CAMPBELL SCIENTIFIC®
WHEN MEASUREMENTS MATTER

AM25T

25-Channel Solid-State Multiplexer

Connects Many Thermocouples

Several AM25Ts can connect to one datalogger

Overview

The AM25T sequentially connects up to 25 thermocouples[a] to the datalogger's differential analog input. A PRT attached to the multiplexer's grounding bar provides a temperature reference for the thermocouple measurements. The heat capacity of the grounding bar and an insulated aluminum cover reduce thermal gradients along the length of the multiplexer. Reducing the thermal gradients allow more accurate measurements.

Benefits and Features

- Greatly increases the number of thermocouples a datalogger can measure
- Multiplexes up to 25 thermocouples
- Includes an on-board PRT that serves as a reference junction
- Allows several AM25Ts to be controlled by one datalogger increasing the number of thermocouples that can be measured
- Uses a metallic, internal ground plane to reduce thermal gradients, which ensures more accurate measurements
- Provides a vertical package for a smaller "footprint" that makes it easier to fit in a crowded enclosure
- Supports maximum cable lengths of 152.4 m (500 ft) when lightning protection is used

[a]Other low-level voltage output sensors that do not exceed the common mode range of the datalogger can also be measured. The AM25T should NOT be used to measure resistive bridges or configured with a voltage divider between the AM25T and the datalogger; ask about our AM16/32B multiplexer for these applications.

Ordering Information

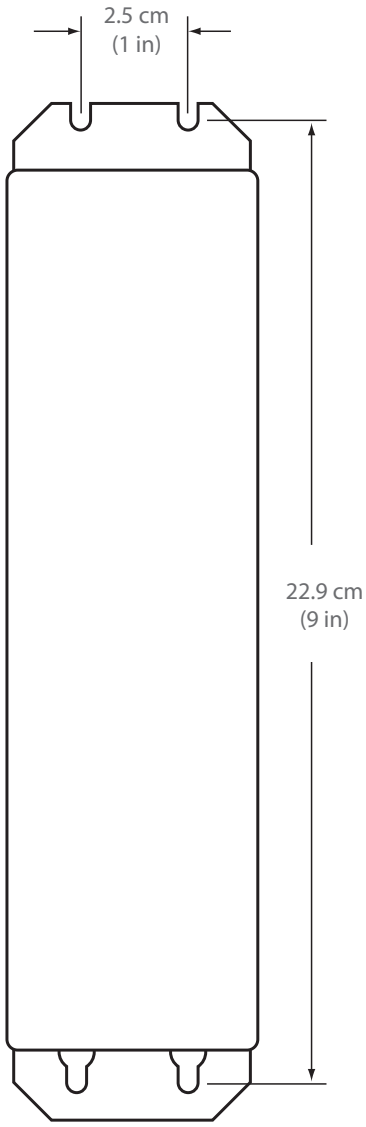
Multiplexer	
AM25T	25-Channel Solid State Multiplexer (-40° to +85°C)
Calibration Certificate	
-CC	If specified, the multiplexer is shipped with a two-page calibration certificate.
Cable	
CABLE4CBL-L	4-conductor, 22-AWG cable with drain wire and Santoprene jacket. Two CABLE4CBL-L cables typically carry control, power, and measurement signals between the AM25T and the datalogger. Enter cable length, in feet, after the -L. Must choose a cable termination option (see below).
Cable Termination Options (choose one)	
-PT	Cable terminates in stripped and tinned leads for direct connection to a datalogger's terminals.
-PW	Cable terminates in connector for attachment to a prewired enclosure.

Specifications

- Expandability:[b]
  1 AM25T per CR300, CR310 (requires OS version 6 or later)
  2 AM25Ts per CR800, CR850
  3 AM25Ts per CR6
  4 AM25Ts per CR1000X, CR1000, CR3000
- Internal PRT Accuracy: ±0.2°C (-25° to +50°C); ±0.4°C (-40° to +85°C)
- Power: 9.6 to 16 Vdc (under load), unregulated
- Typical Relay Resistance: 500 Ω
- Maximum Switching Current:[c] 25 mA
- View EU Declaration of Conformity at: www.campbellsci.com/am25t
- Operating Temperature Range: -40° to +85°C
- Operating Humidity Range: 0 to 95%, non-condensing
- Length: 23.6 cm (9.3 in)
- Height: 13.2 cm (5.2 in)
- Width: 5.1 cm (2 in)
- Weight: 0.9 kg (2.0 lb)

Current Drain (typical)

- Quiescent: 0.5 mA
- Active: 1.0 mA



Footprint for Mounting

Enable Levels

- Inactive: < 0.9 V
- Active: 3.5 to 5 V

Clock

- Levels: Scan advance occurs on the falling edge of the clock pulse (from above 3.5 V to below 1.5 V)
- Minimum ON Time: 50 µs
- Minimum OFF Time: 60 µs

[b] *Assumes sequential activation of multiplexers and that each datalogger channel is uniquely dedicated.*
[c] *Switching currents greater than 25 mA will damage the relays and render them unusable.*