

Product Overview

IAI ROBOT LINEUP

Industrial Automation Robots



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NEW

Next Generation ROBO Cylinder® RCP6



From an abundant lineup of 92 total models, you can find one that is most suitable for your needs.



Battery-less Absolute Encoder
No Battery, No Maintenance,
No Homing, and No Price Increase.
No Going Back to Incremental.

RCP6(S) SERIES MOTOR STRAIGHT TYPE *Built-in Controller Type (RCP6S) is available



Slider Type
RCP6-SA



Wide Slider Type
RCP6-WSA



Rod Type
RCP6-RA



Radial Cylinder type
RCP6-RAA



Wide Radial Cylinder Type
RCP6-WRA



Table Type
RCP6-TA

- Equipped with high-resolution battery-less absolute encoder as standard.
- Improved positioning repeatability: $\pm 10\mu\text{m}$ (Standard Type), $\pm 5\mu\text{m}$ (High-Precision specification).
- PowerCON compatible.
- Built-in Controller (RCP6S) can be selected for every type.

RCP6(S) SERIES SIDE-MOUNTED MOTOR TYPE *Built-in Controller Type (RCP6S) is available



Slider Type
RCP6-SA



Wide Slider Type
RCP6-WSA



Rod Type
RCP6-RA



Radial Cylinder type
RCP6-RAA



Wide Radial Cylinder Type
RCP6-WRA



Table Type
RCP6-TA

NEW

Servo Press Compatible ROBO Cylinder® with Load Cell

Compact and low-thrust rod type actuator that can even be used for simple pressing. The high-precision position control enables easy adjustment of the push force and the position control, typically difficult for hydraulic equipment. 8 types from a range of 20N-50,000N are available.



20N~200N
RCS3-RA4R



Max. 600N
RCS3-RA6R



Max. 1,200N
RCS3-RA7R



Max. 2,000N
RCS3-RA8R



Max. 6,000N
RCS3-RA10R

- Loading repeatability is $\pm 0.5\%$.
- Variety of product groups: 8 models in the lineup.
- Supports traceability.
- Setting is easy by using a dedicated software.
- Newly developed 3kW motor driver achieved Max. thrust of 5t and Max. speed of 220mm/sec.



Max. 19,600N
RCS2-RA13R



Max. 30,000N
RCS3-RA15R



Max. 50,000N
RCS3-RA20R

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ROBO Cylinder®



These affordable, highly precise and highly rigid actuators have 1/5th the running cost of a pneumatic system

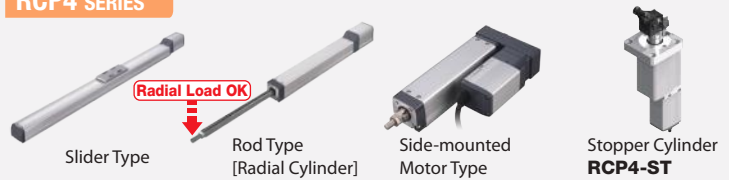
ROBO Cylinder® is high-performance electric actuator equipped with a ball screw, linear guide, and servo motor. These next-generation actuators have multi-point positioning capability as well as the ability to change speed and acceleration, unlike anything seen with air cylinders.

RCP5 SERIES



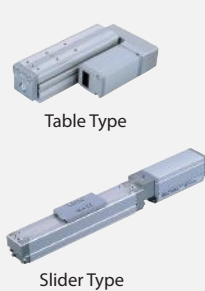
- Battery-less absolute encoder as standard equipment.
- By using a PowerCON, it has 1.5 times higher speeds and double the payload compared to traditional models.

RCP4 SERIES

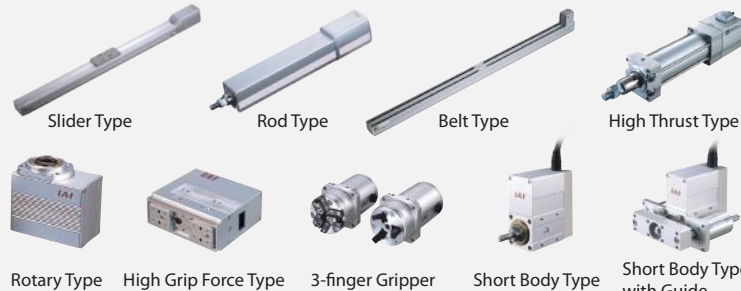


- By using a PowerCON, it has 1.5 times higher speeds and double the payload compared to traditional models.

