GE GE □□□ Series Service Manual

IS200RAPAG1BBA

1. Description

About the IS200RAPAG1BBA

2. Specifications

Specification	Value
OEM	**General Electric**
Series	**Mark VI Speedtronic**
Functional	**Part Number IS200RAPAG1B**
Functional	**Acronym RAPA**
Functional	**Description Board Rack Power Supply Assembly**
PCB	**Coating Normal Coating**
Primary	**Functional Revision B**

3. Product Information

About the IS200RAPAG1BBA

The IS200RAPAG1BBA is a Rack Power Supply Board. This circuit board is part of the Mark VI Speedtronic system that was designed and marketed by GE for the control of gas and steam industrial turbine systems.

The IS200RAPAG1BBA has a serial 1024-bit memory device mounted to its surface. This is one of several integrated circuits present on the IS200RAPAG1BBA. The memory chip includes board ID and revision information, which can be accessed through the BRDID data line on the P1 connector.

There are two basic versions of the RAPA board: the G1A and the G1B board. These have the same AC input range, frequency, and load but have different DC outputs. The output voltage on the IS200RAPAG1BBA is +/- 18-24 Vdc (Unregulated bulk, 400 mA max), +/- 15 Vdc (regulated +/-5% 1.0A max) +/-5Vdc (regulated +/-5%, 7.0 A max.) Additionally, th 24COM Referenced DC voltage on the IS200RAPAG1BBA is +/- 24Vdc (unregulated, 1.5 A max.)

The IS200RAPAG1BBA has four test points, two LEDs, and a single fuse. There is one reset switch, which is the only adjustable hardware on the board.

SPECIFICATIONS:

Part Number: IS200RAPAG1B

Manufacturer: General Electric

Series: Mark VI

Function: Rack Power Supply Board

LED: IPOK, MPOK

Test Points: N15, P5, P15, and DCOM

Heat Sinks: Two

Location: Mounted in Innovation Series board rack

Bus Host Processor: Parallel-style bus host processor

Fuse: 1 amp, 250V

Product type: PCB

Availability: In stock

Country of Manufacture: United States (USA)

FUNCTIONAL DESCRIPTION:

IS200RAPAG1B is a Rack Power Supply Board manufactured and designed by General Electric and is part of the Mark VI Series used in gas turbine control systems. The system is available in simplex or triple modular redundant (TMR) control configurations, with single or multiple racks and local or remote I/O. The I/O interface is intended for direct interface to the turbine's sensors and actuators, eliminating the need for interposing instrumentation and the reliability and maintenance issues that come with it. This board is connected to the Innovation Series rack via a P1 backplane connector. This connector has three rows of 32 pins each. A complete description of pin connections can be found in the associated manuals. This is the board's sole connector. The MKVI includes an Operator Interface built on a PC running Microsoft Windows and supporting CIMPLICITY graphics and the GE Control System Toolbox.

FEATURES:

RAPA is a feature-rich parallel-style bus host processor designed specifically for the Innovation Series board rack. This versatile board offers a range of capabilities and components to enhance its performance and functionality.

At the front panel of the board, you will find two LED indicators labeled IPOK and MPOK. These indicators provide visual feedback and status information, allowing users to quickly assess the operational state of the board. They are designed to provide clear and concise signals regarding the input/output and the overall performance of the processor.

The board also features four TP test points, accessible through a long and narrow opening. These TP test points, namely N15, P5, P15, and DCOM, enable signal measurement and analysis. Users can connect measurement equipment to these test points to monitor and troubleshoot signals passing through the board, facilitating diagnostics and maintenance tasks.

For convenient operation and control, the board incorporates a reset switch that allows users to initiate a reset process when needed. This switch provides a straightforward means to reset the board without the need for additional tools or complex procedures.

In terms of hardware components, it includes two transformers of different sizes. These transformers play a crucial role in converting and distributing electrical power throughout the board, ensuring efficient and reliable operation. Additionally, a single 1 amp, 250V fuse is included to protect the board against overcurrent conditions and safeguard other components from potential damage.

