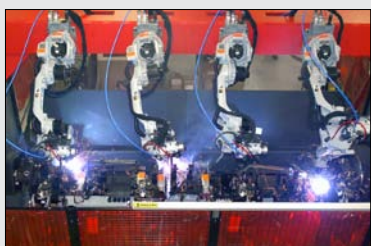




MULTIPLE WINDOW DISPLAY



MULTIPLE ROBOT CONTROL



DXM100 CONTROLLER

## KEY FEATURES

- Patented multiple robot control (up to 8 robots/72 axes)
- Faster processing, high performance
- Integrated cell (system-level) control capabilities
- Open communication
- Energy savings
- Compliant to safety standards
- Controller connections through back of unit optimize floorspace



# DX100

## ROBOT/SYSTEM CONTROLLER

### Option:

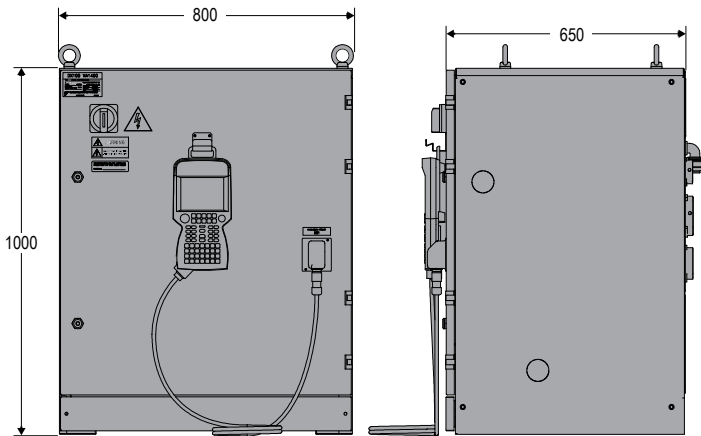
### DXM100 Controller (smaller cabinet)

### Dynamic Next-Generation Controller

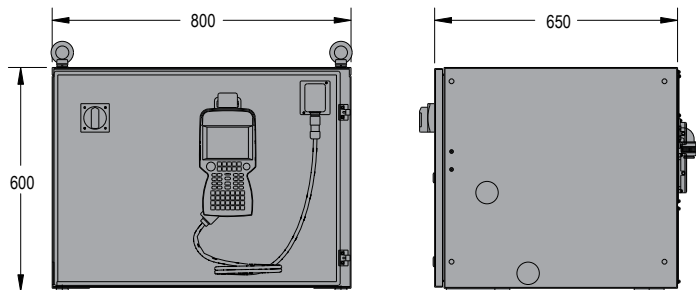
- Features robust PC architecture. Provides system-level control for robotic workcells.
- Patented multiple robot control (up to 8 robots/72 axes), as well as I/O devices and communication protocols. Dynamic interference zones protect robot arm and provide advanced collision avoidance.
- Fast processing speed provides smooth interpolation.
- Advanced Robot Motion (ARM) control provides high performance. Best-in-class path planning dramatically reduces teaching time.
- Small, lightweight Windows® CE programming pendant features color touch screen with multiple window display capability. Unique cross-shaped navigation cursor reduces teaching time. All operator controls are located on pendant. Program file names can be up to 32 characters long.
- Convenient compact flash slot and USB port facilitate memory backups.
- Conserves power during robot idle time, providing up to 25% energy savings.
- Highly flexible fieldbus support. Easy connection to information infrastructure through standard network options.
- Compliant to ANSI/RIA R15.06-1999 and other relevant ISO and CSA safety standards. Includes dual-channel E-Stop functionality, integrated speed monitoring and manual brake release for robot. Optional Category 3 functional safety unit.
- Often eliminates need for separate PLC and human machine interface (HMI). Delivers significant cost savings at system level, while decreasing workcell complexity and improving overall reliability.
- Connections to controller cabinet are made through the back of the unit, optimizing floorspace.
- DX100 control cabinet allows for up to three external axes and can be remote-mounted. DXM100 supports up to two external axes. Top- or side-mount expansion options available for DX100 controller only.
- Easy maintenance with reducer status check function, enhanced troubleshooting and alarm recovery, and 20% improvement in MTTR.

# DX100 ROBOT CONTROLLER

## DX100 Controller



## DXM100 Controller



All dimensions are metric (mm) and for reference only.  
Please request detail drawings for all design/engineering requirements.

### Standard I/O - NPN

Forty optically isolated inputs, 32 transistor outputs, 8 relay contact outputs (configured to optimize each application), and four break-out cards are provided as standard. For arc welding applications, one YEW01 welder interface board is installed in the DX100 cabinet as standard (not available in DXM100).