RCP3 SERIES

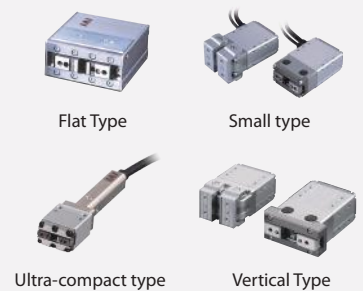


RCP2 SERIES STEPPER MOTOR TYPE WITH HIGH PERFORMANCE

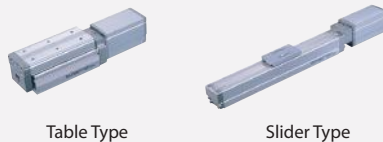


- A high push force is achieved utilizing the characteristics of stepper motors.
- An abundance of sizes and variations is available to meet a wide range of applications.

RCP4/RCP2/RCD GRIPPER

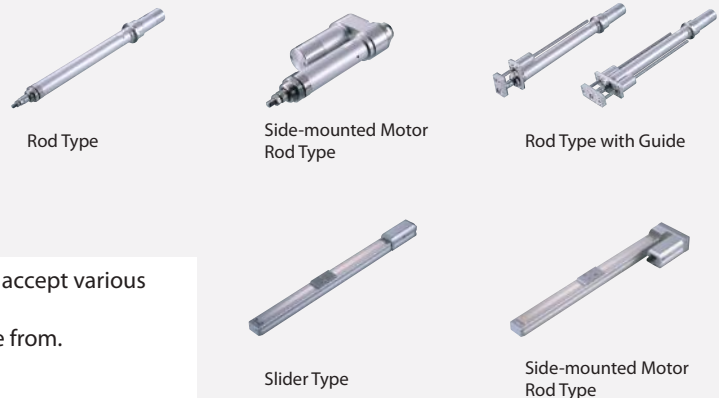


RCA2 SERIES



- Shaped similar to a rod-type air cylinder, these actuators accept various mounting brackets that are used on air cylinders.
- Three motor installation methods are available to choose from.
- An optional home check sensor can be set.

RCA SERIES 24V SERVO MOTOR TYPE



RCS3 SERIES



RCS2 SERIES 100V/200V SERVO MOTOR TYPE



- Equipped with a servo motor, these actuators support high loads and long strokes.
- When an XSEL controller is used, you can combine three or more axes.
- Compatible with DeviceNet, CC-Link, and other field networks.

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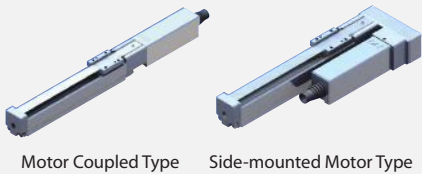
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Mini ROBO Cylinder®



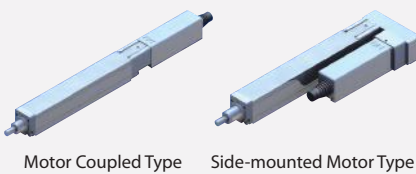
Next-generation electric actuators, the solution for space constrained applications

RCP3 MINI SLIDER TYPE



Motor Coupled Type Side-mounted Motor Type

RCP3 MINI ROD TYPE



Motor Coupled Type Side-mounted Motor Type

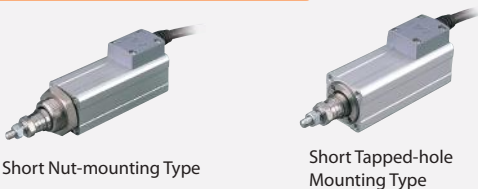
RCA2 MINI SLIDER TYPE



Motor Coupled Type Side-mounted Motor Type

- Replacement is simple with the coupled type motor.
- You can choose from the straight type (motor coupled type) and the side-mounted motor type.

