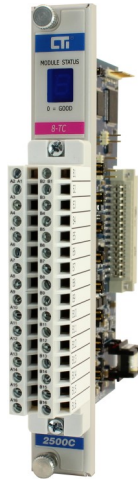




## 2500C-8-TC Thermocouple Input Module



### DESCRIPTION

The 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 CTI 2500 Series Compact I/O base.

### FEATURES

- 8 Thermocouple inputs
- Supports Classic and Classic Plus Modes
- 7 Segment Display for Module Status indication
- No user calibration
- Supports J, K, T, E, R, S, & N thermocouples and millivolt inputs
- Software Configurable Range Selection
- Uses 2500C-32F-CJC removable wiring connector

2500-8-TC Default Shipment Settings	
Operation Mode	Classic Mode
Logon	8WX
Thermocouple	J
Digital Filtering	Enabled
Scaling	Enabled
Temperature Units	Degrees C

Input Specifications		
Operation Mode Support (See Note 1)	Classic Mode	Classic Plus Mode
Module Logon	8WX	8WX/8WY
Module Update Time all modes	9mS	
Digital Filtering Time Constant	80mS	80mS
Thermocouple Measurement Ranges (Note: All the ranges are available in Classic Plus Mode.)	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	
Accuracy :	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	
Thermocouple Types and mV		
Open Thermocouple Detection	Less than 1 second	
mV input impedance	4.4MΩ DC, >10kΩ @ 60Hz	
Repeatability	±1°C, ±2°F for all Thermocouple Types	
Measurement Units	Degrees C or Degrees F selectable	
Resolution	16 bits (15 bits plus sign)	
Data Presentation w/scaling disabled	0-32000(temp) -32000 to +32000(mV)	
Data Presentation w/scaling enabled	°C or °F x 10 (temp) -10000 to +10000 (mV)	
Common Mode Rejection	>110db @ 60Hz	
Normal Mode Rejection	>60db @ 60Hz, >50db @ 50 Hz	
Backplane Power (MAX)	1.25 watts	
Input ESD Protection	IEC 1000-4-2 Level 4	
Isolation	Channel to Channel 200V± Channel to Backplane 1500VDC	
Operating Temperature Range	0°C to 60°C (32°F to 140°F)	
Agency Approvals Pending	UL, ULC, UL Class 1, Div 2, CE	
Shipping Dimensions and Weight	223.84mm x 109.86mm x 34.93mm, 0.45kg	
Storage Temperature Range	-40°C to 85°C (-40°F to 185°F)	
Relative Humidity	5% to 95% (non-condensing)	



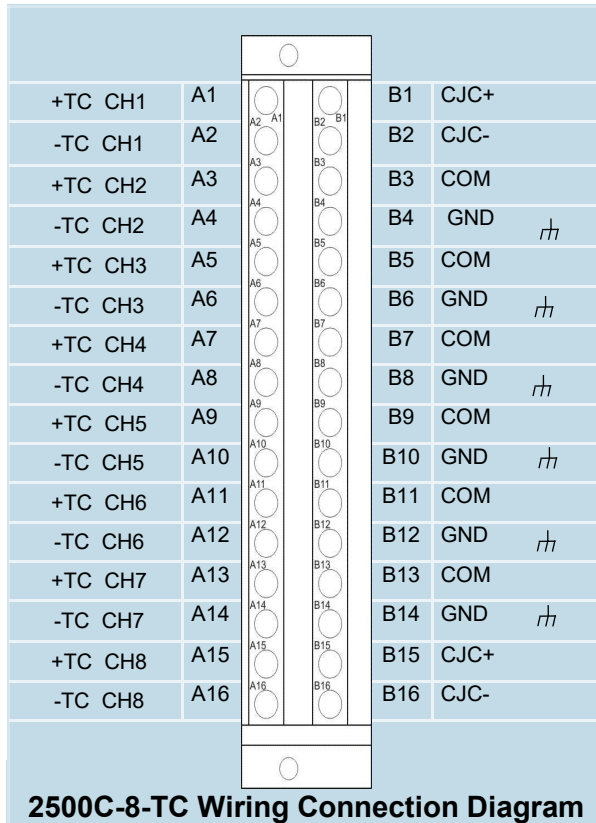
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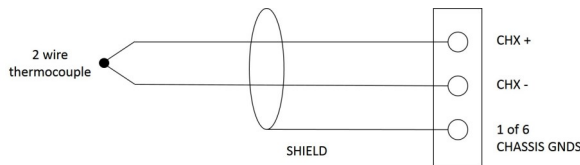


## 2500C-8-TC Thermocouple Input Module

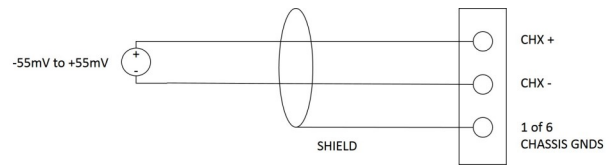


**Note:**  
The 2500C-8-TC Thermocouple Input Module uses CTI Wiring Connector 2500C-32F-CJC. This is a special version of the connector, that has built in CJC compensation. Please see the wiring connector specification table below. This connector is ordered separately from the module.

2500C-32F-CJC Specifications	
<b>Connector Style</b>	Removable
<b>Number of Wiring Connections</b>	32 point
<b>Wire Gauge</b>	14 to 22AWG
<b>Screw Torque Value</b>	5.22 lb-in
<b>Current Rating</b>	6A @ 300VAC
<b>Insulation Stripping Length</b>	0.24" 6mm
<b>Approximate Weight</b>	1.0 oz. 28.35 grams
Connector Material	
<b>Body:</b>	Polycarbonate UL 94V0
<b>Screw :</b>	M3 Zinc plated Steel
<b>Cage Clamp</b>	Nickel Plated Brass
<b>Socket Contact Spring:</b>	Tin Plated Bronze
<b>Retaining Screw:</b>	M3 Zinc Plated Steel



Typical Internal Circuit—TC Mode



Typical Internal Circuit—mV Mode

7 Segment LED Code Description	
0	Normal Operation
A	Internal RAM Fail
b	Flash Failure
C	Internal MOVx RAM Failure
d	Shared RAM Failure



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