Analog and Temperature I/O Modules

The POINT I/O analog and temperature I/O modules support: on-board, channel-level data alarming (four set-points per channel); scaling to engineering units; channel-level diagnostics (electronic bits and LED indicators); and integer format.

Analog and temperature input modules support the following configurable parameters and diagnostics:

- open-wire detection with LED and electronic reporting
- four-alarm and annunciation set-points: low alarm; high alarm; low/low alarm; high/high alarm calibration mode detection and electronic reporting
- underrange detection and electronic reporting
- overrange detection and electronic reporting
- channel signal range and on-board scaling (scaling to any 16-bit integer under-/over-range alarms)
- filter type (notch for A/D, or first-order low-pass digital filter)
- temperature scale (Celcius, Fahrenheit, Kelvin, Rankine, or custom)
- channel update rate (step response plus 0…10,000 ms filter setting)

Choose analog or temperature I/O modules when you need:

- On-board scaling eliminates the need to scale the data in the controller, preserving controller processing time and power for more important tasks, such as I/O control, communications, or other user-driven functions.
- Over- and underrange detections and indications eliminate the need to test values in the control program, saving valuable processing power of the controller.
- Ability to individually configure each channel of the output module to hold its last value or assume a user-defined value on a fault condition.
- Ability to individually enable and disable channels improves module performance.
- Selectable input filters lets you select from several different filter frequencies for each channel that best meets the performance needs of your application based on environmental limitations
- Selectable response to broken input sensor feature provides feedback to the controller that a field device is not connected or operating properly. This lets you specify corrective action based on the bit or channel condition.
- The modules share a high accuracy rating of ±0.1% of full-scale accuracy at 25 °C (77 °F).

Analog Input Modules

1734 Analog Input Modules Technical Specifications

	1734-IE2C	1734-IE2V	1734-IE4C	1734-IE8C
Number of inputs	2		4	8
Input signal range	4…20 mA 0…20 mA	0…10V ±10V	4…20 mA 0…20 mA	4…20 mA 0…20 mA
Input resolution	16 bits - over 21 mA 0.32 μA/cnt	15 bits plus sign 320 μV/cnt in unipolar or bipolar mode	16 bits - 0…21 mA 0.32 μA/cnt	
Data format	Signed integer			
Accuracy	Current Input: 0.1% Full Scale @ 25 °C(1)	Voltage Input: 0.1% Full Scale @ 25 °C(1)	Current Input: 0.1% Full Scale @ 25 °C(1)	
Accuracy drift w/temp.	Current Input: 30 ppm/°C	5 ppm/°C	30 ppm/°C	
Step response, per channel	70 ms @ Notch = 60 Hz (default) 80 ms @ Notch = 50 Hz 16 ms @ Notch = 250 Hz 8 ms @ Notch = 500 Hz		50 ms @ Notch = 60 Hz (default) 60 ms @ Notch = 50 Hz 30 ms @ Notch = 100 Hz 25 ms @ Notch = 120 Hz 15 ms @ Notch = 200 Hz 12.5 ms @ Notch = 240 Hz 10 ms @ Notch = 300 Hz 7.5 ms @ Notch = 400 Hz 6.25 ms @ Notch = 480 Hz	
Input conversion type	Delta Sigma		Sigma Delta	
POINTBus current	75 mA @ 5V DC			
Power dissipation, max	0.6 W @ 28.8V DC	0.75 W @ 28.8V DC	0.6 W @ 28.8V DC	
Thermal dissipation, max	2.0 BTU/hr @ 28.8V DC	2.5 BTU/hr @ 28.8V DC	2.0 BTU/hr @ 28.8V DC	
Keyswitch position	3			
Terminal base unit	1734-TB, 1734-TBS, 1734-TOP, or 1734-TOPS			

(1) Includes offset, gain, non-linearity and repeatability error terms.