

RCX3 series

RCX320

P.548

RCX340

P.566

[Multi-axis robot controller]



RCX320

2 axes	
Operation method	Program Remote command Online command
Number of points	30000 points
Input power	Single phase : AC200V to 230V +/- 10% maximum
Origin search method	Absolute Incremental Semi-absolute



RCX340

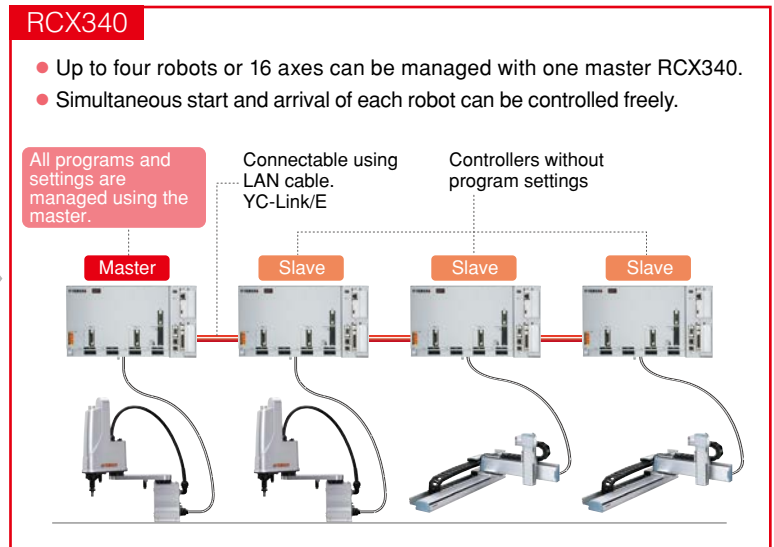
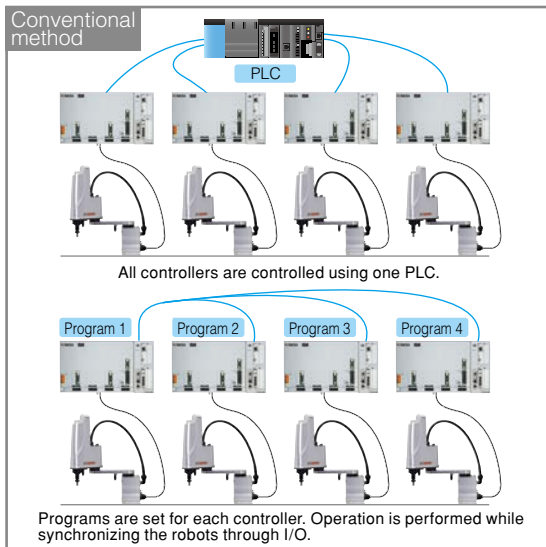
3 to 4 axes	
Operation method	Program Remote command Online command
Number of points	30000 points
Input power	Single phase : AC200V to 230V +/- 10% maximum
Origin search method	Absolute Incremental Semi-absolute

Advanced functionality allowing construction of high-level equipment

Multiple robots can be operated synchronously through the high-speed communication. Use of linking among controllers makes it possible to store programs into only one controller. Use of a newly developed algorithm achieves shortening of the positioning time and improvement of the tracking accuracy.

