#### Body Width S)-RA4R Battery-Motor **24**<sub>v</sub> 40 Side-mo Steppe Absolute Type Moto Body width doe not include the width of the side ■ Model RA4R-35P WA Specification mounted motor Applicable Controller/I/O Type Encoder Type — Motor Type Stroke Cable Length Options Items [RCP6] P3: PCON N : None P : 1m Please refer to the options table below. RCP6: Separate Controller WA: Battery-less 35P: Stepper 16: 16mm 50: 50mm RCP6S: Built-in Controller Absolute Motor 10: 10mm 5: 5mm MCON MSEL [RCP6S] S : 3m M: 5m 35□ Size 5mm 200: 200mm \*Please make sure to specify ML, MR or MT 2.5: 2.5mm (50mm increments) \* RCP6 does not include a controller. RCP6S includes a built-in controller. X□□ : Specified Length when ordering the side R□□ : Robot Cable mounted motor type. SE: SIO Type



\*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.



The figure above is the motor side-mounted to the left (ML).

Actuator Specifications

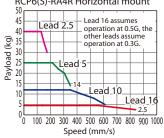
- The maximum acceleration/deceleration is 1G for horizontal, and 0.5G for vertical use.
- (2) The actuator specification displays the payload's maximum value, but it will vary depending on the acceleration and speed. Please refer to the "Selection Guidelines" (RCP6 Tables of Payload by Speed/Acceleration) on P.115 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-motion operation, please confirm the push force of each model by checking the "Correlation diagram of push force and current limit" on P.113.

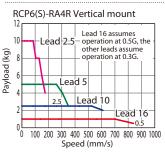
Enabled

See P.110

# Correlation Diagrams of Speed and Payload

High-output enabled with PCON/MCON/MSEL connected. RCP6(S)-RA4R Horizontal mount





### ■ Lead and Payload Max. Payload Connected Lead Model Number Controller rizontal (kg) | Vertical (kg (mm) High-output RCP6(S)-RA4R-WA-35P-16-①-②-③-④ 16 5 Enabled High-output 10 12 2.5 50~200 Enabled The incremof of stroke in 50mm) High-output RCP6(S)-RA4R-WA-35P-5-①-②-③-④ 25 5 Fnabled High-output

Legend: ① Stroke ② Applicable controller/I/O type ③ Cable length ④ Options

RCP6(S)-RA4R-WA-35P-2.5-①-②-③-④

|                 | ■ Str        | (Unit: mm/s)            |                        |  |
|-----------------|--------------|-------------------------|------------------------|--|
| ā               | Lead<br>(mm) | Connected<br>Controller | 50~200<br>(Every 50mm) |  |
| O<br>nent<br>is | 16           | High-output<br>Enabled  | 840                    |  |
|                 | 10           | High-output<br>Enabled  | 610                    |  |
|                 | 5            | High-output<br>Enabled  | 350                    |  |
|                 | 2.5          | High-output<br>Enabled  | 175                    |  |
|                 |              | Enabled<br>High-output  |                        |  |

| U Stroke    |      |       |             |      |       |  |  |  |  |
|-------------|------|-------|-------------|------|-------|--|--|--|--|
|             |      |       |             |      |       |  |  |  |  |
| Stroke (mm) | RCP6 | RCP6S | Stroke (mm) | RCP6 | RCP6S |  |  |  |  |
| 50          | 0    | 0     | 150         | 0    | 0     |  |  |  |  |
| 100         | 0    | 0     | 200         | 0    | 0     |  |  |  |  |

| Toptions                        |             |                |
|---------------------------------|-------------|----------------|
|                                 |             |                |
| Name                            | Option Code | Reference Page |
| Brake                           | В           | See P.105      |
| Cable exit direction (Outside)  | CJO         | See P.105      |
| Flange                          | FL          | See P.106      |
| Foot bracket                    | FT          | See P.107      |
| Motor side-mounted to the left  | ML          | See P.109      |
| Motor side-mounted to the right | MR          | See P.109      |
| Motor side-mounted to the top   | MT          | See P.109      |
| Tip adapter (Internal thread)   | NFA         | See P.109      |
| Management and an authorities   | NIAA        | C D 110        |

NTR

# When selecting multiple options, please list them in alphabetical order. (e.g. B-CJB-NM)

| ③ Cable Length   |                      |      |       |  |  |  |
|------------------|----------------------|------|-------|--|--|--|
| Cable Type       | Cable Code           | RCP6 | RCP6S |  |  |  |
|                  | <b>P</b> (1m)        | 0    | 0     |  |  |  |
| Standard         | <b>S</b> (3m)        | 0    | 0     |  |  |  |
|                  | M (5m)               | 0    | 0     |  |  |  |
|                  | X06 (6m) ~X10 (10m)  | 0    | 0     |  |  |  |
| Specified Length | X11 (11m) ~X15 (15m) | 0    | 0     |  |  |  |
|                  | X16 (16m) ~X20 (20m) | 0    | 0     |  |  |  |
|                  | R01 (1m) ~R03 (3m)   | 0    | 0     |  |  |  |
|                  | R04 (4m) ~R05 (5m)   | 0    | 0     |  |  |  |
| Robot Cable      | R06 (6m) ~R10 (10m)  | 0    | 0     |  |  |  |
|                  | R11 (11m) ~R15 (15m) | 0    | 0     |  |  |  |
|                  | R16 (16m) ~R20 (20m) | 0    | 0     |  |  |  |
|                  |                      |      |       |  |  |  |

