GE Service Manual

IS230STTCH2A

1. Description

SPECIFICATIONS

3. Product Information

SPECIFICATIONS

Part Number: IS230STTCH2A

Manufacturer: General Electric

Series: Mark VIe

Number of channels: 12

Thermocouple types: E, J, K, S, T

Maximum lead resistance: 15 Ohm

Product Type: Simplex Thermocouple Input Assembly Terminal Board

Surge withstand: 2 kV

Trip Solenoid Rating: 125 V dc

Ethernet interface: Thinwire 10-Base2

ISBus interface: Twisted pair RJ-45

Size: 33.0 cm wide x 17.08 cm

Technology: Surface Mount

IP degree of protection: IP20

Minimum load: 10 mA 5 V DC

Operating temperature: 0 to 60°C

No. of Analog Voltage Inputs: 6

Availability: In Stock

Country of Origin: United States

Functional Description

IS230STTCH2A is a Simplex Thermocouple Input Assembly Terminal Board manufactured and designed by General Electric as part of the Mark VIe Series used in GE Distributed Control Systems. The STTC terminal board is a compact terminal board designed for DIN-rail or flat mounting.

The board has 12 thermocouple inputs and connects to either the PTCC thermocouple processor board on the Mark VIe or VTCC thermocouple processor board on the Mark VI. The onboard signal conditioning and cold junction reference are identical to those on the larger TBTC board. High-density Euro-Block type terminal blocks are mounted to the board, and two types are available. An on-board ID chip identifies the board to the processor for system diagnostic purposes. In the Mark VIe systems, the PTCC I/O pack works with the STTC. The I/O pack plugs into the DC-37 pin connector and communicates with the controller over Ethernet. Only simplex systems are supported.

Installation

Mounting Setup: The STTC and a plastic insulator mount on a sheet metal carrier, which mounts on a DIN rail. The STTC and insulator mount on a sheet metal assembly that bolts directly in a panel.

Wiring Requirements: Thermocouples are wired directly to the terminal block using typical #18 AWG wires.

Terminal Block Structure: The Euro-Block type terminal block has 42 terminals that can be fixed or removable. Terminal board STTCH2 has a right-angle header accepting a range of commercially available plugged terminal blocks, with a total of 42 terminals.

Operation

Signal Path: The I/O pack or board provides excitation for the cold junction (CJ) reference on the terminal board. The 12 thermocouple signals plus the CJ signal and the connection to the identity chip (ID) come through connector JA1.

Signal Conditioning: Because the thermocouple’s voltage signal is often weak and susceptible to electrical noise, the terminal board performs signal conditioning by filtering out noise and stabilizing the signal. This process ensures that the control system receives clean, accurate data for processing.