



F0-04AD-1 4-channel analog input module

The F0-04AD-1 Analog Input module offers the following features:

- The DL05 reads all four channels in one scan.
- The removable terminal block makes it possible to remove the module without disconnecting the field wiring.
- Analog inputs can be used as process variables for the (4) PID loops included in the DL05 CPU.
- Field device burnout is detected on all four channels when 4–20mA range is selected.
- On-board active analog filtering and RISC-like microcontroller provide digital signal processing to maintain precise analog measurements in noisy environments.

Input Specifications

Number of channels	4, single ended (one common)
Input range	0 to 20 mA or 4 to 20 mA current (jumper selectable)
Resolution	12 bit (1 in 4096) for 0 - 20mA, scaled for 4 - 20mA
Step response	25.0 mS (typ) to 95% of full step change
Crosstalk	80 dB, 1/2 count maximum *
Active low-pass filtering	3 dB at 40Hz (-12 dB per octave)
Input impedance	125 Ohm $\pm 0.1\%$, 1/8 W current input
Absolute maximum ratings	-30 mA to +30 mA current input
Converter type	Successive approximation
Linearity error (end to end)	± 1 count (0.025% of full scale) maximum *
Input stability	± 1 count *
Full scale calibration error (Offset error not included)	± 10 counts maximum, @ 20mA current input
Offset calibration error	± 5 counts maximum @ 4mA current input *
Maximum inaccuracy	$\pm 4\%$ @ 25°C (77°F) $\pm 0.85\%$ 0 to 60°C (32 to 140°F)
Accuracy vs. temperature	± 80 ppm/°C maximum full scale calibration (including maximum offset change)
Recommended fuse (external)	0.032 A, Series 217 fast-acting current inputs

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

General Specifications

PLC update rate	4 channels per scan
16-bit data word	12 binary data bits, 2 channel ID bits, 2 diagnostic bits
Operating temperature	0 to 60°C (32 to 140° F)
Storage temperature	-20 to 70°C (-4 to 158° F)
Relative humidity	5 to 95% (non-condensing)
Environmental air	No corrosive gases permitted
Vibration	MIL STD 810C 514.2
Shock	MIL STD 810C 516.2
Noise immunity	NEMA ICS3-304

