

YRC1000micro

Ultra-Compact, Industrial Robot Controller

Key Benefits

- Compact, lightweight and powerful
- Smallest robot controller in its class
- Minimizes installation space
- Easily connects to peripheral devices

Robots

GP7
GP8
GP12
HC10DT
MotoMini



- Powerful and precise, ultra-compact robot controller minimizes installation space and optimizes performance.
- Small footprint and lightweight cabinet is ideal for factories with high-density layouts, where stacking of controllers may be required.
- Controller can be installed in either a vertical or horizontal position, as well as within a 19-inch rack, accommodating a wide range of layouts.
- Optimized acceleration / deceleration control can improve the robot's cycle time up to 10%.
- High path accuracy control enables increased precision in trajectory performance independent of motion speed.
- Robust motion software allows for highly accurate path planning, often resulting in reduced cycle times.
- Single controller-to-robot cable for improved cable reliability.
- Onboard interactive preventive maintenance data allows for simplified maintenance scheduling and robot performance analysis.

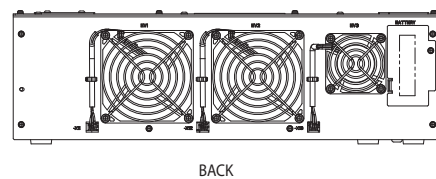
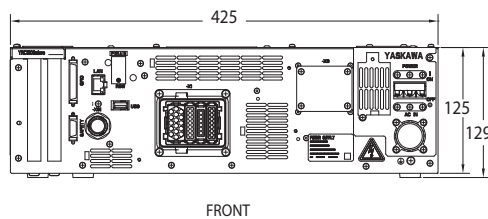
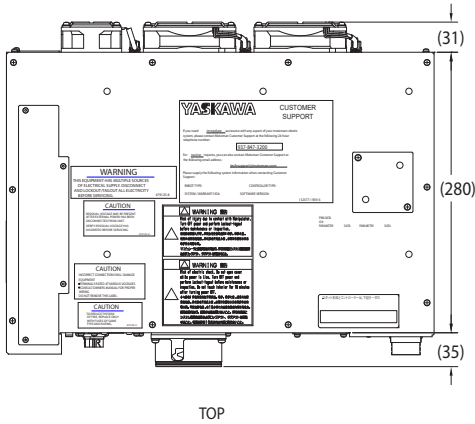
Standard Teach Pendant

- Touchscreen user interface enables fast and easy programming.
- Provides ability to evaluate 3D simulation of robot motion on screen before or during robot execution.
- USB connection allows service staff to directly connect for remote service purposes.
- SD card slot enables easy transfer of job programs.
- 3-position enable switch in compliance with DIN EN ISO 10218-1.

Smart Pendant

- Fast, simple learning curve; ideal for novice robot programmers.
- Easy-to-use 10-inch touchscreen interface.
- Simplified INFORM programming supports powerful controller functionality.
- Reduced programming time results in fast and efficient implementation of robot systems.
- Built-in Smart Frame eliminates coordinate frames; the robot adapts to the user.
- Consult Yaskawa Motoman for robot model compatibility.

YRC1000micro Controller



Standard I/O - NPN

Designed for network I/O: 8 I/O standard

Network I/O

- EtherNet/IP
- DeviceNet
- CC-Link

SPECIFICATIONS

Controller

Dimensions	425 mm (w) x 125 mm (h) x 280 mm (d)
Approximate Mass	10.5 kg
Cooling System	Direct cooling
Ambient Temperature	0° to 40° C (operation); -10° to 60° C (storage)
Humidity	90% max. non-condensing
Primary Power Requirements	Single-phase: 200/230 VAC (+10% to -15%), 50/60 Hz (±2%)* Three-phase: 200/220 VAC (+10% to -15%), 50/60 Hz (±2%)
Digital I/O	Specialized signals: 7 inputs and 1 output General signals: 8 inputs and 8 outputs (8 transistor outputs)
Position Feedback	Absolute encoder
Program Memory	JOB: 200,000 steps, 10,000 instructions CIO Ladder Standard: 1,500 steps
Expansion Slots	PCI express: 2 slots
LAN (Connection to Host)	Ethernet 1 (10 BASE-T / 100 BASE-TX)
Interface	N/A
Protection Rating	IP20

Safety Features

Safety Specs (Category 3 PLe)	Controller safety-rated emergency stop and safety gate inputs. Programming pendant includes: safety-rated emergency stop pushbutton, 3-position enable switch with key-lock and manual brake release built into programming pendant. Meets ANSI/RIA R15.06-2012 and CSA Z434-03
Standard Software Features	Arm interference, collision detection, machine lock and safety interlock
Functional Safety Unit (Category 3 PLd SIL2)	Position monitoring (32 zones), speed limiting, tool monitoring, graphic pendant set-up

Standard Teach Pendant **

Dimensions	152 mm (w) x 299 mm (h) x 53 mm (d)
Pendant Display	5.7-inch full-color touchscreen, 640 x 480 (VGA)
Pendant Languages	English, German, Japanese, Spanish, Chinese
Pendant Weight	.73 kg (1.6 lbs)
Material	Reinforced plastics
Coordinate System	Joint, rectangular, cylindrical, tool, 63 user-coordinate frames
Windows® Menu-Driven Interface	User-selectable touch-screen menu, multiple windows supported; one SD card slot; one USB port (2.0)
Pendant O/S	Windows Embedded Compact 7
Protection Rating	IP54

Programming

Programming Language	INFORM III, menu-driven programming
Robot Motion Control	Joint motion, linear, circular, spline interpolation
Multiple Device Control	Parallel Start, Twin Synchronous, Multiple Group Combinations, Station Coordinated Moves (positioners), Bases (tracks and gantries)
Programmable Logic Control	Ladder monitor, ladder programming, I/F pendant display, address naming, expanded logic operands

Maintenance

Maintenance Functions	System monitor, internal maintenance clocks
Self-Diagnostics	Classifies errors and major/minor alarms and displays data; monitors reducers for predictive wear; alerts when major power components reach design life
User Alarm Display	Displays alarm messages for peripheral devices
Alarm Display	Alarm messages; alarm history provides instruction of how to repair fault
I/O Diagnosis	Permits simulated enabled/disabled input/output

* Not available for GP12

** Smart Pendant - refer to Smart Pendant data sheet for details

Yaskawa America, Inc. | Motoman Robotics Division

100 Automation Way
Miamisburg, OH 45342
Tel: 937.847.6200 | motoman.com

Motoman is a registered trademark. Windows is a registered trademark of Microsoft Corp. All other marks are the trademarks and registered trademarks of Yaskawa America, Inc. Technical specifications subject to change without notice. DS-768-B ©2019 Yaskawa America, Inc. FEBRUARY 2019

YASKAWA