleration and speed. Please refer to "Table of Payload by Speed/Acceleration" at right for more details.
- (3) The value of the horizontal payload assumes that there is an external guide. Please be aware that the anti-rotation stopper can be damaged when an external force is applied to the rod from any direction other than the moving direction.
- (4) When performing push operation, refer to P.31.
- (5) Depending on the ambient operating temperature, duty control is necessary. Please refer to P.32 for more information.

Table of Payload by Speed/Acceleration

Lead 24

Speed (mm/s)	Acceleration (G)					
	Horizontal		Vertical			
0	0.3	0.5	0.7	1	0.3	0.5
20	20	18	15	12	3	3
40	20	18	15	12	3	3
60	20	14	12	8	3	3
80	17	12	10	6	3	3
100	14	6	5	4	3	2
120	6	3	2	1.5	2	1
140	5	1	1			
160	2	0.5				

Lead 16

Speed (mm/s)	Acceleration (G)					
	Horizontal		Vertical			
0	0.3	0.5	0.7	1	0.3	0.5
50	50	40	35	30	8	8
100	50	40	35	30	8	8
150	50	35	25	20	7	7
200	25	18	14	10	4.5	4
250	10	5	3	2	2	1
300	2					

Lead 8

Speed (mm/s)	Acceleration (G)					
	Horizontal		Vertical			
0	0.3	0.5	0.7	1	0.3	0.5
60	60	50	45	40	18	18
70	60	50	45	40	18	18
80	60	50	45	40	16	12
90	60	40	31	26	10	9
100	34	20	15	11	5	4
110	12	4	1		2	1

Lead 4

Speed (mm/s)	Acceleration (G)					
	Horizontal		Vertical			
0	0.3	0.5	0.7	1	0.3	0.5
80	80	70	65	60	19	19
35	80	70	65	60	19	19
70	80	70	65	60	19	19
105	80	60	50	40	18	18
140	50	30	20	15	12	10
175	15				2	

Actuator Specifications

Lead and Payload

Model	Lead (mm)	Max. payload		Max. Push force (N)
		Horizontal (kg)	Vertical (kg)	
EC-R7S-①-②-③	24	20	3	182
EC-R7H-①-②-③	16	50	8	273
EC-R7M-①-②-③	8	60	18	547
EC-R7L-①-②-③	4	80	19	1094

Legend: ① Stroke ② Cable Length ③ Option

Stroke and Max. Speed

(Unit: mm/s)

Lead (mm)	50~300 (Every 50mm)
24	860 <640>
16	700 <560>
8	350
4	175

<> represents vertical operation.

① Stroke

① Stroke (mm)	EC-R7	① Stroke (mm)	EC-R7
50	○	200	○
100	○	250	○
150	○	300	○

② Cable Length

Cable code	Cable length
0	No cable (with connector)
1 to 3	1 to 3m
4 to 5	4 to 5m
6 to 10	6 to 10m

② Options

Type	Option code	Reference page
Brake	B	See P.29
Flange (front)	FL	See P.29
Foot bracket	FT	See P.29
Tip adapter (Internal thread)	NFA	See P.30
Non-motor end specification	NM	See P.30
PNP specification	PN	See P.30
Battery-less Absolute Encoder specification	WA	See P.30

Actuator Specifications

Item	Description
Drive system	Ball screw ø12mm, rolled C10
Positioning repeatability	±0.05mm
Rod	ø30 Material: Aluminum, hard alumite treatment
Static allowable torque on rod tip	0.5N·m
Rod tip maximum angular displacement (*)	±1.5 degrees
Ambient operating temperature/humidity	0 to 40°C, 85% RH or less (Non-condensing)

