CAMPBELL SCIENTIFIC
WHEN MEASUREMENTS MATTER

AM25T

25-Channel Solid-State Thermocouple Multiplexer

Connects Many Thermocouples

Several AM25Ts can connect to one data logger

Overview

The AM25T 25-Channel Solid State Multiplexer increases the number of thermocouples that you can measure using a Campbell Scientific data logger. The multiplexer interfaces with the data logger and adds terminals so that you can wire additional thermocouples or other low-level voltage output sensors.

Benefits and Features

- Greatly increases the number of thermocouples a data logger 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 data logger, 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 a maximum cable length of 152.4 m (500 ft) when lightning protection is used

Detailed Description

Up to 25 thermocouples are sequentially connected to a common differential channel on the AM25T. (Note: Other low-level voltage output sensors that do not exceed the common mode range of the data logger 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 data logger; ask about our AM16/32B multiplexer for these applications.) The output from this channel is wired to a differential input channel on the data logger. As the AM25T sequentially changes channels, the data logger measures the output from each thermocouple in sequence.

A PRT attached to the AM25T'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.

Specifications

Expandability	❯ 4 AM25Ts per CR1000X, CR1000, or CR3000 ❯ Assumes sequential activation of multiplexers and that each data logger channel is uniquely dedicated. ❯ 3 AM25Ts per CR6 ❯ 2 AM25Ts per CR800 or CR850 ❯ 1 AM25T per CR300 or CR310 (requires OS version 6 or later)
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	25 mA (Switching currents greater than 25 mA will damage the relays and render them unusable.)
CE Compliance	Conforms to EN55022-1:1995 and EN50082-1:1992.
Operating Temperature Range	-40° to +85°C
Operating Humidity Range	0 to 95% (non-condensing)
Dimensions	23.6 x 5.1 x 13.2 cm (9.3 x 2 x 5.2 in.)
Weight	0.9 kg (2.0 lb)

Typical Current Drain

Quiescent	0.5 mA
Active	1.0 mA

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

For comprehensive details, visit: www.campbellsci.com/am25t

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