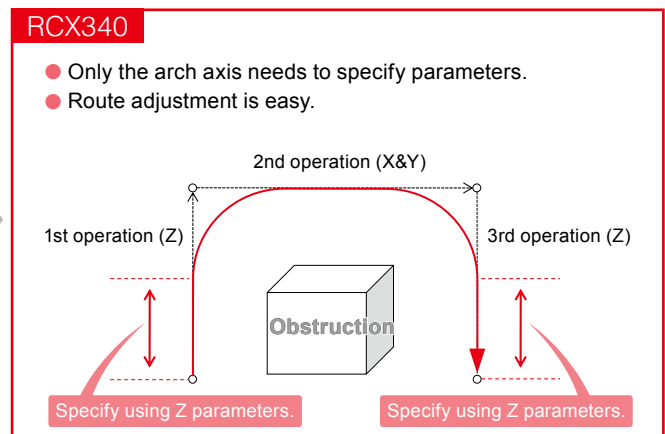
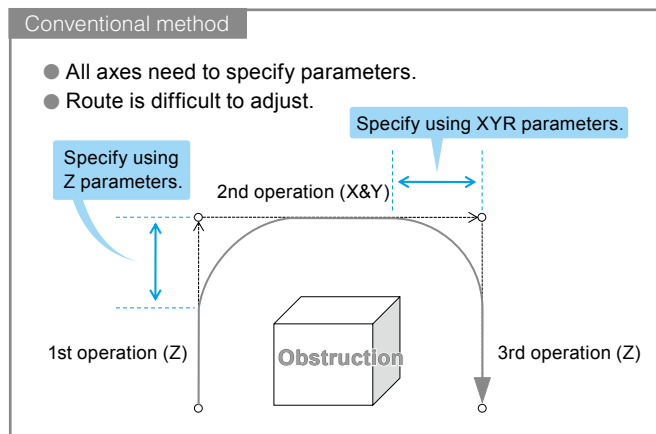
The control of multiple robots can be managed using one master controller

The RCX340 controller allows high-speed communication among the controllers. As the operation command can be sent to the controller of each slave from the master controller, the programs or points can be managed only using the host master controller. Additionally, as this controller supports multi tasks flexibly, data exchanging with the PLC can be simplified. Simultaneous start and simultaneous arrival of each robot can be controlled freely. Complicated and precision robot system using many axes can be constructed at a low cost.



Arch motion can be specified more intuitively

As the arch motion route designation method is changed and the designation method is simplified, the arch motion can be specified more intuitively.

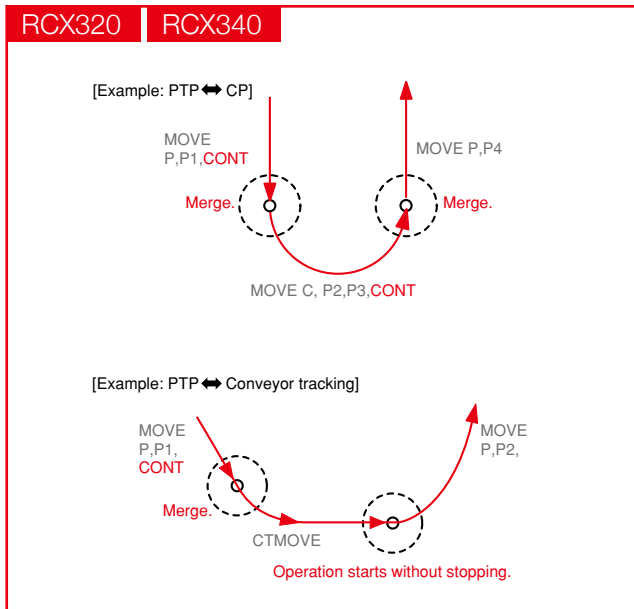


Smooth movement is achieved by greatly improving motion functions

As a new servo motion engine is incorporated, various operations can be merged. Use of a newly developed algorithm achieves shortening of the positioning time and improvement of the tracking accuracy.

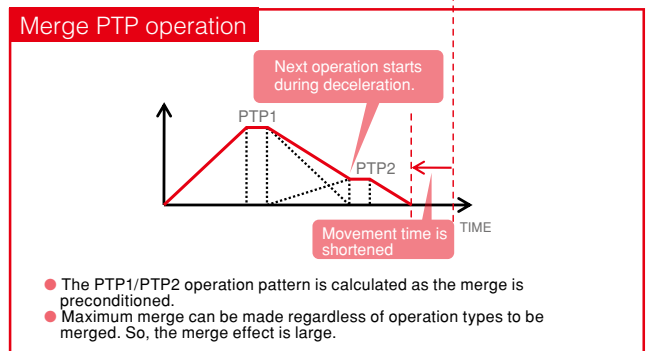
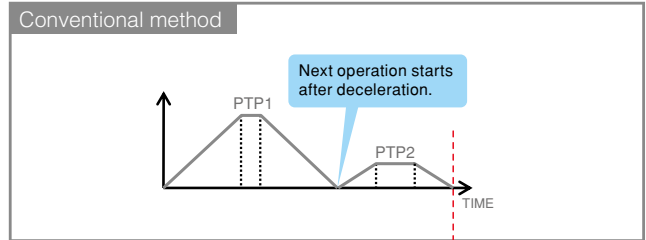
Expansion of CONT option function

Different type operations, such as PTP, interpolation operation, and conveyor tracking, etc. are merged to improve the speed.