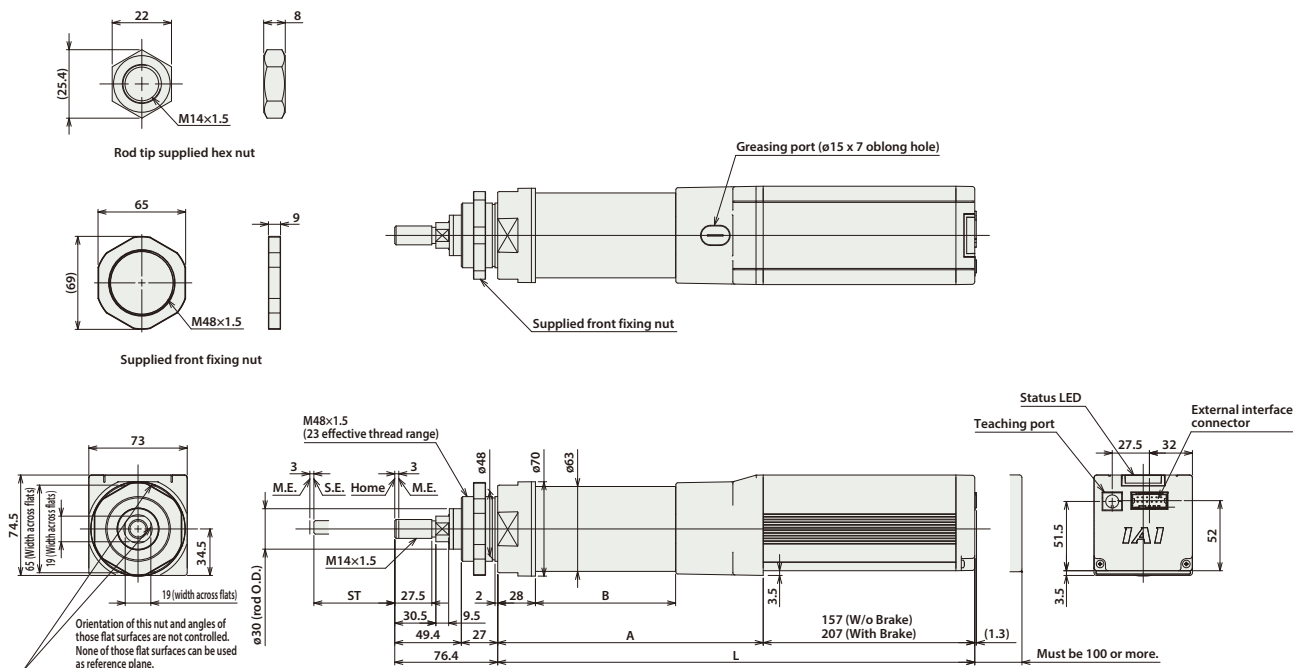
(\*) The rod tip angular displacement (initial value for reference) when the rod tip static allowable torque is applied with the rod fully retracted.

Dimensions

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



\*1 When the rod is returning to its home position, please be careful of interference from surrounding objects, as it will travel until it reaches the M.E.  
M.E: Mechanical end S.E: Stroke end



■ Dimensions and Mass by Stroke

Stroke	50	100	150	200	250	300	
L	W/o Brake	354	404	454	504	554	604
	With Brake	404	454	504	554	604	654
A	197	247	297	347	397	447	
B	104	154	204	254	304	354	
Weight (kg)	W/o Brake	3.3	3.5	3.7	3.9	4.1	4.3
	With Brake	3.5	3.7	3.9	4.1	4.3	4.5

Controller Side Options

Name	Touch Panel Teaching Pendant	PC software	24VDC power supply
External view			
Model	TB-02-C	RCM-101-MW (RS232 connection version) RCM-101-USB (USB connection version)	PS-241 (100V input) PS-242 (200V input)
Overview	A teaching device equipped with functions such as start point, end point, and AVD input, trial operation, and monitoring	Software for start point input, end point input, and AVD input, trial operation, and monitoring using a PC	Power supply with maximum instantaneous output of 17A

\* For system configurations using the above tools, refer to P.33.