GE GE □□□ Series Service Manual

IS215ACLEH1A

1. Description

SPECIFICATIONS

2. Specifications

Specification	Value
Assembly	**Level 215, Higher Assembly and Added Components**
Board	**Description Application Control Layer Module**
Board	**Type Control Board**
Manuals	**GEH-6632 and GEI-100434**
Mounting	**Location Innovation Series Drive or EX2100 Rack**
Number	**of COM Ports Two**
Number	**of Ethernet Ports Two**
Model	**Number IS215ACLEH1A**
Common	**Revisions IS215ACLEH1AB, IS215ACLEH1AC**
About	**the IS215ACLEH1A**
This	**IS215ACLEH1A Application Control Layer Module was originally manufactured specifically with General Electirc's EX2100 Excitation Control System Series in mind, although, as detailed in some of the above-included original instructional documentation, it may possess additional applications in the Innovation Series automated drive assemblies. This IS215ACLEH1A Application Control Layer Module's EX2100 Series has specific applications in the control of automated drive assemblies' excitation control processes alone, as evidenced partially through its full extended series name. This IS215ACLEH1A device, while designated as**

3. Product Information

SPECIFICATIONS

Part Number: IS215ACLEH1A

Manufacturer: General Electric

Series: EX2100

Product Type: Application Control Layer Module

Number of channels: 12

Processor: 486 100MHz

Ethernet Interface: 10BaseT

Outputs: 24 V dc

Size: 15.9 cm high x 10.2 cm wide

Operating Temperature: 0 to 45

Operating System: QNX

Repair: 3-7 Days

Country of Origin: USA

Availability: In Stock

Manual: GEI-100584

FUNCTIONAL DESCRIPTION

IS215ACLEH1A is an Application Control Layer Module manufactured and designed by General Electric as part of the EX2100 Series used in excitation control systems. The IS215ACLE Application Control Layer (ACLE) module is a master controller powered by a microprocessor that handles numerous tasks across Ethernet and other communication networks. It takes up two complete slots and attaches to all EX2100 Excitation Control racks that are standard. The IS215ACLAH1A (ACLA) module that was originally employed in EX2100 applications is completely replaced by the ACLE. In excitation applications like the Innovation Series, it does not take the position of ACLA. The ACLE is compatible with the following control racks and related backplanes in the EX2100:

Rack for simplex thyristor controls with an IS200ESBP backplane.

IS200EBKP Warm Backup Thyristor Control Rack.

A rack for simplex regulator controls that features an IS200ERBP backplane.

A redundant regulator control rack with a backplane made of IS200ERRB.

There is only one I/O configuration available for the ACLE: two 10BaseT Ethernet ports and two serial communication interfaces (COM1 and COM2). There are accessible optional hardware accessories. These products, which must be ordered separately from the ACL, include a serial cable (336A3582P1) that links a computer's COM port to an ACLE COM port.

FEATURES OF ACLE:

The language and library of control block ware.

The loading of online application setup.

Internal Boolean forcing and I/O points.

Examination of malfunctioning run/starts permissive.

Alerts at the application level.

Compact flash memory that isn't volatile.

Toolbox support and interface through Ethernet.

IS215ACLE Module Faceplate

Fig 1: IS215ACLE Module Faceplate

ACLE HARDWARE FEATURES:

The IS200ACLE carrier board and a PC/104-PlusTM microprocessor board are the two printed circuit boards that make up the ACLE module. This module is provided as an assembled whole. This module is not meant to be disassembled by the user in order to gain access to the PC/104TM board, carrier board, or dynamic random access memory separately (DRAM).

The PC/104-Plus board's integrated circuits offer the following features:

Tualatin Celeron 400 MHz or Pentium P5 266 MHz central processor unit
(CPU).

Level 2 cache of 256 KB.

The DRAM of 128 MB (expandable).

FLASH ROM system for basic I/O (BIOS).

A second Ethernet port capable of 10/100 Mbps.

