



## Multi-Converter for FANUC CNC

### Compatible CNC

	I/O	RS-232C (DPRNT) *1
FANUC Series	●	
FANUC Series 15	●	●
FANUC Series 16/18/20/21	●	●
FANUC Power Mate -D/F/H	●	●
FANUC Series 16i/18i/21i	●	●
FANUC Power Mate i	●	●
FANUC Series 15i	●	●
FANUC Series Oi	●	●
FANUC Series 30i/31i/32i/35i	●	●
FANUC Power Motion i	●	●
CNC and PLC other than the above	●	

\*1 Might not be compatible depending on a configuration of CNC.

### Electrical Specifications

Models	Multi-Converter for FANUC CNC
Model	PFXLM4B01DAKFF
Rated Input Voltage	24 Vdc
Input Voltage Limits	20.4 to 28.8 Vdc
Acceptable Voltage Drop	10 ms or less at 20.4 Vdc
Power Consumption	10.4 W or less
In-Rush Current	30 A or less at 28.8 Vdc
Voltage Endurance between power terminal and frame ground (FG)	500 Vdc for 1 minute
Insulation Resistance between power terminal and FG	10MΩ or higher at 500 Vdc

### Environmental Specifications

Models	Multi-Converter for FANUC CNC	
Model	PFXLM4B01DAKFF	
Standard compliance	IEC 61131-2	
Ambient operating temperature	Horizontal installation	0 to 50 °C (32 to 122 °F)
	Vertical installation	0 to 40 °C (32 to 104 °F)
Storage temperature	- 20 to 60 °C (- 4 to 140 °F)	
Storage altitude	0 to 10,000 m (0 to 32,808 ft)	
Operating altitude	0 to 2,000 m (0 to 6,560 ft)	
Surrounding Air and Storage Humidity	5 to 85% w/o condensation (non-condensing, wet bulb temperature 39°C (102.2°F) or less)	
Dust	≤0.1 mg/m3 (10-7 oz/ft3) (non-conductive levels)	
Degree of pollution	IEC 60664 2	
Degree of protection	IEC 61131-2 IP20 with protective covers in place	
Corrosive gases	Free of corrosive gases	
Atmospheric pressure (Operating Altitude)	800 to 1,114 hPa (2000 m (6,561 ft) or lower)	
Vibration resistance	Mounted on a DIN rail 3.5 mm (0.138 in.) fixed amplitude from 5 to 8.4 Hz 9.8 m/s <sup>2</sup> (1 gn) fixed acceleration from 8.4 to 150 Hz	
Mechanical shock resistance	Mounted on a DIN rail 147 m/s <sup>2</sup> (15 gn) for a duration of 11 ms	
Electrostatic discharge	IEC/EN61000-4-2 8 kV (air discharge) 6 kV (contact discharge)	
Radiated radio frequency electromagnetic fields	IEC/EN61000-4-3 10 V/m (80 MHz to 3 GHz)	
Fast transients / Burst noise	IEC/EN61000-4-4 Power lines: 2 kV Digital I/O: 1 kV Relay outputs: 2 kV Ethernet line: 1 kV COM line: 1 kV CAN line: 1 kV	
Surge immunity	IEC/EN61000-4-5 Power supply: CM: 1 kV; DM: 0.5 kV Digital I/O: CM: 1 kV; DM: 0.5 kV Shielded cable: 1 kV CM = line-earth DM = line-line	
Vibration immunity (operating)	IEC61131-2	
Protection	IP20 (IEC60529)	
Shock immunity (operating)	IEC61131-2 15 gn 11 ms	



## Multi-Converter for FANUC CNC

### Interface Specifications

Models	Multi-Converter for FANUC CNC	
Model	PFXLM4B01DAKFF	
Serial (COM)	RS-232C/RS485 Connector type: RJ-45, Cable type: Shielded Cable	
USB (Type A)	USB 2.0 (Type A) x 1 (Power Supply Voltage: 5Vdc +/-5%, Maximum Current Supplied: 500mA, Maximum Transmission Distance: 5m (16.4 ft.))	
USB (mini B)	USB 2.0 (Mini-B) x 1, Maximum Transmission Distance: 5m (16.4 ft.)	
Ethernet	10BASE-T/100BASE-TX Connector type: Modular jack (RJ-45) x 1 Connector type: RJ45	
Control	Digital Input	12 points standard input (sink / source)
	Analog Input	2 ch analog inputs (13-bit)

Note1: Important notes for using AIO

A signal might be output to the analog output terminal while Multi-Converter is starting. Design an external device unit connected to the analog output terminal so that the power is supplied after the Multi-Converter starts. Design it considering momentary power interruption when the power supply of the Multi-Converter is different from that of the external device unit.

### Structural Specifications

Models	Multi-Converter for FANUC CNC
Model	PFXLM4B01DAKFF
Cooling Method	Natural air circulation
External Dimensions	W131.35 x H115.3 x D74.4 mm (W5.17 x H4.49 x D2.9 in.)
Weight	544 g (19.19 oz)

### Control Specifications (Digital Inputs)

Models	Multi-Converter for FANUC CNC	
Model	PFXLM4B01DAKFF	
Rated Current	5mA	
Inrush Values	Voltage	30Vdc
	Current	6.29mA max.
Input impedance	4.9kΩ	
Input type	Sink/Source	
Rated voltage	24Vdc	
Maximum Allowable Voltage	28.8Vdc	
Input limit values	ON Voltage	15Vdc or more (15 to 28.8 Vdc)
	OFF Voltage	5Vdc or less (0 to 5Vdc)
	ON Current	2.5mA or more
	OFF Current	1.0mA or less
Isolation	Method	Photo coupler Isolation
	Between internal logic	500Vdc
Filtering	0.5ms x N (N is 0 to 63)	
IEC61131-2 edition 3 type	Type 1	
Compatibility	Supports 2 wire and 3 wire sensors.	
Cable type and length	Shielded : Maximum 100 m (328 ft) Non-shielded : 50m (164 ft)	
Terminal blocks	Type : 3.5mm (0.137 in.) pitch Terminal blocks are removable.	
Input paralleling	No	

### Control Specifications (Analog Inputs)

Models	Multi-Converter for FANUC CNC	
Model	PFXLM4B01DAKFF	
	Voltage input      Current input	
Number of maximum input	2	
Input type	Single-ended	
Input range	-10 to 10Vdc/0 to 10Vdc      0 to 20mA/4 to 20mA	
Input impedance	1MΩ or more      250 ±0.1%Ω	
Sample duration time	10ms per channel + 1 scan time	
Total input system transfer time	20ms + 1 scan time	
Input tolerance	Maximum deviation at 25C (77F) without electromagnetic disturbance	± 1% of the full scale
	Maximum deviation	± 2.5% of the full scale
Digital resolution	13 bits	
Temperature drift	±0.06% of the full scale	
Common mode characteristics	80dB	
Cross talk	60dB	
Non-linearity	±0.4% of the full scale	
Input value of LSB	5mV      10μA	
Maximum allowed overload (no damages)	±30Vdc (less than 5 minutes)      ±15Vdc (No damage)      ±30mAdc	
Protection type	Photo coupler between input and internal circuit	
Cable	Type	Shielded
	Length	Must be less than 3 m for IEC 61131-2 conformance. Maximum transmission distance is 10m.
Terminal blocks	Type : 3.5mm (0.137 in.) pitch Terminal blocks are removable.	
Isolation	External input	Photo coupler isolation
	Between channels	Non-isolated

### External Dimensions

