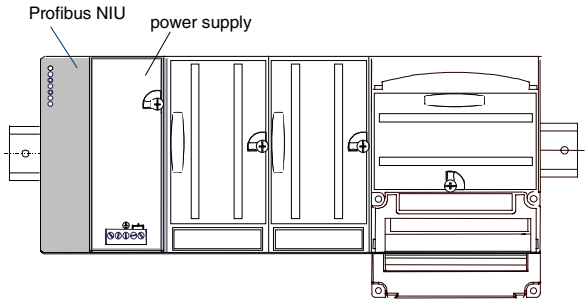
VersaMax® Profibus Network Interface Unit

June 2002 GFK-1552D

The Profibus Network Interface Unit is a Profibus slave module that acts as controller for a set of I/O modules. Power for module operation is provided by a power supply that installs directly on the NIU



Specifications

Profibus network address	1 to 125
Profibus network data rate	9.6Kbaud to 12Mbaud , auto-detected
I/O data	375 bytes maximum. Up to 244 bytes of inputs or 244 bytes of outputs.
User diagnostic data	5 bytes maximum
Indicators (5)	Power LED indicates power OK LED indicates health of the NIU Fault LED indicates presence of faults Network LED indicates health of Profibus network Force LED(not used)
Number of I/O modules	64 I/O modules per NIU (Up to 8 Racks with a maximum of 8 I/O modules per rack.)
Power Consumption	+5V@250mA, +3.3V@10mA

Product Description

Revision:	CF
Firmware version:	2.20
GSD File version	GEF_086A.GSD Version 1.10
Firmware upgrades:	44A748011-G04
Profibus Certification:	Certified as derivative of version 1.00. Certificate available upon request

New Feature of this NIU Version

- This version of the Profibus NIU can be used with all VersaMax High-density Analog Modules.

  Input Modules: IC200ALG261, IC200ALG262, IC200ALG263, IC200ALG264

  Output Modules: IC200ALG325, IC200ALG326, IC200ALG327, IC200ALG328

Compatibility

- To be used in an expansion rack, analog modules IC200ALG320, 321, 322, and 432 must be revision B or later. Analog modules IC200ALG430 and 431 that are used in expansion racks must be revision C or later.
- This Profibus NIU is compatible with the AS-i Network Master module.
- Functional operation of discrete outputs has changed from previous releases. When upgrading firmware in an existing module, it may be necessary to alter the application program to accommodate this difference. See the section "Output Defaults" for more information.

Upgrading Previous Firmware Versions

This firmware release replaces all previous versions. The new firmware is backward-compatible with all previous module versions of the Profibus NIU. All previous versions of the PBI001 module must be upgraded to ensure correct operation of discrete outputs. An upgrade is available at GEFanuc.com. and can also be ordered on disk (order number 44A748011-G04) All firmware upgrades require cable IC200CBL002, which connects the module to the personal computer used to perform the upgrade.

This upgrade includes a new version of the GSD file (GEF_086A.GSD), which replaces all previous GSD file versions.

Output Default/Hold Last State Operation

The Default/Hold Last State Operation of outputs has changed from previous releases.

Warning

This may require application changes to account for the operational differences described below. Failure to account for this new operation of the DEFAULT/HOLD LAST STATE function of outputs could cause an unexpected equipment operation possibly resulting in personal injury or property damage.

The new operation is as follows:

For an Output Module Configured to Default

Outputs go to their configured default state when communication is lost with the Profibus master. Outputs **go to zero** when the Profibus master transitions from “Operate” to “Clear” mode. With a PLC Profibus master, the transition from “Operate” to “Clear” mode occurs when the PLC CPU transitions from “Run” to “Stop” mode.

Output Module Configured to Hold Last State

Outputs hold their last state when communication is lost with the Profibus master. Outputs **go to zero** when the Profibus master transitions from “Operate” to “Clear” mode. With a PLC Profibus master, the transition from “Operate” to “Clear” mode occurs when the PLC CPU transitions from “Run” to “Stop” mode

Operating Notes/Restrictions for this NIU Version

- The Profibus NIU is limited in the amount of configuration it can accept for I/O modules on it station. The maximum number of configuration identifiers allowed is 64. It is possible to exceed that maximum when using expansion racks. It is important to calculate the number of configuration identifiers required to configure a Profibus NIU system to determine if the system is within this limit. This can be done by summing the configuration identifiers for each I/O module in the station as listed in the Profibus NIU Users Manual. If the configuration size is exceeded, the Profibus NIU will flash an error code 0x41.
- When performing a firmware upgrade on an intelligent I/O module in the NIU station, the controller should be put into stop mode, or the network cable should be removed from the NIU.
- The main power supply for an NIU station and any booster power supplies that are used should be power cycled together. One power supply should be power cycled with the others.