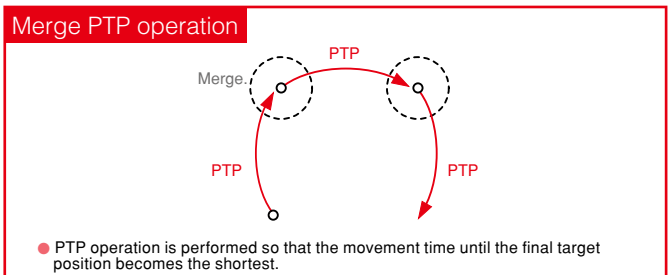
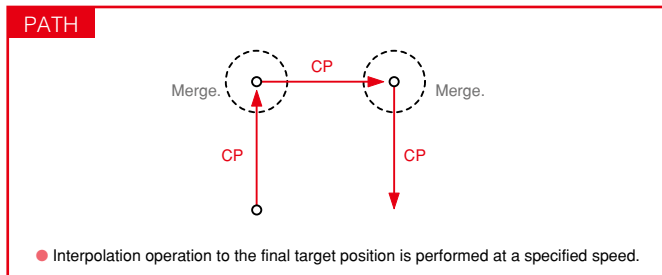
Improvement of operation speed ^{Note}

All operations can be merged as much as possible using the merge PTP. As even operations with different acceleration or deceleration time are merged at maximum level with priority put on the operation time, the movement time is shortened greatly.



Proper use according to application ^{Note}

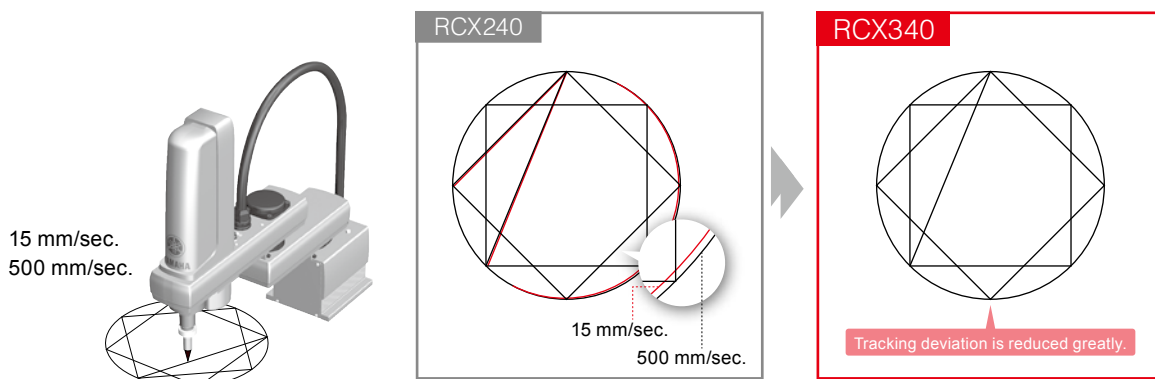
When performing the continuous operation, an optimal operation can be selected according the application, like traditional PATH is used for constant-speed operation, such as sealing and merge PTP is used for operation with priority put on the movement time.



Note. It is necessary to upgrade the firmware to its latest version.

Improvement of tracking accuracy

Use of visualization with servo analyze function and high responsiveness with new servo function makes it possible to increase the follow-up ability and improve the tracking accuracy when compared to the conventional models.



Improved basic performance

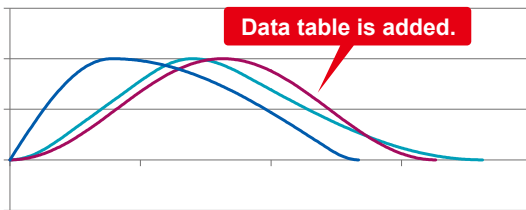
Functions, such as robot language, multi-task, sequence function, communication, and field bus are improved and made easier to use.

