PACSystems™ VersaMax

15-BIT, 8-CHANNEL DIFFERENTIAL VOLTAGE ANALOG INPUT MODULE

(IC200ALG264)

EMERSON.

Warning Notes as Used in this Publication

<table>
<tr>
<td>

!

Warning
</td>
<td>

Warning notices are used in this publication to emphasize that hazardous voltages, currents, temperatures, or other conditions that could cause personal injury exist in this equipment or may be associated with its use.

In situations where inattention could cause either personal injury or damage to equipment, a Warning notice is used.
</td>
</tr>
</table>

Notes: Notes merely call attention to information that is especially significant to understanding and operating the equipment.

These instructions do not purport to cover all details or variations in equipment, nor to provide for every possible contingency to be met during installation, operation, and maintenance. The information is supplied for informational purposes only, and Emerson makes no warranty as to the accuracy of the information included herein. Changes, modifications, and/or improvements to equipment and specifications are made periodically and these changes may or may not be reflected herein. It is understood that Emerson may make changes, modifications, or improvements to the equipment referenced herein or to the document itself at any time. This document is intended for trained personnel familiar with the Emerson products referenced herein.

Emerson may have patents or pending patent applications covering subject matter in this document. The furnishing of this document does not provide any license whatsoever to any of these patents.

Emerson provides the following document and the information included therein as-is and without warranty of any kind, expressed or implied, including but not limited to any implied statutory warranty of merchantability or fitness for particular purpose.

Product Description

Analog Input Module IC200ALG261 provides an interface to eight analog differential voltage inputs.
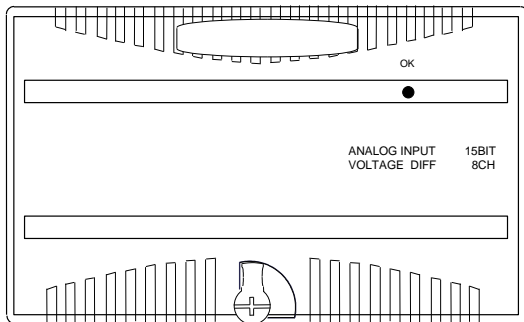
The module receives power from the backplane power supply. No external power source is required for module operation. Power for the user's transceivers must be supplied from an external source.

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.

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.

Installation in Hazardous Locations

- EQUIPMENT LABELED WITH REFERENCE TO CLASS I, GROUPS A, B, C & D, DIV. 2 HAZARDOUS LOCATIONS IS SUITABLE FOR USE IN CLASS I, DIVISION 2, GROUPS A, B, C, D OR NON-HAZARDOUS LOCATIONS ONLY.

⚠ WARNING

- EXPLOSION HAZARD - SUBSTITUTION OF COMPONENTS MAY IMPAIR SUITABILITY FOR CLASS I, DIVISION 2;
- EXPLOSION HAZARD - WHEN IN HAZARDOUS LOCATIONS, TURN OFF POWER BEFORE REPLACING OR WIRING MODULES; AND
- EXPLOSION HAZARD - DO NOT DISCONNECT EQUIPMENT UNLESS POWER HAS BEEN SWITCHED OFF OR THE AREA IS KNOWN TO BE NONHAZARDOUS.

Module Characteristics	
Channels	8 differential, one group
Module ID	FFFFB008
Isolation: User input to logic (optical) and to frame ground, Group to Group Channel to channel	250VAC continuous; 1500VAC for 1 minute Not applicable None
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 to 60 degrees C
	+/-0.3% typical of full scale,
	+/-0.5% maxi of full scale
	+/-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.

Product Version Information

| Revision	Date	Description
IC200ALG261K	Nov 2019	Following Emerson's acquisition of this product, changes have been made to apply appropriate branding and registration of the product with required certification agencies. No changes to material, process, form, fit or functionality.
IC200ALG261J	Mar 2017	EU RoHS compliant module per directive 2011/65/EU dated 8-June-2011. No changes to features, performance or compatibility.
IC200ALG261H	Jan 2012	Label change. No changes to features, performance or compatibility.
IC200ALG261G	Mar 2011	Label change. No changes to features, performance or compatibility.
IC200ALG261F	Aug 2009	Changed manufacturing location. No changes to compatibility, functionality or performance.
IC200ALG261E BXIOAIVV8E	Oct 2008	Updated Power Supply OK signal circuitry.
IC200ALG261D BXIOAIVV8D	Apr 2005	Improvement to latching mechanism.
IC200ALG261C	Apr 2004	Changed to V0 plastic for module housing.
IC200ALG261B	Jan 2004	ATEX approval for Group 2 Category 3 applications.
BXIOAIVV8C	Jan 2004	ATEX approval for Group 2 Category 3 applications. Changed to V0 plastic for module housing.

Operating Note

If hot insertion of a module is done improperly, the operation of other modules on the same backplane may be disrupted. See Installing a Module on a Carrier in the VersaMax Modules Manual, GFK-1504.