RCA2/RCS2 MINI ROD TYPE



Short Nut-mounting Type Short Tapped-hole Mounting Type

RCA2/RCS2 MINI ROD TYPE

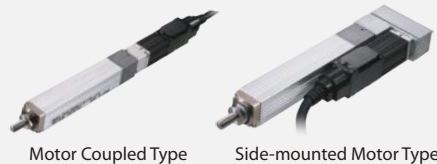


Dust-proof / Splash-proof Type



Short Free Mounting Type with Single Guide Short Free Mounting Type with Double Guides Short Slide Unit Type with Double Guides

RCA2 MINI ROD TYPE



Motor Coupled Type Side-mounted Motor Type

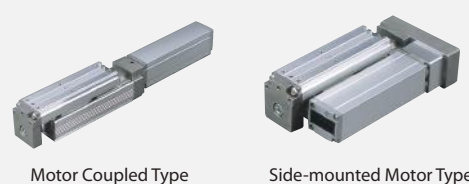
- You can choose between the slim motor coupled type and the short free mounting type, that has significantly reduced in length.
- You can choose between built-in guide type which allows for increased rigidity and straightness, or the external guide type which has significantly been reduced in size.

RCA2/RCS2 MINI TABLE TYPE



Short Compact Type Short Wide Type Short Flat Type

RCP3/RCA2 MINI TABLE TYPE



Motor Coupled Type Side-mounted Motor Type

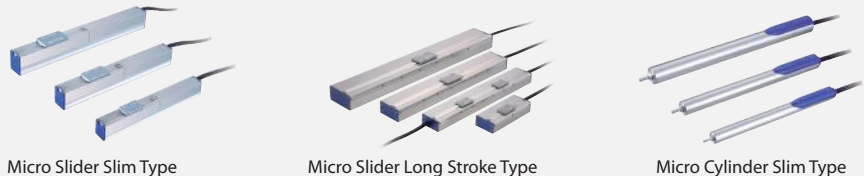
- The built-in guide allows the actuator to hold overhung loads.
- You can choose between the compact short type and the motor coupled type with longer stroke.

RCD MINI CYLINDER



Ultra-compact Type

RCL MINI LINEAR SERVO TYPE



Micro Slider Slim Type Micro Slider Long Stroke Type Micro Cylinder Slim Type

- The smallest in the industry with a cross-section size of 12mm.
- The built-in encoder allows position control.

- By using linear motors, these actuators operate at a g-force (in speeds and acceleration force) of up to 2G.
- The slider and rod types are available. The slider-type has six different kinds based on size and stroke.
- The multi-slider type, which has two independently-working sliders installed on one axis, is available.

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Single-axis Robots

Intelligent actuators with high-speed and high-transfer capabilities



Standard Type: **ISB**
High-precision Type: **ISPB**



High-rigidity Type
(Steel-base)
SSPA



Simple Dust-proof Type
ISDB/ISPDB



High-rigidity
Belt-drive Type
IF



Slim Belt-drive Type
FS



Rotary Type
RS



Vertical / Rotational
Integral Type: **ZR**



Nut Rotational Type
NS

NEW ISB/ISDB Series equipped with Battery-less Absolute Encoder as standard.

NEW ISB/ISDB Series equipped with 3x lead ball screws.

- Many variations are available to meet diverse applications.
- The guide is integrated with the base for the linear actuators.

Cleanroom Types

Dedicated cleanroom types conforming to cleanliness class 10

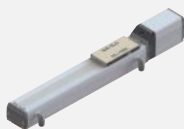
Coming Soon



Stepper Motor
RCP6C (S) CR



Stepper Motor
RCP5CR



Stepper Motor
RCP4CR



Servo Motor
RCACR



Servo Motor
RCS2CR/RCS3CR



High-performance Type
ISDBCR/ISPDBCR



Anti-static Type
ISDBCR-ESD



Gripper Type
RCP2CR-GR



Rotary Type
RCP2CR-RT

NEW



SCARA Robot
IXP-□C



SCARA Robot
IX-NNC



Ultra-compact
SCARA Robot
IX-NNC



Direct Drive
Motor
DDACR

- A well sealed structure allows it to achieve a cleanliness class 10.
- A wide variety of products are available, from ROBO Cylinder® all the way to single-axis actuators and SCARA robots.

Splash-proof/Dust-proof Types

These actuators offer protection conforming to IP54~IP67, and are a desirable solution when operated in adverse environments.

