

PACSystems™ VersaMax

**15-BIT, 8-CHANNEL DIFFERENTIAL CURRENT
ANALOG INPUT MODULE
(IC200ALG262)**

Warning Notes as Used in this Publication



Warning

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.

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

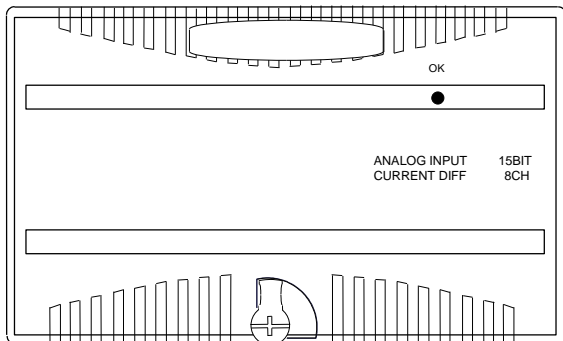
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Product Description

Analog Input Module IC200ALG262 provides an interface to eight analog current 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

Intelligent processing for this module is performed by the CPU or NIU. The module provides 8 words of analog input data.

Diagnostics

The module reports a Loss of Internal Power fault for field-side circuits. The module reports an Open Wire fault for each channel, when in 4-20mA mode.

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.

Configuration Parameters

A jumper on the carrier terminals can be used to configure 4-20mA or 0-20mA input ranges. With no jumper installed, the module accepts 4-20mA input signals. With a jumper installed, the module accepts 0-20mA input signals.

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.

Module Characteristics	
Channels	8 single ended, one group
Module ID	FFFFB508 (when configured for 4-20mA range) FFFFB408 (when configured for 0-20mA range)
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	Range select (terminal jumpers)
Diagnostics	Loss of Internal Power, Open wire detection of 4-20mA signals only
Input Characteristics	
Input current	4 to 20mA (default : no jumper installed) 0 to 20mA (with terminal jumper installed)
Common Mode Range	-10V to +10V
Input Impedance	100 Ohms
Accuracy (0V common mode): 25 degrees C* 0 to 60 degrees C	+/-0.3% typical of full scale, +/-0.5% maximum of full scale +/-1% maximum of full scale
Resolution	0.5µA = 1 counts (for 4-20mA range) 0.625µA = 1 counts (for 0-20mA range)
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 +/-3% with the introduction of input common mode voltage.

Product Version Information

Revision	Date	Description
IC200ALG262L	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.
IC200ALG262K	Mar 2017	EU RoHS compliant module per directive 2011/65/EU dated 8-June-2011. No changes to features, performance or compatibility.
IC200ALG262J	Jan 2012	Label changes. No changes to features, performance or compatibility.
IC200ALG262H	Mar 2011	
IC200ALG262G	Aug 2009	Changed manufacturing location. No changes to compatibility, functionality or performance.
IC200ALG262F BXIOAICC8F	Oct 2008	Updated Power Supply OK signal circuitry.
IC200ALG262E BXIOAICC8E	Jul 2005	Hardware component change.
IC200ALG262D BXIOAICC8D	Apr 2005	Improvement to latching mechanism.
IC200ALG262C	Apr 2004	Changed to V0 plastic for module housing.
IC200ALG262B	Jan 2004	ATEX approval for Group 2 Category 3 applications.
BXIOAICC8C	Jan 2004	ATEX approval for Group 2 Category 3 applications. Changed to V0 plastic for module housing.

Revision	Date	Description
IC200ALG262A BXIOAICC8A	Apr 2001	Initial product release

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.

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

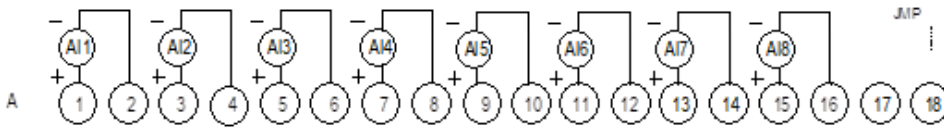
- EXPLOSION HAZARD - SUBSTITUTION OF COMPONENTS MAY IMPAIR SUITABILITY FOR CLASS I, DIVISION 2;
- EXPLOSION HAZARD - WHEN IN HAZARDOUS LOCATIONS, TURN OFF POWER BEFORE REPLACING OR WIRING MODULES; AND
- EXPLOSION HAZARD - DO NOT DISCONNECT EQUIPMENT UNLESS POWER HAS BEEN SWITCHED OFF OR THE AREA IS KNOWN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

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.

