



YHX Series Integrated Controller

Oct 17, 2016 02:00 UTC

Core of Advanced Robotics Automation Platform Yamaha Motor Launches YHX Series Integrated Controller Superior Scalability - Significant Reductions in Space, Cost, and Setup

IWATA, October 17, 2016 - Yamaha Motor Co., Ltd. (Tokyo: 7272) announced today that it will launch the new *YHX* series integrated controller from December 1, 2016, which achieves coordination and synchronous control of all robots and peripheral devices in an automated line in the “Advanced

Robotics Automation Platform” integrated control robot system.

The *YHX* series consists of a high-functionality and high-performance host controller, a driver unit compatible with a wide range of motor controls, a high-capacity power unit which can wirelessly supply the power necessary for multiple axis drive, a remote IO unit which efficiently connects to peripheral devices with a minimum of cabling, and finally a gateway unit which responds to a variety of control needs.

The industry-first^{*1} stacking structure delivers significant reductions in the space required for the control cabinet, tremendous saving on cabling, and significant reductions in setup time and equipment costs for automated lines.

Moreover, the controller features an internal high-performance PLC^{*2} based on IEC 61131-3^{*3}, and newly-developed high-versatility robot language. Additionally, flexible connection to various major field networks is possible, and the controller has the flexibility and expandability to work with IoT and Industrie4.0 etc. in the future.

Operation is easy with the full-screen Programming Pad touch panel.

*1 October 2016, Yamaha Motor data

*2 Abbreviation of Programmable Logic Controller a control device modeled on relay circuits.

*3 International PLC programming standard issued by the International Electrotechnical Commission (IEC).

Model	Launch Date	Price	Target Sales
<i>YHX</i> Series Integrated Controller	December 1, 2016	Open Price	8,000 units(first full year from release, both within Japan and internationally)

Main Features of the *YHX* Series

1) The industry-first stacking structure delivers significant reductions in control board cost and space, also reducing setup time

Through integrated control of single-axis robots (AC servo motor

specification and stepping motor specification), SCARA robots, linear conveyors, and image processing cameras etc. compatible with the Advanced Robotics Automation Platform as well as peripheral devices, the *YHX* Series enables building advanced automated systems.

Moreover, the industry-first stacking structure including as far as motor drivers and motor drive power supply enables tremendous saving on cabling and simplification of the number of power supplies. By standardizing all of the control power supply, motor drive unit power supply, high-speed network communication, and safety circuit to stack connections, wiring between units becomes redundant, reducing wiring cost and wiring setup time by 30%-50% compared with previous models.

The *YHX* Series host controller can simultaneously control up to 64 robots including 255 motors. Moreover, through network cable connections, this controller can function as a host or slave in various field networks.

2) Internal PLC based on international standards; IoT compatibility also complete

The *YHX* Series includes a high-functionality and high-speed versatile general-purpose PLC, and through the ability to use five types of language based on IEC61131-3, control of overall automated devices including robots and peripheral devices is possible. Additionally, the controller has the flexibility and expandability to work with IoT and Industrie4.0 etc. in the future.

3) Easy operation on the full-screen Programming Pad touch panel.

The Programming Pad has an easy-to-operate interface with safety functions included on the full-screen approximately 10-inch LCD touch panel. The three languages available are Japanese, English, and Chinese.

Key Specifications

4-Axis Configuration Example	Integrated Controller Configuration (1 high-capacity power unit + 1 host control unit + 4 driver units)	Gateway Configuration (Gateway unit + 4 driver units)
Controllable Robots	Single-axis (AC servo/step) Multiple axis (cartesian, SCARA, articulated) Linear conveyor module Model mix compatible	Single-axis (AC servo/step) Multiple axis (cartesian, [SCARA])
External Dimensions	H150mm x W232.2mm x D125mm	H150mm x W158.8mm x D125mm
Weight	Approx. 4.5kg	Approx. 3kg
Power Capacity	Single-phase 3.4kVA/three-phase 6kVA	Single-phase 2.2kVA/three-phase 4.4kVA
Allowable Motor Capacity	Single-phase 1.6kW/three-phase 3kW	Single-phase 1kW/three-phase 2.5kW
Maximum Number of Connected Axes	16	16
Field Network	Master [PROFINET✕EtherNet/IP™✕EtherCAT✕ Slave ✕PROFINET✕EtherNet/IP™✕EtherCAT✕✕CC-Link✕✕DeviceNet✕✕	Slave ✕PROFINET✕EtherNet/IP™✕ EtherCAT✕✕CC-Link✕✕DeviceNet✕✕
Functions	PTP/Press-in/Coupling 3-dimensional interpolation (straight line/arc/helical etc.) Synchronization (electronic cam/electronic gear etc.) PLC functions ✕ladder/FB/ST/etc.✕	PTP/Press-in/Coupling 3-dimensional interpolation (straight line/arc)
Programing Pad	Connectable	Not connectable

*Connection adapter required

Yamaha Motor (TOKYO: 7272) is a world-leading producer of motorcycles, marine products, power products, industrial machinery and robots. The

company's diverse business and wide variety of products are built around its proprietary technologies focused on small engines, fiberglass-reinforced plastics and electronic control. Yamaha Motor conducts global development, production and marketing operations through 140 subsidiaries and equity-method affiliates in 30 countries. About 90% of consolidated net sales are generated in more than 200 countries outside of Japan. The company is steadily restructuring its global engineering, manufacturing and marketing capabilities for sustainable long-term growth. Please visit <http://global.yamaha-motor.com>.