GE Field Control Series Service Manual

IC670PBI001

1. Description

Profibus Bus Interface Unit, DP 12M Baud PBI001 GE Fanuc Field Control IC670 IC670PB IC670PBI The IC670PBI001 is an Profibus interface module that is manufactured by GE Fanuc. This module is part of the Field control series, primarily used to implement distributed I/O architecture by interfacing Field control I/O modules to a host GE CPU via Profibus network. It features a single 9-pin D-shell Profibus connector port; One (1) 9pin D-shell monitor port for connection of a Hand-Held Technical sp

2. Specifications

Specification	Value
Brand	**GE Fanuc**
Series	**Field Control**
Manufacturer:	**GE Fanuc**
Part	**Number IC670PBI001**
Product	**Type: Profibus Bus Interface**
Product	**Description Profibus Bus Interface Unit**
Product	**Family Field Control**
Rated	**Input Voltage 24 Volts DC**
Part	**Number: IC670PBI001**
Voltage	**Range 18-30 Volts DC**
Supported	**Protocols Profibus**
Input	**Power 7.7 watts**
No.	**of Ports Profibus: One (1) 9-pin D-sub connector Programmer: One (1) 9-pin D-sub connector**
Power	**Dissipation 4.45 Watts**
Addressing:	**via embedded DIP switches**
Holdup	**Time 10 ms, maximum**
Profibus	**topology Linear bus topology**
Reliability	**180, 000 hours operation MTBF**
Transmission	**speed 9.6, 19.2, 93.75, 187.5, 500, 1500 Kbits, 3 Mbits, 6 Mbits, and 12 Mbits**
Status	**LEDs PWR, RUN, OK**
Network	**medium Shielded twisted pair cable**
Ambient	**Operating Temperature 0-55 degrees Celsius**
Mounting	**DIN Rail / Panel mount via the Profibus Bus Interface Unit (BIU) terminal block**
Noise	**Resistance Yes**
No.	**of supported I/O modules up to Eight (8) modules**
HHP	**Connector Yes**
No.	**o**

3. Product Information

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Product Family Field Control

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Input Power 7.7 watts

No. of Ports Profibus: One (1) 9-pin D-sub connector Programmer: One (1) 9-pin D-sub connector

Power Dissipation 4.45 Watts

Addressing: via embedded DIP switches

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Profibus topology Linear bus topology

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Transmission speed 9.6, 19.2, 93.75, 187.5, 500, 1500 Kbits, 3 Mbits, 6 Mbits, and 12 Mbits

Status LEDs PWR, RUN, OK

Network medium Shielded twisted pair cable

Ambient Operating Temperature 0-55 degrees Celsius

Mounting DIN Rail / Panel mount via the Profibus Bus Interface Unit (BIU) terminal block

Noise Resistance Yes

No. of supported I/O modules up to Eight (8) modules

HHP Connector Yes

No. of stations per Profibus segment 32

Programming via Hand-Held Programmer

Supported functions I/O forcing; Diagnostic display; Program upload/download

Power supply: 24 VDC Description

The IC670PBI001 is a Profibus interface unit that is part of the Field control series of GE Fanuc. This electrical device mounts to a Bus interface terminal block and powered by an external 24 VDC supply voltage. It allows Field control I/O module to exchange data with a GE CPU module via Profibus network, enabling a high-speed, distributed I/O architecture. The IC670PBI001 comes with Two (2) 9-pin D-shell connectors, with one port functioning as Hand-Held Programmer (HHP) port for downloading and monitoring of the IC670PBI001 while the other port operating as the network interface port, communicating over the Profibus network at standard data transmission speeds of 9.6, 19.2, 93.75, 187.5, 500, 1500 Kbits, 3 Mbits, 6 Mbits, and 12 Mbits. This port requires use of a shielded twisted cable or the Belden #9463 cable as the Profibus network physical medium. This port support linear Profibus topology or Daisy-chain connection with the first ang last node of the network terminated by resistors. Up to Eight (8) Field control I/O module can be hosted by a single IC670PBI001. The IC670PBI001 operates when mounted to a Bus Interface Unit (BIU) terminal block. This terminal block provides the mounting assembly allowing the module assembly to be mounted on a DIN rail. It also supports panel mounting via the mounting tabs which is also provided by the BIU terminal block. To configure the node address of this module, it comes with an array of DIP switches that resides along the Profibus network interface of the IC670PBI001. It is an Eight (8) DIP switch array for configuration of address 00-32.

The Field Control IC670PBI001 Profibus Bus Interface Unit belongs to the GE Fanuc Field Control family of modular and distributed I/O modules and control products. It is compatible for use with a variety of host architectures. This module acts as the heart of any Field Control PLC system. The IC670PBI001 Profibus Bus Interface Unit offers I/O scanning facilities and intelligent processing as well as group feature configuration for up to 8 I/O modules in order to build an efficient Field Control station system. Some of the features of this Field Control device include an open architecture that adapts to a wide range of networks, an easy wiring process, minimal need for spare parts, DIN rail mounting facilities, and an easy installation and maintenance process. The IC670PBI001 Profibus Bus Interface Unit is used to interface the Profibus I/O to the field control I/O modules. It also offers built-in diagnostics facilities for the whole device, its I/O modules, and the relays. The bus interface module terminal block is used to mount the bus interface module. It is possible to remove or replace the module without changing the wiring and reconfiguring the control station. The IC670PBI001 Profibus Bus Interface Unit also provides features for intelligent processing such as selectable I/O defaults, an analog range selection, fault reporting, and analog scaling. It can be installed inside panels, behind the operator station, in the junctions box, and in locations with limited space. The users can install the device in a NEMA enclosure. The module is small and it has a rugged design with sturdy aluminum housing. An external source of 24 Volts DC power is recommended for powering the module, and the input power line is equipped with a replaceable slow-blow fuse which can be replaced without changing the wiring.