Motion optimization

The optimization of the motion to meet the operation pattern is further strengthened to bring out the robot performance at its maximum level. Higher quality robot operations, such as shortening of the operation time and suppression of vibrations during stopping are achieved.

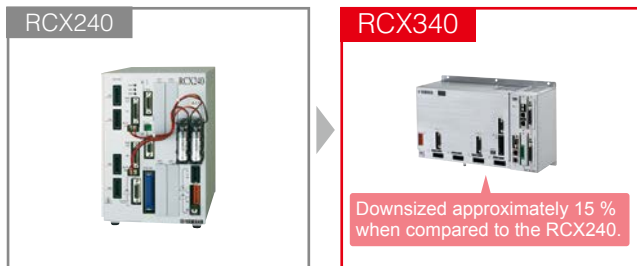
Optimal acceleration/deceleration motion

Acceleration/deceleration motion is generated that can perform the high-speed operation while suppressing vibrations.



Compact design

The outside dimensions are approximately 355 mm (W) × 195 mm (H) × 130 mm (D). The volume ratio is reduced to approximately 85 % and the body size is made compact when compared to the conventional 4-axis controllers so as to make the installation inside the control panel easy.

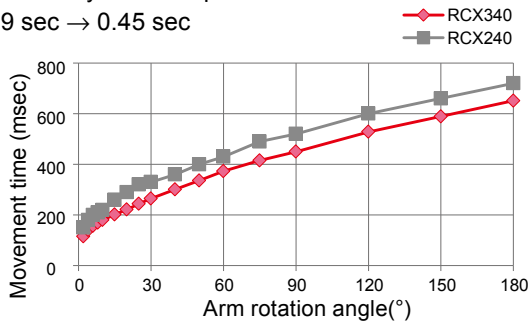


Improvement of cycle time

The speed-up of the YK-XG series is achieved.

Example: YK400XG

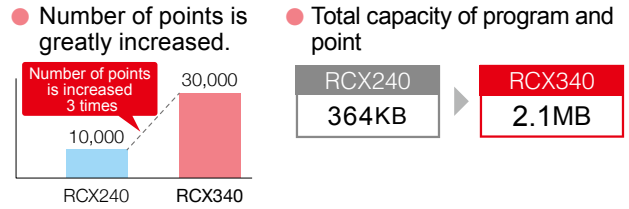
- Standard cycle time operation
0.49 sec → 0.45 sec



Built-in regenerative unit RCX340

As the regenerative unit (equivalent to RGU3) is built-in, no additional regenerative unit is needed when connecting to the existing robot.

User memory capacity increase



Economical solution for 6 axes robot setup.

Use of the inter-controller "YC-Link/E" system makes it possible to easily link the RCX340 controller with the RCX320 controller. The control of the 6-axis^{Note} can be achieved at low cost.

Note. The vertical articulated robot YA series are outside the target.



PBX with USB port for backup

Simple and easy operation for adding function or editing work.

Storing backup data is a simple task.



Convenient LED Display for Error Status.

The operation status is displayed on the "7-segment LED display" located on the front panel of the controller.

If an error occurs, the relevant error message is displayed. The error status can visibly recognized without connecting the programming box.



▲ 7-segment LED display

PC Programming Software “RCX-Studio Pro”

Both RCX340 and RCX320 run with RCX-Studio Pro. With an emulator function, writing programs or debugging can be done without connecting a controller.

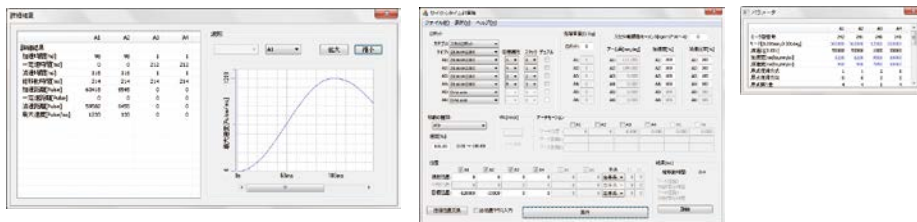
Cycle time calculator between two points simplified a selection of the most suitable robot system. After startup, real-time trace and multi-tasking debug information is displayed simultaneously for monitoring status.

