

Analog Output Modules for Compact FieldPoint

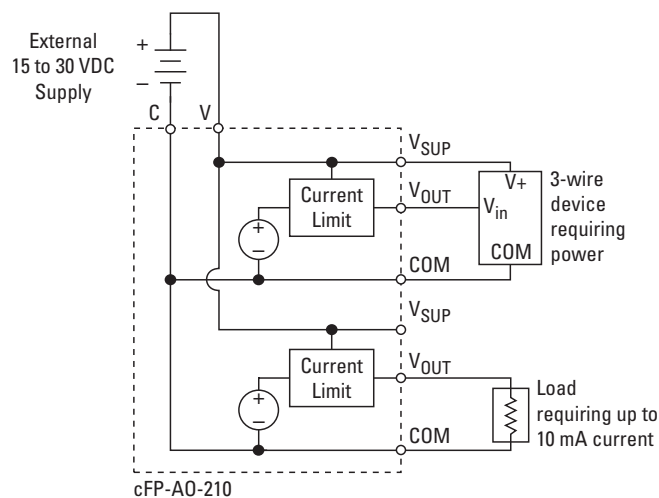


Figure 1. Wiring Schematic for the cFP-AO-210 Module

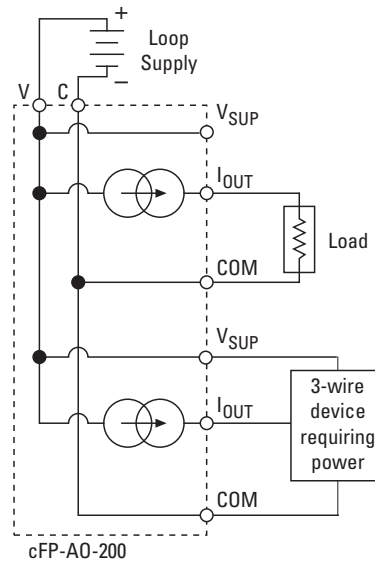


Figure 2. Wiring Schematic for the cFP-AO-200 Module

Ordering Information

NI cFP-AO-200	777318-200
NI cFP-AO-210	777318-210

Recommended Compact FieldPoint System Products

NI cFP-2120	777317-2120
NI cFP-BP-4	778617-04
NI cFP-CB-1	778618-01
NI PS-5 power supply	778805-90
NI Developer Suite Professional Control Edition	777906-03

BUY NOW!

For complete product specifications, pricing, and accessory information, call 800 813 3693 (U.S.) or go to ni.com/compactfieldpoint.

Analog Output Modules for Compact FieldPoint

Specifications

Typical for -40 to 70 °C unless otherwise noted.

Output Characteristics

Number of channels.....	8 single-ended
DAC resolution.....	12 bits, 1 in 4,096

Current Output (cFP-AO-200)

Output range	0 to 20 or 4 to 20 mA, programmable (0 to 21 or 3.5 to 21 mA with overranging)
Output type	Current source (external loop power required)
External loop power.....	5 to 24 VDC
Internal voltage drop.....	3 V
Resistive load	Up to 1 k Ω with 24 VDC supply, up to 100 Ω with 5 V supply
Protection and error detection.....	Short-circuit and open-circuit
Default power-up state.....	0 mA
Resolution	6 μ A

Voltage Output (cFP-AO-210)

Output range	0 to 10 V (0 to 10.2 V with overranging)
Output type	Voltage source (external power optional)
External power supply	15 to 30 VDC
Internal voltage drop.....	3 V
Current drive	1 mA sourcing or sinking, 10 mA sourcing with external power supply
Overvoltage protection	-10 to 20 V
Default power-up state.....	0 V
Resolution	2.5 mA

Isolation Voltage

Maximum isolation voltage	250 V _{rms} , Installation Category II
Channel-to-channel isolation.....	No isolation between channels
Transient overvoltage.....	2,300 V _{rms}

Accuracy

Absolute accuracy (cFP-AO-200).....	0.1% typ, 0.3% max
Gain error (cFP-AO-210)	0.2% typ, 0.4% max
Offset error (cFP-AO-210).....	4 mV typ, 14 mV max
Monotonicity	Guaranteed over temperature range
Offset temperature coefficient	
cFP-AO-200	50 nA/°C
cFP-AO-210	70 μ V/°C
Gain temperature coefficient	
cFP-AO-200	40 ppm/°C
cFP-AO-210	20 ppm/°C

Dynamic Characteristics

Maximum update rate	200 updates/s
Slew rate	
cFP-AO-200	0.4 mA/ μ s
cFP-AO-210	0.5 V/ μ s

Physical Characteristics

LED indicators	
POWER (green)	Power on and self-test passed
READY (green)	Module configured and ready
Fault status (red).....	Open circuit (cFP-AO-200) or current limit (cFP-AO-210) on channel
Dimensions.....	127.0 by 65.9 by 23.9 cm (5.00 by 2060 by 0.94 in.)

Weight	
cFP-AO-200	113 g (4.0 oz)
cFP-AO-210	115 g (4.1 oz)

Power Requirement

Power from network module	
cFP-AO-200	350 mW

Environment

Operating temperature	-40 to 70 °C
Storage temperature.....	-55 to 85 °C
Relative humidity	10 to 90%, noncondensing

Shock and Vibration

Operating vibration, random (IEC 60068-2-64)	10 to 500 Hz, 5 grms
Operating vibration, sinusoidal (IEC 60068-2-6)	10 to 500 Hz, 5 g
Operating shock (IEC 60068-2-27)	50 g, 3 ms half sine, 18 shocks at 6 orientations; 30 g, 11 ms half sine, 18 shocks at 6 orientations

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Safety and Compliance

Safety

This product is designed to meet the requirements of the following standards of safety for electrical equipment for measurement, control, and laboratory use:

- IEC 61010-1, EN 61010-1
- UL 61010-1, CSA 61010-1

Note: For UL and other safety certifications, refer to the product label or visit ni.com/certification, search by model number or product line, and click the appropriate link in the Certification column.

Electromagnetic Compatibility

This product is designed to meet the requirements of the following standards of EMC for electrical equipment for measurement, control, and laboratory use:

- EN 61326 EMC requirements; Minimum Immunity
- EN 55011 Emissions; Group 1, Class A
- CE, C-Tick, ICES, and FCC Part 15 Emissions; Class A

Note: For EMC compliance, operate this device according to product documentation.

CE Compliance

This product meets the essential requirements of applicable European Directives, as amended for CE marking, as follows:

- 2006/95/EC; Low-Voltage Directive (safety)
- 2004/108/EC; Electromagnetic Compatibility Directive (EMC)

Note: Refer to the Declaration of Conformity (DoC) for this product for any additional regulatory compliance information. To obtain the DoC for this product, visit ni.com/certification, search by model number or product line, and click the appropriate link in the Certification column.

Waste Electrical and Electronic Equipment (WEEE)

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