

Using patented multiple robot control technology, MOTOMAN's next-generation DX100 controller easily handles multiple tasks including control of up to eight robots (72 axes), as well as I/O devices and communication protocols.

The energy-saving DX100 features faster processing speeds, advanced robot arm control for smoother interpolation, built-in collision avoidance, and quicker I/O response. These advanced control functions take advantage of Yaskawa's Sigma V motor technology to optimize acceleration characteristics and reduce cycle time.

Connections to the controller cabinet are made through the back of the unit, optimizing floor space. The DX100 conserves power during robot idle time, providing up to 25% energy savings.

Featuring a robust PC architecture, the DX100 uses a Windows® CE, lightweight programming pendant with colour touch screen. Multiple window display capability and a unique cross-shaped navigation cursor considerably reduce teaching time.

A convenient compact flash slot and USB port facilitate memory back-ups. All operator controls are located on the pendant, allowing the control cabinet to be mounted remotely.



### Key benefits

- Patented multiple robot control (up to 8 robots/72 axes)
- Controller connections through back of unit optimize floorspace
- Dynamic interference zones protect robot arm and provide advanced collision avoidance
- Faster processing, high performance
- Reduces teaching time
- Provides up to 25% energy savings

## MOTOMAN DX100

Industrial robot controller



# High performance controller DX100 for MOTOMAN-Robots

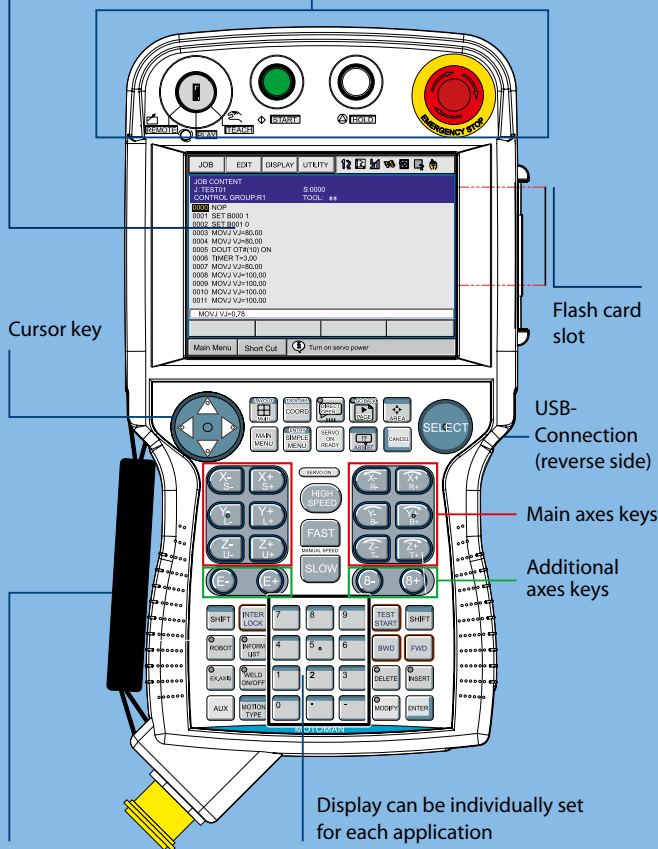
## Programming pendant (PHG) ergonomical, light and easy

5,7" LCD colourdisplay

Touch screen

Windows operating system

Operation keys start/stop emergency off



3 position dead man switch (rear side not visible)

Display can be individually set for each application

- Easy and fast programming
- Several user levels – from operation to maintenance
- Help function

## Multi-Robot-Synchronization function

Real time synchronization of up to eight robots and external axes (max. 72 axes)

- Jigless working possible
- Enables high density robot layouts
- Reduced cycle time

## Advanced-Robot-Motion function (ARM)

Dynamic calculation of robot axis torque and load

- High performance path accuracy
- Optimized robot motion and speed
- Vibration control
- Highly sensitive collision detection

## Communication features

Built-in Ethernet, Web (ftp, opc) server options and fieldbus support of the 15 most common brands on the market

- Easy to connect to existing networks
- Remote monitoring and diagnosis of robot systems

