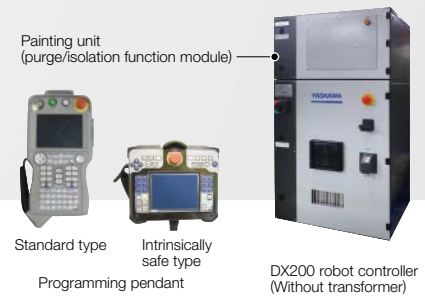


DX200 Robot Controller



Make equipment compact



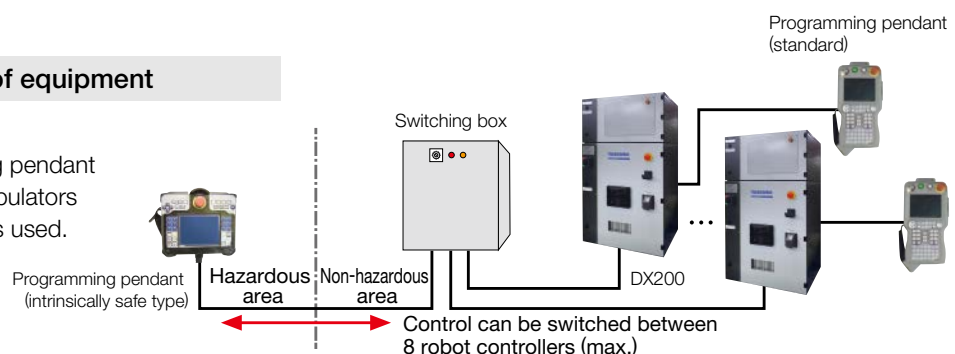
Smaller controller in unit configuration to create an optimal structure for painting applications

- The painting unit (purge/isolation function module) is mounted on the standard robot controller to create the ideal controller for painting applications.
- The height of the controller is reduced by 25% in comparison with former models.
- Two types of programming pendants are available: standard type and intrinsically safe type (can be placed in hazardous area).



Standardization of equipment

One intrinsically safe programming pendant can control a maximum of 8 manipulators when the optional switching box is used.



DX200 Controller Specifications

Items	Specifications
Configuration	Dust proof structure IP54
Dimensions	600 (W)×520 (D)×1060 (H) mm (without transformer) / 600 (W)×520 (D)×1340 (H) mm (with transformer)
Approx. Mass	150 kg (without transformer) / 250 kg (with transformer)
Cooling System	Indirect cooling
Ambient Temperature	During operation: 0 °C to +45 °C, During storage: -10 °C to +60 °C
Relative Humidity	10% to 90%RH (non-condensing)
Vibration etc.	4.9 m/s ² (0.5 G) or less, must be installed in a non-hazardous area
Power Supply	Without transformer: Three-phase 200 VAC (+10% to -15%), 50/60 Hz (± 2%) Three-phase 220 VAC (+10% to -15%), 60 Hz (± 2%) With transformer: Asia Three-phase 380 VAC (+10% to -15%), 50/60 Hz (± 2%) North America Three-phase 480 VAC (+10% to -15%), 50/60 Hz (± 2%) Europe Three-phase 400 VAC (+10% to -15%), 50/60 Hz (± 2%)
Grounding	Grounding resistance: 100 Ω or less*
Digital I/Os	Specialized signals: 28 inputs and 7 outputs General signals: 40 inputs and 40 outputs (Specialized allocation: 24 inputs and 24 outputs, General allocation: 16 inputs and 16 outputs) Max. I/O (optional): 4096 inputs and 4096 outputs
Positioning System	Serial communications (absolute encoder)
Programming Capacity	JOB: 200,000 steps, 10,000 instructions CIO ladder: 20,000 steps max.
Expansion Slots	PCI: 2 slots
LAN (Connection to Host)	1 (10BASE-T/100BASE-TX)
Interface	RS-232C: 1 ch
Control Method	Software servo control
Drive Units	SERVOPACK for AC servomotors (For robot + external axis (optional))

*: When using the intrinsically safe programming pendant, ground to a resistance of 10 Ω or less via the specified terminal.

