

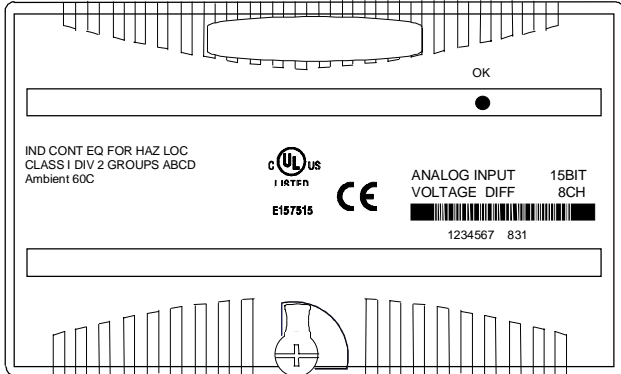
Analog Input Module, 15 Bit Differential Voltage 8 Channels

October 2001

GFK-1998B

Product Description

The Analog Input Module provides an interface to 8 analog differential voltage inputs.



The module receives power from the backplane power supply. No external power source is required for module operation. Power for the user's transceivers must be supplied from an external source.

Module features include:

- Eight differential input channels, one group
- Fifteen bit converter resolution
- Software-configurable selection of default/hold last state operation

Host Interface

The module provides 8 words of analog input data.

Diagnostics

The module reports a Loss of Internal Power fault for field-side circuits.

LED Indicators

The green OK LED is on when backplane power is present, internally generated field power is functioning properly, the module has been configured, and the module has been recognized on the backplane.

Module Characteristics

Channels	8 differential, one group
Module ID	FFFFB008
Isolation:	
User input to logic (optical) and to frame ground, Group to Group	250VAC continuous; 1500VAC for 1 minute
Channel to channel	Not applicable
LED indicators	OK LED indicates backplane power is present.
Backplane current consumption	5V output: 200mA maximum
External power supply	None
Thermal derating	None
Configuration parameters	None
Diagnostics	Loss of Internal Power
Input Characteristics	
Input Voltage (Differential)	-10V to +10V
Input Voltage (Common Mode)	-10V to +10V
Input Impedance	100 Ohms minimum
Accuracy (0V common mode):	
25 degrees C*	+/-0.3% typical of full scale, +/-0.5% maxi of full scale
0 to 60 degrees C	+/-1% maximum of full scale
Resolution	0.3125mV = 1 count
Update rate	7.5ms

* In the presence of severe RF interference, (IEC 1000-4-3, 10V/m), accuracy may be degraded to +/-1%. Input accuracy may be degraded an additional +/-1% with the introduction of input common mode voltage.

Preinstallation Check

Carefully inspect all shipping containers for damage. If any equipment is damaged, notify the delivery service immediately. Save the damaged shipping container for inspection by the delivery service. After unpacking the equipment, record all serial numbers. Save the shipping containers and packing material in case it is necessary to transport or ship any part of the system.

Analog Input Module, 15 Bit Differential Voltage 8 Channels

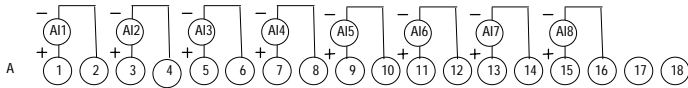
October 2001

GFK-1998B

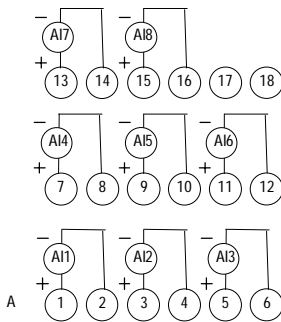
Field Wiring Terminals

Number	Connection	Number	Connection
A1	Input 1 (+)	B1	No connection
A2	Input 1 (-)	B2	No connection
A3	Input 2 (+)	B3	No connection
A4	Input 2 (-)	B4	No connection
A5	Input 3 (+)	B5	No connection
A6	Input 3 (-)	B6	No connection
A7	Input 4 (+)	B7	No connection
A8	Input 4 (-)	B8	No connection
A9	Input 5 (+)	B9	No connection
A10	Input 5 (-)	B10	No connection
A11	Input 6 (+)	B11	No connection
A12	Input 6 (-)	B12	No connection
A13	Input 7 (+)	B13	No connection
A14	Input 7 (-)	B14	No connection
A15	Input 8 (+)	B15	No connection
A16	Input 8 (-)	B16	No connection
A17	Field Return	B17	No connection
A18	No connection	B18	No connection

