GE Service Manual

DS200TBQBG1ACB

1. Description

DS200TBQBG1ACB Technical Specifications

2. Specifications

Specification	Value
Manufacturer	**General Electric**
Series	**Mark V**
Part	**Number DS200TBQBG1ACB**
Functional	**Acronym TBQB**
Functional	**Description RST Termination Board**
PCB	**Coating Normal Coating**
Functional	**Revision 1 A**
Functional	**Revision 2 C**
Artwork	**Revision B**
About	**the DS200TBQBG1ACB**
This	**DS200TBQBG1ACB printed circuit board product offering from General Electric was designed and manufactured to exist as an Analog Termination Board within their Mark V Turbine Control System Series. The Mark V Series that this DS200TBQBG1ACB printed circuit board or PCB for belongs to has specific applications in the management and control systems of popular and compatible wind, steam, and gas turbine automated drive assemblies.**

3. Product Information

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This DS200TBQBG1ACB PCB's greater Mark V Series has still been able to attract something of a high demand on the figurative automated industrial marketplace, as it is one of the lastly-developed GE Mark product series to incorporate their patented Speedtronic control system technology across a range of PCB offerings.

Hardware Tips and Specifications

The GE RST Analog Termination Board DS200TBQBG1ACB features 2 terminal blocks. Each block contains 77 terminals for signal wires. The GE RST Analog Termination Board DS200TBQBG1ACB also contains:

15 jumpers

3 34-pin connectors

3 16-pin connectors

The 154 terminals are used to connect copper signal wires to the board. The signal wires are connected to other components and boards in the drive and the board receives the signals for processing. The signal wires also transmit some signals to other boards and components in the drive. The information that is supplied with the original board from the factory documents the signals that connect to each terminal. When you install the original board you can use that information to know which terminal to connect each signal wire.

While this DS200TBQBG1ACB printed circuit board is definable in its own right as an Analog Termination Board, it is not the originally-developed product of this specific Mark V Series functional role; that would be the DS200TBQBG1 parent Analog Termination Board notable missing this DS200TBQBG1ACB PCB's three significant product revisions. This DS200TBQBG1ACB printed circuit board, while existing as a highly-revised Mark V Series PCB model, also is revered within industrial circles for its bold customization strategy, which incorporates several jumpers into the internal assembly of this DS200TBQBG1ACB product. Each of the jumpers in this DS200TBQBG1ACB Analog Termination Board's assembly is accompanied by a factory-printed nomenclature label containing the BJ tag dictating a berg-type jumper component. The BJ1-BJ4-labeled jumpers in this DS200TBQBG1ACB PCB are used to fan out a pressure transducer, while the BJ5-BJ7-labeled jumpers installs a burden resistor for said pressure transducer. Finally, this DS200TBQBG1ACB product's BJ8-BJ15 jumpers are responsible for analog input configuration.

One terminal block is assigned ID TB1. The other terminal block is assigned ID TB2. Within each terminal block, every terminal is assigned a numerical ID. So, to identify a specific terminal refer to the terminal block ID and the numerical value for the terminal. For example TB1 66 refers to terminal 66 on terminal block 1. When you are preparing to replace the board, use the terminal IDs to know where to connect the signal wires on the replacement board. Write the IDs on masking tape or a tag and stick them to the signal wires. Use a screwdriver to release them from the terminals. Then, insert the bare copper end of the signal wire into the terminal of the replacement board and tighten the screws to secure it.

Each of the specific connectors allowed to exist within the bounds of this DS200TBQBG1ACB product's normal Mark V Series assembly should be accompanied by their own factory-printed nomenclature label as dictated in the DS200TBQBG1ACB instructional manual embedded above in our handy manuals tab.

Some of this DS200TBQBG1ACB PCB's connectors include:

the JGQ TCQA Board Various Signals Connector

the JHR TCQC Board Pulse Rate and Detection Signals Connector

the JGS/T Connector

the JHS/T Connector

Each of the previously-listed connectors in this DS200TBQBG1ACB PCB's normal Mark V Series assembly has been named through a unique combination of their respective factory-printed nomenclature labels, their Mark V Series compatible products, and finally the specific signals they were designed to transmit. This DS200TBQBG1ACB PCB's JGS/T and JHS/T Connectors have not been named as such as they purely exist as vestigial structures not meant to be accessed during normative used of the DS200TBQBG1ACB PCB.

Functional Description

DS200TBQBG1ACB is an Input Termination Module developed by GE. It is a part of the Mark V control system. The Input Termination Module (TBQB) is strategically located at position seven within the R2 and R3 cores of the system. This terminal board serves a critical role in handling and processing various input signals essential for monitoring and controlling operational parameters.

Features

Location and Connectivity: In the R2 core, the terminal board is connected to the TCQA and TCQC boards located in the R1 core. This connection facilitates the transfer of data and signals between cores, enabling coordinated monitoring and control operations. Similarly, in the R3 core, the terminal board connects to the TCQA and TCQC boards within the same core. This setup ensures localized processing and integration of input signals specific to the R3 core's operational requirements.

Handled Input Signals: The terminal board receives and processes various types of input signals critical for operational monitoring:

Voltage Signals: These signals provide insights into electrical parameters, such as voltage levels within the system.

Vibration Signals: Vibration monitoring signals help assess mechanical integrity and performance, crucial for preventing equipment failure and optimizing maintenance schedules.

Pulse Rate Signals: Pulse rate inputs indicate the frequency or rate of specific events or processes, aiding in precise monitoring and control adjustments.

Integration with TCQA and TCQC Boards: Integration with TCQA and TCQC boards allows the TBQB terminal board to interface seamlessly with control and acquisition systems. This

integration supports real-time data acquisition, processing, and transmission, enhancing overall system responsiveness and reliability.

Operational Impact: By consolidating these input signals on the board, the system benefits from centralized data handling and streamlined communication between cores. This setup optimizes operational efficiency, facilitates predictive maintenance strategies, and ensures prompt response to operational anomalies.

Connections

Strategic Positioning: The Input Termination Module is strategically positioned within the R2 and R3 cores of the industrial system, fulfilling a crucial role in the management and processing of essential input signals vital for operational oversight and control. Located at position seven, this terminal board serves as a central hub for handling a variety of critical signals, including vibrations, analog currents, voltages, pulse rates, and compressor stall detections. These signals are pivotal in monitoring the health, performance, and safety of equipment within the operational environment.

JGR Connection: One of the primary connections on the board is JGR, which plays a pivotal role in transmitting vibration signals, as well as analog current and voltage signals, to the board in their respective cores (R2 and R3). These signals provide invaluable insights into mechanical vibrations and electrical parameters, facilitating real-time monitoring and proactive maintenance strategies. Such data is essential for ensuring optimal equipment performance and longevity across industrial applications.

JHR Connection: Another significant connection, JHR, handles pulse rate inputs and compressor stall detection inputs, directing them to the TCQC board within their respective cores. Pulse rate inputs offer critical frequency data for operational adjustments, while compressor stall detection inputs preemptively identify potential risks, enhancing operational safety and efficiency. This integration of signals across the board and its connections underscores its role in enabling comprehensive data acquisition and control capabilities.

JGS/T and JHS/T Connections: While JGS/T and JHS/T connections remain typically unused in standard operations, they serve as potential reserves for future system expansions or specific customization needs. These connections highlight the modular flexibility of the terminal board, allowing for scalability and adaptation to evolving operational requirements.