## Further features

- Multitasking
- Internal SPS
- High performance by industrial PC
- Boot time max. 50 sec
- MTTR (Mean Time To Repair): < 5 min.
- Automatic zero calibration

## Control cabinet

Dimensions	800 (W) x 1000 (H) x 650 (D)
Weight	Approx. 250 kg
Protection class	IP54
Cooling system	Indirect cooling
Ambient temperature	0° to +45°C (operation) -10° to +60°C (transport and storage)
Relative humidity	Max. 90% non-condensating
Power supply	3-phase 400/415/440 VAC at 50/60 Hz
Digital I/O	40 inputs/40 outputs (standard) (Expandable to 2048 inputs/2048 outputs)
Analogue in/outputs	40 channels (optional)
Positioning system	Absolute encoder / serial interface
Program memory	200.000 steps, 10.000 instructions and 15.000 PLC steps
Interface	Ethernet
Color	Analog RAL 7032



**Maintenance**

Functions	System monitor, internal maintenance clocks (e.g. Servo power-on time)
Self-diagnosis	Classifies errors and major/minor alarms and displays the data
User alarm display	Alarm messages for peripheral devices
Alarm display	Alarm messages and alarm history
I/O diagnosis	Simulated enable/disable outputs
TCP calibration	Automatic calibration of TCP (Tool Center Point)

**Programming pendant**

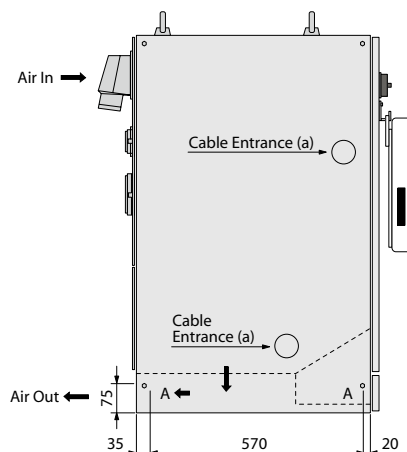
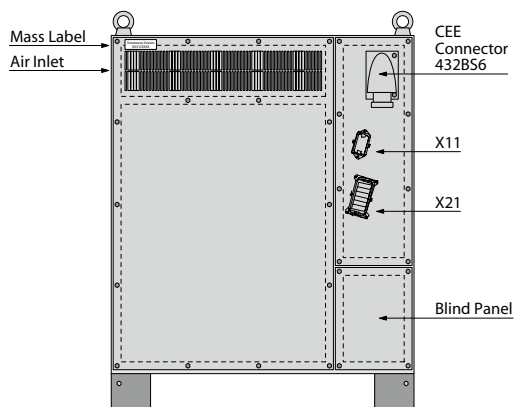
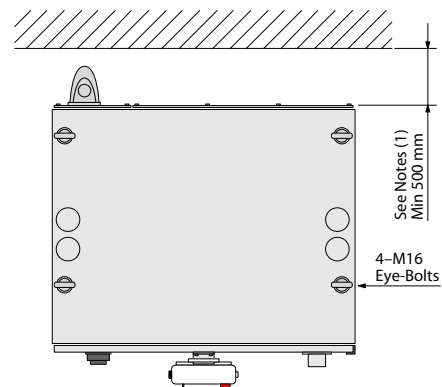
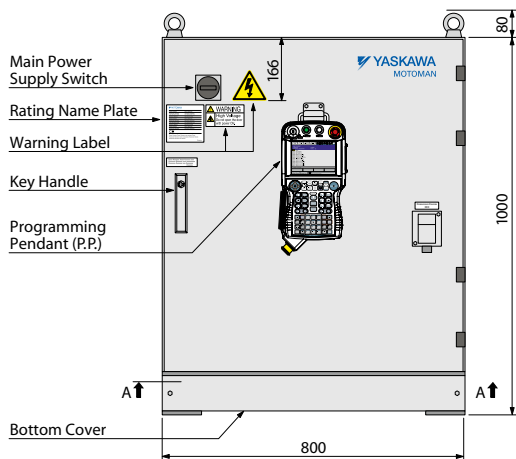
Dimensions	169 (W) x 314.5 (H) x 50 (D)
Touchscreen display	5.7" colour LCD (640 x 480 pixels)
Weight	0.986 kg
Coordinate system	Joint, Rectangular/cylindrical, Tool, User-coordinates
Speed adjustment	Fine adjustment possible during operation or teach mode
Shortcuts	Direct access keys and user selectable screen keys possible
Language	Mostly spoken languages available (worldwide)
Interface	Compact Flash card slot, USB port
Operating system	Windows CE