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
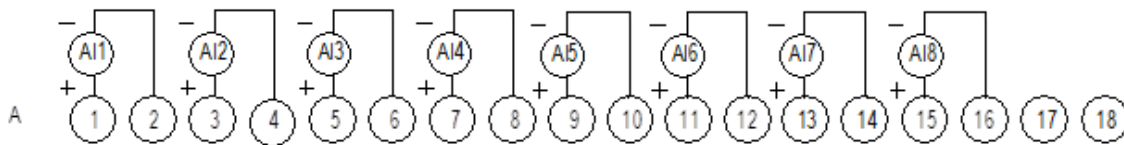
Wiring Connections for Carriers with Three Rows of Terminals

Wiring Example

Terminal Connections

Input 1 (+)
Input 1 (-)

Input 8 (+)
Input 8 (-)

Field Return
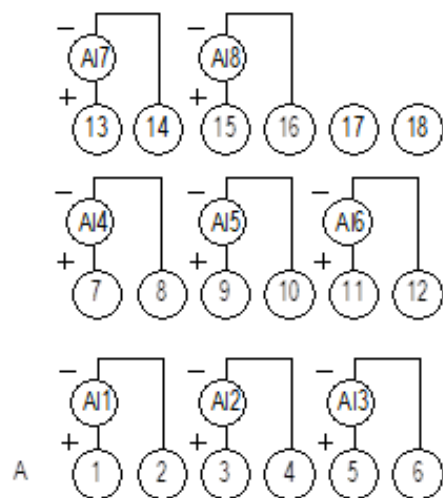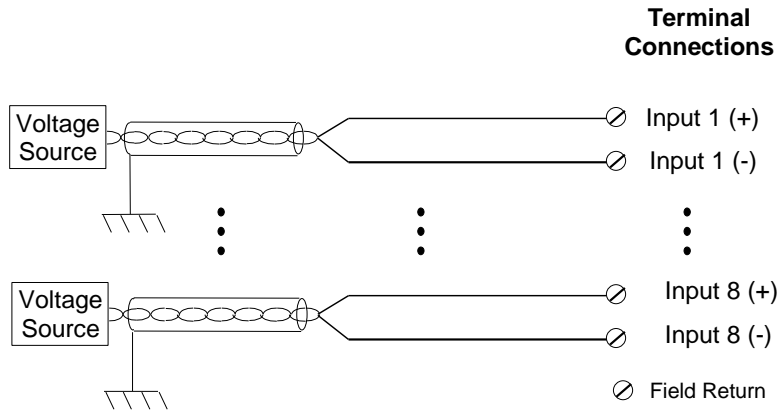
An external source must be provided to power input transceivers.

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.
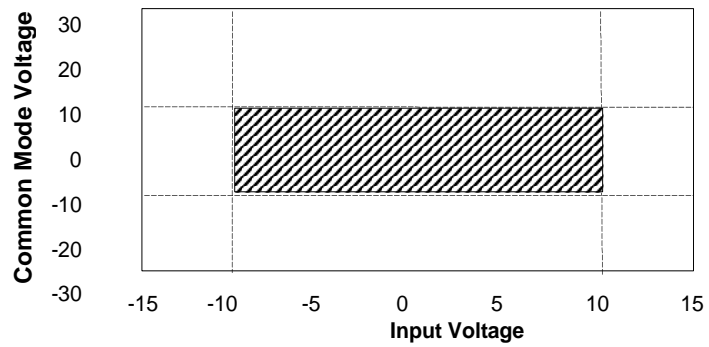
Scaling

The illustration below shows the relationship between the input voltage measured at the field terminals and the data that is output by the module.
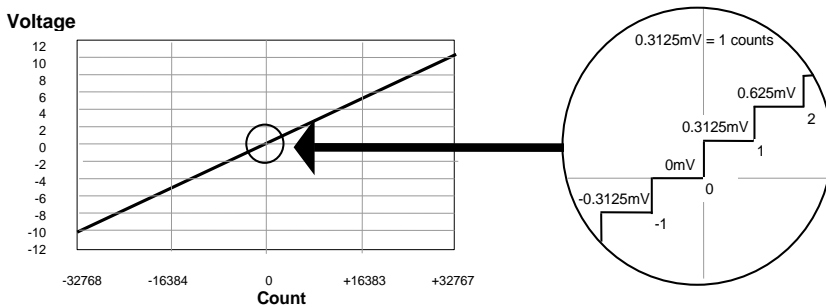
The following equations can be used to calculate count values:

Counts = (Input Voltage) x (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: firmware version 2.20 and later.
- Profibus NIU PBI001: firmware version 2.20 and later.
- DeviceNet NIU DBI001: not supported

Technical Support & Contact Information:

Home link: http://www.Emerson.com/Industrial-Automation-Controls

Knowledge Base: https://www.emerson.com/Industrial-Automation-Controls/support

Note: If the product is purchased through an Authorized Channel Partner, please contact the seller directly for any support.

Emerson reserves the right to modify or improve the designs or specifications of the products mentioned in this manual at any time without notice. Emerson does not assume responsibility for the selection, use or maintenance of any product. Responsibility for proper selection, use and maintenance of any Emerson product remains solely with the purchaser.

EMERSON™