

2559-TC 8-Channel Thermocouple Input Module



Description

The Model 2559-TC is a high-speed 8-point thermocouple input module designed to translate millivolt level signals from the thermocouple element into a scaled temperature value in a SIMATIC® 505 I/O base.

Features

- SIMATIC® 505 base format
- Replaces Siemens® 505-7028 with no rewiring
- 1500V channel-to-PLC backplane isolation
- Fast 9 mSec update time all channels
- Microprocessor self-diagnostics
- Supports J, K, T, E, R, S, & N thermocouples and millivolt inputs
- No CJC calibration needed

Specifications

Inputs per module: 8

Thermocouple types: J, K, T, E, R, S, N, and mV

Isolation: 1500 VDC channel-to-backplane

Input overrange protection:

30 VDC or VAC continuous

120 VAC for 10 Sec

Measurement ranges:

J: -210°C to 760°C (-350°F to 1400°F)

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

T: -270°C to 400°C (-454°F to 752°F)

E: -270°C to 1000°C (-454°F to 1832°F)

R: 0°C to 1768°C (32°F to 3214°F)

S: 0°C to 1768°C (32°F to 3214°F)

N: -260°C to 1300°C (-436°F to 2372°F)

mV: -55 to +55mV

Millivolt input impedance:

4.4MΩ DC, >10KΩ @60 Hz

Open Thermocouple Detect: less than 1 Sec

Data presentation:

With scaling enabled = 0 - 32000 (temp.)

-32000 to +32000 (mV)

With scaling disabled = °C or °F x10 (temp.)

-10000 to +10000 (mV)

Measurement units: Degrees C or F

selectable by module

Digital Filtering Time Constant: 80 mSec

Update time:

9 mSec all channels

Repeatability: +/-1°C, +/-2°F for all thermocouple types

Accuracy: Types

J: +/-1°C from 0°C to 60°C

K: +/-1°C from 0°C to 60°C

T: +/-1°C from 0°C to 60°C

E: +/-1°C from 0°C to 60°C

R: +/-2°C from 0°C to 60°C*

S: +/-2°C from 0°C to 60°C*

N: +/-1°C from 0°C to 60°C

mV: +/-0.5% full scale or +/- 500μV

* reduced accuracy for measurements below 500°C

ADC Resolution: 16 bits

Common Mode Rejection: >110 db @ 60 Hz

Normal Mode Rejection:

>60 db @ 60 Hz, >50 db @ 50 Hz

Connector: Removable

Wire Gauge: 14-22 AWG

Backplane Power: 1.0 Watt (maximum)

Module Size: Single-wide

Operating Temperature: 0° to 60°C (32° to 140°F)

Storage Temperature: -40° to 85°C (-40° to 185°F)

Relative Humidity: 5% to 95% (non-condensing)

Agency Approvals Pending:

UL, ULC, Class 1-Div. 2, CE

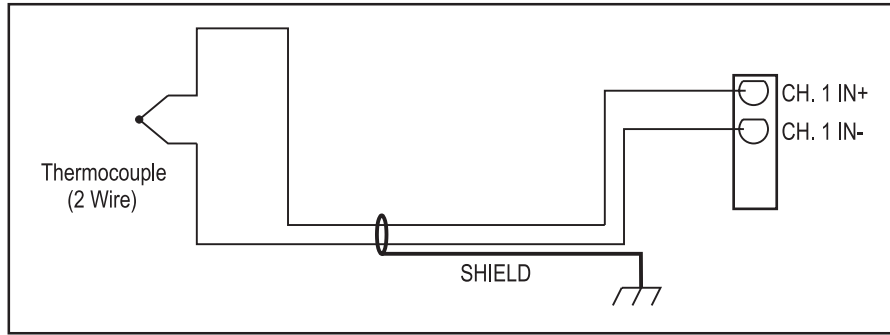
Shipping Weight: 1.5 lb. (0.68 Kg)



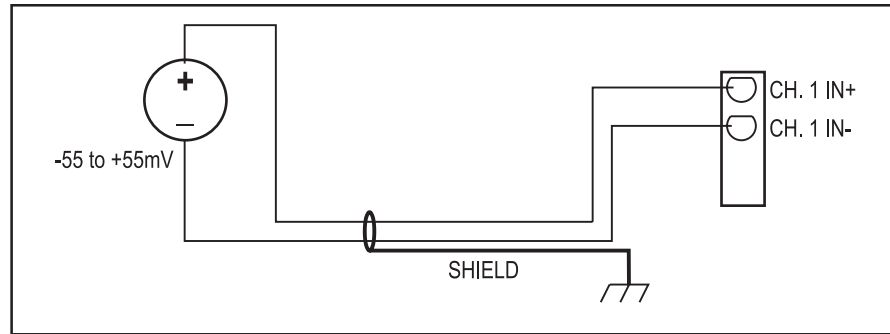
Control Technology Inc.

5734 Middlebrook Pike, Knoxville, TN 37921

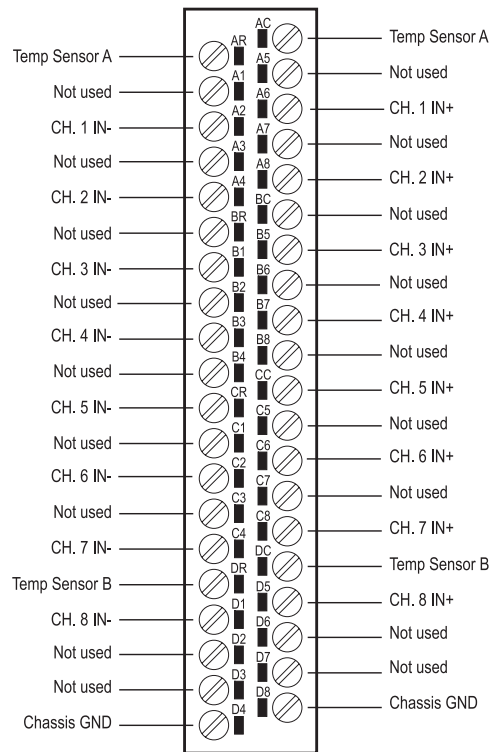
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Thermocouple Wiring Application



Millivolt Wiring Application



2559-TC Connector

