YASKAWA

MOTOMAN FS100

Industrial Robot Controller

The YASKAWA FS100 controller generation has been specially developed for the Picking and Packing sectors and for further handling applications. The development goal was "Fast, safe, open, small".

Real-time processing of sensor signals, reactions to camera information and other high-speed applications are thus made possible.

All in all, the FS100 thus exploits its superlative performance capabilities to the full in applications where high flexibility is required.

Another modern feature is the open concept of the controller which enables users to access robot interfaces and motions externally via a PC or PLC and also to develop their own applications. Interfaces such as MotoPlus allow the controller to function as a slave of the higher-level controller in a line; this means that it is programmed in your customary PLC language.

The streamlined and compact design requires little space for installation, thereby saving valuable production space. The FS100 thus offers particular advantages for line builders.

KEY BENEFITS

- High flexibility for variable packaging solutions
- Safe and fast
- Space-saving, streamlined and compact
- Energy-saving

High Performance Controller FS100 for MOTOMAN Robots

Open Controller

Connection of FS100 to the existing overall system with the YASKAWA software solutions

- MOTOPlus
- MOTOGSI
- Windows operating system

Advanced Robot Motion Function (ARM)

Dynamic calculation of torque and loads on the robot axes

- Extremely high path accuracy
- Optimal robot motion and velocity
- Vibration control
- Highly sensitive collision detection

Communication

Ethernet, Web (FTP, OPC) Server options and all common fieldbus systems

- Easy integration into existing networks
- Remote monitoring and diagnosis of robot systems

Additional Benefits

- Multitasking (free of extra charge)
- Integrated PLC
- Highest performance due
- Boot time: max. 50 sec.
- MTTR (Mean Time To Repair): < 5 min.

Programming Pendant (PHG) – ergonomical, light and easy

5.7'' LCD colourdisplay
Touch screen
Windows operating system

Operation keys start/stop emergency off

Flash card slot

Cursor key

USB-Connection (reverse side)

Main axes keys

Additional axes keys

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 operator to safety mode
- Help function

Programming pendant

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

Programming

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

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)

Safety features

Specifications	Dual-channel safety system (Emergency stop, safety interlock), 3-position Dead-man's switch, European safety standards
Collision avoidance	Collision avoidance zones and radial interference zones
Collision detection	Monitors robot axes' torque levels

Control cabinet

Dimensions	470 (W) x 200 (H) x 420 (D)
Weight	Approx. 20 kg
Protection class	IP20
Cooling system	Direct cooling
Ambient temperature	0° to +40°C (operation) −10° to +60°C (transport and storage)
Relative humidity	Max. 90 % non-condensating
Power supply (depends on type of manipulator)	**1-phase:** 230 VAC at 50/60 Hz **With optional trafo 3-phase:** 200/220 VAC at 50/60 Hz
Digital I/O	Card 1: 16 standard/12 system – Expandable to 1024 inputs/1024 outputs Card 2: 28 inputs/28 outputs (option)
Program memory	10.000 steps, 1.000 instructions and 1.500 PLC steps
Interface	Profibus (Slave), Ethernet IP (Master/Slave), DeviceNet (Master/Slave), CC-Link (Slave), Profinet (Master/Slave)
Color	Similar RAL7016, RAL9006

Option

Transformer available in similar housing design

Backside FAN   Converter/Cooling FAN

External axes connector   Back side connector

15   20   380   20
170   Air   Air
15   31   420   24
Air

Circuit protector   Blind plate

Air

Rating name plate

200

469   10

Input power connector   Connector for P.P.   Robot specific input connector

Min. 200

Air   Air   Air

Air

Rating name plate

Min.150   Air

Min.100
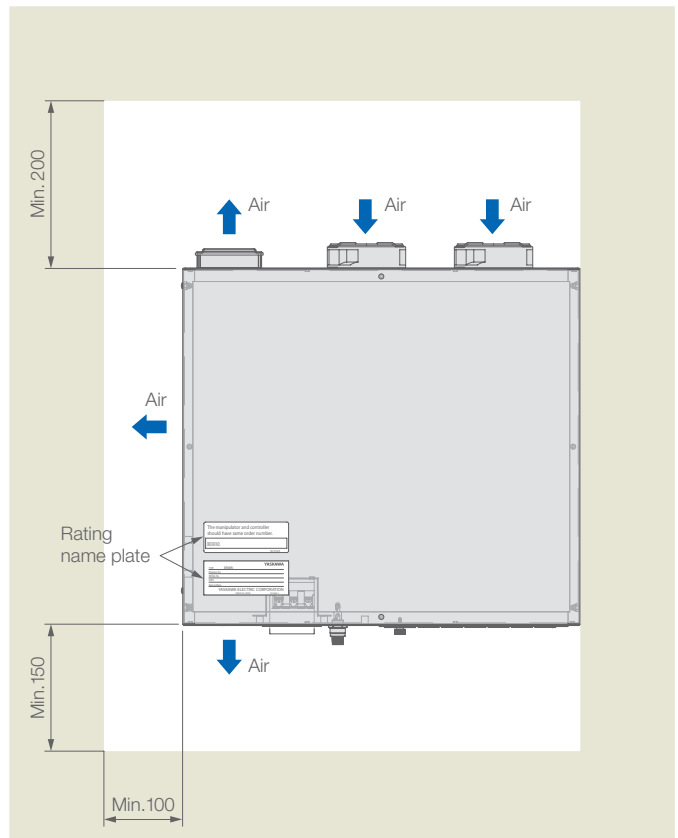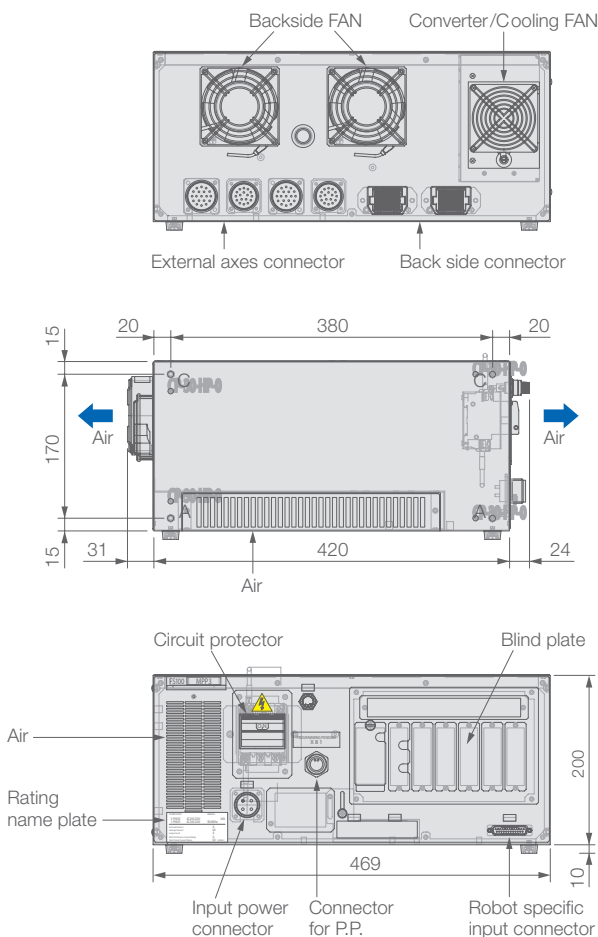
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