

# Analog Voltage Input Modules

F2-04AD-2 4-Channel Voltage Analog In <---->	
This module requires a 24 VDC user power supply for operation. See the F2-04AD-2L on the next page if you want to use a 12 VDC supply. All other specifications are the same.	
<b>Number of Channels</b>	4, single ended (1 common)
<b>Input Ranges</b>	0 to 5V, 0 to 10 V, $\pm 5V$ , $\pm 10 V$
<b>Resolution</b>	12 bit (1 in 4096)
<b>Active Low-pass Filtering</b>	-3 dB at 80 Hz, 2 poles (-12 dB per octave)
<b>Input Impedance</b>	>20 M $\Omega$
<b>Absolute Maximum Ratings</b>	-75 to +75 VDC
<b>Converter Type</b>	Successive approximation
<b>Conversion Time (PLC Update Rate)</b>	1 channel per scan maximum (D2-230 CPU) 4 channels per scan maximum (D2-240, D2-250(-1) and D2-260 CPUs)
<b>Linearity Error (End to End)</b>	$\pm 1$ count (0.025% of full scale) maximum $\pm 2$ counts maximum (bi-polar)
<b>Input Stability</b>	$\pm 1$ count
<b>Full Scale Calibration Error (offset error not included)</b>	$\pm 3$ counts maximum
<b>Offset Calibration Error</b>	$\pm 1$ count maximum (0V input)
<b>Step Response</b>	10 ms to 95% of F.S change

<b>Maximum Inaccuracy</b>	$\pm 1\%$ @ 77°F (25°C) $\pm 3\%$ 32° to 140°F (0° to 60°C)
<b>Accuracy vs. Temperature</b>	$\pm 50$ ppm/°C full scale calibration change (including maximum offset change)
<b>Digital Input Points Required</b>	16(x) input points (12 binary data bits, 2 channel ID bits)
<b>Base Power Required 5VDC</b>	60 mA
<b>External Power Supply</b>	90 mA maximum, +18 to +30 VDC
<b>Operating Temperature</b>	32° to 140°F (0 to 60°C)
<b>Storage Temperature</b>	-4° to 158°F (-20° to 70°C)
<b>Relative Humidity</b>	5 to 95% (non-condensing)
<b>Environmental Air</b>	No corrosive gases permitted
<b>Vibration</b>	MIL STD 810C 514.2
<b>Shock</b>	MIL STD 810C 516.2
<b>Noise Immunity</b>	NEMA ICS3-304
<b>Terminal Type (included)</b>	Removable; D2-8IOCON

*One count in the specification table is equal to one least significant bit of the analog data value (1 in 4096).*

*Note 1: Shields should be grounded at the signal source.*

