

GE GE Series Service Manual

IS200EPCTG1A

1. Description

IS200EPCTG1A Technical Specifications

2. Specifications

Specification	Value
Board	Description Exciter PT/CT Board
Board	Type Input/Output Terminal Board
Function	Receives PT and CT Feedbacks
Functional	Acronym/Abbreviation EPCT
PT/CT	Input Burdens Less than 1 VA
Quantity	of Terminal Blocks 3
About	the IS200EPCTG1A
The	IS200EPCTG1A model is part of the EX2100 series. This model is specifically designed to receive and condition generator current transformer and potential transformer feedback. The input voltages that are used in regard to the PT voltage are two three-phase generators. For the CT current inputs, the current levels of 1 A-5 A come from two generators. When it comes to the type of board the IS200EPCTG1A is, it is an input/output terminal board.

3. Product Information

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The analog input of the IS200EPCTG1A model will be anywhere from 0-10 V or 4-20 mA. When connecting the CT and the EPCT the wire gage that is connected can be up to #10 AWG, and the cable length can be up to 1000 feet. Any of the currents and generator voltage from the CTs and PTs are wired through to the EPCT board. When the currents and voltages are wired through to the EPCT, the IS200EPCTG1A board will act as a signal conditioner that will scale and isolate the signals that have been sent through the CTs and PTs.

SPECIFICATIONS:

Part No: IS200EPCTG1A

Manufacturer: General Electric

Function: Exciter PT/CT Terminal Board

Series: EX2100

Operating temperature: -30 to 65 °C

Power Supply Voltage: 28 V dc

Board Size: 23.8 cm high x 8.6 cm

Weight: 0.45 kg

Availability: In Stock

Country of Origin: USA

Manual: GEI-100459

FUNCTIONAL DESCRIPTION:

IS200EPCTG1A is a Simplex Servo I/O Terminal Board manufactured and designed by General Electric as part of the EX2100 Series used in the GE Excitation Control System. The IS200EPCT Exciter PT/CT (EPCT) terminal board contains isolation transformers for critical generator voltage and current measurements. Two 3-phase generator potential transformer (PT) voltage inputs are input to EPCT as shown in the following diagram, EPCT Terminal Board. Two generators' current transformer (CT) inputs, with current levels of 1 A or 5 A, are input. All the isolation transformer output signals are cabled to the EMIO board in the control rack. In addition, one analog input, which can be either a voltage or current, is brought into EPCT. When the highest reliability is required, three EPCT boards can be used.

GENERATOR VOLTAGE MEASUREMENT:

Switches are used to wire TB1 with the generating voltages from the customer's potential transformers. The #12 AWG wire used in the cables has a maximum length of 1000 feet. The PT inputs are fused and have a rated voltage of 115 V rms at 50/60 Hz. On EPCT, two isolation transformers create a three-wire open delta voltage measurement, producing 1.533 V rms for a 115 V rms input.

GENERATOR CURRENT MEASUREMENT:

Switches are utilized to connect TB1 to the producing voltages coming from the potential transformers belonging to the client. The maximum length of the #12 AWG wire utilized in the cables is 1000 feet. The PT inputs have a rated voltage of 115 V rms at 50/60 Hz and are fused. For a 115 V rms input, EPCT uses two isolation transformers to provide a three-wire open delta voltage measurement that is 1.533 V rms.

ANALOG INPUT:

With a voltage range of 10 V dc or a current range of 4-20 mA, EPCT may accept one non-isolated analog input. A maximum two-way cable resistance of 15 ohms is allowed for cables up to 300 meters in length. With the jumper JP1, the input type is chosen. Connectors J305, J308, and J315 receive the voltage signal after being spread out.

APPLICATION DATA:

The following, EPCT Board Layout, displays the EPCT board's layout. The voltage and current isolation transformers are designated as T1 through T6. Two screws hold down the removable terminal block TB1 and allow for its removal. As a safeguard against a CT open circuit state, terminal blocks TB2 and TB3 cannot be removed. In a simplex control, the voltage signals are transmitted to the EMIO board in the M1 controller through the J305 connector. The signals are fanned to connections J305, J308, and J315 and routed to controllers M1, M2, and C in a redundant control. Eight voltage test points (TP1-TP8) are provided by EPCT, one for each secondary side leg of the isolation transformers.