GE GE □□□ Series Service Manual

IS200EDCFG1A

1. Description

SPECIFICATIONS

2. Specifications

Specification	Value
Board	**Description Exciter DC Feedback**
Board	**Type Input/Output Terminal Board**
External	**Power Supply ±24 VDC**
Functional	**Acronym/Abbreviation EDCF**
Hardware	**Form A, Not Backward Compatible**
Manual	**GEI-100464**
About	**the IS200EDCFG1A**
Part	**number IS200EDCFG1A is part of the EX2100 Excitation Controller Series. This model is an exciter direct current feedback board, which measures field voltage and field current at the SCR bridge. To properly use this model it is necessary to connect it to the EISB board when done so two fiber-optic cables are used for one signal each. The two fiber-optic cables that can be used are plastic fiber, the plastic fiber cable is used for distances up to ten meters; and a hard-clad silica fiber cable, this cable is used for distances up to ninety meters. Please note that the minimum bending radius of these cables is each one and a half inches.**

3. Product Information

SPECIFICATIONS

Part Number: IS200EDCFG1A

Manufacturer: General Electric

Series: EX2100

Product Type: Exciter DC Feedback Board

Operating Temperature: -30 to 65 o C

Repair: 3-7 Days

Country of Origin: USA

Availability: In Stock

Manual: GEI-100464A

FUNCTIONAL DESCRIPTION:

IS200EDCFG1A is an Exciter DC Feedback Board manufactured and designed by General Electric as part of the EX2100 Series used in Excitation Control Systems. At the SCR bridge, it detects field current and field voltage and communicates with the EISB board in the control panel through a quick fiber-optic link. High noise immunity and voltage isolation between the two boards are provided by fiber optics. Each signal travels on one of two fibers. The following are two fiber kinds that can be utilized for various distances:

Plastic-type fiber for distances up to 10 m

Hard-clad silica type for distances up to 90 m

EDCF Block Diagram

Fig 1: EDCF Block Diagram

FIELD VOLTAGE FEEDBACK:

In accordance with the kind of bridge application, the field voltage feedback circuit offers seven choice settings to reduce the bridge voltage. The bridge's negative terminal and the current shunt's positive terminal are monitored to determine the field voltage. Signals are fed into a differential amplifier, which controls a voltage-controlled oscillator after the voltage has been scaled with the jumpered resistors.

FIELD CURRENT FEEDBACK:

At the SCR bridge, the field current is measured over a DC shunt. A low-level signal with a maximum value of 500 mV is produced as a result, and it is supplied into a differential amplifier. An oscillator with voltage control receives an output voltage from the amplifier that ranges from -5 V to +5 V.

POWER SUPPLY:

EDCF receives power from an outside source which is 24 V DC. Three voltage regulators generate +15 V dc, -15 V dc, and + 5 V dc from this. The output voltages of 15 V dc operate the PSOK green LED.

APPLICATION DATA:

The EDCF has a single green LED that shows the power supply is on (PSOK). The accompanying figure, Board Layout, depicts the layout of the EDCF board.

EDCF Board Layout

Fig 2: EDCF Board Layout

CONNECTORS:

The board receives 24 V dc through connection J16 and the voltage across the field current shunt resistance through connector P1. The connection for the field voltage input is stab-on (E1). Through fiber-optic links, the current and voltage feedback to the control.

IS200EDCFG1A Technical Specifications

Board Description Exciter DC Feedback

Board Type Input/Output Terminal Board

External Power Supply ±24 VDC

Functional Acronym/Abbreviation EDCF

Hardware Form A, Not Backward Compatible

Manual GEI-100464

About the IS200EDCFG1A

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The field voltage feedback of the IS200EDCFG1A will always be measured across the negative terminal of the bridge device and across the positive terminal of the shunt. When the voltages have been scaled alongside the jumpered resisters the signals will proceed to be input to a different amplifier, this amplifier controls the VCO.

There are two manuals that can be used with the IS200EDCFG1A model, one of them is the general GEH-6632 EX2100 Excitation Control User’s Guide and the other is the GEI-100464 Exciter DC Feedback Board manual.