GE GE □□□ Series Service Manual

IS200TBCIH1BBC

1. Description

About the IS200TBCIH1BBC

3. Product Information

About the IS200TBCIH1BBC

The IS200TBCIH1BBC is a device which is known as a contact terminal board. This is a PCB created for the Mark VI series. The Mark VI series is one of several series which make up the Mark lineup by General Electric or GE. These systems were developed to control all of the operations of gas and steam turbines in industrial settings.

The IS200TBCIH1BBC is a long circuit board with a variety of different electronic components. Two (2) very big terminal blocks that are solid black take up the left half of the IS200TBCIH1BBC. These terminal blocks feature forty-eight (48) terminals made of silver metal. These terminals are identified by a series of numbers from one to forty-eight with twenty-four (24) in each terminal block. Directly to the right of the IS200TBCIH1BBC is a long line of circular capacitors. These capacitors are solid red. There are twenty-five (25) of these capacitors aligned next to these terminal blocks. Sitting on the right edge of the IS200TBCIH1BBC are three jack connector ports which are silver and black. Directly to the right of each of these connector ports is a very small integrated circuit labeled with the letter U. Two (2) other connectors which are white are centered at the top of the IS200TBCIH1BBC. Both of these connectors contain three (3) ports which can be used to connect other components to the IS200TBCIH1BBC. A very long line of tiny resistors is featured to the right side of the center of the PCB. This line spans almost the entire length of the IS200TBCIH1BBC.

SPECIFICATIONS

Part No.: IS200TBCIH1BBC

Manufacturer: General Electric

Country of Manufacture: United States of America (USA)

Size 33.02 cm high x 10.16 cm wide (13.0 in. x 4.0 in)

Temperature Operating: -30 to 65 o C

Product Type: contact input terminal board

Availability: In Stock

Series: Mark VI

Functional Description

IS200TBCIH1BBC is a contact input terminal board developed by GE. It is a part of Mark VI series. Within the Mark VI system, the terminal board establishes connections to the VME rack through cables featuring molded plugs. These cables link the terminal board to either the VCCC or VCRC processor board situated within the rack. Both simplex and TMR (Triple Modular Redundant) systems are fully supported configurations for this connection.

Input Capacity and Configuration

The board is designed to accommodate 24 dry contact inputs, effectively organized and wired to two barrier type terminal blocks. Direct current (DC) power is specifically routed into the component for contact excitation purposes, ensuring optimal functionality of the contact inputs.

Noise Suppression and Protection

To safeguard against potential damage caused by surges and high-frequency noise, the contact inputs are fortified with dedicated noise suppression circuitry, enhancing their resilience and reliability in varying operational environments.

Integration with Mark VIe System

In a Mark VIe system setup, the I/O packs are connected and integrated into the TBCI. These packs are affixed to side-mounting brackets for secure installation. Depending on the system's configuration, one or two Ethernet cables may need to be plugged into the pack, potentially requiring firmware downloads to ensure proper functionality.

Power Connection and Cabling

Power Input (JE1 and JE2)

Excitation Voltage: The excitation voltage necessary for operation is routed through plugs JE1 and JE2, as indicated in the provided figure, ensuring the required power input for contact excitation.

Cabling Connections for Mark VI or Mark VIe Systems

Simplex System Connection: Connector JR1 is utilized for a simplex system, providing the necessary connectivity for system operation.

Redundant/Triple Modular Redundant (TMR) System: In a TMR setup, all three connectors are employed, offering enhanced redundancy. Cables or I/O packs are plugged into the respective connectors, aligning with the specific Mark VI or Mark VIe system and its redundancy requirements.

This comprehensive setup ensures the robust integration of the TBCI within the Mark VI or Mark VIe systems, offering not only optimal contact input capacity but also protection against external interference. The power and cabling connections facilitate seamless operation and varying levels of redundancy, aligning with the system's specific setup configurations.