

Bulletin 1769 Compact™ I/O Analog Input/Output Modules

Modular I/O offers patented features and superb value



1769 Compact™ I/O is a new PLC style I/O platform, offering industry leading features. It utilizes the latest design technology for superior performance, functionality, and ease of use. It can be used to expand the local base I/O of A-B packaged controllers such as the MicroLogix™ 1500 or as distributed I/O with the appropriate adapter.

Two Analog I/O Modules

Compact I/O offers two analog I/O choices:

1769-IF4 - 4 Channel Current or Voltage Input

1769-OF2 - 2 Channel Current or Voltage Output

High Resolution, High Accuracy

Compact I/O's two analog modules provide 14 bit plus sign maximum resolution. This allows the modules to be used in applications where the need to detect small changes in the analog input is vital, or where the ability to make small changes to the final control element is important.

Similarly, Compact I/O analog modules can be used in applications where accuracy is crucial. The modules share a high accuracy rating of +/-0.35% of full-scale accuracy in the current mode. In the voltage mode, the IF4 provides +/-0.2% and the OF2 +/-0.5% of full-scale accuracy at 25°C.



Data in Various Formats

Both analog modules provide a selectable data format option, so you choose which data format best suits your application. The 1769-IF4 directly provides analog data to the controller in engineering units, proportional data, scaled-for-PID format, or in percent of full-scale. In addition, any data format can be selected on a per channel basis.

The same formats are acceptable data formats for the 1769-OF2, which then converts that data to a current or voltage analog output signal.

Configurable Channels

Each channel on both the IF4 and OF2 modules has the ability to be individually configured for either analog current (4-20 mA or 0-20 mA) or voltage (+/-10V 0-5V, or 0-10 V) inputs/output. This provides application flexibility, reduces stock inventory, and lessens the learning curve.

1769-IF4 Analog Input Module Specifications

Description	Specification
Operating Ranges	Voltage: $\pm 10\text{V dc}$, 0 to 10V dc, 0 to 5V dc, 1 to 5V dc Current: 0 to 20 mA, 4 to 20 mA
Number of Inputs	4 differential or single-ended
Resolution (max.) ^a	14 bits (unipolar) 14 bits plus sign (bipolar)
Overall Accuracy ^b	Voltage Terminal: $\pm 0.2\%$ full scale at 25°C Current Terminal: $\pm 0.35\%$ full scale at 25°C
Module Error over Full Temperature Range (0 to +60°C [+32°F to +140°F])	Voltage: $\pm 0.3\%$ Current: $\pm 0.5\%$

- a. Resolution is dependent upon your filter selection. The maximum resolution is achieved with either the 50 or 60 Hz filter selected. For resolution with other filter selections, refer to the user manual, publication 1769-6.0.
- b. Includes offset, gain, non-linearity and repeatability error terms.

1769-OF2 Analog Output Module Specifications

Description	Specification
Operating Ranges	Voltage: $\pm 10\text{V dc}$, 0 to 10V dc, 0 to 5V dc, 1 to 5V dc Current: 0 to 20 mA, 4 to 20 mA
Number of Outputs	2
Resolution (max.) ^a	14 bits (unipolar) 14 bits plus sign (bipolar)
Overall Accuracy	Voltage Terminal: $\pm 0.5\%$ full scale at 25°C Current Terminal: $\pm 0.35\%$ full scale at 25°C
Output Error Over Full Temperature Range (0 to 60°C [32 to +140°F])	Voltage: $\pm 0.8\%$ Current: $\pm 0.55\%$

- a. Range dependent.

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