Robot operations like initial setup and maintenance tasks are easier than ever.

Model Selection Stage

Reduces evaluation time before design stage.

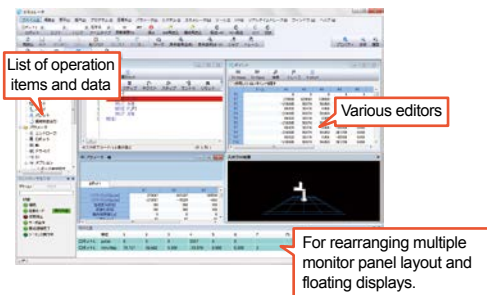
- **Emulator function** > The software can be debugged in the offline mode.
- **Cycle time calculator** > Easy selection of the most suitable robot system.



Design Stage

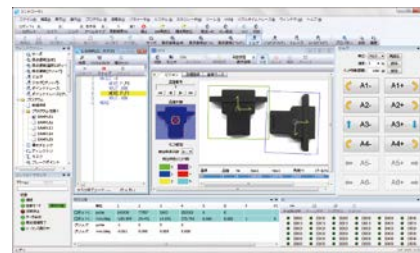
Reduced design workload

- **Easy-to-use operating controls**



- **iVY2 editor provide**

The component type can be registered without changing the software when the robot vision is used.

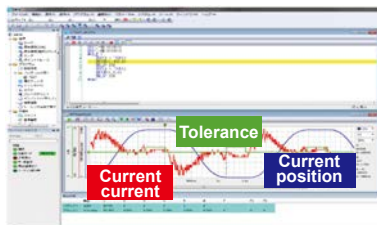


Startup and Operation Stage

Visualized information for easy monitoring.

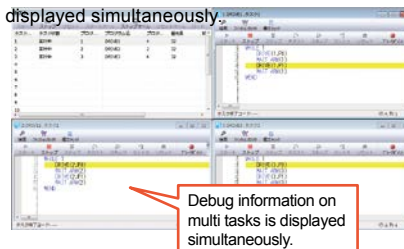
- **Realtime trace**

The internal information of the controller is output continuously.



- **Application debugging function**

The debugging statuses of multiple tasks can be displayed simultaneously.



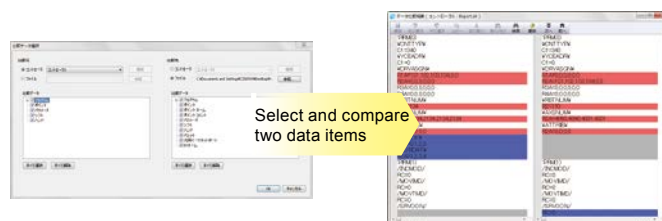
Debug information on multi tasks is displayed simultaneously.

Maintenance

The maintenance and service time is reduced greatly.

- **Data comparison tool**

The specified two data is compared to visually display the difference. Comparison of all or by program “all” files or comparison with online data can be selected.



Enhanced expandability

RS-232C and Ethernet ports are provided as standard equipment. A wide variety of high-speed and large capacity field networks, such as CC-Link, DeviceNet™, EtherNet/IP™, and EtherCAT are supported as options. Connections with general-purpose servo amplifier or other company's VISION are easy. So, the RCX320 and RCX340 is called "connectable controller".

Communication between controllers

YC-Link/E

Up to four RCX320 and RCX340 controllers (up to 16 controllable axes) can be connected.

- More flexible robot configuration
- Easy programming
- Centralized control of multiple robots
- Cost reduction

Applicable to various field buses/centralized control of robots through connections of up to four controllers

