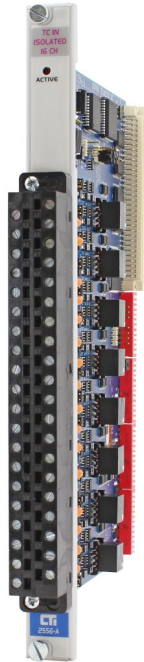


# 2556-A 16-Channel Isolated Thermocouple Input Module

Classic



## DESCRIPTION

The 2556-A is a high-speed 16-channel thermocouple input module designed to be compatible with the CTI 2500 Series<sup>®</sup> and Simatic<sup>®</sup> 505 I/O base. The 2556-A translates millivolt level signals from the thermocouple element into a scaled temperature value. Multiple thermocouple types are supported as well as millivolt inputs. Scaling, alarm detection, filtering, peak and valley hold, and averaging are supported on a channel-by-channel basis. All parameters may be loaded into the module directly with relay ladder logic.

## FEATURES

- CTI 2500 Series<sup>®</sup> and Simatic<sup>®</sup> 505 I/O base format
- 1500V isolation channel-to-PLC backplane
- 1500V isolation channel-to-channel
- Supports J, K, R, S, T, E, and L thermocouples and millivolt inputs
- Advanced preprocessing with on-board scaling, alarm detection, filtering and averaging
- Fast 20 mSec update time

**Important Note: This module requires a special connector the 2559-FPC. Connector wiring labels are included with the module.**

## SPECIFICATIONS

### Input Channels:

16 isolated thermocouple or millivolt inputs

**Thermocouple Types:** J, K, R, S, T, E, and L (DIN J). Each channel individually selectable.

**Millivolt Input Range:** -55 to +55 mV

**Note:** Engineering Units must be selected

**Millivolt Input Impedance:**

>100M $\Omega$ @ DC, >10K $\Omega$ @ 60 Hz

**Millivolt Accuracy:**  $\pm 0.5\%$  full scale or  $\pm 500 \mu\text{V}$

**Input Overrange Protection:** 30 VAC/VDC

**Measurement Ranges:**

J -210°C to +760°C (-350°F to 1400°F)

K -270°C to 1372°C (-450°F to +2500°F)

R, S 0°C to +1768°C (32°F to +3214°F)

T -270°C to +400°C (-450°F to +752°F)

E -270°C to +1000°C (-450°F to +1832°F)

L (DIN J) -210°C to +900°C (-350°F to +1652°F)

**Measurement Units:** Degrees C or F selectable

**Digital Filtering Time Constant:**

80 mSec (16 WX mode), 80-6000 mSec

(Advanced mode)

**Update Time (all 16 channels):**

14 mSec no filtering

15 mSec digital filtering enabled

48 mSec advanced functions enabled

**Repeatability:**  $\pm 0.2^\circ\text{C}$  or  $^\circ\text{F}$  all thermocouple types (16 WX mode)

$\pm 0.1^\circ\text{C}$  or  $^\circ\text{F}$  all thermocouple types

(advanced mode)

$\pm 50 \mu\text{V}$  (millivolt inputs)

**Accuracy**

**For measurements above 0°C for types J, K, E, T, L or above 500°C for types R and S:**

Types J, K, E, T, L

$\pm 0.5^\circ\text{C}$  at 25°C ambient

$\pm 1^\circ\text{C}$  from 0°C to 60°C ambient

0°C to full measurement range

$\pm 1^\circ\text{F}$  at 25°C ambient

$\pm 2^\circ\text{F}$  from 0°C to 60°C ambient

32°F to full measurement range

**For measurements below 0°C or 32°F:**

Types R, S

$\pm 1^\circ\text{C}$  at 25°C ambient for

measurement range 500-1768°C

$\pm 2^\circ\text{C}$  from 0°C to 60°C ambient

$\pm 2^\circ\text{F}$  at 25°C ambient

$\pm 4^\circ\text{F}$  from 0°C to 60°C ambient

Reduced accuracy for measurements

below 500C

**Millivolt Accuracy:**  $\pm 50 \mu\text{V}$  from 0°C to 60°C

**Millivolt Temperature Drift:** 5ppm / °C

**Common Mode Rejection:** >130 dB@ >180 dB@ 60 Hz,

>80db @ 50 Hz

ROCK SOLID PERFORMANCE. TIMELESS COMPATIBILITY.



