

CONTROLLER

Introducing the intelligent robot controller based on Windows.

Robots and additional axis are easy to operate by using the teach pendant. Vision and force sensors, as well as networks, are managed in one place.

FD Controller (FD14)



The FD14 controller, used for large robots, is more compact in comparison to the FD11 controller.

• Basic specifications for controller

Item	Specifications
Controllable axes	6
Maximum controllable axes	8
External dimensions (mm)	490(W)×680(D)×240(H)
Position reader	Absolute encoder
Programming system	Teaching playback
Operating panel	Mode switch (teach/playback), emergency stop button
Cable between robot and control panel	5m (controller cable specification)
Protection rating	IP54
Power supply	3 φ 200-220VAC: Class-D grounding, breaker 40A, max. leakage 100mA
Ambient temperature/humidity	0 to 40 °C (50/60Hz) 20 to 85% (without condensation)
Robot monitoring function	PL d (Cat. 3)

• Controller options

Item	Specifications
Cable between robot and control panel	5m, 10m, 15m, 20m, 25m (with connector)
External memory	USB memory (1 GB)
Additional axes	Gun, slider, jig and hand
Fieldbus	DeviceNet, PROFIBUS, FL-net, CC-Link and others. Maximum 4 channel can be installed.
Additional input/output signals	32/32 or 64/64 point
Output relay contact specifications	32 or 64 point
Analog input/output	2/4 point
Vision sensor	NV-Pro
Conveyer tracking function	Conveyer tracking control
Palletize function	Palletize and de-palletize
Robot language	SLIM
PLC function	Software PLC IEC 1131-3

• Teach pendant display specifications

Item	Specifications
Display	5.7 inch VGA color LCD touch panel
Language	Japanese (Chinese, hiragana, katakana and alphanumeric characters) Option: English/Chinese/Korean
Enable SW	One-handed enable switch, three positions, (left hand side)
Optional functions	Axis operation key, value input key, selection/function key, motors on key, emergency stop
External memory interface	USB port
Cable length	8m. Option: extension (total) 15, 25m
Protection rating	IP65
External dimensions (mm)	170(W)×300(D)×65(T)
Weight	0.96 kg (exclude cable)

CFD controller (for MZ series only)



Compact cabinet

Just 369 mm wide. Can be stored inside robot riser.

Wide-variety of applications supported

- Supports addition of one axis (slide axis, jig axis, etc.)
- Vision sensor NV-Pro
- Force sensor applications
- Built in software PLC
- Protective box for controller (dust proof, drip proof)

• Basic specifications for controller

Item	Specifications
Controllable axes	6
Maximum controllable axes	7
External dimensions (mm)	369(W)×490(D)×186(H)
Protection rating	IP20
Power supply	Single phase/3 φ AC200-230V
Ambient temperature/humidity	0 to 40 °C (50/60Hz) 20 to 85% (without condensation)

• Controller options

Item	Specifications
Additional axes	One is possible.
External memory	USB memory (1 GB)
Fieldbus	DeviceNet, PROFIBUS, EtherCAT, CC-Link and others. EtherCAT and CC-Link are only compatible as a slave.
Digital I/O	Maximum 64/64 point
Vision sensor	NV-Pro
Robot monitoring function	SIL3, PL e

FD Controller (FD11)



Fast processing

High-speed CPU brings huge improvement to control performance such as cycle time, trajectory control, and internal processing time.

Teach pendant is compact and lightweight

Compact and lightweight with re-tooled key operations. Touch screen is standard equipment making operations even easier.

Improved maintainability

Maintainability improved by integrating components revamping configuration. Faster parts replacement.

Outstanding functionality

Excellent software functions carried over from AX controller. Easily adapts to many various applications.

Full lineup of safety functions

Support for PL (Performance Level) d is standard. Compliant with American and European safety standards.

• Basic specifications for controller

Item	Specifications
Controllable axes	6
Maximum controllable axes	8
External dimensions (mm)	580(W)×542(D)×590(H)
Position reader	Absolute encoder
Programming system	Teaching playback
Operating panel	Mode switch (teach/playback), emergency stop button, motors on button, start button and stop button
Cable between robot and control panel	5m (controller cable specification)
User interface	User panel: On back, side and inside door
Protection rating	IP54
Power supply	3 φ 200-220VAC: Class-D grounding, breaker 40A, max. leakage 100mA
Ambient temperature/humidity	0 to 40 °C (50/60Hz) 20 to 85% (without condensation)
Robot monitoring function	PL d (Cat. 3)

*Teach pendant specification is the same as FD14.

• Controller options

Item	Specifications
Overseas compliance	North America: ANSI/RIA, Europe: CE
Power voltage converter (External dimensions)	AC380/400/420/440/460/480V (3 φ 50/60Hz) Class-D grounding, breaker 30A, max. leakage 100mA (580mm(W)×542mm(D)×1,180mm(H))
Cable between robot and control panel	Extension (total): 10m, 15m, 20m, 25m
External memory	USB memory (1 GB)
Additional axes	Gun, slider, jig and hand
Fieldbus	DeviceNet, PROFIBUS, FL-net, CC-Link and others. Maximum 4 channel can be installed.
Additional input/output signals	32/32 or 64/64 point
Output relay contact specifications	32 or 64 point
Analog input/output	2/4 point
Vision sensor	NV-Pro
Conveyer tracking function	Conveyer tracking control
Palletize function	Palletize and de-palletize
Robot language	JIS SLIM
PLC function	Software PLC IEC 1131-3

CFDL controller (for EZ series only)



Just 369 mm wide

Multi-controller CFDL can be placed within the support structure.

- It can control up to 4 robot unit.
- Emergency stop and operation switches are provided for each 4 unit independently. (they can work in synchronous manner too.)

• Basic specifications for controller

Item	Specifications		
Model	CFDL1-0000	CFDL2-0000	CFDL4-0000
Maximum controllable units	1	2	4
Maximum controllable axes	6 axes/unit		
Teach pendant	Option		
Operating switches	Emergency stop and mode switching		
Relay unit	8 point		
External dimensions (mm)	369(W)×490(D)×186(H)		369(W)×560(D)×263(H)
Protection rating	IP20		
Power supply	Single phase/3 φ AC200-230V		
Ambient temperature/humidity	0 to 40 °C (50/60Hz) 20 to 85% (without condensation)		

• Controller options

Item	Specifications		
Model	CFDL1-0000	CFDL2-0000	CFDL4-0000
External memory	USB memory (1 GB)		
PCI option	2 slots	1 slot	
Fieldbus	DeviceNet, PROFIBUS, EtherCAT, CC-Link and others. EtherCAT and CC-Link are only compatible as a slave.		
Digital I/O	Maximum 64/64 point		
Software PLC	Yes		
Vision sensor	Yes		
Brake release	Brake release mode		
Overseas compliance	UL, CE, KCs		