

# Analog In/Out Combination Module

F2-4AD2DA 4-Channel Analog Input / 2-Channel Analog Output <--->	
<b>Number of Input Channels</b>	4, single-ended (1 common)
<b>Number of Output Channels</b>	2, single-ended (1 common)
<b>Ranges</b>	4 to 20 mA current (current sinking)
<b>Resolution</b>	12 bit (1 in 4096)
<b>Peak Withstanding Voltage</b>	75 VDC, current outputs
<b>Maximum Continuous Overload</b>	-40 to +40 mA, each current output
<b>Input Impedance</b>	250 Ω, ±0.1%, 1/2 W, 25 ppm/°C current input resistance
<b>External Load Resistance</b>	0Ω minimum, current outputs
<b>Maximum Loop Supply</b>	30 VDC
<b>Recommended Fuse</b>	0.032 A, series 217 fast-acting, current inputs
<b>Maximum Load/Power Supply</b>	910 Ω/24 V, current outputs 620 Ω/18 V, 1200 Ω/30 V
<b>Active Low-pass Filter</b>	-3 dB @ 20 Hz, 2 poles (-12 dB per octave)
<b>Linearity Error (best fit)</b>	±1 count (±0.025% of full scale) maximum
<b>Output Settling Time</b>	100 μs maximum (full scale change)

<b>Accuracy vs. Temperature</b>	±50 ppm/°C full scale calibration change (including maximum offset change)
<b>Maximum Inaccuracy</b>	±0.1% @ 77°F (25°C) ±0.3% @ 32 to 140°F (0 to 60°C)
<b>Digital Input and Output Points Required</b>	16 (X) input points (12 binary data bits, 2 channel ID bits, 2 diagnostic bits) 16 (Y) output points (12 binary data bits, 2 channel enable bits)
<b>PLC Update Rate</b>	4 channels per scan maximum: (D2-240, D2-250(-1) and D2-260 CPUs) 2 output channels per scan maximum: (D2-240, D2-250(-1) and D2-260 CPUs) 1 input and 1 output channel per scan maximum: (D2-230 CPU)
<b>Base Power Required 5VDC</b>	90 mA
<b>External Power Supply Requirement</b>	18-26.4 VDC @ 80 mA 20 mA per loop
<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 connected at their respective signal source.

**Note 2:** Unused channel should remain open for minimum power consumption.

**Note 3:** More than one external power supply can be used provided the power supply commons are connected.

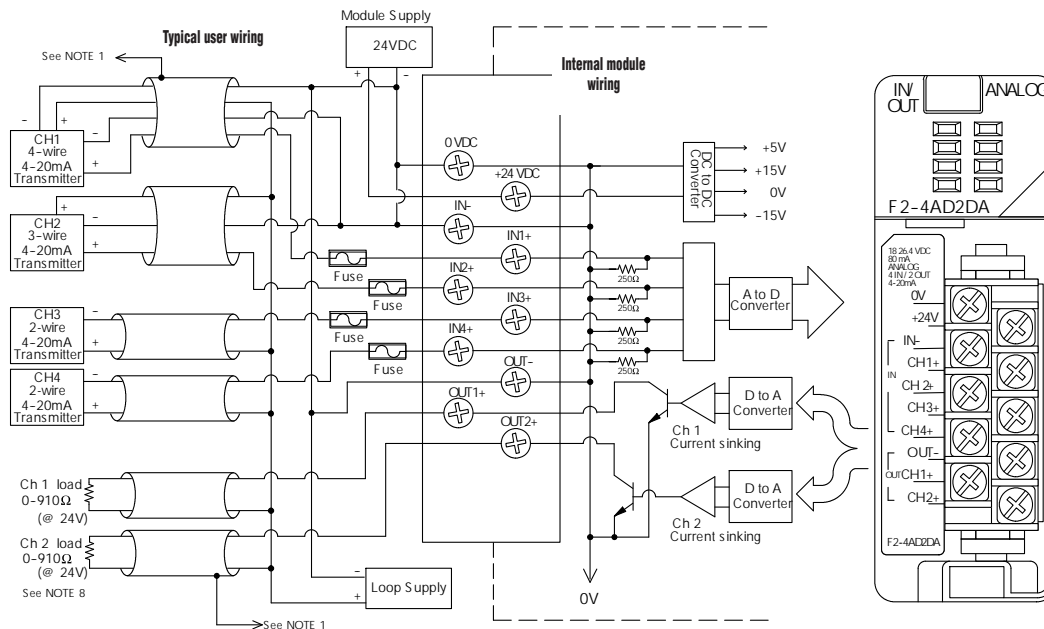
**Note 4:** A Series 217, 0.032A fast-acting fuse is recommended for 4-20 mA current input loops.

**Note 5:** If the power supply common of an external power supply is not connected to 0 VDC on the module, then the output of the external transmitter must be isolated. To avoid "ground loop" errors, recommended 4-20 mA transmitter types are:  
2 or 3 wire: isolation between input signal and power supply  
4 wire: isolation between input signal, power supply, and 4-20 mA output.

**Note 6:** If an analog channel is connected backwards, then erroneous data values will be returned for that channel.

**Note 7:** To avoid small errors due to terminal block losses, connect 0 VDC, IN-, and OUT- on the terminal block as shown. The module's internal connection alone of these nodes is not sufficient to permit module performance up to the accuracy specifications.

**Note 8:** Choose an output transducer resistance according to the maximum load/power listed in the Output Specifications.



- PLC Overview
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- DL105 PLC
- DL205 PLC**
- DL305 PLC
- DL405 PLC
- Field I/O
- Software
- C-more HMIs
- Other HMI
- AC Drives
- Motors
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- Proximity Sensors
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