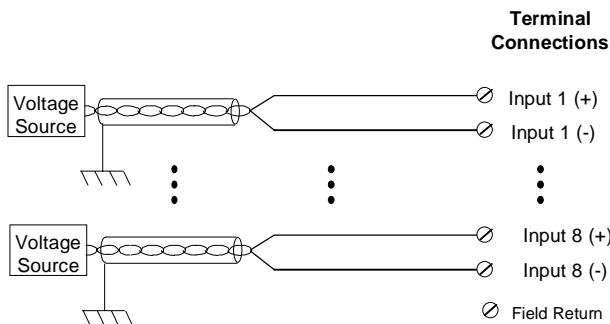
Wiring Connections for Carriers with Two Rows of Terminals



Wiring Connections for Carriers with Three Rows of Terminals



Wiring Example



An external source must be provided to power input transceivers.

Cable Shield Connections

Shielded twisted pair cable is recommended for the analog channel connections. If possible, the cable should be grounded at the source device. If that is not possible, the cable shield must be grounded at the I/O module. This can be done using an Auxiliary I/O Terminal.

If the module is installed on a Terminal-style I/O Carrier, shield connections can be made on an Auxiliary I/O Terminal that is attached to the I/O carrier.

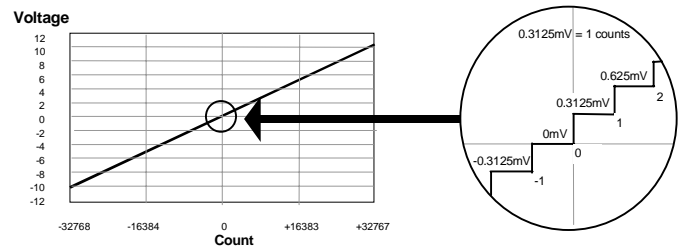
If the module is installed on a Compact Terminal-style I/O Carrier, shield connections can be made on an Auxiliary I/O Terminal that is mounted near the I/O carrier.

If the module is installed on a Connector-style I/O Carrier, the cable shield can be connected directly to an Interposing Terminal. A shielded interposing cable (shielded cables are available separately) must be used between the Connector-style I/O Carrier and the Interposing Terminal.

An Auxiliary I/O Terminal Strip can also be added to the Interposing Terminal if additional shield connections are required.

Scaling

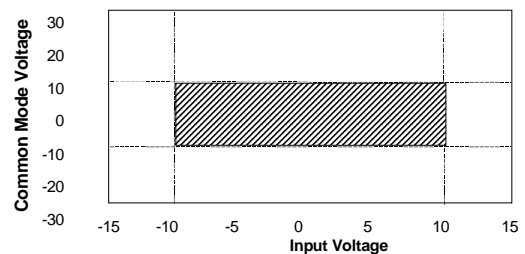
The illustration below shows the relationship between the input voltage measured at the field terminals and the data that is output by the module.



The following equations can be used to calculate count values:

$$\text{Counts} = (\text{Input Voltage}) \times (32000 / 10V)$$

Operating Range



Compatibility

This module is compatible with:

- PLC CPU firmware version 2.1 or later.
- VersaPro software version 2.0 or later.
- Ethernet NIU EBI001 firmware version 1.10 or later
- Genius NIU GBI001: planned for future release
- Profibus NIU PBI001: planned for future release
- DeviceNet NIU DBI001: planned for future release