Analog Input Module
(Catalog Number 1771-IFE/C)

Contents

This icon is used when additional information is available in the *Analog Input Module User Manual*, publication 1771-6.5.115.

If you need a copy of this manual, fax the enclosed User Manual Request Card to 1-800-576-6340. If you are outside the U.S., fax the card to1-330-723-4036.

Use this document as a guide when installing the 1771-IFE/C analog input module.

Prevent Electrostatic Discharge

The analog input module is sensitive to electrostatic discharge.

ATTENTION: Electrostatic discharge can damage integrated circuits or semiconductors if you touch backplane connector pins. Follow these guidelines when you handle the module:

- Touch a grounded object to discharge static potential
- Wear an approved wrist-strap grounding device
- Do not touch the backplane connector or connector pins
- Do not touch circuit components inside the module
- If available, use a static-safe work station
- When not in use, keep the module in its static-shield box

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Troubleshooting

For detailed troubleshooting information, see chapter 7 of your *Analog Input User Manual* (publication 1771-6.5.115).

Possible module fault causes and corrective action is described in the following table.

Indicators	Probable Cause	Recommended Action
RUN (green on) FLT (red off)	Normal operation	None
RUN (green blinking) FLT (red off)	Awaiting configuration Block Transfer Write	Send configuration BTW
RUN (green off) FLT (red on)	Hardware failure in module	Return module for repair
RUN (green off) FLT (red off)	No power	Turn off power. Remove and reinsert module into chassis. Return power. If problem still exists, and chassis power supply is functioning properly, return the module for repair.

Specifications

Description	Value
Inputs per module	16 single-ended; 8 differential low level
Module Location	1771 I/O rack – 1 slot
Input voltage ranges (nominal)	+1 to +5V dc 0 to +5V dc –5 to +5V dc –10 to +10V dc 0 to +10V dc
Input current ranges (nominal)	+4 to +20mA 0 to +20mA –20 to +20mA
Resolution	12–bit binary 12 bits plus sign on bipolar ranges
Accuracy	0.1% of full scale range @ 25ºC
Linearity	±1 LSB
Repeatability	±1 LSB
Isolation Voltage	Isolation meets or exceeds UL Standard 508, and CSA Standard C22.2 No. 142.
Input overvoltage protection	200V (voltage mode)[1] 8V (current mode)[2]
Input overcurrent protection (current ranges)	30mA
Common mode voltage	±14.25 Volts
Input impedance	>10 Megohms for voltage ranges; 250 ohms for current ranges
Common mode rejection	80 db, dc–120 Hz
Current Requirements	500mA @ +5V from I/O chassis backplane
Power Dissipation	2.5 Watts (maximum)
Specifications continued on next page	

Description	Value
Thermal Dissipation	8.52 BTU/hr (maximum)
Unscaled BCD and binary output to processor	0000 to $+4095_{10}$ for polar ranges (0 to 5V, +1 to +5V, 0 to +20mA, and +4 to +20mA) -4095_{10} to 4095_{10} for bipolar ranges ($\pm$5V, $\pm$10V, $\pm$20mA)
Engineering units sent to processor	$\pm 9999_{10}$ with selectable scaling
Internal scan rate	13.7 ms for 8 differential inputs (no digital filtering) –add 0.3ms for filtering 27.4 ms for 16 single–ended input (no digital filtering) –add 0.3 for filtering
Environmental conditions Operational temperature: Storage temperature: Relative humidity: Operating Storage	 0 to 60^0C (32 to 140^0F) –40 to 85^0C (–40 to 185^0F) 5 to 95% (without condensation) 5 to 85% (without condensation)
Conductors Wiring Category	14 gauge ($2mm^2$) stranded (max.) 3/64 inch (1.2mm) insulation (max.) Category 2[3]
Keying	between 10 and 12 between 24 and 26
Wiring Arm	Catalog Number 1771–WG
Field Wiring Arm Screw Torque	7-9 inch-pounds
Agency Certification (when product or packaging is marked)	• UL CSA Class 1 Div 2 Hazardous [4] • CE marked for all applicable directives
User Manual	Publication 1771-6.5.115

[1] The inputs are protected to 200V. However, if an input terminal's voltage exceeds $\pm$14.25V as referenced to module common, channel-to-channel crosstalk can cause invalid input readings and invalid underrange/overrange bits.
[2] Only 8 volts can be placed directly across the input when configured in the current mode.
[3] Refer to publication 1770-4.1, "Industrial Automation Wiring and Grounding Guidelines for Noise Immunity."
[4] CSA certification— Class I, Division 2, Group A, B, C, D or nonhazardous locations.