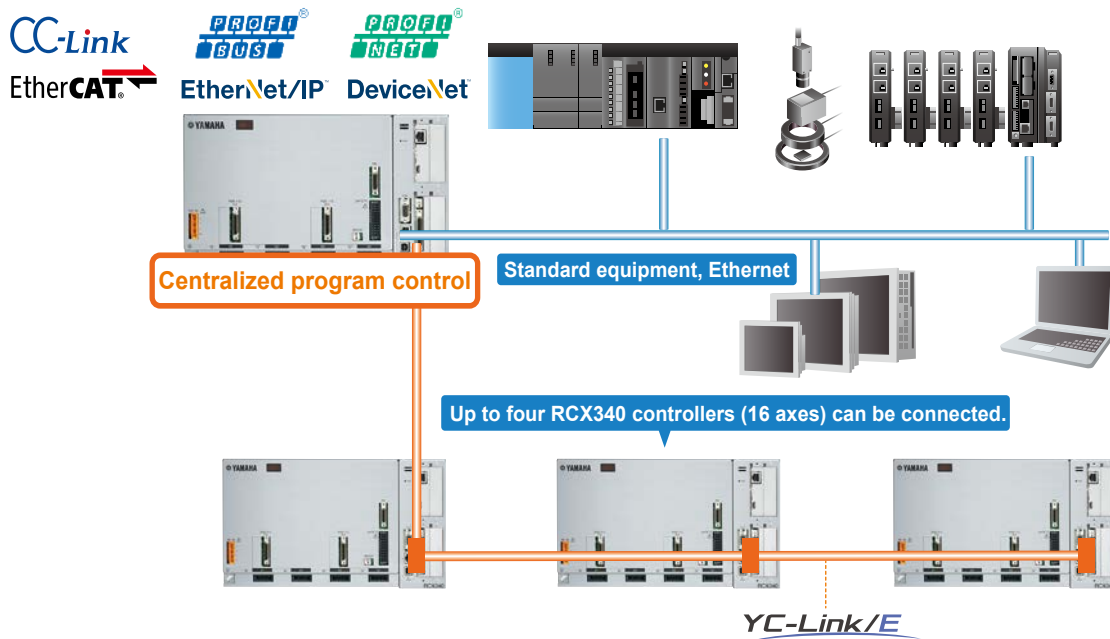
RS-232C and Ethernet ports are provided as standard equipment. Additionally, fulfilling field buses, such as CC-Link, EtherNet/IP™, DeviceNet™, PROFIBUS, PROFINET ^{Note 1}, and EtherCAT can be supported to connect and control a wide variety of devices. For 5 or more axes, use of YC-Link/E makes it possible to connect up to four RCX340 controllers so as to perform the centralized control of multiple robots.

Additionally, when using YC-Link/E ^{Note 2}, multiple robots can be handled as if they are operated using one controller. This ensures very easy robot programming and management.

Therefore, this robot controller contributes to reduction of unseen costs, such as labor cost necessary for the setup work.

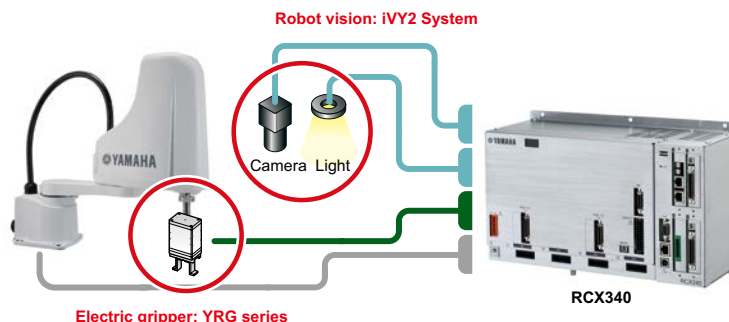
Note 1. Supports PROFINET Ver. 2.2

Note 2. When ordering YC-Link/E, please specify what robot is connected to what number controller.



Applicable to electric gripper "YRG series"

