

2551-A 8-Channel Isolated Thermocouple Input Module



Description

The 2551-A is a high-speed 8-channel isolated thermocouple input module designed to be compatible with the CTI 2500 Series and Simatic® 505 I/O base in local, remote I/O, and Profibus configurations. The 2551-A translates thermocouple and millivolt input signals into a scaled temperature value.

Features

- Simatic® 505 I/O base format
- 1500 V channel-to-channel isolation
- 1500 V channel-to-PLC backplane isolation
- Fast 2 mSec update time per channel
- On-board cold junction compensation for each thermocouple input
- Microprocessor self-diagnostics

Specifications

General

- Input Channels:** 8 isolated input channels, individually configurable for thermocouple or millivolt input
- Thermocouple Types:** J or K, jumper selectable for each channel
- Millivolt Input:** 0 - 55 mV
- Digital Filtering Time Constant:** 0.3 Sec
- Output Units:** Degrees C or F, (jumper selectable for all outputs)
- Repeatability:** 0.05%
- Accuracy:** Type J: $\pm 1^\circ$ from 0° to 760°C
Type K: $\pm 1^\circ$ from 0° to 1372°C
Millivolt: .06 Millivolt
- Resolution:** 0.3°C , 0.6°F thermocouple input
.020 millivolt input
- Common Mode Rejection:**
>110db @ 60Hz (digital filtering disabled)
- Normal Mode Rejection:**
>45db @ 60Hz (digital filtering enabled)
- Input ESD Protection:** 20,000 V
- Overrange Protection:** 20 VAC for 1 minute (all input terminals)
- Isolation:** 1500VDC channel-to-channel
1500VDC channel-to-PLC
- Connector:** Fixed
- Wire Gauge:** 18-24 AWG
- Backplane Power:** 2.4 Watts
- Module Size:** Single-wide
- Operating Temperature:**
 0° to 60°C (32° to 140°F)
- Storage Temperature:**
 -40° to 85°C (-40° to 185°F)
- Humidity, Relative:**
5% to 95% (non-condensing)
- Agency Approvals:** UL, UL for Canada
FM (Class I, Div 2), CE
- Shipping Weight:** 1.5 lb (0.68 Kg)

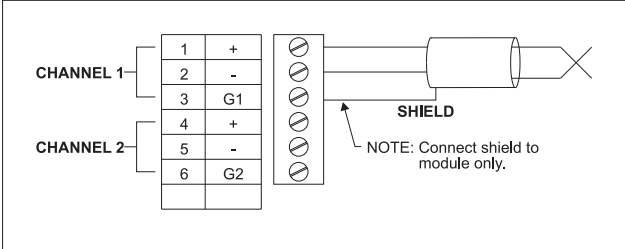


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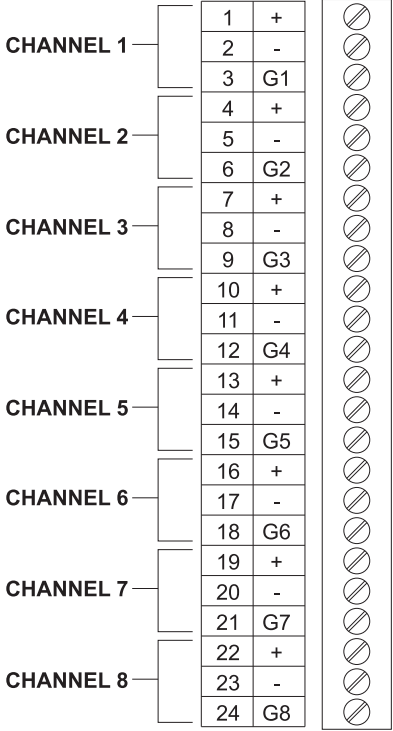
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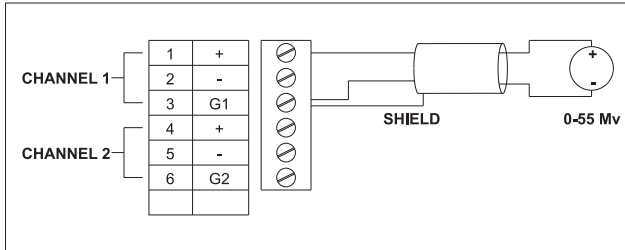
NOTE:
 Custom (R, S, T, E, and other) thermocouple configurations available by special request.



Thermocouple Wiring Application



NOTE: Connect the shield wire for each channel to the G terminal only.



Millivolt Wiring Application

NOTE:
 Use 16 gauge wire or smaller for millivolt applications.

2551-A Input Connector

NOTE:
 The following equations describe the digital word transferred to the PLC.
 Thermocouple Mode WX = Degrees x 10
 Millivolt Mode WX = Millivolts x 100
 Digital WX value to PLC