GE GE □□□ Series Service Manual

IS200DAMBG1ACB

1. Description

SPECIFICATIONS:

2. Specifications

Specification	Value
Manufacturer	**GE Industrial Systems**
Series	**EX2100**
Part	**Number IS200DAMBG1ACB**
Functional	**Acronym DAMB**
Functional	**Description Gate Driver Card**
PCB	**Coating Normal Coating**
Functional	**Revision 1 A**
Functional	**Revision 2 C**
Artwork	**Revision B**
About	**the IS200DAMBG1ACB**
The	**IS200DAMBG1ACB printed circuit board was designed by General Electric shell company GE Industrial Systems, most likely for use in their Innovation Series of drive assemblies and drive assembly component parts. This printed circuit board is more expressly definable as a Gate Drive Amplifer/Interface Board, and has been modified through its unique inclusion of three different product revisions. The first two significant product revisions obvious to the IS200DAMBG1ACB board are functional revisions, rated at "A" and "C" respectively, while the third major revision to the original IS200DAMBG1A is an artwork revision rated at a "B" grading.**

3. Product Information

SPECIFICATIONS:

Part Number: IS200DAMBG1ACB

Manufacturer: General Electric

Series: Drive Control

Product Type: Gate Driver Board

Number of channels: 24

Number of relay channels: 12

Power Requirements: +5 V dc, 6 A

Trip Solenoid Rating: 125 V dc

Power supply voltage: 28 V dc

Excitation voltage: 125 Vdc

Voltage Range: 18 - 32 VDC

Mounting: DIN-rail mounting

Technology: Surface mount

Operating temperature: 40 to 70°C

Size: 17.8 cm wide x 33.02 cm

Repair: 3-7 Day

Availability: In Stock

Country of Origin: United States

FUNCTIONAL DESCRIPTION:

IS200DAMBG1ACB is a Gate Driver Board manufactured and designed by General Electric as part of the Mark VI Series used in GE Drive Control Systems. A gate driver board is an electronic circuit board used to control the switching of power semiconductor devices, such as MOSFETs, IGBTs, or SiC devices. It provides a low voltage signal to the gate of the power device to turn it on or off and is designed to drive the gate capacitance quickly and efficiently. Gate driver boards are commonly used in power electronics applications, such as motor drives, inverters, and power supplies. They are typically designed to provide high-current pulses to the gate of the power device, with fast rise and fall times to minimize switching losses and improve efficiency.

FEATURES:

It provides a convenient interface between a control rack interface and an IGBT power-switching device.

The DAMA boards are 620 frame boards with a CM1000HA-28H Powerrex IGBT and three boards per drive, one for each phase leg. Furthermore, the device includes only one IGBT for the upper phase leg and one IGBT for the lower phase leg.

The DAM_ boards are directly connected to the IGBT collector terminals, gates, and terminals, as well as the BPIA Bridge Personality Interface board, which is located within the control rack. Furthermore, there are no test points, fuses, or configurable items on the board.

GLIN is the name given to Pin 1, which is intended to be the lower gate signal. Pin 2 is designated as the lower common signal (LCOM) (emitter). Pins 3, 4, 8, and 9 are labeled NC and are unconnected.

Pin 5 is designated as the lower collector signal and is labeled CL. Pin 6 is designated as the upper common signal (UCOM) (emitter). Pin 7 is labeled GUIN and serves as the upper gate signal. Pin 12 is labeled CU and serves as the upper collector signal.

Gate driver boards may include features such as overcurrent protection, overvoltage protection, under-voltage lockout, and fault detection to ensure the safe and reliable operation of the power device. They may also be designed to operate at high temperatures and in harsh environments, such as in automotive or industrial applications.

IS200DAMBG1ACB Technical Specifications

Manufacturer GE Industrial Systems

Series EX2100

Part Number IS200DAMBG1ACB

Functional Acronym DAMB

Functional Description Gate Driver Card

PCB Coating Normal Coating

Functional Revision 1 A

Functional Revision 2 C

Artwork Revision B

About the IS200DAMBG1ACB

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Hardware Tips and Specifications

To fully understand and contextualize the hardware components important to normative functioning of this DAMB-abbreviated printed circuit board; it is first necessary to maintain an understanding of the product's intended function and purpose. This Gate Drive Amplifier and Interface Board provides an interface specifically between the control racks and IGBT power switching devices inherent to lower-voltage Innovation Series drives. This DAMB module is one of six total gate drive board variations, although more variations are created through different combinations of functional and artwork revisions available to this specific PCB. The versions of Gate Drive Amplifier/Interface Board outside of the DAMB version include:

The 620-frame DAMA board

The 250-frame DAMC board

The 92, 125, or 180-frame DAMD board

The 65-frame DAME board

As you might have collected through an analysis of the other board options available above; the IS200DAMBG1ACB board is a 375-frame offering of Gate Drive Amplifier and Interface board; existing between the DAMA and DAMC models. As specified in original-issue instructional manual information, the IS200DAMBG1ACB board features a Powerrex IGBT CM600HA-28H type, and utilizes one singular IGBT module for both its upper and lower phase legs. All three of the DAMA, DAMB, and DAMC boards are usually featured in groups of three each within their respective Innovation Series drive assemblies. Unlike some other similar Innovation Series printed circuit boards, the IS200DAMBG1ACB includes a number of LED indicators in its hardware configuration, to provide Diagnostic and IGBT status insights. The DS1 LED present on this DAMB-abbreviated board's front faceplate is named UON, and glows yellow when the upper IGBT is driven on. The UFF-named DS3 LED glows green, however, when the IS200DAMBG1ACB board is driven off. The remaining DS2 and S4 LEDs, named LON and LFF respectively; feature the exact same functionality for the remaining lower IGBT. All of the previously-mentioned hardware components important to the use of this board should be protected by a thick, basic layer of chemically-applied normal-style printed circuit board coating.

Before making a purchase decision for this product, it is important to understand that all of the hardware information posited on this page is sourced from original factory-printed manufacturer materials concerning the original, unrevised IS200DAMBG1 parent product.