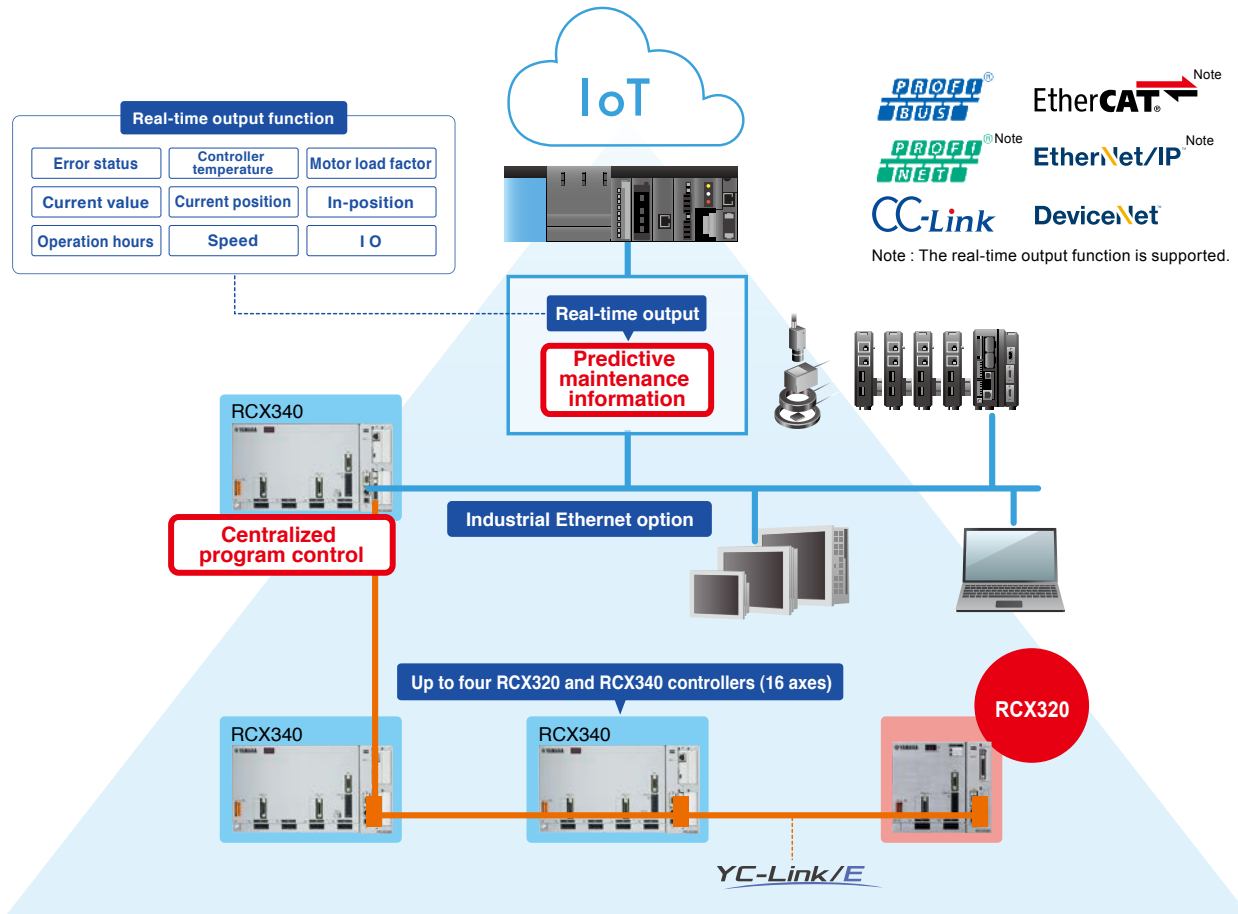
The gripper can be controlled entirely by one RCX320 or RCX340 controller. Data exchanging with the host unit, such as PLC is not needed. The setup or startup is very easy.



Real-Time output function for Preventive Maintenance.

Industrial Ethernet option Real-Time output function

When the industrial Ethernet option (Ethernet/IP, EtherCAT, or Profinet) is selected, the information necessary for the predictive maintenance such as error status, current position, current value, motor load factor, operation hours, and others can be output in real-time to contribute to achievement of the “non-stop production line”.



RCX340 are applicable to all single-axis, Cartesian, SCARA, and P&P robots ^{Note}

The 4-axis robot controller RCX340 are applicable to all robot models including single-axis, Cartesian, SCARA, and Pick & Place robots.

As the mixed control of the ball screw type FLIP-X series and linear motor type PHASER series can be performed, the robots can be combined freely according to the applications. Additionally, when preparing the robot controllers for the maintenance work of multiple robots, it is enough to prepare only one robot controller. This robot controller can be used for any model only by changing the setting.

Note. Except for 24 V specification models.