<sup>\*</sup> Please refer to P.144 for more information regarding the maintenance cables.

| Actuator Specifications                   |  |
|---|--|
| ltem                                      | Description  |
| Drive system                              | Ball screw φ8mm, rolled C10                          |
| Positioning repeatability                 | ±0.01mm  |
| Lost motion                               | 0.1mm or less  |
| Rod                                       | φ20mm Material: Aluminum with hard alumite treatment |
| Static allowable torque on rod tip        | 1.0N•m   |
| Max. angular displacement on rod tip (*1) | ±1.0 deg.  |
| Ambient operating temp. & humidity        | 0~40°C, 85% RH or less (Non-condensing)              |

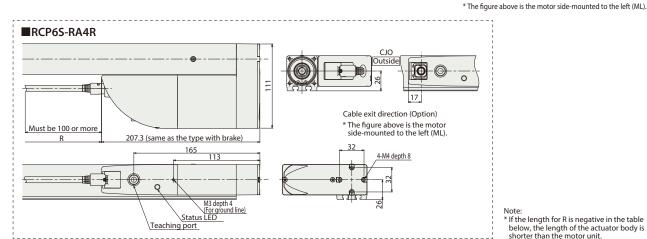
<sup>(\*1)</sup> This is the displacement angle of the rod tip (initial reference value) when the rod is fully retracted and the static allowable torque is applied at the rod tip.

Non-motor end specification

T-slot nut bar

### Dimensions \*1 When the rod is returning to its home position, please be careful of interference from CAD drawings can be downloaded from our website surrounding objects, as it will travel until it reaches the M.E. www.intelligentactuator.com M.E: Mechanical end S.E: Stroke end \*2 The direction of width across flats varies depending on the product. Grease nipple (\( \psi 2.5 \) hole) (Top and side) ----Supplied hex nut Must be 100 or more 187.5 (same as the type with brake) 4-M4 depth 8 133 (0.5) Home/ M.E. M.E. 7 (26) M3 depth 4 (For ground line), 438 F 420 35.5 (Motor side-mounted to the left) 16.5 (Motor side-mounted to the right) is indeterminable (\*2) M10×1.25/ 9.5 40 (1) CJO Outside

Detail view of P



Cable exit direction (Option)

Note:

\* If the length for R is negative in the table below, the length of the actuator body is shorter than the motor unit.

## ■ Dimensions and Mass by Stroke

| Strok    | e            | 50  | 100                                    | 150  | 200  |
|----------|--------------|---|--|--|--|
| L        |              | 179   | 229                                    | 279  | 329  |
| Α        |              | 148   | 198                                    | 248  | 298  |
| RC       | IP6          | -8.5  | 41.5                                   | 91.5   | 141.5  |
| RC       | P6S          | -28.3                                       | 21.7                                   | 71.7   | 121.7  |
| DCD6     | w/o brake    | 1.5   | 1.7                                    | 1.9  | 2.1  |
| ncro     | w/brake      | 1.6   | 1.8                                    | 2  | 2.2  |
| DCD60    | w/o brake    | 1.6   | 1.8                                    | 2  | 2.2  |
| w/ brake |              | 1.7   | 1.9                                    | 2.1  | 2.3  |
|          | L<br>A<br>RO | RCP6<br>RCP6S<br>RCP6 w/o brake<br>w/ brake | L 179 A 148 RCP6 -8.5 RCP6S -28.3 RCP6 | L 179 229<br>A 148 198<br>RCP6 -8.5 41.5<br>RCP65 -28.3 21.7<br>RCP6 Wobrake 1.5 1.7<br>W/brake 1.6 1.8<br>RCP6S Wobrake 1.6 1.8 | A 179 229 279 A 148 198 248 RCP6 -8.5 41.5 91.5 RCP65 -28.3 21.7 71.7 RCP6 |

| he RCP6 series actuators ca | n be operated by |                                |                            | . Please select t  | he type dependi | ing on your inte                                   | nded use. * Please   | refer to P.147 for mo       | re information about the buil  | t-in controller of RCP6S series       |
|-----------------------------|------------------|--------------------------------|----------------------------|--|-----------------|--|--|-----------------------------|--------------------------------|---------------------------------------|
|                             | External view    | Max. number of controlled axes |                            | Control method  Positioner   Pulse train   Program   Network *Option   Control   Pulse train   Program   Network *Option   Control   Pulse train   Program   Network *Option   Control   Pulse train   Program   Network *Option   Pulse train   Pulse train |                 |  | Maximum number of positioning points   | Reference page              |                                |                                       |
| PCON-CB/CGB                 | Î                | 1                              | DC24V                      | *Option  | *Option         | -  | DeviceNet WMEDWIROUNK  |                             | 512<br>(768 for network spec.) | Please see P.131                      |
| MCON-C/CG                   | 1111             | 4                              | DC24V                      | This model is network-compatible only.   |                 | CompoNet  Note:  - The type of compatible networks | 256  | Please see the MCO catalog. |                                |                                       |
| MSEL-PC/PG                  | 1                | 4                              | Single-phase<br>100~230VAC | -  | -               | •  | will vary depending on the controller.  Please refer to reference page for more information. |                             | 30,000                         | Please see the MSEL<br>PC/PG catalog. |