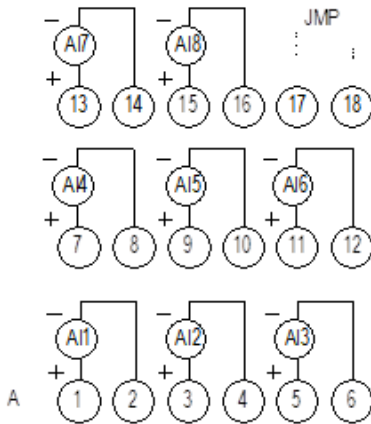
Field Wiring Terminals

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	Jumper	B18	No connection

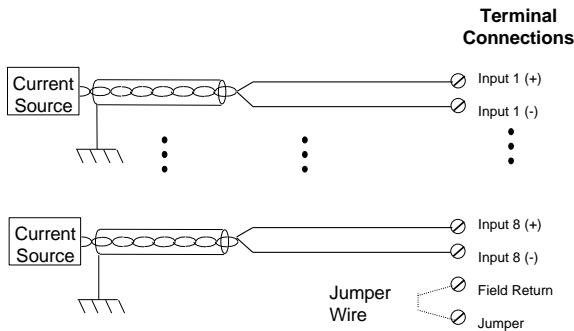
Wiring Connections for Carriers with Two Rows of Terminals



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.

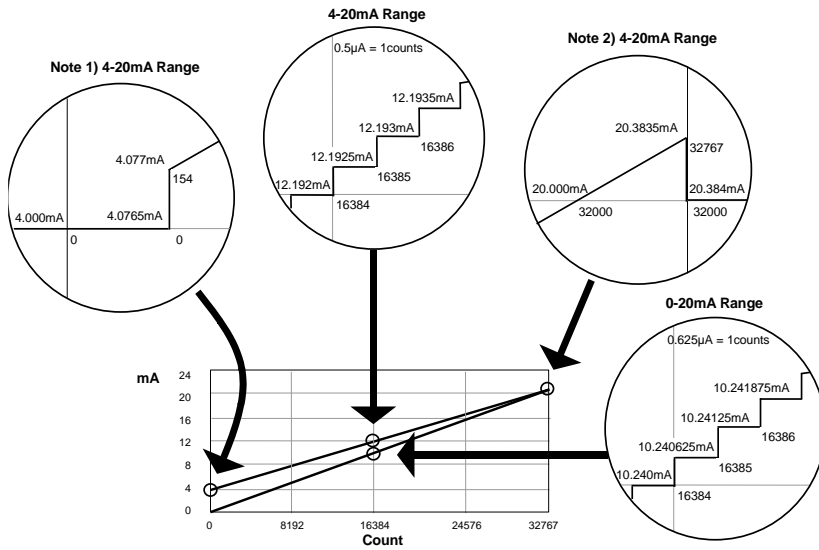
If the module is installed on a Connector-style I/O Carrier, the cable shield can be connected directly to an Interposing Terminal. A shielded interposing cable (shielded cables are available separately) must be used between the Connector-style I/O Carrier and the Interposing Terminal.

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 current measured at the field terminals and the data output by the module.

Count and 4-20mA Input Current



The following equations can be used to calculate count values:

$$\begin{aligned} \text{4-20mA Range: Counts} &= (\text{Current in mA} - 4\text{mA}) \times (32000 / 16\text{mA}) \\ \text{0-20mA Range: Counts} &= (\text{Current in mA}) \times (32000 / 20\text{mA}) \end{aligned}$$

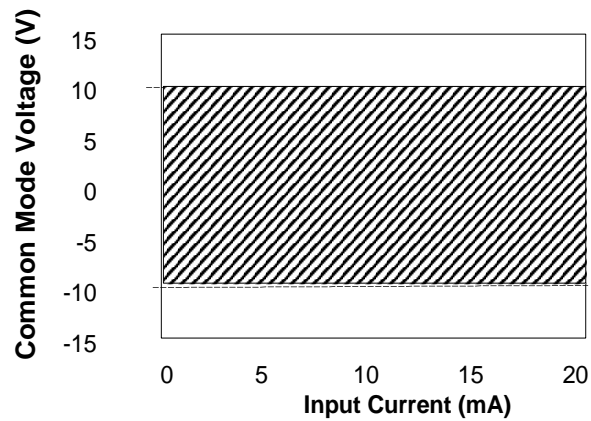
Note 1) In 4-20mA mode, signal inputs below 4.077mA are converted to zero counts.

Note 2) In 4-20mA mode, signal inputs at 20.000mA or above 20.383mA are converted to 32000 counts.

The count value must be a multiple of 4. If the module receives a count value that is not a multiple of 4, It rounds the value down to the closest multiple of 4. For example, in 4-20mA mode:

Count	mA
16000	12.000
16003	12.000
16004	12.002

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 or later.
- Profibus NIU PBI001: firmware version 2.20 or 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.

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