

Enhanced I/O for Advanced Control Applications

Enhanced Analog I/O Offering

Increased accuracy, repeatability, stability and precision for analog I/O requirements in your industrial control system.

Benefits Include:

- Isolated 8-channel and non-Isolated 12- and 16-channel modules with stability over the entire temperature operating range
- No field calibration required
- Advanced precision using 24-bit design
- Per channel status and fault LED annunciation

8-Channel modules also include:

- Time stamping in Peer-to-Peer applications
- Synchronized input sampling across all modules
- 1 ms input sampling of floating point values

Advanced Control System Intelligence with 1756 I/O



Enhanced Analog I/O Modules

Three 8-channel isolated designs and 12-channel and 16-channel non-isolated designs with improved functionality of analog I/O provide faster performance, more accuracy, better resolution and cost savings due to less space needed in the chassis for additional modules and power supplies.

• 1756-IF8I General Purpose Isolated Analog Input Module

This general purpose isolated analog input module provides faster performance, accuracy and per channel configuration for voltage, current or 2-wire transmitter current sourcing.

• 1756-IRT8I Combined Temperature Sensing Input Module

This combined temperature sensing input (Thermocouple and RTD) module provides faster performance, accuracy and per channel configuration for either RTD or Thermocouple.

• 1756-OF8I General Purpose Current Voltage Analog Output Module

This general purpose current/voltage analog output module provides faster performance, accuracy and per channel configuration for either current or voltage.

• 1756-IR12 non-Isolated High Density RTD module

• 1756-IT16 non-Isolated High Density Temperature module

• 1756-CJC Cold Junction Compensation kit for use with either 1756-IRT8I or 1756-IT16 module. Kit includes two jumpers

Analog 8-Channel Wiring System

The wiring system solution for the 1756 8-channel analog I/O modules enables the wiring of more devices. The 6-channel wiring system also functions with the 8-point I/O modules, allowing the preservation of existing field terminations.

- Significantly decreases wiring time from the controller card to the terminal blocks
- Provides additional capabilities for connections to the controller card via fusing and relays
- Provides a more standard connection terminal block

The specifications for the 1756-IF8I, 1756-IRT8I, 1756-OF8I, 1756-IR12 and 1756-IT16 include:

Attribute	1756-IF8I – Input	1756-IRT8I – Input	1756-OF8I – Output	1756-IR12 – Input	1756-IT16 – Input
Inputs/Outputs	8 isolated channels - Any combination of Voltage or Current mode	8 isolated channels- Any combination of RTD or Thermocouple mode. Two CJC sensors for Thermocouple use. The CJC sensors, product catalog number 1756-CJC, do not come with the module. You must order the sensors separately.	8 isolated channels - Any combination of Voltage or Current mode	12 RTD non-isolated inputs	16 Thermocouple/mV inputs Two CJC sensors for Thermocouple use. The CJC sensors, product catalog number 1756-CJC, do not come with the module. You must order the sensors separately.
Input/Output Ranges	Input ranges -10...10V 0...10V 0...5V 0...20 mA	1...500 Ω 2...1000 Ω 4...2000 Ω 8...4000 Ω -100...100 mV	-10...10V 0...10V 0...5V 0...20 mA	1...500 Ω 2...1000 Ω 4...2000 Ω 8...4000 Ω	-100...100mV
Resolution	24-bit ±10.5V (1.49 μV/count) 0...10.5V (1.49 μV/count) 0...5.25V (1.49 μV/count) 0...21 mA (2.99 nA/count)	24-bit 0...510 0: 0.06 mΩ/count 0...1020 0: 0.12 mΩ/count 0...2040 0: 0.25 mΩ/count 0...4080 0: 0.50 mΩ/count -101...101 mV: 0.0111V/count	24-bit ±10.5V (0.32 mV/count) 0...10.5V (0.16 mV/count) 0...5.25V (0.08 mV/count) 0...21 mA (0.32 μA/count)	24-bit 0...510 0: 0.06 mΩ/count 0...1020 0: 0.12 mΩ/count 0...2040 0: 0.25 mΩ/count 0...4080 0: 0.50 mΩ/count	24-bit -101...101 mV: 0.0111V/count
Current draw @ 5.1V	200 mA	200 mA	200 mA	200 mA	200 mA
Current draw @ 24V	Voltage/Non-sourcing Current mode: 150 mA Sourcing Current mode: 400 mA In Sourcing Current mode, the channel provides loop power	150 mA	Voltage/Current mode with 250 Ω loads: 220 mA Current mode with 500 Ω loads: 275 mA Current mode with 750 Ω loads: 340 mA Current mode with 1000 Ω loads: 385 mA	70 mA	80 mA
Total Backplane Power	Voltage/Non-sourcing Current mode: 4.6 W Sourcing Current mode: 10.6 W	4.6 W	Voltage mode: 6.3 W Current mode with 250 Ω loads: 6.3 W Current mode with 500 Ω loads: 7.6 W Current mode with 750 Ω loads: 9.2 W Current mode with 1000 Ω loads: 10.2 W	2.7W	2.9W
Thermocouple Types	N/A	8,C,D,E,J,K,N,R,S,T, TXK /XK (L)	N/A	N/A	8,C,D,E,J, K,N,R,S,T, TXK /XK (L)

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