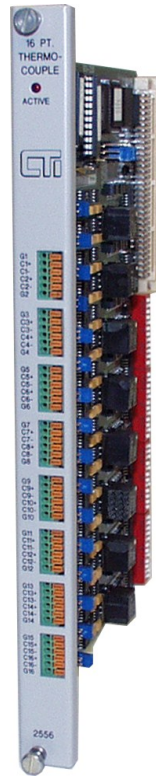


2556 16-Channel Isolated Thermocouple Input Module



DESCRIPTION

The 2556 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 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
- Fast 20 mSec update time

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

Millivolt Input Impedance:

>100M Ω @ DC, >10K Ω @ 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):

18 mSec no filtering

20 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



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Common Mode Rejection: >130 dB@ 50/60 Hz
Normal Mode Rejection:
 >180 dB@ 60 Hz, >80db @ 50 Hz
Input ESD Protection: 2KV
Connector: 48 position fixed, wire press in
Wire Gauge: 18 to 30 AWG
Module Size: Single wide
Backplane Power Consumption: 6 Watts

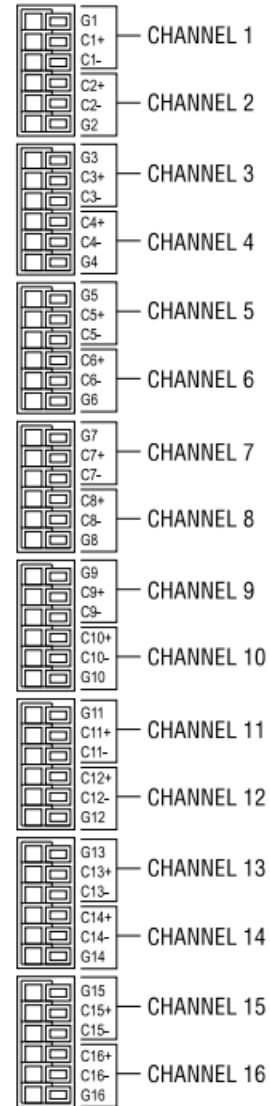
Environmental

Isolation:
 1500VDC channel-to-channel
 1500VDC channel-to backplane
Operating Temperature:
 0°C to 60°C (32°F to 140°F)
Storage Temperature:
 -40°C to 85°C (-40°F to 185°F)
Humidity, Relative: 5% to 95%(non-condensing)
Agency Approvals: UL,UL for Canada, FM
 (Class I, Div2), CE
Shipping Weight: 1.5lbs. (0.68kg)

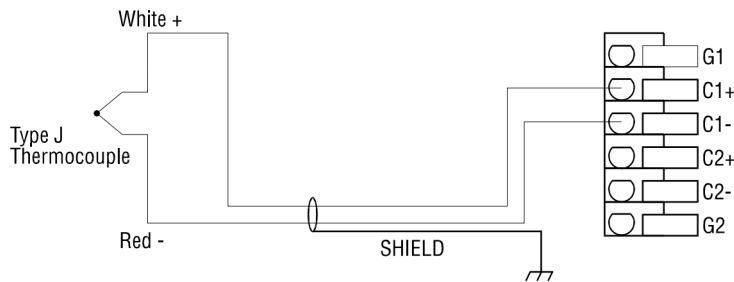
Standard Shipping Configuration:

Type J
 Digital Filtering Enabled
 Degrees C
 16WX mode

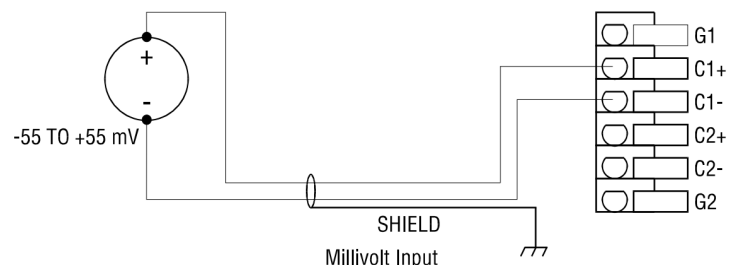
NOTE: The front connector on the module contains a G terminal which may be used for the shield wire if installation is in an extremely noisy environment. CTI strongly recommends that the shield wires be terminated to the PLC chassis ground.



Wiring Connector



Thermocouple Wiring Example



Millivolt Wiring Example