GE GE □□□ Series Service Manual

IS200DAMDG2AAA

1. Description

IS200DAMDG2AAA Technical Specifications

2. Specifications

Specification	Value
Original	**Manufacturer GE Industrial Systems**
Series	**Innovation Series**
Functional	**Part Number IS200DAMDG2AAA**
Product	**Type Gate Drive Amplifier/Interface Board**
Instruction	**Manual GEI-100262A**
Revision	**Total 3 Revisions**
Backwards-Compatibility	**1st two revisions**
Frequently	**Asked Questions about IS200DAMDG2AAA**
How	**many total IS200DAMDG2AAA Gate Drive Amplifier Interface Board devices are used in a typical innovation series drive?**

3. Product Information

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Frequently Asked Questions about IS200DAMDG2AAA

How many total IS200DAMDG2AAA Gate Drive Amplifier Interface Board devices are used in a typical innovation series drive?

There are a total of Qty 3 IS200DAMDG2AAA used in a drive (1 per phase leg).

How does the IS200DAMDG2 PCB product version differ from the DAMA, DAMB, DAMC, and DAME versions of the Gate Drive Amplifier Interface Board?

The IS200DAMDG2A version has a frame of 125 or 92 while the other versions have different values. Additionally, the powerrex IGBT used is the CM200DY-28H as opposed to the other board versions.

About the IS200DAMDG2AAA

This IS200DAMDG2AAA Gate Drive Amplifier Interface Board printed circuit board product offering from General Electric was originally designed and manufactured specifically with a functional placement in the greater Mark VI Turbine Control System Series in mind. The Mark VI Series that this IS200DAMDG2AAA Gate Drive Amplifier Interface Board product belongs to, as you may have been able to deduce based off of its full extended GE Mark product series title, exists with a specific set of possible functional applications in the management and control systems of General Electric-compatible gas, steam, and wind turbine automated drive assemblies. This must be treated as quite the notable functional upgrade from the previously-released Mark V Turbine Control System Series of a similar full extended series name, as the Mark VI Series of a similar full extended product series title was developed specifically with the additional wind turbine possible functional environment.

Hardware Tips and Specifications

The IS200DAMDG2AAA is a device which is known as a gate drive amplifier and interface board. These boards are used to interface between the control rack and power switching devices or IGBTs in Innovation Series low voltage drives. The IS200DAMDG2AAA is a device in the Mark VI series by General Electric. Mark VI is one of several series which make up the Mark family of devices by GE. The IS200DAMDG2AAA features a power rating of either 92 frames or 125 frames. This specific IS200DAMDG2AAA style of Mark VI Series printed circuit board product offering is actually not the originally-developed product of its specific General Electric Mark VI Series functionality, as that would have to be deemed the IS200DAMDG2 parent PCB product notably not utilizing this IS200DAMDG2AAA PCB's three-fold extensive product revision history. Some of the other relevant IS200DAMDG2AAA Board qualities only made apparent through a diligent guided analysis of its IS200DAMDG2AAA functional product number include its:

DAMD functional product abbreviation

Group 2 Mark VI Series product grouping

Normal PCB coating style

Normal Mark VI Series assembly

Domestic original manufactured location

These devices have light-emitting diodes or LEDs. These LEDs let the user know whether the IGBT is turned off or on. The DAMDG2 is one of six (6) variations of gate drive boards named DAMC, DAMA, DAMB, DAMDG1, DAMDG2, and DAME. The boards in the DAM series are used when attaching bridge personality interfaces boards, emitters, IGBT gates, and collector terminals. These DAM boards don’t contain test points, fuses, or configurable parts. DAMD boards interface between devices without amplifying. These boards do not have any power input. The IS200DAMDG2AAA features four light-emitting diodes or IGBT driver monitors named 2FF, 2ON, 1FF, and 1ON. 2FF and 1FF are green and 2ON and 1ON are yellow. The IS200DAMDG2AAA also contains twelve (12) pins or IGBT connections which are called C1, G1IN, COM1, C2, NC, COM2, and G2IN. The IS200DAMDG2AAA and other DAMD cards like it are shaped like the letter C. A large resistor with a small knob is situated on the left side of the IS200DAMDG2AAA. This resistor is long and rectangular and positioned parallel to the left edge.

