GE GE □□□ Series Service Manual

IS200BICIH1ADB

1. Description

IS200BICIH1ADB Technical Specifications

2. Specifications

Specification	Value
Original	**Manufacturer General Electric**
Product	**Series Mark VI IS200**
Part	**Number IS200BICIH1ADB**
Product	**Description Bridge Interface Controller Board**
Functional	**Acronym/Abbreviation BICI**
PCB	**Coating Conformal Coating**
Functional	**Revision 1 A**
Functional	**Revision 2 D**
Artwork	**Revision B**
Instruction	**Manual GEI-100297**
About	**the IS200BICIH1ADB**
The	**IS200BICIH1ADB unit is an interface card that was first designed and manufactured by the company GE Industrial Systems for use alongside their Innovation Series, with the IS200BICIH1ADB interface card created to be installed in an Innovation Series board rack. This particular model boasts an artwork revision value of "B," a backwards-compatible functional revision rating of "D," and a non-backwards-compatible functional revision of "A." This model ships worldwide, and is covered under our extensive three-year warranty we offer for all Innovation Series GE Industrial Systems PCBs. Please not that this particular model of GE Industrial Systems product**

3. Product Information

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Product Series Mark VI IS200

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Functional Acronym/Abbreviation BICI

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Instruction Manual GEI-100297

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Hardware Specifications

There are two interfaces used alongside the General Electric Innovation Series Turbine Control System, and those are the I/O Interface and the Operator Interface. The front panel of the PCB features three connectors important for drive function, named PFBK1, PFBK2, and PSRC. In addition to these three specific connectors, nineteen daughterboards are soldered onto the BICI board. These daughterboards are split into two different types, designated as AOCA daughterboards and DVAA daughterboards. Each AOCA daughterboard present on this PCB provide eight independent comparator circuits, with each circuit comparing an input voltage signal with their correspondent input voltage signal. The IS200BICIH1ADB features eleven of these AOCA daughterboards. Eight DVAA-type daughterboards are soldered on this GE Industrial Systems printed circuit board; these type of circuit boards draw power and input clock sources from the interface card. Each individual DVAA daughterboard offers two VCO circuits and an output compatible with pulse-train voltage.

Before purchase, please note that the IS200BICI1ADB board does not include any fuses or adjustable hardware devices at any position of the PCB. The IS200BICI1ADB PCB, oftentimes abbreviated to BICI, does not provide its own power supply; instead relying on the power supply of a Rack Power Supply Board, the DS200RAPA. With this in mind, the BICI bridge interface control board is not able to provide power to any other compatible component boards. One singular IMOK LED is visible on the front of the IS200BICIH1ADB board, and if this LED fails to light during interface card use, then a fault condition is considered inherent. While no adjusatble hardware is present on the face of the IS200BICIH1ADB board per se, this PCB does necessitate the concurrence of several quality daughterboards for proper functioning. The BICI board comes with two differeny types of compatible daughterboard, including:

IS205DVAA Dual Voltage Controlled Oscillator (VCO) Modules (DVAA)

IS205AOCA Analog Comparator Modules (AOCA)

The BICI PCB's DVAA daughterboards each provide two exactly similar VCO circuits and a singular output compatible with pulse-trained modulation. The BICI PCb's AOCA daughterboards serve to provide the assembly with eight identical comparator circuits for input voltage signal reference. GE Industrial Systems' IS200BICIH1ADB interface card features eight DVAA daughterboards and eleven AOCA daughterboards, for a total of nineteen daughterboards present on the face of the BICI.

Software Specifications

This style of printed circuit board is unique in its types of software feedbacks. Each analog current feedback this PCB produces is passed through a syncronous VCO to create voltage values that represent the feedback signal's voltage value. Logic functions are classified as programmable for the IS200BICIH1ADB interface card, in the form of two Field Programmable Gate Arrays; the BRDG_10 FPGA and the CELL_IO FPGA. These logic devices, powered by SRAM based logic, provide interfaces between many interface card components, including the local DSP, the DSPX board, and the bridge control signals.Both the BRDG_10 FPGA and the CELL_IO FPGA are are programmable or configurable with the use of the DSPX board, as version registers exist for checking of configuration completion.

This model of PCB, compatible with the IS200IGPA Gate Driver Power Supply Board, issues gating commands with minimum off and on time constraints; important constraints to honor for proper PCB and greater drive functionality. These minimum off and on times are considered cell specific, and influence many of the gating commands that the BICI issues to the the Gate Driver Power Supply board. Some common BICI gating commands include the Inner-Outer Timing, Timing Occurence, Phase Underlap, and Gate Drive Fault Detection gating commands. More information on PCB-specific gating commands can be found in General Electrics' handy resource GEI-100297, available above under the "manuals" tab.