

# RCS2-RTC8L

ROBO Cylinder, Hollow Rotary, Small Standard Type, Actuator Width 85mm, 200V servo Motor

# RCS2-RTC8HL

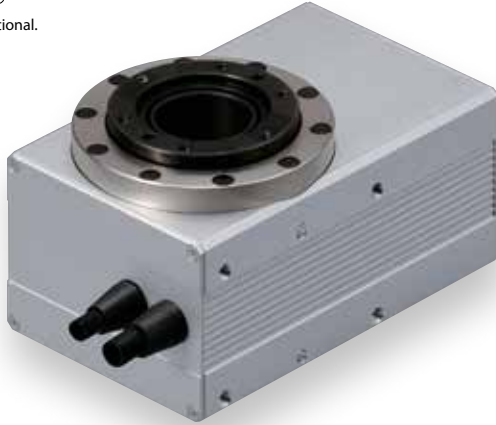
ROBO Cylinder, Hollow Rotary, Small High Output Type, Actuator Width 85mm, 200V servo Motor

|                           |                            |                               |  |  |                                      |   |  |                          |                          |
|---------------------------|----------------------------|-------------------------------|--|--|--------------------------------------|---|--|--------------------------|--------------------------|
| Model Specification Items | <b>RCS2</b>                | <input type="checkbox"/>      | <input type="checkbox"/>                   | <input type="checkbox"/>                                   | <input type="checkbox"/>             | <b>360</b>  | <b>T2</b>  | <input type="checkbox"/> | <input type="checkbox"/> |
|                           | Series                     | Type                          | Encoder type                               | Motor type   | Deceleration Ratio                   | Oscillation Angle                                 | Applicable controller  | Cable length             | Options                  |
|                           | RTC8L: Small standard type | I: Incremental<br>A: Absolute | 12: 12W Servo motor<br>20: 20W Servo motor | 15: 1/15 deceleration ratio<br>24: 1/24 deceleration ratio | 360: 360-degrees (multiple rotation) | T2: SCON<br>MSCON<br>SSEL<br>XSEL-P/Q<br>XSEL-R/S | N: None<br>P: 1m<br>S: 3m<br>M: 5m<br>X <input type="checkbox"/> : Custom length<br>R <input type="checkbox"/> : Robot cable | See Options below.       |                          |

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



\*CE compliance is optional.



Technical References Appendix P.5

**POINT**  
Notes on selection

- The rated and maximum acceleration is 0.3G.
- Positioning mode can move between 0 to 9,999.99 deg (0 to 7,670.99 deg with reduction ratio of 1/24). Index rotation mode can move from 0 to 359.99 deg. (Once the actuator moves beyond 359.99 deg, it resets to 0 without having to rotate back to home.)
- Actuator may vibrate as it moves if the speed is lower than 100 deg/s. Please drive the unit at or above 100mm/s.

### Actuator Specifications

#### Leads and Payload

| Model number                   | Motor Output (N) | Deceleration Ratio | Max. Torque (N · m) | Allowable Movement of Inertia (kg · m <sup>2</sup> ) | Oscillation Angle (deg) |
|--------------------------------|------------------|--------------------|---------------------|--|-------------------------|
| RCS2-RTC8L-①-12-24-360-T2-②-③  | 12               | 1/24               | 0.55                | 0.011  | 360 (*)                 |
| RCS2-RTC8HL-①-20-15-360-T2-②-③ | 20               | 1/15               | 0.53                | 0.01   |                         |
| RCS2-RTC8HL-①-20-24-360-T2-②-③ |                  | 1/24               | 0.85                | 0.017  |                         |

#### Deceleration Ratio and Max. Speed

| Deceleration ratio | Stroke | 360 (deg) |
|--------------------|--------|-----------|
|                    | 1/15   | 1200      |
| 1/24               | 750    |           |

(Unit: degrees/s)

Code explanation ① Encoder type ② Cable length ③ Options

\* Refer to "POINT Notes on Selection" above.

#### ① Encoder Type

| Type   | Standard price |          |
|--------|----------------|----------|
|        | ① Encoder Type |          |
|        | Incremental    | Absolute |
| RTC8L  | —              | —        |
| RTC8HL | —              | —        |

#### ② Cable Length

| Type           | Cable symbol          | Standard Price |
|----------------|-----------------------|----------------|
| Standard       | 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.

#### ③ Options

| Name                            | Option code | See page | Standard price |
|---------------------------------|-------------|----------|----------------|
| Brake                           | B           | → A-42   | —              |
| CE compliance                   | CE          | → A-42   | —              |
| Limit switch (standard feature) | L           | → A-51   | —              |
| Reversed-rotation               | NM          | → A-52   | —              |

#### Actuator Specifications

| Item                                    | Description                                |
|---|--|
| Drive System                            | Timing belt drive system + hypoid gear     |
| Positioning repeatability               | ±0.005 degrees                             |
| Backlash                                | ±0.05 degrees or less                      |
| Allowable thrust load                   | 400N                                       |
| Allowable load moment                   | 5 N·m                                      |
| Brake retention torque                  | 0.42 N·m                                   |
| Weight                                  | 2.3kg                                      |
| Ambient operating temperature, humidity | 0 to 40°C, 85% RH or less (Non-condensing) |

Dimensional Drawings

CAD drawings can be downloaded from the website.