SPECIFICATIONS:

Part Number: IS200DAMDG2A

Manufacturer: General Electric

Function: Gate Drive Interface Board

Frame Rate: 125

Power supply input: +15/-7.5

Powerrex IGBT: CM200DY-28H

Power rating: 92 frames or 125 frames

LED indicators: DS1, DS2, DS3, and DS4

Product type: PCB

No.of board/drive: 3

IGBT/phase leg: One dual

Series: Drive Control

Availability: In Stock

Country of Manufacture: United States (USA)

Manual: GEI-100267B

FUNCTIONAL DESCRIPTION:

IS200DAMDG2A is a Gate Drive Interface Board manufactured and designed by General Electric as part of the Mark VI Series used in GE Drive Control Systems. The function of the Gate Drive Interface Board is to amplify the gate signals that control the power switches and to interface with the control system of the machinery. This board operates at a Frame

Rate of 125, which refers to the frequency at which the board can send signals to the machinery. The Powerrex IGBT used in this board is the CM200DY-28H. The board comes with three board/drive units, which means that three separate units can be used to control different aspects of the machinery. The IGBT/phase leg configuration for each unit is one dual, which means that each unit contains one dual IGBT that controls one phase leg of the machinery. The Digital Amplifier Module board is a type of circuit board that serves as an interface between power-switching devices, specifically Insulated Gate Bipolar Transistors, and the control rack in low-voltage drives.

FEATURES:

Interface Between Power Switching Devices and Control Rack: Serves as a crucial interface between the power switching devices, such as IGBTs, and the control rack in low voltage drives. This interface enables seamless communication and control signals between the control system and the power-switching devices, ensuring proper operation and synchronization.

Power Rating: The board is designed with a power rating of either 125 frames or 92 frames. This power rating indicates the board's capacity to handle and regulate power within the low-voltage drive system. It ensures that the board can effectively handle the power demands of the connected IGBTs and facilitate efficient power switching operations.

Non-Amplifying Interface: Do not amplify power and do not require a power input. They function solely as an interface, connecting the collector terminals, emitter, and IGBT gate of the power switching devices to the BPIA Bridge Personality Interface board of the control rack. This non-amplifying nature allows for a direct and reliable connection without introducing additional amplification stages.

Absence of Fuses, Test Points, and Configurable Items: Do not include fuses, test points, or configurable items. These boards are specifically designed to provide a clean and straightforward interface without additional components or options. This simplifies the board's design and ensures its dedicated functionality as an interface module.

Dual-IGBT Module per Phase Leg: Equipped with one dual-IGBT module. This module consists of two IGBTs and supports the precise control and switching of power within the low-voltage drive system. The presence of a dual-IGBT module allows for efficient and coordinated power-switching operations.

Light-Emitting Diodes (LEDs): Incorporates four light-emitting diodes (LEDs) to provide visual feedback on the system's status. Two LEDs are yellow, and the other two are green. These LEDs are labeled DS1 (yellow), DS2 (green), DS3 (yellow), and DS4 (green) and are further identified as 1ON, 1FF, 2ON, and 2FF, respectively. These LEDs serve as indicators for different operating conditions, providing users with real-time feedback on the status of the board and the connected components.

Connector Pins for IGBT Connections: Features twelve connector pins that are specifically designed for IGBT connections. These pins include G2IN, COM2, NC, C2, COM1, G1IN, and C1. These pins ensure secure and reliable connections between the board and the IGBTs, facilitating proper signal transmission and control over the power switching devices.

Compact and Attachable Design: Small in size and shaped like the letter C. This compact design allows for easy integration and installation within the low-voltage drive system. Furthermore, if needed, these boards can be attached to larger boards, providing flexibility in system configuration and expansion possibilities.