NEW



Stepper Motor Radial Cylinder Type
RCP5W-RA6/7/8/10



Stepper Motor Slider Type
RCP4W-SA5/6/7



Stepper Motor Rod Type
RCP4W-RA6/7



Stepper Motor Slider Type
RCP2W-SA16C



Stepper Motor Rod Type
RCP2W-RA4C/RA6C



Stepper Motor
High-thrust Rod Type
RCP2W-RA10C



Servo Motor Rod Type
RCS2W-RA4
RCAW-RA3/4



Gripper Type
RCP2W-GR



Rotary Type
RCP2W-RT



Slider Type
ISWA/ISPWA



SCARA Robot
IXP-□W



SCARA Robot
IX-NNW



Direct Drive Motor

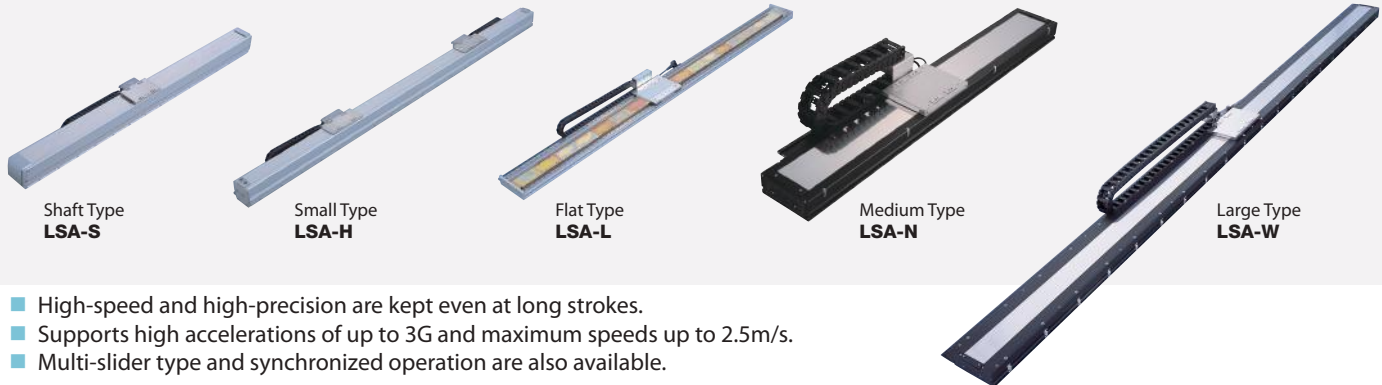
- These actuators handle environments with extreme dust or water splashes.
- Many variations are available to meet diverse applications.

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LSA Series Linear Servo Actuators

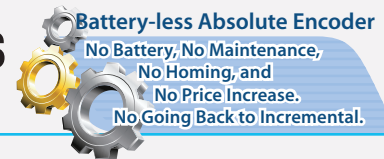
A full lineup of linear servo actuators to meet your needs
Maximum payload of up to 120kg and maximum strokes of up to 4m



- High-speed and high-precision are kept even at long strokes.
- Supports high accelerations of up to 3G and maximum speeds up to 2.5m/s.
- Multi-slider type and synchronized operation are also available.

IXP Series PowerCON SCARA® Robots

All models come standard with battery-less absolute encoders



POWERCON SCARA ROBOT ARM LENGTH 180/250/350/450/550/650mm



- All models come standard with battery-less absolute encoders.
- The encoder resolution has increased to 10 times that of the existing IXP.
- The cost of IXP is around half of the traditional models.
- Lighter than conventional models.
- The regular cycle time is about 60% shorter than conventional cartesian robots.
- Added 3-axis specification, 4-axis with gripper specification.
- Equipped with optimal speed and acceleration/deceleration settings.

IX Series SCARA Robots

The IX SCARA robots feature high performance and functionality



SCARA ROBOT ARM LENGTH 250/350/500/600/700/800mm



- Achieves high speeds, payload and precision.
- Easy programming makes these actuators much more user-friendly.
- It supports a wide variety of arm lengths, ranging from 250mm to 800mm.

ULTRA-COMPACT SCARA ARM LENGTH 120/150/180mm



- The compact size of the robot allows you to reduce the size of your production equipment.
- The rated payload of 0.2kg can be increased up to a maximum of 1kg.
- High-speed performance with a cycle time of 0.35sec.

