MANUFACTURER DOCUMENT PACKAGE

Manufacturer's Manual

Reference package for procurement and maintenance review

GE FANUC

IC670GBI002H

24 V DC GENIUS BUS INTERFACE UNIT

Used with the applicable Field Control Genius configuration.

REFERENCE PACKAGE

OFFICIAL DOCUMENT

Selected official manufacturer pages follow this cover.

Source: GE Fanuc Genius Bus Interface Unit Manual GFK-0825F

Genius Bus Interface Unit

The Genius Bus Interface Unit (IC670GBI002 or IC697GBI102) interfaces Field Control I/O modules to a host PLC or computer via a Genius bus. It can exchange up to 128 bytes of input data and 128 bytes of output data with the host, each Genius bus scan. It can also handle Genius datagram communications.

The intelligent processing capabilities of the Genius Bus Interface Unit allow the configuration of features such as fault reporting, selectable input and output defaults, analog scaling and analog range selection for the modules in the station. In addition, the Genius Bus Interface Unit performs diagnostic checks on itself and its I/O modules, and relays diagnostic information to the host (if configured for fault reporting) and to a Hand-held Monitor.

The Genius Bus Interface Unit can be used on a bus controlled by redundant CPUs or Bus Controllers. It can also be used on a dual bus.

The Bus Interface Unit mounts on a Bus Interface Unit Terminal Block. It can be removed and replaced if necessary without removing the wiring or reconfiguring the I/O station.

Bus Interface Unit Terminal Block

The Bus Interface Unit Terminal Block, which included with the BIU, has connections for power wiring and single or dual communications cables. It has built-in bus switching circuitry, allowing the Bus Interface Unit to be used on a dual (redundant) Genius bus (no external Bus Switching Module is needed). The Bus Interface Unit Terminal Block stores the configuration parameters selected for the station.

I/O Modules

Field Control I/O Modules are available in many types to suit a wide range of application needs. Modules can be installed and removed without disturbing field wiring. One or two I/O modules may be mounted on an I/O Terminal Block.

Micro Field Processor

The Series 90 Micro Field Processor (MFP) is a Micro PLC that provides local logic within a Field Control station. The Micro Field Processor is the same size as a Field Control I/O module and occupies one of the eight available I/O slots in a Field Control station.

MFP features include:

- Compatible with Logicmaster 90-30/20/Micro programming software, revision 6.01 or later.
- Alarm processor
- Password protection
- Built-in communications port that supports Series 90 protocols (SNP and SNPX)

The Micro Field Processor requires a Genius Bus Interface Unit revision 2.0 or later.

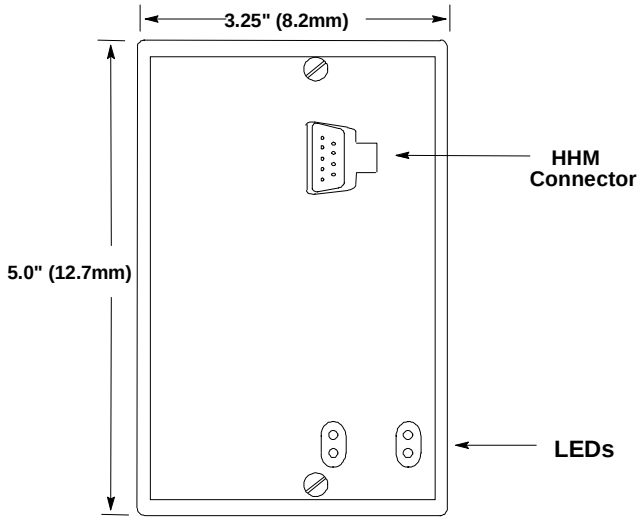
Chapter 2 Description

This chapter describes:

- Genius Bus Interface Unit
- Bus Interface Unit Power Supply
- Bus Interface Unit Terminal Block
- Specifications

Genius Bus Interface Unit

The Genius Bus Interface Unit is a small, rugged, intelligent module with a sturdy aluminum housing. The module has four status LEDs, described below, and a connector for attaching a Genius Hand-held Monitor.

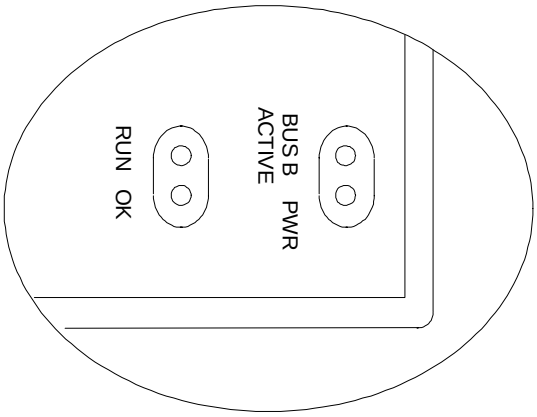


The Bus Interface Unit contains the logic power supply needed to operate the I/O modules connected to it. It mounts on a separate terminal block, to which it and all bus wiring are attached. The configuration is stored in non-volatile memory located in the terminal block. Both the power supply and terminal block are described in this chapter.

