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 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.
**SPECIFICATIONS**

<table>
<thead>
<tr>
<th>Controller</th>
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<tbody>
<tr>
<td>Dimensions</td>
<td>425 mm (w) x 125 mm (h) x 280 mm (d)</td>
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<tr>
<td>Approximate Mass</td>
<td>10.5 kg</td>
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<td>Cooling System</td>
<td>Direct cooling</td>
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<tr>
<td>Ambient Temperature</td>
<td>0° to 40° C (operation); -10° to 60° C (storage)</td>
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<td>Humidity</td>
<td>90% max. non-condensing</td>
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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**

- 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, IF 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