#### CA2-TWA3NA ROBO Cylinder Mini Table Type Short-Length Wide Type Actuator Width 50 mm 24V Servo Motor Ball Screw Specification/Lead Screw Specification ■ Model Description RCA2 -TWA3NA-10 Series **Encoder type** Motor type Lead Stroke Compatible controllers Option Cable length l: Incremental specification 10: Servo motor 10W 4: Ball screw 4mm 2: Ball screw 2mm 30: 30mm 50: 50mm K2: Connector cable exits from the A3: ACON-CYB/PLB/POB N: None P: 1 m S: 3 m A5: ACON-CB/CGB \* Model number is "I" when used with 1: Ball screw 1mm front A6: RCON M: 5 m 4S: Lead screw 4mm LA: Power-saving RSEL X□□: Length Designation simple absolute unit. 2S: Lead screw 2mm specification \* See page 14 for details on the model descriptions. 1S: Lead screw 1mm



Power-saving specification

- (1) The payload is the value when the actuator is operated at an acceleration of 0.3 G (0.2G for lead 1, if used vertically and for lead screw specification). The acceleration limit is the value indicated above.
- (2) If the actuator is used vertically, pay attention to rod contact because the rod will come down when the power is turned off.

#### **Actuator Specifications Table**

#### ■ Leads and Payloads

| Model  | Motor<br>output (W) | Feed<br>screw | Lead<br>(mm) | Maximum<br>Horizontal (kg) | n payload<br>Vertical (kg) | Rated<br>thrust (N) | Positioning<br>repeatability<br>(mm) | Stroke<br>(mm) |  |
|--|---------------------|---------------|--------------|----------------------------|----------------------------|---------------------|--------------------------------------|----------------|--|
| RCA2-TWA3NA-I-10-4-①-②-③-④                                   |                     |               | 4            | 0.75                       | 0.25                       | 42.7                | ±0.02                                |                |  |
| RCA2-TWA3NA-I-10-2-①-②-③-④                                   | 10                  | Ball<br>screw | 2            | 1.5                        | 0.5                        | 85.5                |                                      | 30<br>50       |  |
| RCA2-TWA3NA-I-10-1-①-②-③-④                                   |                     |               | 1            | 3                          | 1                          | 170.9               |                                      |                |  |
| RCA2-TWA3NA-I-10-4S-①-②-③-④                                  |                     |               | 4            | 0.25                       | 0.125                      | 25.1                |                                      |                |  |
| RCA2-TWA3NA-I-10-2S-①-②-③-④                                  | 10                  | Lead<br>screw | 2            | 0.5                        | 0.25                       | 50.3                | ±0.05                                | 30<br>50       |  |
| RCA2-TWA3NA-I-10-15-①-②-③-④                                  |                     |               | 1            | 1                          | 0.5                        | 100.5               |                                      |                |  |
| Legend ①Stroke ②Compatible Controllers ③Cable length ④Option |                     |               |              |                            |                            |                     |                                      |                |  |

#### ■ Stroke and Maximum Speed

| Lead       | Stroke | 30<br>(mm) | 50<br>(mm) |
|------------|--------|------------|------------|
| Wi         | 4      | 20         | 00         |
| Ball screw | 2      | 10         | 00         |
| Ba         | 1      | 5          | 0          |
| »e         | 4      | 20         | 00         |
| Lead screw | 2      | 10         | 00         |
| Lea        | 1      | 5          | 0          |

(unit: mm/s)

### ① Stroke list

| Stroke (mm) | Standard price |            |  |  |  |  |  |  |  |
|-------------|----------------|------------|--|--|--|--|--|--|--|
|             | Feed screw     |            |  |  |  |  |  |  |  |
| (11111)     | Ball screw     | Lead screw |  |  |  |  |  |  |  |
| 30          | _              | _          |  |  |  |  |  |  |  |
| 50          |                | _          |  |  |  |  |  |  |  |

#### **4** Options

| Title                                | Option code | See page | Standard price |
|--------------------------------------|-------------|----------|----------------|
| Connector cable exits from the front | K2          | _        | _              |
| Power-saving specification           | LA          | _        | _              |

### ③Cable Length

| Туре           | Cable symbol                        | Standard price |
|----------------|-------------------------------------|----------------|
| 6. 1.1.        | <b>P</b> (1m)                       | _              |
| Standard type  | <b>S</b> (3m)                       | _              |
| (Robot cable)  | <b>M</b> (5m)                       | _              |
|                | <b>X06</b> (6m) ~ <b>X10</b> (10m)  | _              |
| Special length | <b>X11</b> (11m) ~ <b>X15</b> (15m) | _              |
|                | X16 (16m) ~ X20 (20m)               | _              |

 $<sup>\</sup>mbox{\ensuremath{^{\ast}}}$  The standard cable for the RCA2 is the robot cable.

