GE GE □□□ Series Service Manual

IS200ESELH3A

1. Description

SPECIFICATIONS

2. Specifications

Specification	Value
Model	**Number IS200ESELH3A**
Common	**Revisions IS200ESELH3AAA**
Board	**Description Exciter Selector Board**
Manufacturer	**General Electric Company USA, GE Industrial Systems**
Series	**EX2100 Excitation Controller**
Board	**Type Control Board**
Group	**Variation 3**
Number	**of Bridge Driver(s) Six**
User	**Manual(s) GEH-6632, GEI-100456**
Shipping	**Weight 6 lbs**
Shipping	**Dimensions 18x12x12 Inches**
Available	**Conditions New and Refurbished**
Country	**of Origin USA**
About	**the IS200ESELH3A**
Exciter	**Selector Board model number IS200ESELH3A is used primarily for corresponding with the EMIO board by sending gate pulse signals, the signals used by the EMIO board will then be sent to one of the EGPA boards through up to six sets of cables, when these signals have been sent to the EGPA boards it will help with firing SCRs.**

3. Product Information

SPECIFICATIONS

Part No.: IS200ESELH3A

Manufacturer: General Electric

Country of Manufacture: United States of America (USA)

Size: 33.02 cm high x 10.16 cm wide

Product Type: Exciter Regulator Exciter Selector Board

Availability: In Stock

Series: EX2100

Functional Description

IS200ESELH3A is an Exciter Selector Board developed by GE. It is a part of EX2100 excitation system. The Exciter Selector Board (ESEL) is mounted in the control rack of the system, responsible for receiving six logic-level gate pulse signals from the Exciter Master I/O (EMIO) board. These pulse signals are processed by the ESEL board and distributed through six sets of cables to the Exciter Gate Pulse Amplifier (EGPA) boards located in the Power Conversion Cabinet. The ESEL board's role is to ensure that these signals are accurately transmitted and amplified by the EGPA boards, which control the gate drives in the exciter system. This coordinated operation is essential for regulating the generator's electrical output efficiently.

Features

Signal Reception and Processing: The board receives six logic-level gate pulse signals from the Exciter Master I/O (EMIO) board. These gate pulse signals are essential for controlling the gate drives in the exciter system.

Signal Distribution: After receiving the gate pulse signals, the board processes them and then distributes the signals through six sets of cables to the Exciter Gate Pulse Amplifier (EGPA) boards located within the Power Conversion Cabinet. This distribution ensures the pulse signals are routed efficiently to the amplification stages.

Amplification for Gate Drive Control: The boards, which are located in the Power Conversion Cabinet, play a crucial role in amplifying the received gate pulse signals. The amplified signals are then used to control the gate drives that regulate the exciter in the generator’s excitation system.

Ensuring Coordinated Operation: The role of the board is critical in ensuring that these pulse signals are accurately transmitted and amplified by the EGPA boards, which work in tandem with the rest of the excitation system to maintain stable and reliable operation of the generator. The synchronized and precise operation of these components is vital for efficient regulation of the generator’s electrical output.

System Integration: The board is mounted in the control rack of the EX2100 excitation system, integrating seamlessly with other components like the EMIO board and EGPA boards. This centralized mounting within the control rack ensures easy integration and communication between the board and other critical parts of the excitation system.

Application Data

Designed with a streamlined and efficient configuration, eliminating the need for jumpers or test points. This design choice simplifies the board layout and maintenance. Connectors P1 and P2 facilitate the connection to the VME backplane, serving as essential interfaces for the board integration into the broader system.

However, the specific pin signals for these connectors are not defined within this document, as they are not typically checked during standard troubleshooting procedures. This approach underscores the reliability and low-maintenance nature of the EXAM board, allowing for easier management and fewer points of potential failure.

The layout of the EXAM board is meticulously organized, as illustrated in the accompanying figure (not provided here). A key feature of the board is the three green LEDs located at the top of the front panel, which serve as vital status indicators. These LEDs provide real-time information about the board's operational status. The first LED confirms that power is supplied to the board, ensuring that it is ready for operation.

The second LED indicates that the board is active, having been enabled by a control signal from control C. This signal is critical for the board functionality, as it signifies that the board is in a state of readiness to perform its designated tasks. The third LED reveals that the board is gating, driven by gate inputs from the EMIO.

This gating function is essential for the board's role in managing electrical signals within the system, highlighting its active participation in the system control processes. Together, these provide a straightforward yet comprehensive method for monitoring the board status, aiding in quick diagnostics and ensuring optimal performance.

IS200ESELH3A Technical Specifications

Model Number IS200ESELH3A

Common Revisions IS200ESELH3AAA

Board Description Exciter Selector Board

Manufacturer General Electric Company USA, GE Industrial Systems

Series EX2100 Excitation Controller

Board Type Control Board

Group Variation 3

Number of Bridge Driver(s) Six

User Manual(s) GEH-6632, GEI-100456

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Shipping Dimensions 18x12x12 Inches

Available Conditions New and Refurbished

Country of Origin USA

About the IS200ESELH3A

Exciter Selector Board model number IS200ESELH3A is used primarily for corresponding with the EMIO board by sending gate pulse signals, the signals used by the EMIO board will then be sent to one of the EGPA boards through up to six sets of cables, when these signals have been sent to the EGPA boards it will help with firing SCRs.

As the third and final group of ESEL boards the IS200ESELH3A board will use a different number of bridge drivers, this board contains six bridge drivers. When being used in conjunction with EGPA models and the EGPA models are mounted in the power conversion cabinet if there are any redundant control models there must be two ESEL boards.

The IS200ESELH3A board has very little information or market availability. Although this board is mostly obsolete AX Control does its best to keep this board in stock. There are two manuals that can be used with this board, one is the GEH-6632 which is typically used with the entire EX2100 series, and the other manual which is the GEI-100456 is a

product-specific manual used with the IS200ESEL parts.