

[ Basic Specifications of Robot Controller ]

		FD19	
Outside dimensions	W440×D542×H640 (mm) (Excluding projections)		
Mass	FD19-JV/FD19-JL/FD19-JS/FD19-JVP/FD19-JLP: Approx. 54kg		
	FD19-JX: Approx. 57kg		
Ambient conditions	Temperature: 0–45°C, Humidity: 20–80%RH (Non-condensing)		
Primary power	200/220VAC, 3-phase (+10%, –15%), 50/60Hz		
Power consumption	Manipulator		Power capacity*2
	NB6, NV8, NB4S, NV6S		1.5 kVA
	NB6L, NV8L, NB15, NV25, NA20, NB4LS, NV6LS, NV20S		2.4 kVA
	NH5, NS3		1.0 kVA
	NV50		5.5 kVA
	NV80, NV100, NV130		4.1 kVA
	NV166, NV210		7.0 kVA
Grounding	Ground the robot controller separately (grounding resistance of 100 ohms or less).		
I/O control over external equipment*1	Number of signals	Input/output 8 points each. Extension of input and output is allowed respectively up to 72 points (Optional).	
	Input specifications	Connect relay contact with a minimum applicable load of 5mA or less at 24VDC, or open-collector device with a leakage current of 1mA or less.	
	Output specifications	Relay board 8/8	24VDC/100VAC, up to 1A (Minimum applicable load [reference]: 5mA at 24VDC)
		I/O board	Open-collector device whose rated current is 0.1A or less at 24VDC ± 3V
Memory capacity	100 million steps (by PTP instruction in a single mechanism)		
Number of task programs	9,999		
External memory I/F	USB flash drive (Optional)		
Color	10GY9/1, Munsell scale		

\*1 The number of I/O points can be extended to 2048 by adding an optional field bus (DeviceNet, CC-Link, EtherNet/IP, etc.).  
\*2 Varies by application & moving pattern.



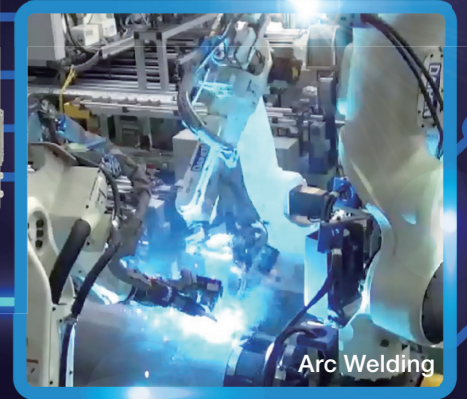
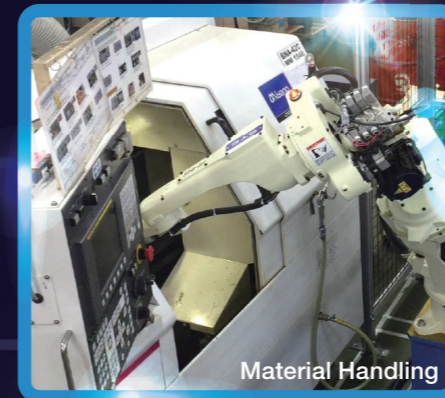
**Almega Friendly series II**

Fast & Easy System Integration

**NEW** Robot Controller **FD19**  
**CONTROLLER**

“Connectivity”

Easy connection and cooperation with peripheral devices



In accordance with DAIHEN's policy to make continuing improvements, design and/or specifications are subject to change without notice and without any obligation on the part of manufacturer.

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“Simple & Quick Operation”

Simpler operation to shorten new production startup

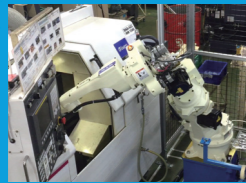


# The limitless potential of extensive "connectivity"

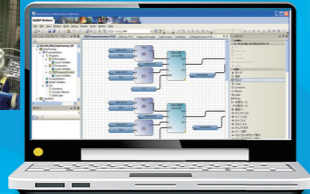
The versatility to "connect" with facilities, devices and people

Easily "connects" with peripheral equipment through simplified system configuration.