**Control Technology Inc.**

5734 Middlebrook Pike, Knoxville, TN 37921-5962

Phone: +1.865.584.0440 Fax: +1.865.584.5720

www.controltechnology.com

# 2556-A 16-Channel Isolated Thermocouple Input Module

Input ESD Protection: 2KV

Connector: 2559-FPC required for proper operation

Wire Gauge: 14 to 22 AWG

Module Size: Single wide

Backplane Power Consumption: 5 Watts

## Isolation:

1500VDC channel-to-channel

1500VDC channel-to-backplane

Shipping Weight: 1.5lbs. (0.68kg)

## Additional Product Information:

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

## Standard Shipping Configuration:

Type J

Digital Filtering Enabled

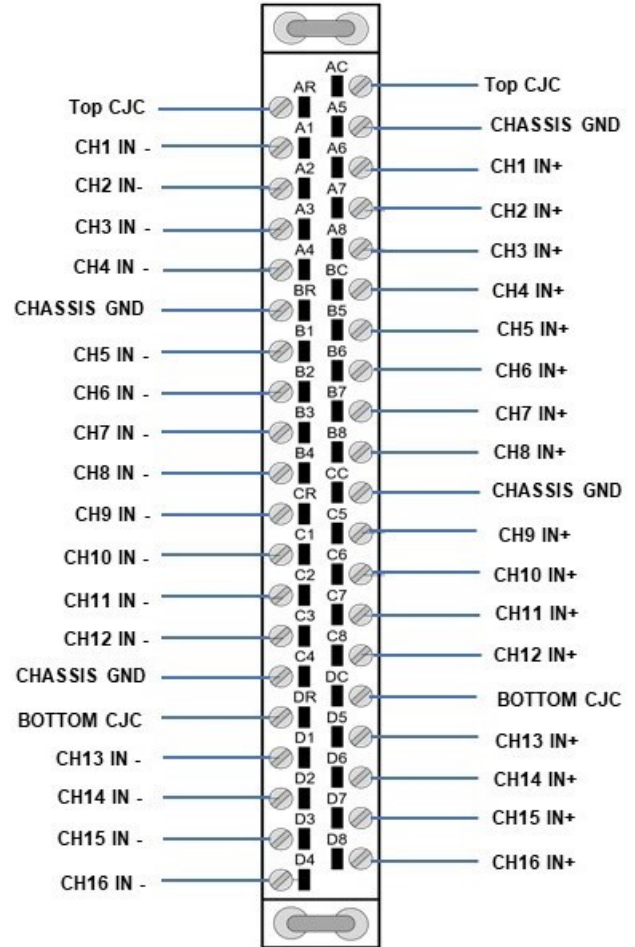
Degrees C

16WX mode

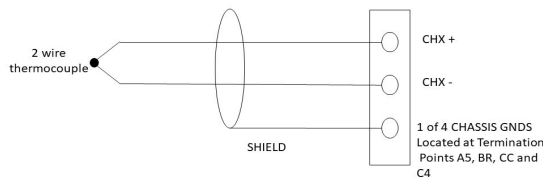
## IMPORTANT NOTES:

**This module requires a special connector, 2559-FPC, which is ordered separately.**

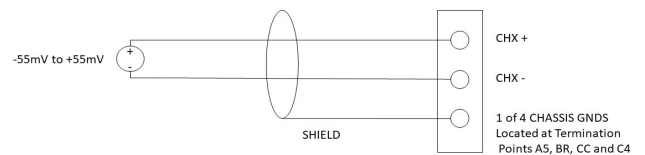
**JP65 is a "factory setting" jumper and should not be removed. Note this setting is different than the 2556, which requires this jumper to be OFF**



Thermocouple Wiring Example



Millivolt Wiring Example



**Note:** The front connector on the module provides CHASSIS GND terminals which CTI strongly recommends that the shield wires be terminated to these CHASSIS GNDs.

**ROCK SOLID PERFORMANCE. TIMELESS COMPATIBILITY.**