Programming Pendant Specifications

Items	Standard	Intrinsically Safe
Dimensions	169 (W)×50 (D)×314.5 (H) mm	235 (W)×78 (D)×203 (H) mm
Approx. Mass	0.990 kg	1.30 kg (except the cable)
Material	Reinforced plastics	
Operation Device	Compact flash card interface device, USB port (1 port)	
Display	5.7-inch color LCD, touch panel 640×480 pixels (Alphanumeric characters, Chinese characters, Japanese letters, and others)	5.7-inch monochrome LCD, backlit white LED, touch panel 320×240 pixels (Alphanumeric characters, Chinese characters, Japanese letters, and others)
Explosion Protection Standard		TIIS (Japan). FM (North America). ATEX (Europe). KCs (Korea)
IEC Protection Class	IP65	IP54
Cable Length	Standard: 8 m, Max.: 36 m (with optional extension cable)	Standard: 8 m (20 m cable is optional), Max.: 50 m (with optional extension cable)

DX200's Optimized Functions for Painting



Standardization of equipment

Customizing configuration items

The configuration item name, unit, and output form for painting conditions can be optionally set to suit various painting devices using the paint system configuration.

Paint system configuration screen

NAME	UNIT	OUTPUT	CALIBRATION OUTPUT
ITEM1	Revolution	rpm	rpm
ITEM2	Revolution	rpm	rpm
ITEM3	Revolution	rpm	rpm
ITEM4	Revolution	rpm	rpm
ITEM5	Revolution	rpm	rpm
ITEM6	Revolution	rpm	rpm
ITEM7	Revolution	rpm	rpm
ITEM8	Revolution	rpm	rpm
ITEM9	Revolution	rpm	rpm
ITEM10	Revolution	rpm	rpm



Reflected to the following screen

- Characteristics of painting device
- Paint condition
- Calibration configuration
- Time chart
- Paint output test

Characteristics of painting device screen

NAME	UNIT	OUTPUT	CALIBRATION OUTPUT
ITEM1	Revolution	rpm	rpm
ITEM2	Revolution	rpm	rpm
ITEM3	Revolution	rpm	rpm
ITEM4	Revolution	rpm	rpm
ITEM5	Revolution	rpm	rpm
ITEM6	Revolution	rpm	rpm
ITEM7	Revolution	rpm	rpm
ITEM8	Revolution	rpm	rpm
ITEM9	Revolution	rpm	rpm
ITEM10	Revolution	rpm	rpm

Paint condition screen

NAME	UNIT	OUTPUT	CALIBRATION OUTPUT
ITEM1	Revolution	rpm	rpm
ITEM2	Revolution	rpm	rpm
ITEM3	Revolution	rpm	rpm
ITEM4	Revolution	rpm	rpm
ITEM5	Revolution	rpm	rpm
ITEM6	Revolution	rpm	rpm
ITEM7	Revolution	rpm	rpm
ITEM8	Revolution	rpm	rpm
ITEM9	Revolution	rpm	rpm
ITEM10	Revolution	rpm	rpm

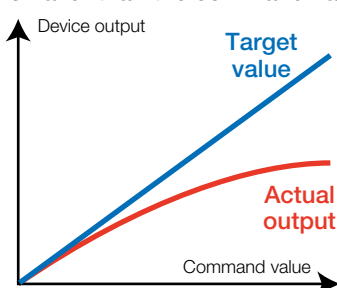


Improve painting quality

Calibration Output

When actual values output by the painting device do not match with the command values, these command values can be corrected in the calibration configuration settings.

When the device output is smaller than the command value



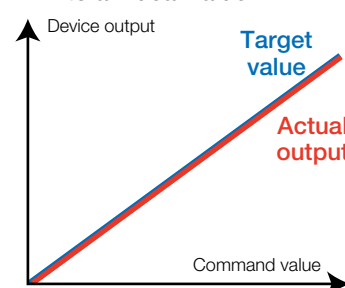
Corrected according to the characteristics of the painting device

NAME	UNIT	OUTPUT	CALIBRATION OUTPUT
ITEM1	Revolution	rpm	rpm
ITEM2	Revolution	rpm	rpm
ITEM3	Revolution	rpm	rpm
ITEM4	Revolution	rpm	rpm
ITEM5	Revolution	rpm	rpm
ITEM6	Revolution	rpm	rpm
ITEM7	Revolution	rpm	rpm
ITEM8	Revolution	rpm	rpm
ITEM9	Revolution	rpm	rpm
ITEM10	Revolution	rpm	rpm

Output will be corrected according to the settings

Output signals are specified by number

Improve device output to an ideal value



Achieve an ideal output by inputting a larger command value compared to the device output value

DX200's Optimized Functions for Painting

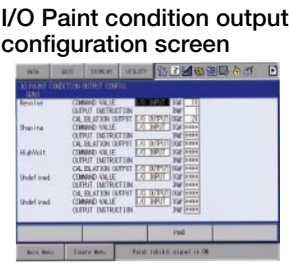
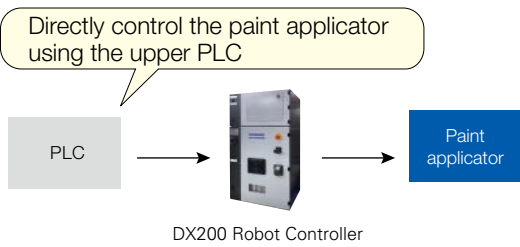