SUPER-LARGE SCARA ROBOT ARM LENGTH 1,000/1,200mm

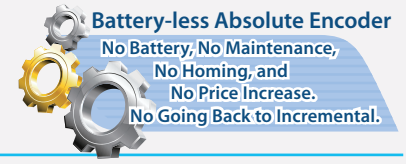


- Achieves high-speed, payload and precision.
- Each arm length type can carry up to 50kg.
- All high-speed performance with a standard cycle time of 0.66sec.

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TTA Series Tabletop Robots

Improved tabletop robots for cell productions, R&D applications, and more



Gate Type



2-axis Specification



3-axis Specification



4-axis Specification

Cantilever Type



2-axis Specification



3-axis Specification



4-axis Specification

- NEW** Every model equipped with battery-less absolute encoder as standard.
- NEW** AC Servo Motor specification added to the series.
- NEW** Max. payload: X-axis: 30kg Z-axis: 15kg (AC servo motor), Max. speed: XY-axis: 1200mm/s Z-axis: 40mm/s (AC servo motor)
- NEW** Improved positioning repeatability: $\pm 0.005\text{mm}$ (AC servo motor) / $\pm 0.01\text{mm}$ (Stepper motor spec)
- NEW** The SEL Program Generator eliminates the tedious work of program creation.

CT4 High-speed Cartesian Robots

High-speed cartesian robot that shortens assembly / inspection cycle times by operating at high speed, ensuring high rigidity, and demonstrating excellent straight moving performance.



- Maximum speed 2.5m/s, maximum acceleration/deceleration 3.2G.
- Acceleration is significantly improved (conventionally 0.3 ~ 1.0G) and standard cycle time is reduced by 32% compared to conventional cartesian robots.
- Rotational axis specification and pick & rotate specification are added to the series.

DDW, DDA Direct Drive Motors

High speed/payload/precision, easy control, and compact: A direct drive motor that achieved high cost-performance.



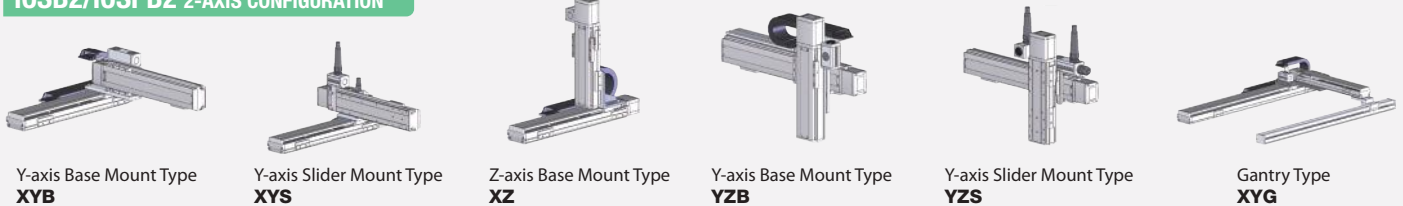
- NEW** Positioning repeatability ± 0.00103 degree ($\pm 3.7\text{s}$), Index accuracy ± 0.00833 degree ($\pm 30\text{s}$) with SCON-CB & High resolution type.(DDA)
- Maximum speed of 1,800°/s and acceleration/deceleration of 6.0G can make faster positioning time possible.(DDA)
- Standard or Cleanroom (Hollow bore: $\varnothing 52\text{mm}$), Standard with Brake (Hollow bore: $\varnothing 35\text{mm}$) specifications, Slim or High-torque types in lineup. Flange option, DDW Splash-proof/Dust-proof type are available.

Cartesian Robots

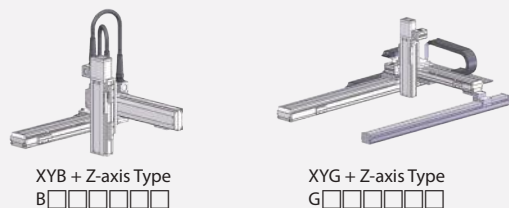
Pre-configured cartesian robots that reduce installation and setup times

Note Please contact IAI for more variations.

