

PLC High Density Analog I/O Module

- Features**
- 8-pt (0-10V DC / 4-20mA) input module
 - 2-pt (-10 to +10VDC / 4-20mA) output module
 - 16-bit Resolution
 - Fast Conversion Times
 - Configure up to 56 analog I/Os



Specifications

General Specifications		
Part Number	FC4A-J8C1	FC4A-K2C1
Rated Power Voltage	24V DC	
Allowable Voltage Range	20.4 to 28.8V DC	
Terminal Arrangement	See Analog I/O Module User's Manual -pages 2-8 to 2-11	
Connector on Mother Board	MC1.5/10-G-3.81BK (Phoenix Contact)	
Connector Insertion/Removal Durability	100 times minimum	
Internal Current Draw	40mA (5V DC)	60mA (5V DC)
	0mA (24V DC)	0mA (24V DC)
External Current Draw (Note)	50mA (24V DC)	85mA (24V DC)
Weight	140g	110g

Analog Input Specifications		
Part Number	FC4A-J8C1	
Analog Input Signal Type	Voltage Input	Current Input
Input Range	0 to 10V DC	4 to 20mA
Input Impedance	1 MΩ	100Ω
AD Conversion	Sample Duration Time	2ms maximum
	Sample Repetition Time	2ms maximum
	Total Input System Transfer Time ^{Note 1}	8ms x channels + 1 scan time
	Type of Input	Single-ended input
	Operating Mode	Self-scan
	Conversion Method	Successive approximation register method
Input Error	Maximum Error at 25°C	±0.2% of full scale
	Temperature Coefficient	±0.005% of full scale / °C
	Repeatability after Stabilization Time	±0.5% of full scale
	Non-linearity	±0.04% of full scale
	Maximum Error	±1% of full scale



For more information on these and other IDEC PLCs, visit:

www.idec.com/PLC

Analog Output Specifications			
Part Number			FC4A-K2C1
Output Range		Voltage	−10 to +10V DC
		Current	4 to 20mA DC
Load	Load Impedance		2 kΩ minimum (voltage), 300Ω maximum (current)
	Applicable Load Type		Resistive load
DA Conversion	Settling Time		1ms / ch
	Total Output System Transfer Time		1ms x channels + 1 scan time
Output Error	Maximum Error at 25°C		±0.2% of full scale
	Temperature Coefficient		±0.005% of full scale/°C
	Repeatability after Stabilization Time		±0.5% of full scale
	Output Voltage Drop		±1% of full scale
	Non-linearity		±0.2% of full scale
	Output Ripple		±0.1% of full scale
	Overshoot		0%
	Total Error		±1% of full scale
Data	Digital Resolution		50000 increments (16 bits)
	Output Value of LSB	Voltage	0.4mV
		Current	0.32μA
	Data Type in Application Program		−25000 to 25000 (voltage)
			0 to 50000 (current)
			Optional: −32768 to 32767 (selectable for each channel) ^{Note 2}
	Monotonicity		Yes

Specifications can't

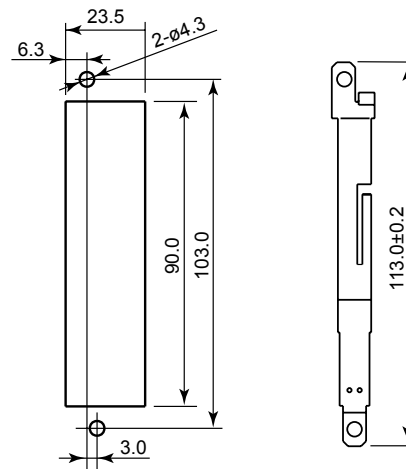
Analog Input Specifications		
Data	Digital Resolution	50000 increments (16 bits)
	Input Value of LSB	0.2mV 0.32μA
	Data Type in Application Program	Default: 0 to 50000
	Monotonicity	Optional: -32768 to 32767 (selectable for each channel) ^{Note 2}
	Input Data Out of Range	Detectable ^{Note 3}
Noise Resistance	Maximum Temporary Deviation during Electrical Noise Tests ^{Note 4}	±3% maximum
	Input Filter	Software
	Recommended Cable for Noise Immunity	Twisted pair cable
	Crosstalk	2 LSB maximum
Isolation		Isolated between input and power circuit Photocoupler-isolated between input and internal circuit
Effect of Improper Input Connection		No damage
Maximum Permanent Allowed Overload (No Damage)		11V DC 22 mA DC
Selection of Analog Input Signal Type		Using software programming

Notes:

1. Total input system transfer time = Sample repetition time + Internal processing time. The total input system transfer time increases in proportion to the number of channels used.
2. The data processed in the analog I/O module can be linear-converted to a value between -32768 and 32767. The the optional range designation, and analog I/O data minimum and maximum values can be selected using data registers allocated to analog I/O modules.
3. When an error is detected, a corresponding error code is stored to a data register allocated to analog I/O operating status.
4. The value is measured when a 500V clamp voltage is applied to the power supply and I/O lines.

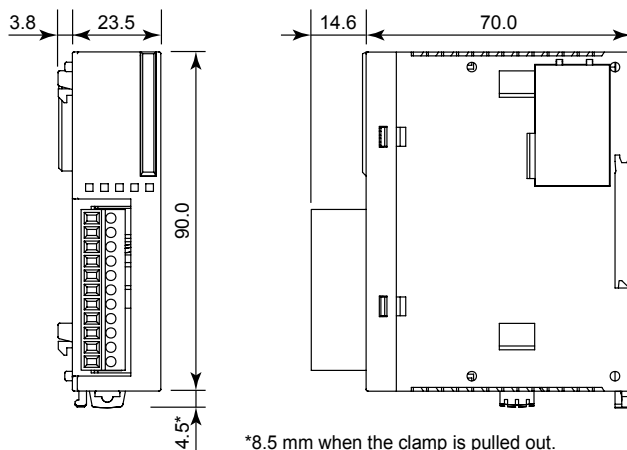
Analog Output Specifications		
Current Loop Open		Not detectable
Noise Resistance	Maximum Temporary Deviation during Electrical Noise Tests ^{Note 4}	±3% maximum
	Recommended Cable for Noise Immunity	Twisted pair cable
	Crosstalk	2 LSB maximum
Isolation		Isolated between output and power circuit Photocoupler-isolated between output and internal circuit
Effect of Improper Output Connection		No damage
Selection of Analog Output Signal Type		Using software programming

Mounting Hole Layout (mm)



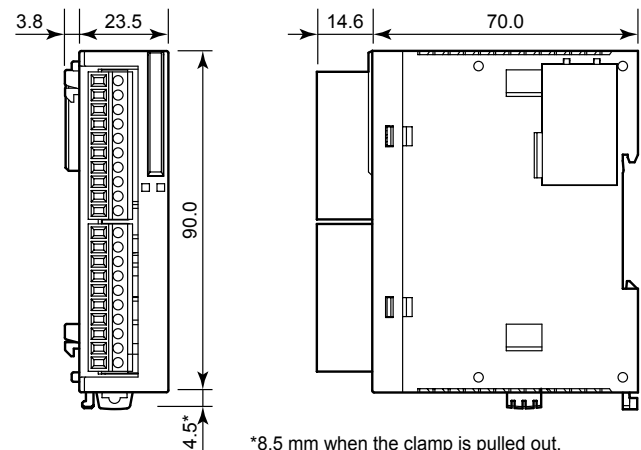
Dimensions (mm)

FC4A-K2C1



*8.5 mm when the clamp is pulled out.

FC4A-J8C1



*8.5 mm when the clamp is pulled out.

