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
HC10XP
HC20XP
MotoMini
SG400
SG650

- 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

**SPECIFICATIONS**

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| 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-look 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 PLe)**: 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

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* Dimensions of HC-series controllers: 425 mm (w) x 180 mm (h) x 315 mm (d)
** Not available for GP12 or HC20XP
† Smart Pendant - refer to Smart Pendant data sheet for details