

[ 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
	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.

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**Almega Friendly series II**

**Fast & Easy System Integration**

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

**“Connectivity”**

**Easy connection and cooperation with peripheral devices**



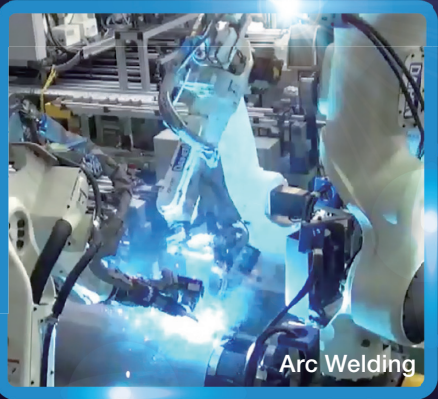
Material Handling



Grinding / Finishing



**NEW FD19**  
**CONTROLLER**



Arc Welding

**“Simple & Quick Operation”**

**Simpler operation to shorten new production startup**



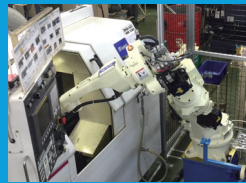


# The limitless potential of extensive “connectivity”

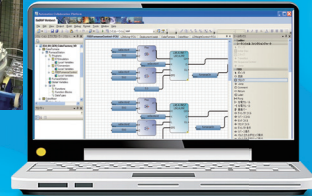
The versatility to “connect” with facilities, devices and people

**Easily “connects”**  
with peripheral equipment  
through simplified system configuration.

High-performance built-in software PLC



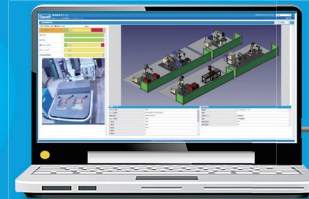
Graphical interface offers the functionality of popular PLCs.



“Connects”  
from anywhere in the world.

Remote  
maintenance

Remote  
support



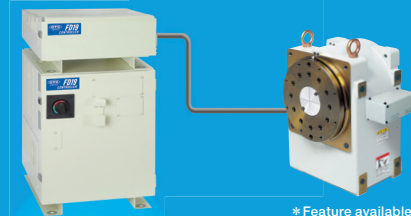
\* Feature available beginning October 2019

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

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.

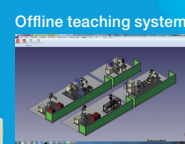
3D Vision System



2D/3D Vision System

Offline teaching system

Laser oscillator



## Revolutionary Ease of Use

Clear and legible screen

Higher contrast with clearer details



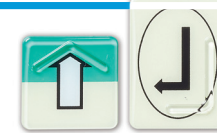
FD11



FD19

Comfortable touch-typing

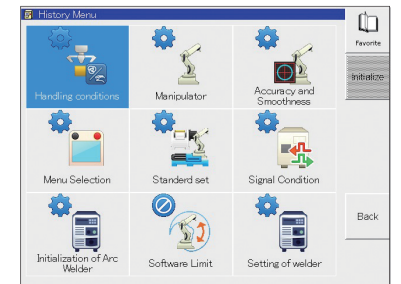
Embossed main keys



Lightweight with  
ergonomic grip

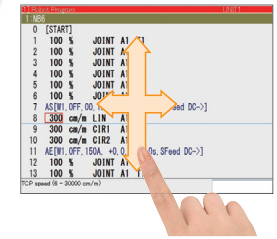
15% lighter + enhanced grip design =  
66% less arm fatigue

Tablet-like operation

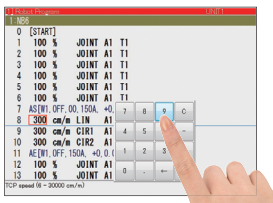


Menu icons

Scroll screen by  
swipe operation



Touch screen keypad  
for numeric entry



**NEW**  
TEACH PENDANT

## Enhanced Basic Performance

Small footprint

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

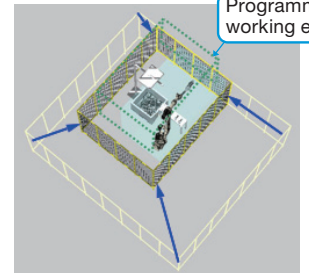


300mm

Complies with the latest  
international safety standards.

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

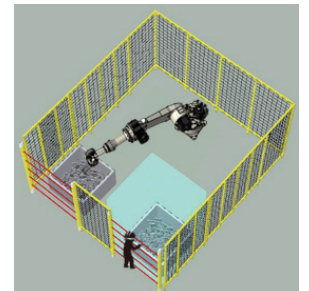
Programmable  
working envelope



Safer working environment

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

\* Robot Monitoring Unit



Optimized for  
high-precision laser &  
plasma processing

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



Laser oscillator

I/O signal control



High-precision robot  
FD-A20

Improved I/O signal response time  
by 80%!

