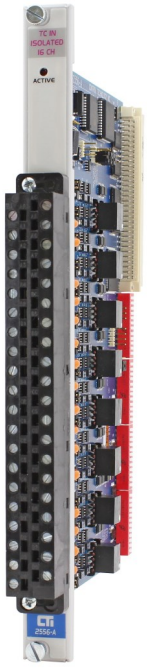
2500 Series® PLC System
Product Bulletin

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® and Simatic® 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® and Simatic® 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 jumper selectable function uses 16X/16Y/32WX/32WY login
- Fast 20 mSec update time

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

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:
>100MΩ@ DC, >10KΩ@ 60 Hz
Millivolt Accuracy: ±0.5% full scale or ±500 µV
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: ±0.2°C or °F all thermocouple types (16 WX mode)
±0.1°C or °F all thermocouple types (advanced mode)
±50 µV (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
±0.5°C at 25°C ambient
±1°C from 0°C to 60°C ambient
0°C to full measurement range
±1°F at 25°C ambient
±2°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
±1°C at 25°C ambient for measurement range 500-1768°C
±2°C from 0°C to 60°C ambient
±2°F at 25°C ambient
±4°F from 0°C to 60°C ambient
Reduced accuracy for measurements below 500C

Millivolt Accuracy: ±50 µV 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.

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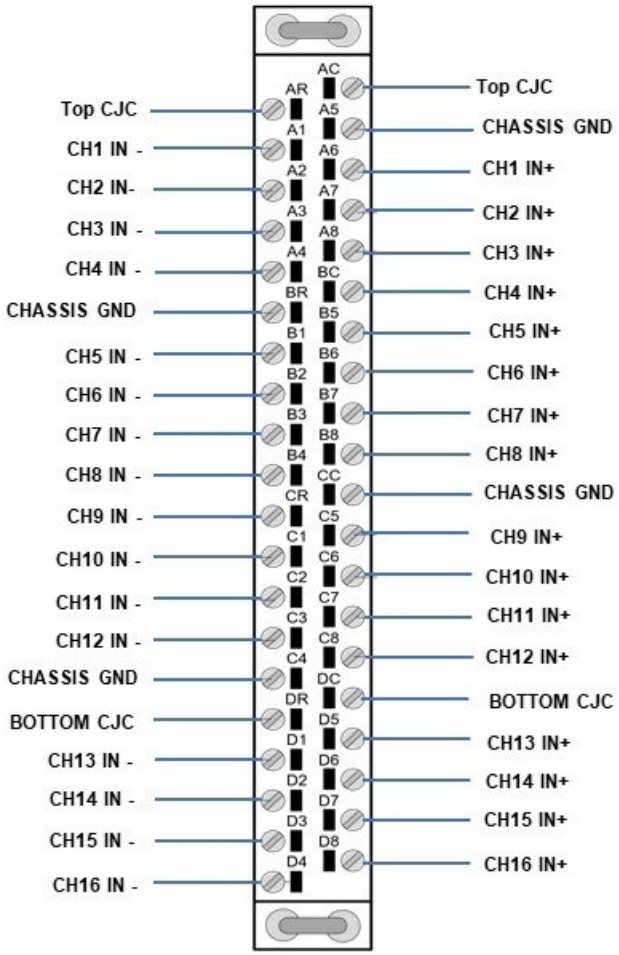
Input ESD Protection: 2KV
Connector: 2559-FPC required for proper operation
Wire Gauge: 14 to 22 AWG
Module Size: Single wide
Backplane Power Consumption: 5 Watts

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:

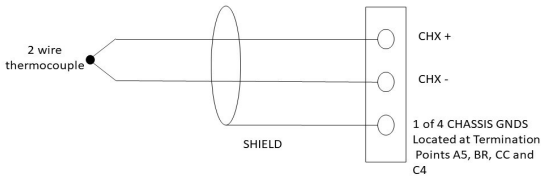
Type J
Digital Filtering Enabled
Degrees C
16WX mode

IMPORTANT NOTES:

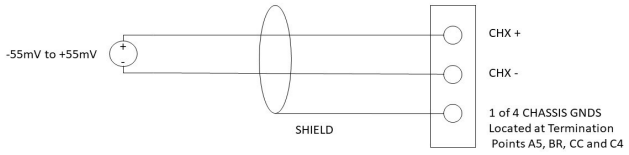
This module requires a special connector, 2559-FPC, which is is ordered separately.

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.