ICSB2/ICSPB2 2-AXIS CONFIGURATION



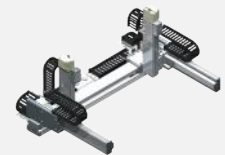
ICSB3/ICSPB3 3-AXIS CONFIGURATION



ICSPA4 4-AXIS CONFIGURATION



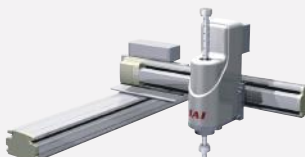
ICSPA6 6-AXIS CONFIGURATION



IK SERIES MULTI-AXIS ROBO CYLINDER KITS



CARTESIAN SYSTEM WITH ZR UNIT



- Many variations are available to support 2 to 6-axis configurations.
- The multi-slider types (ICSPA4/ICSPA6) let you reduce space and cycle time.
- Also available are models with rotational axis(es) additions.
- Any models can be customized to meet your specific needs.

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Controllers

A wide variety of operational patterns to fit your specific needs

POSITION CONTROLLER

PSEP



For RCP2/RCP3

ASEP



For RCA/RCA2/RCL

DSEP



For RCD

- 3-position controllers.
- Use the same signals as air-cylinder solenoid valves.
- Standard and dust-proof specifications are available.
- The dust-proof specification has a protective structure conforming to IP53, allowing it to be installed outside the control panel.

PCON-CB
(Power CON)



For RCP6/5/4/3/2

ACON-CB



For RCA/RCA2/RCL

DCON-CB



For RCD

SCON-CB



For RCS2/RCS3/
Single-axis/
Linear Servo

SCON-CAL



For RCS2/RCS3/
Single-axis/
Cartesian

- PowerCON archives 150% more output compared to the traditional models. It supports RCP5 with a battery-less absolute encoder.
- Up to 512 positions can be set.
- DeviceNet, CC-Link and other field networks can be supported.
- SCON-CB comes with vibration control function.
- **NEW** SCON-LC comes with PLC function.

NEW **MCON**

For ROBO Cylinder, CON Series 8-axis Type



MSEP-LC

For ROBO Cylinder, 6-axis Type with PLC Function



MSEP

For ROBO Cylinder, 8-axis Type



MSCON

SCON Controller, 6-axis Type



- Supporting RCP6 with battery-less absolute encoder.
- Supporting PowerCON (High-output driver), and Mini Cylinder.
- Added PLC function (MSEP-LC).
- Supporting RCP5 with battery-less absolute encoder (MSEP-LC/C).
- Supporting PowerCON (High-output driver), and Mini Cylinder (MSEP-LC/C).
- For RCS2/3, combined 6 controllers into 1 controller.
- Supporting various field networks.

PROGRAM CONTROLLER

PSEL



For RCP2/RCP3

ASEL



For RCA/RCA2/RCL

SSEL



1-2 axes
For RCS2/RCS3/
Single-axis/
Linear Servo

X-SEL



1-8 axes
For RCS2/RCS3/
Single-axis/
Linear Servo/
SCARA

MSEL



For RCP6/RCP5/4/3/2/
PowerCON SCARA

- PSEL/ASEL/SSEL controllers support interpolated operation and are used to set 1 or 2 axes.
- XSEL controllers can operate up to 8 axes.
- All controllers support DeviceNet, CC-Link and other field networks.

Power Supply

Low-cost DC24V power supply ideal for powering actuators



PS-24

- Safely accelerate an output actuator at a maximum momentary current of 17A.
- Up to five units can be operated parallel to one another.
- The load factor detection function lets you monitor the load condition of the unit.

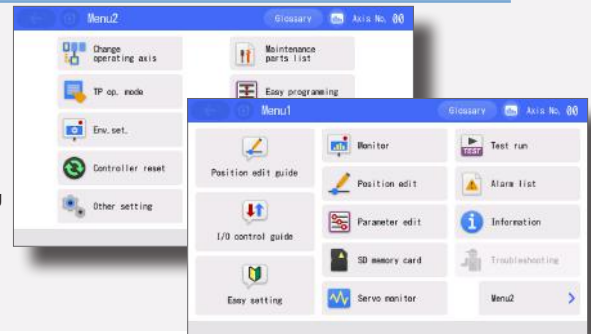
Teaching Pendants

Programming points have never been easier
Compatible with Safety Category



Touch Panel Teaching Pendant for Position Controllers and Program Controllers

TB-02



IAI America, Inc.

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The information contained in this product brochure may change without prior notice due to product improvements.

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