GE Service Manual

IS210TRPGH1B

1. Description

Part Number: IS210TRPGH1B

3. Product Information

Part Number: IS210TRPGH1B

Manufacturer: General Electric

Series: Mark VIe

Product Type: Primary Trip Terminal Board

Trip Solenoids: 3

Solenoid Rated Voltage/Current: 125 V dc

Solenoid Response Time: L/R time

Current Suppression: Metal oxide varistor

Control Relay Coil Voltage Supply: 28 V

Flame Detector Supply Voltage/Current: 335 V dc

Flame Detectors: 8

Availability: In Stock

Country of Origin: United States

Manual: GEH-6721J

DESCRIPTION

IS210TRPGH1B is a Gas Turbine Primary Trip Terminal Board manufactured and designed by General Electric as part of the Mark VIe Series used in GE Distributed Control Systems. The TRPG terminal board is controlled by the I/O controller. TRPG contains nine magnetic relays in three voting circuits to interface with three trip solenoids, known as Electrical Trip Devices (ETD). The TRPG works in conjunction with the TREG to form the primary and emergency sides of the interface to the ETDs. TRPG also accommodates inputs from eight Geiger Mueller flame detectors for gas turbine applications. The H1A version for TMR applications has three voting relays per trip solenoid. The H1A and H1B versions include three voting relays built into each trip solenoid for TMR applications. The PTUR packs on TTURH1C control TRPG in Mark VIe systems. The D-type connectors on TTURH1C, which is connected to TRPG, accept the I/O packs as an input. Systems using simplex and TMR are both supported.

INSTALLATION

Flame Detectors: The flame detectors (if utilized) are attached directly to the second terminal block.

Trip Solenoids: The three trip solenoids are wired to the first I/O terminal block.

Power Distribution: The flame detectors are linked with power to J3, J4, and J5. J1 receives 125 V dc power for the trip solenoids, and J2 supplies power to the TREG board.

OPERATION

Trip Logic: The main protection solenoids are tripped by the main protection relays on TRPG, which are controlled by the I/O board. In TMR applications, a relay ladder logic two-out-of-three voting circuit is used to vote the three inputs in hardware.

Diagnostics: The I/O board keeps track of supply voltages for diagnostic purposes and tracks the current flow in its relay driver control line to determine whether to electrify or de-electrify the relay coil contact status. The diagnostics check each normally closed contact from a relay on the TRPG board to make sure it is functioning properly.

Overspeed Protection: The controller transmits the primary overspeed trip, which is subsequently transmitted to the I/O pack or board and finally to the TRPG terminal board. Together with the TREG board, which is managed by the VPRO emergency overspeed system, TRPG functions. The TRPG/TREG combination may drive three ETDs.