

# 2551-A 8-Channel Isolated Thermocouple Input Module

Classic



## Description

The 2551-A is a high-speed 8-channel isolated thermocouple input module designed to be compatible with the CTI 2500 Series<sup>®</sup> and Simatic<sup>®</sup> 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<sup>®</sup> 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

**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  $0^\circ$  to  $760^\circ\text{C}$

Type K:  $\pm 1^\circ$  from  $0^\circ$  to  $1372^\circ\text{C}$  Millivolt: .06 Millivolt

**Resolution:**  $0.3^\circ\text{C}$ ,  $0.6^\circ\text{F}$  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:** 1500 VDC channel-to-channel 1500 VDC channel-to-PLC

**Connector:** Fixed

**Wire Gauge:** 18-24 AWG

**Backplane Power:** 2.4 Watts

**Module Size:** Single-wide

**Shipping Weight:** 1.5 lb (0.68 Kg)

## Additional Product Information:

On CTI's Website you will find links to the 2500 Series Standard Environmental Specifications and the UL Agency Certificates of Compliance.

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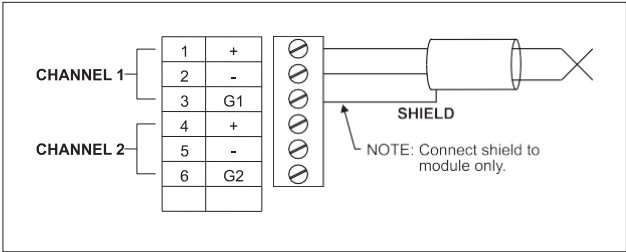
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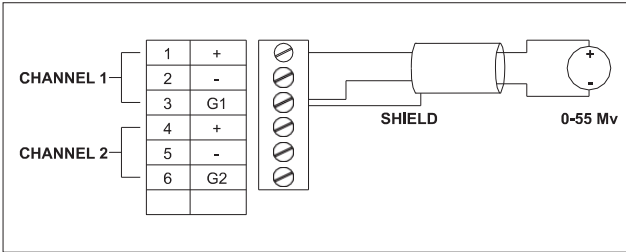
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**NOTE:**  
 Custom (R, S, T, E, and other) thermocouple configurations available by special request.

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



**Thermocouple Wiring Application**



**Millivolt Wiring Application**

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

Channel 1	1	+
	2	-
	3	G1
Channel 2	4	+
	5	-
	6	G2
Channel 3	7	+
	8	-
	9	G3
Channel 4	10	+
	11	-
	12	G4
Channel 5	13	+
	14	-
	15	G5
Channel 6	16	+
	17	-
	18	G6
Channel 7	19	+
	20	-
	21	G7
Channel 8	22	+
	23	-
	24	G8

**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

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