www.intelligentactuator.com

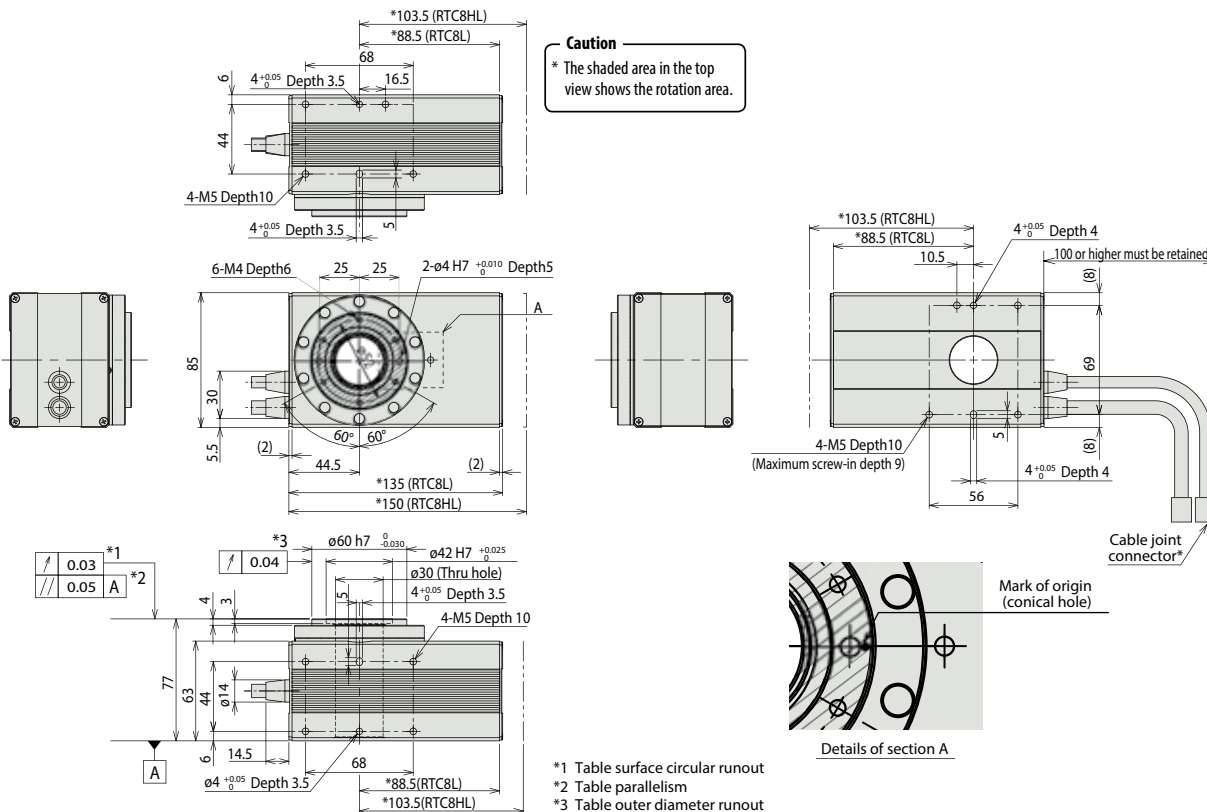


\* Connect the motor and encoder cables here. (See page A-59 for details on cables.)

For Special Orders



Appendix P.15



**Caution**  
\* The shaded area in the top view shows the rotation area.

**Note:**  
The position in the detail A drawing above is the homing location for both standard type/reversed rotation type (Option "-NM"). Looking from the above, the standard type will rotate counter clockwise during homing, and it moves clockwise afterward. Reverse rotation type will move clockwise during homing and moves counter clockwise afterward.

Applicable Controllers

RCS2-series actuators can be operated with the following controllers. Select an appropriate controller type according to your application.

| Name                                | External view | Model number                                       | Features  | Maximum number of positioning points             | Input power  | Power supply capacity   | Standard price | Reference page |
|-------------------------------------|---------------|--|---|--|--|---|----------------|----------------|
| Positioner mode                     |               | SCON-CA-12①-NP-2-②<br>SCON-CA-20①-NP-2-②           | Up to 512 positioning points are supported.                                     | 512 points                                       | Single-phase 100VAC<br>Single-phase 200VAC<br>3-phase 200VAC (XSEL-P/Q/R/S ONLY) | 106 VA max.<br>*Power supply capacity will vary depending on the controller, so please refer to the instruction manual for details. | —              | → P643         |
| Solenoid valve mode                 |               |  | Actuators can be operated through the same control used for solenoid valves.    | 7 points   |  |   |                |                |
| Field network type                  |               |  | Movement by numerical specification is supported.                               | 768 points                                       |  |   |                |                |
| Pulse-train input control type      |               |  | Dedicated pulse-train input type  | (—)  |  |   |                |                |
| Positioner multi-axis, network type |               | MSCON-C-1-12①-④-0-②<br>MSCON-C-1-20①-④-0-②         | Up to 6 axes can be operated. Movement by numerical specification is supported. | 256 points                                       |  |   | → P655         |                |
| Program control type, 1 to 2 axes   |               | SSEL-CS-1-12①-NP-2-②<br>SSEL-CS-1-20①-NP-2-②       | Program operation is supported. Up to 2 axes can be operated.                   | 20,000 points                                    |  |   |                | → P685         |
| Program control type, 1 to 8 axes   |               | XSEL-③-1-12①-N1-EEE-2-④<br>XSEL-③-1-20①-N1-EEE-2-④ | Program operation is supported. Up to 8 axes can be operated.                   | Varies depending on the number of axes connected |  |   |                | → P695         |

\* This is for the single-axis MSCON, SSEL, and XSEL.

① indicates the power-supply voltage type (1: 100V / 2: Single-phase 200V).

④ indicates the power-supply voltage type (1: 100V / 2: Single-phase 200V / 3: Three-phase 200V).

② indicates the encoder type (I: Incremental / A: Absolute).

③ indicates the XSEL type (J / K / P / Q / R / S).

\* indicates field network specification symbol.