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NI cFP-AIO-610

8-Channel Combination Analog Input/Output Module for Compact FieldPoint

- 4 analog input channels for ±30 V or ±20 mA
- 4 analog voltage output channels for 0 to 10 or ±10 V
- 1.4 kHz update rate
- 100 mA current input protection and short-circuit protection
- 12-bit resolution
- -40 to 70 °C operating range



Overview

The National Instruments cFP-AIO-610 is an 8-channel, single-ended, combination analog input/analog output module. It can measure four channels of voltage or mA current loops from industrial sensors and transmitters and can output four channels of 0 to 10 or ±10 V to control valves, gauges, and other industrial actuators. The NI cFP-AIO-610 has an internal update rate of 1.4 kHz, ideal for low-channel-count systems or PID control. The module includes overranging and onboard diagnostics to ensure trouble-free installation and maintenance. The module also makes programming easier by automatically scaling and linearizing input and output signals so you avoid the step of converting binary numbers into engineering units in your control or monitoring software. The cFP-AIO-610 module is calibrated according to NIST-traceable calibration standards, ensuring accurate and reliable analog measurement and control.

Specifications

Specifications Summary

General	
Product Name	cFP-AIO-610
Product Family	Industrial I/O
Part Number	777318-610
Operating System/Target	Windows , Real-Time
LabVIEW RT Support	Yes
Form Factor	Ethernet , Compact FieldPoint
Measurement Type	Voltage , Current

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Isolation Type	Bank Isolation
RoHS Compliant	No
Signal Conditioning	0-20 mA current input
Analog Input	
Channels	0 , 4
Single-Ended Channels	4
Differential Channels	0
Resolution	12 bits
Sample Rate	1.4 kS/s
Bandwidth	350 Hz
Max Voltage	30 V
Maximum Voltage Range	-30 V , 30 V
Maximum Voltage Range Accuracy	14.65 mV
Minimum Voltage Range	0 V , 5 V
Minimum Voltage Range Accuracy	1.22 mV
Maximum Current Range	-20 mA , 20 mA
Maximum Current Range Accuracy	9.77 µA
Minimum Current Range	4 mA , 20 mA
Minimum Current Range Accuracy	3.91 µA
Input Impedance	1.5 MOhm
Simultaneous Sampling	No
Analog Output	
Channels	4
Resolution	12 bits
Output Type	Sourcing
Max Voltage	10 V
Maximum Voltage Range	-10 V , 10 V
Maximum Voltage Range Accuracy	4.88 mV
Minimum Voltage Range	0 V , 10 V
Minimum Voltage Range Accuracy	2.44 mV
Update Rate	1.4 kS/s

Digital I/O	
Bidirectional Channels	0
Input-Only Channels	0
Output-Only Channels	0
Counter/Timers	
Counters	0
Physical Specifications	
Length	12.7 cm
Width	2.4 cm
Height	6.6 cm
Minimum Operating Temperature	-40 °C
Maximum Operating Temperature	70 °C
Minimum Storage Temperature	-55 °C
Maximum Storage Temperature	85 °C

Pricing

Part Number	Description	Est Ship	US Dollars*	Qty
Compact FieldPoint Products				
777318-610	cFP-AIO-610, 12 bit Analog Input/Output Module (V, mA /V)	5 - 10	$ 795.00	0
777317-2120	cFP-2120 LabVIEW Real-Time/Ethernet Network Controller	5 - 10	$ 2,900.00	0
778617-04	cFP-BP-4 4-Slot Backplane	5 - 10	$ 655.00	0
778618-01	cFP-CB-1 Connector Block	1 - 2	$ 183.00	0

Place Order or Obtain Quote

Order Online or by Fax

1 . Navigate to *ni.com/products* and select "Order by Part Number" found under the "Business Center" section.
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Services

System Assurance Programs

Reduce your setup time and total cost of ownership, and get a system you can use out of the box with National Instruments system assurance programs. System assurance programs include:

- Installation and integration test of all individual hardware
- Courtesy installation of system driver sets and application development environments
- Extended warranty and calibration coverage for up to five years
- Custom documentation plus a custom restore and startup utility

This service is only available for PXI, NI CompactRIO, and NI Compact FieldPoint systems.

- Learn More about System Configuration and Deployment Services [http://www.ni.com/services/configuration.htm]
- Customize Your CompactRIO System [http://ohm.ni.com/advisors/crio]
- Customize Your Compact FieldPoint System [http://ohm.ni.com/advisors/cfp]
- Customize Your PXI System [http://ohm.ni.com/advisors/pxi]
- Talk to an Expert about Custom System Configurations [javascript:openCallMeWindowCTA(document.referrer,%20'US')]

Extended Warranties

National Instruments designs and manufactures all products to minimize failures, however unexpected failures can still occur. Extended warranties provide a fixed economical price at the time of system purchase, covering any repair costs for up to three years. In addition, they offer the following benefits:

- Significant cost savings compared to individual repair incidents
- Fault location, diagnostics, and repair by NI any time the system product fails
- All parts and labor costs covered as well as any adjustments needed to restore the hardware to manufacturing specifications

For more information about your warranty options:

- Learn More about Warranty Services [http://www.ni.com/services/warranty.htm]
- Talk to an Expert about Extended Warranties [javascript:openCallMeWindowCTA(document.referrer,%20'US')]
- View Warranty Repair Policies [http://www.ni.com/services/warranty_repair_policies.htm]

Calibration

NI recognizes the need to maintain properly calibrated devices for high-accuracy measurements. NI provides manual calibration procedures, services to recalibrate your products, and automated calibration software to calibrate many NI measurement products.

- Learn More about Calibration Services [http://www.ni.com/services/calibration.htm]

Training

NI training is the fastest, most certain route to productivity with NI tools and successful application development.

- Learn More about NI Training and Certification [http://www.ni.com/training/]
- Find a Course Near You and View Schedules [http://sine.ni.com/tacs/app/fp/p/ap/ov/pg/1/]

Repair Services

Return your registered product under warranty at no additional labor and parts cost. NI offers fault location, diagnostics, and repair any time the system fails as well as any adjustments needed to restore the hardware to manufacturing specifications.

- Learn More about Repair Services [http://www.ni.com/services/warranty.htm]
- Contact NI to Obtain a Return Material Authorization (RMA) Form and Shipping Instructions [http://sine.ni.com/apps/utf8/nicc.call_me]
- View Your RMA Support Request Status Online [http://www.ni.com/support/servicereq/]
- Register Your Product [http://www.ni.com/register]

Technical Support

ni.com/support [http://www.ni.com/support/]

Resources

Additional Product Information

- Dimensional Drawings
- Product Certifications

Related Information

- Configure your complete Compact FieldPoint System

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