The board is equipped with a single backplane connector, which serves as the interface for connecting the board to the Innovation Series board rack. This connector enables the board to communicate and exchange data with other modules in the rack, facilitating seamless integration and collaboration within the system.

Incorporates a serial 1024-bit memory device, which provides storage capacity for critical data and instructions required for the board's operation. This memory device enables the board to efficiently store and retrieve information as needed during its processing tasks.

Several transistors are also present on the board, contributing to its circuitry and enhancing its electrical performance. These transistors play a vital role in amplifying and controlling electrical signals, ensuring accurate and reliable data processing within the board.

To maintain optimal operating temperatures, it integrates two heat sinks. These heat sinks dissipate heat generated by the board's components, preventing overheating and ensuring stable performance even under demanding operating conditions.

IS200RAPAG1B Technical Specifications

OEM General Electric

Series Mark VI Speedtronic

Functional Part Number IS200RAPAG1B

Functional Acronym RAPA

Functional Description Board Rack Power Supply Assembly

PCB Coating Normal Coating

Primary Functional Revision B

About the IS200RAPAG1B

The IS200RAPAG1B is a PCB board component designed to be a part of the Mark VI system. This system is one of several that belongs within the Speedtronic line of steam/gas turbine management series that was developed and released by General Electric from the late 1960s until the 2000s. The MKVI includes an Operator Interface designed using a PC with a Microsoft Windows operating system that supports GE CIMPLICITY graphics and the GE Control System Toolbox. This IS200RAPAG1B printed circuit board product offering's greater Mark VI Series must be embraced as quite the noteworthy functionality-based upgrade upon the previous industry-standard Mark V Turbine Control System Series of more or less the exact same full extended product series title, as the Mark VI Series tacked the more alternative energy-based wind turbine possible functional environment onto the more traditional gas and steam-based settings seen before with this IS200RAPAG1B device's previous Mark V Series.

Hardware Tips and Specifications

The IS200RAPAG1B is a Rack Power Supply Board. The IS200RAPAG1B is mounted in the Innovation Series board rack and includes a parallel-style bus host processor. The board is built with a front panel. This panel has two LED indicators that are labeled IPOK and MPOK. The board also has a long, narrow opening that allows access to four TP test points. These TP test points allow for signal measurement. They are labeled N15, P5, P15, and DCOM. The board also allows for access to a reset switch. The board has two transformers of different sizes, a single fuse (1 amp, 250V fuse) a single backplane connector, various integrated circuits including a serial 1024-bit memory device, several transistors, two heat sinks, and an inductor coil. The board also has capacitors of various materials, including high-voltage electrolytic capacitors, as well as metal film resistors. The board is factory drilled in several locations. Most components carry a reference designator.

This IS200RAPAG1B Board Rack Power Supply Assembly device is actually not the originally-developed product of its specific GE Mark VI Series functional role; that would have to be deemed as the IS200RAPAG1 parent Board Rack Power Supply Assembly notably not taking advantage of this IS200RAPAG1B Board Rack Power Supply Assembly product's sole B-rated functional product revision. Some of our inventory is surplus parts sold to us by customers. If you have surplus parts, get a quote from one of our team members today. Each one of the hardware elements made available to the normal Mark VI Turbine Control System Series of this IS200RAPAG1B Board Rack Power Supply Assembly product offering is accompanied by their own factory-printed nomenclature label for basic identification purposes. This is true to of the various IS200RAPAG1B Board Rack Power Supply Assembly testpoints mentioned above, which are also detailed in terms of their function in the IS200RAPAG1B Board Rack Power Supply Assembly introductory datasheet supplied above. Some of this IS200RAPAG1B Board Rack Power Supply Assembly product's testpoints include the:

TP1 P5 Digital +5 V dc testpoint

TP2 DCOM testpoint

TP3 P15 Analog +15 V dc testpoint

TP4 N15 Analog –15 V dc testpoint