COM1 and COM2 are RS-232 serial ports.

Compact flash disks use the IDE interface.

Bus interface for PCI.

ISA bus interface for PC/104.

BIOS: The BIOS on the PC/104 board is a Phoenix BIOS which is the industry standard. It comes pre-programmed and doesn't require human modification. On the PC/104 board as well, the BIOS configuration settings are kept in EEROM memory.

DRAM: A single SODIMM module housed in a socket on the underside of the PC/104 board serves as the DRAM.

DPRAM: DPRAM (4k x 32 sizes) is situated on the carrier board of the local bus. Through the backplane and the 32-bit DPRAM, the ACLE connects with the IS200DSPXH1_ Digital Signal Processor board (DSPX). Hardware automatically resolves contention by delaying either the ACLE or DSPX board in a wait condition for a maximum of 100 ns if DSPX and ACLE access the same address of the DPRAM at the same time.

ACLE SOFTWARE FEATURES:

BIOS: The hardware is identified and initialized by the Basic Input/Output System (BIOS). This is a stock BIOS that came with the PC/104 processor board; GE did not alter it. The toolbox does not support BIOS reprogramming and thus is not typically necessary. The PC/104 processor board's BIOS configuration specifies the precise settings needed for it to operate properly in the ACLE environment. In typical applications, these parameters do not need to be altered because they are pre-programmed in EEROM.

RUNTIME CODE: The fundamental software required for ACLE to enable complete static or regulator functionality is found in Runtime Code. Using the toolbox and Ethernet port ENET1, this code is downloaded to the ACLE.

IS215ACLEH1A Technical Specifications

Assembly Level 215, Higher Assembly and Added Components

Board Description Application Control Layer Module

Board Type Control Board

Manuals GEH-6632 and GEI-100434

Mounting Location Innovation Series Drive or EX2100 Rack

Number of COM Ports Two

Number of Ethernet Ports Two

Model Number IS215ACLEH1A

Common Revisions IS215ACLEH1AB, IS215ACLEH1AC

About the IS215ACLEH1A

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Hardware Tips and Specifications

The primary function of the IS215ACLEH1A is to be used as a microprocessor-based controller. This model is part of a series of application control layer modules within the EX2100 series which was produced by General Electric Industrial systems. This board is the first of the ACLE modules and this board is equipped with PCI (peripheral component interconnect) controllers and two Ethernet ports. A singular RESET switch fittingly labeled with the RESET factory-printed nomenclature label has been supplied on this IS215ACLEH1A product's reinforced metal installation faceplate for the curbing of potentially-fatal functional fault conditions and necessary resets. According to the IS215ACLEH1A Application Control Layer Module Instructional Manual made available above for your convenience in our manuals tab, this IS215ACLEH1A Device is offered for original purchase from General Electric alongside a few optional accessories that will likely not be included with your original order from AX Control, given their optional and oftentimes uncommon status. Some of this IS215ACLEH1A Application Control Layer Module device's optional accessories or components include the:

336A4929G1 Serial Adapter Cable

336A3582P1 Serial Cable

When the IS215ACLEH1A model is being mounted it will either be mounted in an Innovation Series Drive or an EX2100 Control Rack. This board has several LEDs, these are the Active, OK, ENET, Status, and Flash indicators, each indicator has a different function, for example, the Active LED will be completely solid when the CPU (central processing unit) is accessing the memory component. One of the software features of the IS215ACLEH1A model is the basic input/output system (BIOS), which will initialize and identify the other hardware forms. The BIOS feature supports the serial loading of an operating system. While the IS215ACLEH1A model is mostly obsolete at this time it can still be found. The best manual to use with the IS215ACLEH1A model is the GEI-100434 Application Control Layer Module (ACL) manual. This IS215ACLEH1A device is actually not considered the originally-produced device of its specific EX2100 Series functional role, as that would have to be considered the IS215ACLEH1 parent modular assembly notably not utilizing this IS215ACLEH1A device's A-rated functional product revision.