High-performance built-in software PLC



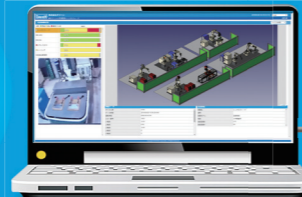
Graphical interface offers the functionality of popular PLCs.



"Connects" from anywhere in the world.

Remote maintenance

Remote support



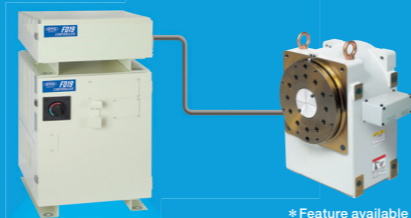
\* Feature available beginning October 2019

Expanded motion control via "connectable" external axis unit

Built-in amplifier and external 2-axis unit

Supports high-capacity (7kW) motors

Increased number of "connectable" motors



\* Feature available beginning January 2020



NEW **FD19** CONTROLLER

Improved "connectivity" with welders

Greatly improved synchronization with welders

Simultaneous welding with multiple robots yields greatly improved quality.



Enhance your system by "connecting" commercial peripherals.

3D Vision System



2D/3D Vision System

Offline teaching system

Laser oscillator



## Revolutionary Ease of Use

Clear and legible screen

Higher contrast with clearer details



Comfortable touch-typing

Embossed main keys



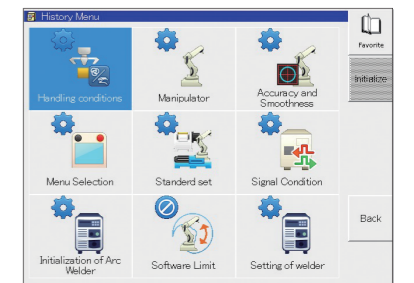
Lightweight with ergonomic grip

15% lighter + enhanced grip design = 66% less arm fatigue



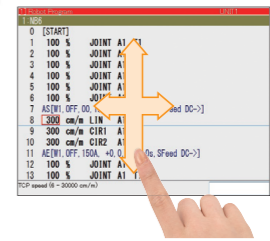
NEW **TEACH PENDANT**

Tablet-like operation

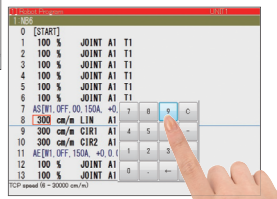


Menu icons

Scroll screen by swipe operation



Touch screen keypad for numeric entry



## Enhanced Basic Performance

Small footprint

25% narrower than the previous model  
Ideal for high-density installations



300mm

Optimized for high-precision laser & plasma processing

Six times faster synchronization with external devices for high-precision laser and plasma processing

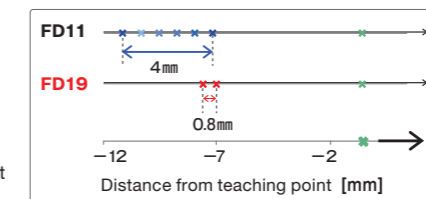


I/O signal control



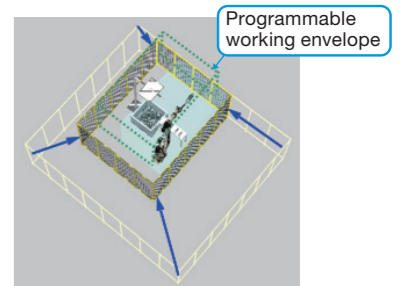
High-precision robot FD-A20

Improved I/O signal response time by 80%!



Complies with the latest international safety standards.

Supports multiple safety control standards for emergency stop: Cat. 4, PLE, and SIL3.



Programmable working envelope

Safer working environment

- RMU\* constantly monitors robot movement.
- Restricts robot movement when worker is present in a shared area.

\* Robot Monitoring Unit