The Bus Interface Unit has a replaceable 1A, 5x20mm 250VAC slow-blow fuse on the input power lines. The fuse can be changed without disturbing the wiring of any other modules (instructions are in chapter 3).

LEDs

The LEDs on the Bus Interface Unit show its operating status.



PWR	lights to indicate that +5V power is available for logic operation.
OK	lights to indicate that the module has passed its powerup diagnostic tests. See the table below for more information.
RUN	lights only if output modules are in the BIU configuration and are written to by the controlling bus controller. See the table below.
BUS B	if the Bus Interface Unit is installed on a dual (redundant) bus, this LED lights if Bus B is the currently-active bus.

OK	RUN	Meaning
ON	ON	Module functioning, CPU communicating
ON	OFF	Module functioning, no CPU communications for 3 bus scans
ON	Blinking	Module functioning, circuit forced
Blinking	ON	Circuit fault, CPU communicating
Blinking	OFF	Circuit fault, no CPU communications for 3 bus scans
Alternate Blinking		Circuit fault, Circuit forced
Synchronous Blinking		No CPU communications - block number conflict
OFF	Blinking	Electronics/Terminal Assembly mismatch
OFF	OFF	No block power, or Block faulty

Bus Interface Unit Power Supply

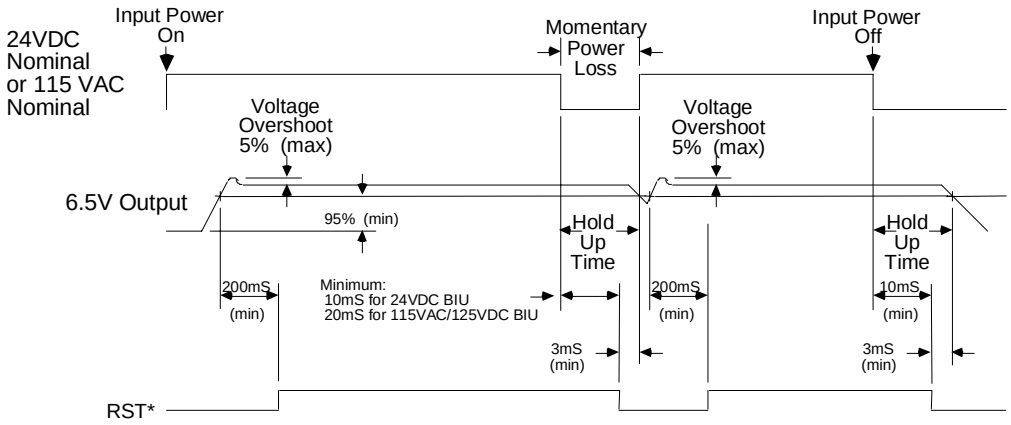
The power supply in the Bus Interface Unit provides power for the Bus Interface Unit itself and logic power for all I/O modules that may potentially be installed at that station. External power must be supplied for field wiring of input and output devices.

The power supply is not damaged by either of the following:

- Reversing input voltage on terminals 1 and 2.
- *Temporary* overcurrent conditions on the 6.5 VDC output.

Timing

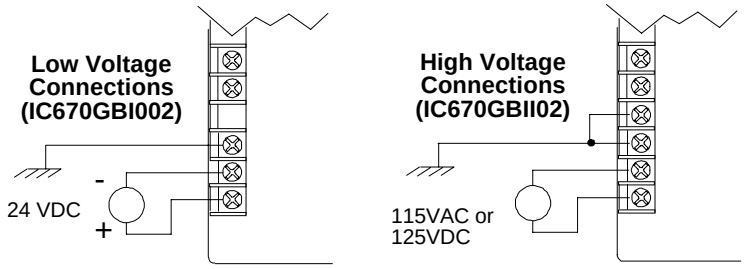
The Bus Interface Unit provides power to all I/O modules that are installed at the station. I/O module operation is governed by a System Reset signal to ensure controlled operation during the power up and shut down processes. As shown in the timing diagram below, momentary power losses of less than 10 mS (for 24VDC BIU) or 20mS (for 115VAC/125VDC BIU) do not affect I/O module operation. Longer power losses generate a Reset for all system I/O modules.



Power Wiring to the Bus Interface Unit

Note: Do not apply power until the BIU module is installed on the Terminal Block.

1. Connect an appropriate power source as shown below.



   For BIU version IC670GBI102, if a DC supply is used the polarity is not important.

   BIU version IC670GBI102 provides internal overvoltage protection. Terminal 4 is normally connected to frame ground (terminal 3) by a factory-installed jumper. If overvoltage protection is not required *or* is supplied upstream this feature can be disabled by removing the jumper, leaving pin 4 unconnected.

2. Use one AWG #14 (2.1mm^2) or two AWG #16 (1.3mm^2) wires per terminal. The wires into a terminal should be the same type and size. Wires must be copper conductors rated for 75 degrees C (167 degrees F) only. Suggested torque for the terminal screws is 9 in/lbs.
3. Connect the ground terminal to the conductive mounting panel with a 4-inch maximum length of AWG #14 (avg 2.1mm^2) or larger wire. Use hardware such as star washers to ensure ground integrity.