GE Service Manual

IS200DAMDG1A

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About the IS200DAMDG1A

3. Product Information

About the IS200DAMDG1A

The IS200DAMDG1A is a type of PCB or printed circuit board which was produced by GE or General Electric. This circuit board was created to be a component in the Mark VI series for the control of gas/steam turbines. The Mark VI is the most recent series in General Electric's Mark line. The Mark VI and the systems that came before it have been used to control turbines across a variety of industries for more than forty years.

The IS200DAMDG1A is made up of a small circuit board which is C-shaped and a circuit board shaped like a square which is connected to its right side. On the left half of the C-shaped card there is a long solid white component which lies horizontally on the surface of the PCB. Two (2) resistors which are solid white have been situated directly next to the large white component. A variety of very small components are also located on this end of the IS200DAMDG1A. Sitting on the right half of the IS200DAMDG1A is a large black piece which contains a silver metal part in the middle. The large white component has been connected to the surface of the board with a long metal piece that is silver on either side. The IS200DAMDG1A and the rest of the DAMD boards contain four (4) small LEDs or light-emitting diodes. The diodes which are labeled as DS2 and DS1 are colored yellow and the two others, labeled as DS4 and DS3, are green in color. The DS1 also has the name 1ON. DS2 features the name 2ON, and the DS and DS3 feature the names 2FF and 1FF respectively.

These PCBs feature twelve (12) IGBT connector pins. These pins are named COM2, G21N, C2, NC, G1IN, COM1, and C1.

Product Specifications

Part Number: IS200DAMDG1A

Manufacturer: General Electric

Series: Drive Control

Product Type: Gate Driver Board

Addressing Range: 16 and 32-bits

Common Mode Voltage Range: ±5 V

Fuses: FU1, FU2, FU3

Jack Connector Ports: 11

Dimensions: 11.00 x 9.00 x 3.00

Operating Temperature: 0 to 60 °C

Repair Time: 3-7 Day

Availability: In Stock

Country of Origin: United States

Functional Description

The IS200DAMDG1A is a Gate Driver Board designed by General Electric for the Drive Control Innovation Series, used within GE Speedtronic Drive Turbine Control Systems. This electronic device is used in power electronics applications to control the switching of power semiconductor devices, such as MOSFETs or insulated gate bipolar transistors (IGBTs). It provides the necessary current and voltage signals to turn power devices on and off reliably and efficiently. Its primary function is to isolate low-voltage control circuitry from high-voltage power circuitry, which protects sensitive control electronics from high voltages and transients.

Key Features

Isolation: The board provides electrical isolation between high-voltage power circuitry and low-voltage control circuitry, protecting electronics from damage and ensuring safety.

Voltage and Current Capability: Designed to provide necessary voltage and current levels to effectively drive power semiconductor devices, it can handle high-voltage signals and deliver sufficient current for quick switching.

Protection Mechanisms: The board incorporates features to safeguard itself and power devices, including overcurrent protection, overvoltage protection, undervoltage lockout, thermal shutdown, and short-circuit protection.

Adjustable Gate Voltage and Timing: Users can often adjust timing and gate voltage parameters to fine-tune switching behavior for specific application requirements.

Integrated Circuit Protection: The board may include features to protect internal circuitry from external disturbances, such as electromagnetic interference (EMI) filtering, electrostatic discharge (ESD) protection, and transient voltage suppression.

Communication Interfaces: Advanced gate driver boards may offer interfaces like I2C (Inter-Integrated Circuit) or SPI (Serial Peripheral Interface) to allow for integration into complex control architectures, monitoring, and remote control.