Customer needs

Standardization of equipment

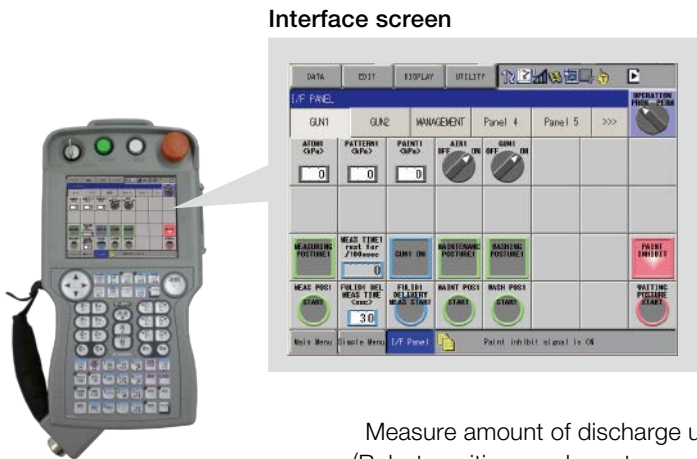
I/O Paint condition output function

A command value for the input signal can control the paint condition output to the painting device without the need to execute the PAINTSET command.



Interface panel function

The interface panel function allows intuitive operation to simplify complicated operations.



- When to use
- Measurement of discharge amount
 - Gun maintenance
 - Gun cleaning



Measure amount of discharge using the panel ▶ (Robot position can be set according to facility)



Customer needs

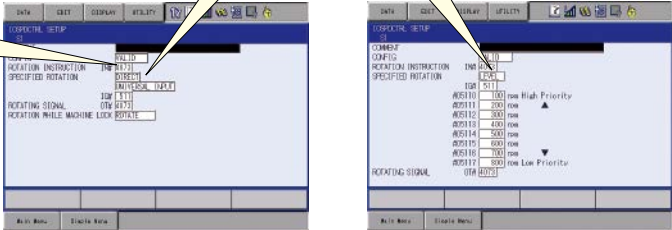
Improve painting quality

I/O Speed control function

The speed control operation of the external axis can be operated by inputting an external signal without the need to execute the speed control command by a JOB. The speed control function can be used to control the pump axis used mainly in painting.

Select rotation speed from **DIRECT** or **LEVEL**

Set the universal input signal number to perform the rotation instruction





Increase work efficiency

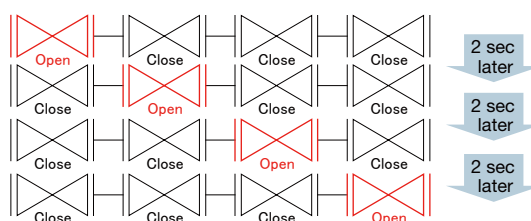
Time chart function

When using the start signal input as a trigger, the signal output control is performed by varying the ON and OFF patterns specified in the time chart at every specified time. Start-up costs can be reduced as the color change sequence using the PLC is not required. The number of steps of the ladder program can be reduced.



Signals are output according to cleaning and filling patterns

Easy valve opening and closing patterns when cleaning the gun and filling paint

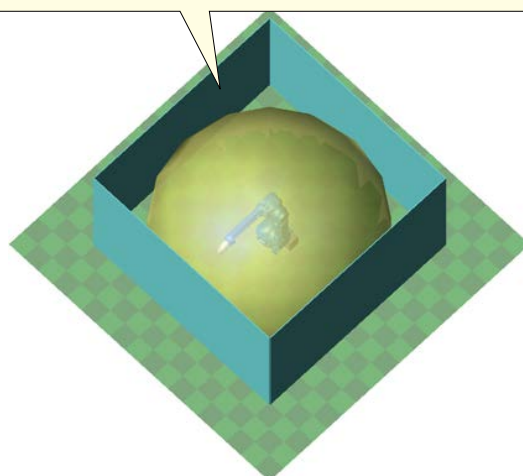


Make equipment compact

Safety functions (optional)

Movements of the robot can be limited to a set area by monitoring the positions of the robot and tool. Safety is improved because positions are monitored with the functional safety module equipped with a double-CPU structure. With this function, the safety fence can be installed in a smaller area than the robot's motion range.

A safety fence is required around the robot's motion range



When using the functional safety module

Less space is necessary