### I/O Expansion - DX100

The DX100 supports I/O expansion via:

- EtherNet/IP
- DeviceNet
- Profibus-DP
- Mechatrolink II
- CC-Link
- Remote I/O
- Discrete I/O, NPN or PNP
- Analog I/O
- Other networks available

### I/O Expansion - DXM100

The DXM100 supports I/O expansion via:

- EtherNet/IP
- DeviceNet
- Remote I/O
- CC-Link

## DX100 ROBOT CONTROLLER SPECIFICATIONS

<b>CONTROLLER</b>	<b>Dimensions</b>	DX100: 800 (w) x 1000 (h) x 650 (d) (31.5" x 39.4" x 25.6") DXM100: 800 (w) x 600 (h) x 650 (d) (31.5" x 23.6" x 25.6")
	<b>Approximate Mass</b>	150-250 kg (330.8-551.3 lbs.)
	<b>Cooling System</b>	Indirect cooling
	<b>Ambient Temperature</b>	During operation: 0° to 45° C (32° to 113° F) During transport and storage: -10° to 60° C (14° to 140° F)
	<b>Relative Humidity</b>	90% max. non-condensing
	<b>Primary Power Requirements</b>	3-phase, 240/480/575 VAC at 50/60 Hz
	<b>Digital I/O</b> NPN - Standard PNP - Optional	Standard I/O: 40 inputs/40 outputs consisting of 16 system inputs/16 system outputs, 24 user inputs/24 user outputs 32 Transistor Outputs; 8 Relay Outputs Max. I/O (optional): 2,048 inputs and 2,048 outputs
	<b>Position Feedback</b>	Absolute encoder
	<b>Program Memory</b>	JOB: 200,000 steps, 10,000 instructions CIO Ladder Standard: 15,000 steps Expanded: 20,000 steps
	<b>Interface</b>	Ethernet, RS-232C
<b>Multiple Robot Control</b>	Ability to control up to 8 robots/72 axes	

<b>SAFETY FEATURES</b>	<b>Safety Specs</b>	Controller Dual-Channel Emergency Stop & Safety Gate user interface. Programming Pendant includes: Dual-channel Emergency Stop Pushbutton, 3-Position Enable Switch with key-lock and Manual Brake Release built into programming pendant. Meets ANSI/RIA R15.06-1999, ANSI/RIA/ISO 10218-1-2007 and CSA Z434-03
	<b>Collision Avoidance</b>	Collision avoidance zones and radial interference zones
	<b>Collision Detection</b>	Protects robot by monitoring torque levels on manipulator
	<b>Machine Lock</b>	Permits testing of peripheral devices without robot operation
	<b>Safety Interlock</b>	Prevents robot operation while safety circuit is open

<b>PENDANT</b>	<b>Pendant Dimensions</b>	169 (w) x 314.5 (h) x 50 (d) (6.6" x 12.4" x 2")
	<b>Pendant Display</b>	5.7-inch full-color touch screen, 640 x 480 (VGA)
	<b>Pendant Languages</b>	English, German, Japanese, Spanish, Chinese
	<b>Pendant Weight</b>	.998 kg (2.2 lbs)
	<b>Coordinate System</b>	Joint, rectangular, cylindrical, tool, 24 user-coordinate frames
	<b>Windows® Menu-Driven Interface</b>	User-selectable touch-screen menu. Multiple windows supported One Compact Flash slot; One USB port (1.1)
	<b>Pendant O/S</b>	Windows® CE
	<b>Protection Rating</b>	IP65

<b>PROGRAMMING</b>	<b>Programming Language</b>	INFORM III, menu-driven programming
	<b>Robot Motion Control</b>	Joint motion, linear, circular, spline interpolation
	<b>Speed Adjustment</b>	Percentage of maximum for joint motion; mm/sec, cm/min, in/min for displacement; °/sec for orientation
	<b>Device Instructions</b>	Application-specific (ARCON, ARCOFF, LASERON, LASEROFF, HANDON, HANDOFF)
	<b>I/O Instructions</b>	Discrete I/O, 4-bit and 8-bit manipulation, analog output, analog input, analog scaling, sloping
	<b>Operation</b>	Up to 5 levels of undo/redo

<b>MAINTENANCE</b>	<b>Maintenance Functions</b>	System monitor, internal maintenance clocks
	<b>Self-Diagnostics</b>	Classifies errors and major/minor alarms and displays data
	<b>User Alarm Display</b>	Displays alarm messages for peripheral devices
	<b>Alarm Display</b>	Alarm messages and alarm history
	<b>I/O Diagnosis</b>	Permits simulated enabled/disabled input/output
	<b>TCP Calibration</b>	Automatically calibrates parameters for end-effectors, optional TCP recovery function
	<b>Tool Weight Calibration</b>	Automatically calibrates total weight of tool, center of gravity and inertia for peak performance

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MOTOMAN ROBOTICS  
100 AUTOMATION WAY, MIAMISBURG, OHIO 45342  
TEL: 937.847.6200 ■ FAX: 937.847.6277