#### Actuator Specifications

|                                       | Item                         | Description  |  |  |  |  |  |  |  |
|---------------------------------------|------------------------------|--|--|--|--|--|--|--|--|
| Drive System                          |                              | Ball screw/Lead screw, ø4mm, rolled C10  |  |  |  |  |  |  |  |
| Lost motion                           |                              | Ball screw: 0.1mm or less<br>Lead screw: 0.3 mm or less                                  |  |  |  |  |  |  |  |
| Frame                                 |                              | Material: Aluminum, white alumite treated  |  |  |  |  |  |  |  |
| Dynamic allo                          | wable moment (see note)      | Ma: 9.9 N·m Mb: 9.9 N·m Mc: 9.4 N·m  |  |  |  |  |  |  |  |
| Ambient ope                           | rating temperature, humidity | 0 to 40°C, 85% RH or less (Non-condensing)   |  |  |  |  |  |  |  |
| Service life Lead screw specification |                              | Horizontal specification: 10 million cycles,<br>Vertical specification: 5 million cycles |  |  |  |  |  |  |  |
|                                       | Ball screw specification     | 5,000 km or 50 million cycles (*)  |  |  |  |  |  |  |  |

(Note) For cases when the guide service life has been set to 5,000km.

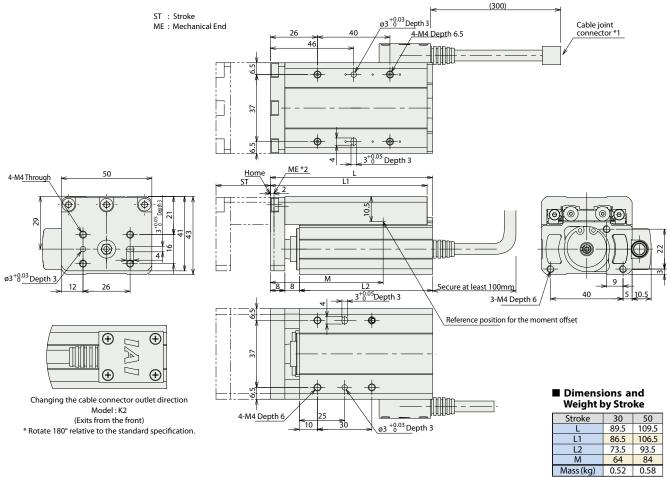
(\*) For lead 1: 3,000 km or 50 million cycles

# Dimensional Drawings

## CAD drawings can be downloaded from the website. WWW.intelligentactuator.com



- \*1 Connect the motor and encoder cables.
- $^{*}2$  During home return, be careful to avoid interference from peripheral objects because the rod travels until the mechanical end.



#### Applicable Controllers

 $The actuators \, on \, this \, page \, can \, be \, operated \, by \, the \, controllers \, indicated \, below. \, Please \, select \, the \, type \, depending \, on \, your \, intended \, use.$ 

|                  | Eutornal      | Max. number of                | Power   |               | Positioner Pulse- Program Network option *1 |         |    |    |     |    |                    |      |     |    |    | Maximum number of | Reference |     |   |                           |
|------------------|---------------|-------------------------------|---------|---------------|---|---------|----|----|-----|----|--------------------|------|-----|----|----|-------------------|-----------|-----|---|---------------------------|
| Name             | External view | connectable axes              | supply  | Positioner    |   |         |    |    |     |    | positioning points | page |     |    |    |                   |           |     |   |                           |
|                  | VICW          | connectable axes              | voltage | 1 Ositionei   | train                                       | riogram | DV | CC | CIE | PR | CN                 | ML   | ML3 | EC | EP | PRT               | SSN       | ECM | positioning points                              | page                      |
| ACON-CB/CGB      |               | 1                             |         | •<br>* Option | •<br>* Option                               | -       | •  | •  | •   | •  | •                  | •    | •   | •  | •  | •                 | -         | -   | 512<br>(768 for network spec.)                  |                           |
| ACON-CYB/PLB/POB | •             | 1                             |         | ●<br>* Option | •<br>* Option                               | -       | -  | -  | -   | -  | -                  | -    | -   | -  | -  | -                 | -         | -   | 64  | Please contact            |
| RCON             | HOM IL        | 16<br>(ML3,SSN,<br>ECM are 8) | 24VDC   | -             | -   | -       | •  | •  | •   | •  | -                  | -    | •   | •  | •  | •                 | •         | •   | 128<br>(No position data for<br>ML3, SSN, ECM), | IAI for more information. |
| RSEL             | ONE TO        | 8                             |         | -             | -   | •       | •  | •  | •   | •  | -                  | -    | -   | •  | •  | •                 | -         | -   | 36000   |                           |

<sup>\*1</sup> For network abbreviations such as DV and CC, please contact IAI.

#### More controller info is available in the General Controller Catalog PDF.

