High Accuracy Temperature Indicator Suitable for 6 RTD's and 10 T/C Types

CALSYS C-4004

Calsys C-4004 is fully characterized for all major sensors (thermocouples such as B, C, D, E, J, K, N, R, S, T and RTD's like PT-100, PT-50, PT-10, PT-200, PT-500, PT-1000). The instrument can be used in industries where high accuracy temperature measurement is essential. Two channel input provides A, B & A-B measurement on LCD Display. The device is providing exceptionally stable cold junction compensation with choices for user like Automatic, Off and External.

Calsys C-4004 comes with front panel keys for easy operation like unit selection (°C/°F), Resolution (0.01/0.001) and Data Logging.

Overall stability is optimized by utilizing high quality components with high precision. There are four input ports, two for thermocouple and two for RTD.

In order to measure temperature suitable probe should be connected to TC & RTD input. The temperature measured by the device will be displayed in bigger fonts and the actual resistance (ohms) in case of RTD and voltage (mV) in case of Thermocouple will be displayed in smaller fonts. All channel details and configuration will be displayed on the LCD display.

Calsys C-4004 can accept two RTD's, or two Thermocouples or one RTD and one Thermocouple at a time. Measured temperature can be displayed from one of the inputs or Difference of both the input channels.

Data Logging

The Calsys C-4004 includes an inbuilt data logger internally storing upto 4000 values for both the channels with date and time.

High Accuracy

Highest accuracy is for PT-100 input, Calsys C-4004 is providing accuracy of 0.01°C in the temperature range of -100 to +500°C, 0.02°C accuracy for -200 to -100°C and 0.02°C for +500 to +800°C.

Accuracy for thermocouple measurement (B, C, D, E, J, K, N, R, S, T) is 0.1°C.

Features

- High stability
- High accuracy of RTD measurement 0.01°C
- High accuracy of T/C measurement 0.1°C
- High Resolution (0.01/0.001)
- 2 Measuring inputs
- 10 Thermocouples **B, C, D, E, J, K, N, R, S, T**
- 6 RTD's **PT-100, PT-10, PT-50, PT-500, PT-200, PT-1000**
- Thermocouple reference junction external, internal and off
- Units °C/ °F
- Data Logging 4000 values
- Suitable for 2/3/4 wire RTD.

Technical Specifications

Display	192x64 LCD Graphic Panel with back light
Inputs	2 Channels for RTD and Thermocouple via lemo 1-S series connector
Reference Junction	Reference Junction compensation may be selected for the following modes : **Automatic** : Internal reference junction range 0 to +100 °C **External** : Via Pt 100 sensor connected to channel A and B range to 0 to +100 °C **Off** : Turns the Reference Junction OFF = 0° C
Working Temperature	0....50°C rel. humidity Less than 90% non condensing condition
Storage Temperature	-20 to +55 °C
Mains Supply	85-264 VAC / 120-370 VDC 47-63 Hz
Data Logging	Up to 4000 values can be stored along with date and time
Dimensions	244 x 350 x 114

Input Sensor Range

THERMOCOUPLE SENSOR TYPE	TEMPERATURE RANGE	RESOLUTION	ACCURACY @ 20±5°C
Type K Thermocouple	-200°C to 1372°C	0.01	±(0.01°C + 0.006% FS)
Type J Thermocouple	-210°C to 1200°C	0.01	±(0.008°C + 0.007% FS)
Type E Thermocouple	-200°C to 1000°C	0.01	±(0.01°C + 0.007% FS)
Type N Thermocouple	-200°C to 1300°C	0.01	±(0.01°C + 0.006% FS)
Type R Thermocouple	0°C to 1768°C	0.01	±(0.005°C + 0.015% FS)
Type S Thermocouple	0°C to 1768°C	0.01	±(0.005°C + 0.015% FS)
Type B Thermocouple	400°C to 1820°C	0.01	±(0.02°C + 0.006% FS)
Type T Thermocouple	-250°C to 400°C	0.01	±(0.005°C + 0.015% FS)
Type C Thermocouple	0°C to 2315°C	0.01	±(0.075°C + 0.005% FS)
Type D Thermocouple	0°C to 2315°C	0.01	±(0.075°C + 0.005% FS)

RTD SENSOR TYPE	TEMPERATURE RANGE	RESOLUTION	ACCURACY @ 20±5°C
PT-100	-200°C to -100°C	0.001	0.02°C
PT-100	-100°C to +500°C	0.001	0.01°C
PT-100	+500°C to +800°C	0.001	0.02°C
PT-10	-200°C to +800°C	0.001	0.02°C
PT-50	-200°C to +800°C	0.001	0.02°C
PT-200	-200°C to +800°C	0.001	0.02°C
PT-500	-200°C to +800°C	0.001	0.02°C
PT-1000	-200°C to +800°C	0.001	0.02°C

Thermal & Cable Solutions

24-channel, Differential Multiplexer Module with Automatic CJC, Screw Terminals, and up to 50MHz Bandwidth

The multiplexer module offers 24 channels of 2-pole or 12 channels of 4-pole multiplexer switching that can be configured as two independent banks of multiplexers. Automatic CJC is provided so that no other accessories are required to make thermocouple temperature measurements. In addition, the module contains non-latching electromechanical relays that enable signal bandwidths of up to 50 MHz. The module is ideal for RTD, and thermocouple temperature applications.
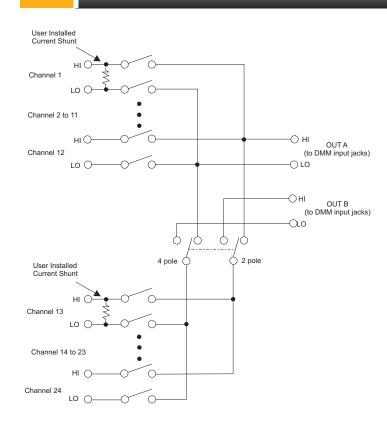
Key Features

- 24 channels of 2-pole relay input.

- Configurable channels for 4-pole operation.

- Ability to multiplex 1 of 24 2-pole or 1 of 12 4-pole channels into a Calsys C-4004.

- Oversize screw terminal connection blocks are standard for easier connections

- 50 MHz bandwidth

Card Configurations

- The module has 24 input channels and two outputs. Channels 1 to 24 are all switched by the relays.
- 4-pole paired channels are as follows:
- Channels 1 and 13
- Channels 2 and 14
- Channels 3 and 15
- Channels 4 and 16
- Channels 5 and 17
- Channels 6 and 18
- Channels 7 and 19
- Channels 8 and 20
- Channels 9 and 21
- Channels 10 and 22
- Channels 11 and 23
- Channels 12 and 24

Schematic

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