Specifications

General Specifications for 1769-IF4I, -OF4CI, and -OF4VI Modules

Table A.1 General Specifications

Specification	Value
Dimensions (HxDxW)	118 mm x 87 mm x 35 mm (4.65 in. x 3.43 in. x 1.38 in.) Height including mounting tabs 138 mm (5.43 in.)
Approximate Shipping Weight (with carton)	300 g (0.65 lb)
Storage Temperature	-40…+85 °C (-40…+185 °F)
Operating Temperature	0…+60 °C (+32…+140 °F)
Operating Humidity	5…95% noncondensing
Operating Altitude	2000 m (6561 ft)
Vibration, Operating	10…500 Hz, 5 g, 0.030 in. peak-to-peak
Vibration, Relay Operation	2 g
Shock, Operating	30 g, 11 ms panel mounted (20 g, 11 ms DIN-rail mounted)
Shock, Relay Operation	7.5 g panel mounted (5 g DIN-rail mounted)
Shock, Nonoperating	40 g panel mounted (30 g DIN-rail mounted)
System Power Supply Distance Rating	8 (The module may not be more than 8 modules away from a system power supply.)
Recommended Cable	Belden 8761 (shielded)
Max Cable Length	1769-IF4I: See Effect of Transducer/Sensor and Cable Length Impedance on Voltage Input Accuracy on page 2-11. 1769-OF4CI and -OF4VI: See Effect of Device and Cable Output Impedance on Output Module Accuracy on page 2-13.
Agency Certification	• C-UL certified (under CSA C22.2 No. 142) • UL 508 listed • CE compliant for all applicable directives
Hazardous Environment Class	Class I, Division 2, Hazardous Location, Groups A, B, C, D (UL 1604, C-UL under CSA C22.2 No. 213)
Radiated and Conducted Emissions	CISPR 11 Class A

Table A.1 General Specifications (cont.)

Specification	Value
Electrical /EMC:	The module has passed testing at the following levels:
• ESD Immunity (IEC 61000-4-2)	• 4 kV contact, 8 kV air, 4 kV indirect
• Radiated Immunity (IEC 61000-4-3)	• 10V/m, 80…1000 MHz, 80% amplitude modulation
• Fast Transient Burst (IEC 61000-4-4)	• 2 kV, 5 kHz
• Surge Immunity (IEC 61000-4-5)	• 1 kV galvanic gun
• Conducted Immunity (IEC 61000-4-6)	• 10V, 0.15…80 MHz[1]

(1) Conducted Immunity frequency range may be 150 kHz…30 MHz if the Radiated Immunity frequency range is 30…1000 MHz.

1769-IF4I Input Specifications

Table A.2 1769-IF4I Specifications

Specification	1769-IF4I
Analog Normal Operating Ranges[1]	Voltage: ± 10V dc, 0…10V dc, 0…5V dc, 1…5V dc Current: 0…20 mA, 4…20 mA
Full Scale Analog Ranges[1]	Voltage: ± 10.5V dc, 0…10.5V dc, 0…5.25V dc, 0.5…5.25V dc Current: 0…21 mA, 3.2…21 mA
Number of Inputs	4 isolated differential
Bus Current Draw, Max	145 mA at 5V dc 125 mA at 24V dc
Heat Dissipation	3.0 total W (The W per point, plus the min W, with all points energized.)
Converter Type	Delta Sigma
Response Speed per Channel	Input filter and configuration dependent. See Filter Frequency and Update Times on page 3-9.
Resolution, Max[2]	16 bits (unipolar) 15 bits plus sign (bipolar)
Rated Working Voltage[3]	30V ac/30V dc
Common Mode Rejection	Greater than 60 dB at 50 and 60 Hz with the 10 Hz filter selected, respectively.
Normal Mode Rejection Ratio	-50 dB at 50 and 60 Hz with the 10 Hz filter selected, respectively.
Input Impedance	Voltage Terminal: 1 MΩ (typical) Current Terminal: 249 Ω
Overall Accuracy[4]	Voltage Terminal: ±0.2% full scale at 25 °C Current Terminal: ±0.35% full scale at 25 °C

(1) The over- or under-range flag will come on when the normal operating range (over/under) is exceeded. The module will continue to convert the analog input up to the maximum full scale range. The flag automatically resets when within the normal operating range.

(2) Resolution is dependent upon your filter selection. The maximum resolution is achieved with the 10 Hz filter selected.

(3) Rated working voltage is the maximum continuous voltage that can be applied at the input terminal, including the input signal and the value that floats above ground potential (for example, 10V dc input signal and 20V dc potential above ground).

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

Table A.2 1769-IF4I Specifications (cont.)

Specification	1769-IF4I
Accuracy Drift with Temperature	Voltage Terminal: ±0.003% per °C Current Terminal: ±0.0045% per °C
Calibration	The module performs only initial factory calibration.
Non-linearity (in percent full scale)	±0.03%
Repeatability(1)	±0.03%
Module Error over Full Temperature Range 0…+60 °C (+32…+140 °F)	Voltage: ±0.3% Current: ±0.5%
Input Channel Configuration	Via configuration software screen or the user program (by writing a unique bit pattern into the module's configuration file). Refer to your controller's user manual to determine if user program configuration is supported.
Module OK LED	On: module has power, has passed internal diagnostics, and is communicating over the bus. Off: Any of the above is not true.
Channel Diagnostics	Over- or under-range by bit reporting, process alarms
Maximum Overload at Input Terminals(2)	Voltage Terminal: ±24V dc continuous, 0.1 mA Current Terminal: ±28 mA continuous, ±7.0 V dc
System Power Supply Distance Rating	8 (The module may not be more than 8 modules away from the system power supply.)
Recommended Cable	Belden 8761 (shielded)
Isolation Voltage	30V (continuous), Reinforced Insulation Type, channel to system and channel to channel. Type tested at 710V DC for 60 s
Vendor I.D. Code	1
Product Type Code	10
Product Code	44

(1) Repeatability is the ability of the input module to register the same reading in successive measurements for the same input signal.

(2) Damage may occur to the input circuit if this value is exceeded.