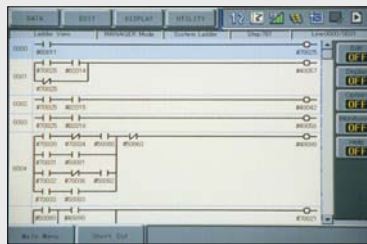




NXM100 CONTROLLER



OPTIONAL CUSTOM HMI



LADDER EDITOR

FEATURES & OPTIONS

- Small, compact design. Easily fits underneath conveyors for material handling/palletizing applications
- Controllers can be stacked for floorspace savings
- Patented multiple robot control capability (up to FOUR robots with one pendant)
- Windows® CE operating system on programming pendant
- Standard Ethernet communication
- Compliance with ANSI/RIA R15.06-1999 safety standard
- Unmatched memory: 60,000 steps (taught points), 10,000 ladder (concurrent I/O) instructions
- On-board graphical ladder editor
- Ability to fit one optional external axis servo amplifier for 7th axis control



Motoman's mid-size NXM100 robot controller offers high performance, open communication and integrated cell control

NXM100

—ROBOT CONTROLLER—

The revolutionary NXM100 controller features a Windows® CE programming pendant with color touch screen, high-speed processing, unmatched memory (60,000 steps, 10,000 instructions), built-in Ethernet, and a robust PC architecture. The NXM100 features four levels of password protection for up to 100 users. The following robot models are available with the NXM100 controller: HP3M, HP3XFM, HP3LM, HP5M, HP6M, HP6RM, HP6SM and HP6RSM.

The NXM100 easily handles multiple tasks, with unmatched ability to control up to four robots (up to 36 axes, including robots and external axes), and I/O devices. Dynamic interference spheres protect the robot arm, providing collision avoidance/arm interference prevention. Advanced Robot Motion (ARM) control provides high-performance path accuracy and vibration control. In addition, the NXM100 features best-in-class path planning that dramatically reduces teaching time.

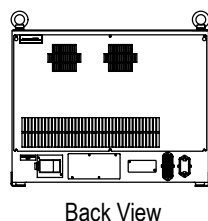
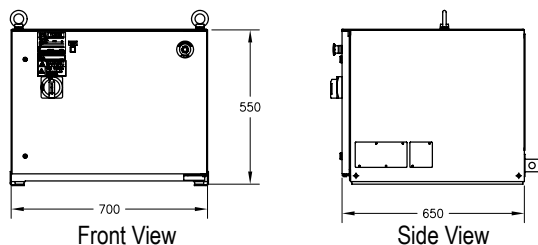
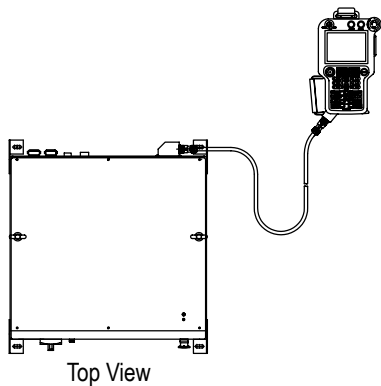
The programming pendant features a unique cross-shaped navigation cursor that reduces teaching time by 30 percent.

It has full-color touch-screen display and a convenient compact flash slot for easy memory back-ups. All operator controls are located on the pendant, allowing the control cabinet to be mounted remotely.

Dual-channel safety features include enhanced E-Stop functionality, integrated speed monitoring, and manual brake release for the robot.

The NXM100 also offers unmatched connectivity, highly flexible Fieldbus support, and easy connection to an information infrastructure through standard network options for DeviceNet, ControlNet, Profibus-DP, EtherNet/IP, and many others. An optional web server that allows remote monitoring and diagnosis is available.

By eliminating the need for a separate PLC, PC-based human machine interface (HMI), and separate password protection hardware, and by providing a standard Ethernet port, the NXM100 delivers significant cost savings at the system level, while also decreasing system complexity and improving overall system reliability.



All dimensions are metric (mm) and for reference only.

* Note: Controller is not designed with internal transformer. Optional external transformer may be required. See controller power 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.

I/O Expansion

The NXM100 supports I/O expansion via:

- Profibus-DP
- Analog I/O
- Remote I/O
- EtherNet/IP
- ControlNet
- DeviceNet
- Discrete I/O, NPN or PNP
- Other networks available

NXM100 ROBOT CONTROLLER SPECIFICATIONS

CONTROLLER	Specification	Value
Dimensions		700(w) x 550(h) x 650(d) mm (27.6" x 21.7" x 25.6")
Approximate Mass		70 kg (154 lbs.)
Cooling System		Indirect cooling
Ambient Temperature		During operation: 0° C (32° F) to 45° C (113° F) During transport and storage: -10° C (14° F) to +60° C (140° F)
Relative Humidity		90% max. non-condensing
Power Requirements*		3-phase, 200/220 VAC (+10% to -15%) at 50/60 Hz
Digital I/O		Standard I/O: 40 inputs/40 outputs consisting of 16 system inputs/16 system outputs, 24 user inputs/24 user outputs Expandable to 1024 inputs/1024 outputs
Position Feedback		Absolute encoder
Program Memory		60,000 steps and 10,000 instructions
Interface		Ethernet, RS-232C
Multiple Robot Control		Dual, triple, and quad

SAFETY FEATURES	Specification	Value
Safety Specs		Dual-channel Emergency Stop Pushbuttons, 3-Position Enable Switch built into pendant, Manual Brake Release Meets ANSI/RIA R15.06-1999 safety standard
Collision Avoidance		Collision avoidance zones and radial interference zones
Collision Detection		Protects robot by monitoring torque levels on manipulator
Machine Lock		Permits testing of peripheral devices without robot operation
Safety Interlock		Prevents robot operation while safety circuit is open

PENDANT	Specification	Value
Pendant Dimensions		199 x 338 x 60 mm (7.8" x 13.3" x 2.4")
Pendant Display		6.5 inch full color touch screen, 640 x 480 (VGA)
Pendant Languages		English, German, Japanese, Spanish, Chinese
Pendant Weight		1.34 kg (2.96 lbs.)
Coordinate System		Joint, rectangular, cylindrical, tool, 24 user-coordinate frames
Windows® Menu-Driven Interface		User-selectable touch-screen menu Compact Flash slot for backup
Pendant O/S		Windows® CE
Protection Rating		IP65

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

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