**Safety features**

Specifications	Dual-channel safety system (Emergency stop, safety interlock), 3-position Dead-man's switch, European safety standard (ISO10218)
Collision avoidance	Collision avoidance zones and radial interference zones
Collision detection	Monitors robot axes' torque levels
Machine lock	Test-run peripheral device without robot motion possible

**Programming**

Programming language	INFORM III
Robot motion control	Joint motion, linear, circular, spline interpolation
Speed adjustment	Joint motion (% of maximum) Interpolation (mm/sec; cm/min; inch/min) Angular velocity (°/sec)



# YASKAWA offices and representatives near to you

## YASKAWA Electric Corporation

JP 2-1, Kurosaki-shiroishi  
Yahatanishi-ku  
Kitakyushu-shi 806-0004  
+093-645-8801

## YASKAWA Group

A YASKAWA Austria  
Schwechat/Wien +43(0)1-707-9324-15

CZ YASKAWA Czech s.r.o.  
Rudná u Prahy +420-257-941-718

D YASKAWA Europe GmbH  
Robotics Division  
Allershäusen +49-8166-90-0  
YASKAWA Europe GmbH  
Headquarter  
Eschborn +49-6196-77725-0

E YASKAWA Ibérica S.L.  
Sant Boi de Llobregat +34-93-6303478

F YASKAWA France SARL  
Saint-Aignan-de-Grand-Lieu  
+33-2-40131919

FIN YASKAWA Finland Oy  
Turku +358-(0)-403000600

GB YASKAWA UK Ltd.  
Banbury +44-1295-272755

I YASKAWA Italia s.r.l.  
Torino +39-011-9005833

IL YASKAWA Europe Technology Ltd.  
Rosh Ha'ayin +972-3-9004114

NL YASKAWA Benelux B.V.  
EB Son +31-40-2895500

RUS YASKAWA Nordic AB  
Moskva +46-480-417-800

SE YASKAWA Nordic AB  
Torsås +46-480-417-800

SI YASKAWA Slovenia  
Ribnica +386-1-8372-410

ZA YASKAWA Southern Africa (PTY) Ltd  
Johannesburg +27-11-6083182

## Distributors

BG Kammarton Bulgaria Ltd.  
Sofia +359-02-926-6060

CH Messer Eutectic Castolin Switzerland S.A.  
Dällikon +41-44-847-17-17

DK Robotcenter Danmark  
Løsning +45-7022-2477

EE RKR Seadmed OÜ  
Tallinn/Estonia +372-68-35-235

GR Gizelis Robotics  
Nea Kifissia +30-2106251455

H Flexman Robotics Kft  
Budapest +36-30-9510065

LT Profibus UAB  
Panevezys +370-45-518575

N Optimove as  
Lierstranda +47-32240600

PL Integrator RHC Sp. z o.o.  
Torun +48-56-6519710

RO Sam Robotics srl  
Timisoara +40-720-279-866

TR Teknodrom Robotik  
Otomasyon San. Tic. Ltd. pti  
Gebze/Kocaeli +90-262-678-88-18



Headquarters YASKAWA Europe GmbH  
Robotics Yaskawastraße 1  
Division D-85391 Allershäusen  
Tel. 0049-81 66-90-0  
Fax 0049-81 66-90-103

YASKAWA Academy and  
sales office Frankfurt

YASKAWA Europe GmbH  
Robotics Division  
Hauptstraße 185  
D-65760 Eschborn  
Tel. 0049-61 96-777 25-0  
Fax 0049-61 96-777 25-39

[www.yaskawa.eu.com](http://www.yaskawa.eu.com)  
[robotics@yaskawa.eu.com](mailto:robotics@yaskawa.eu.com)

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