

MANUFACTURER DOCUMENT PACKAGE

Manufacturer's Manual

Reference package for procurement and maintenance review

GENERAL ELECTRIC

IC200ALG264

ANALOG CURRENT INPUT MODULE

Used with the applicable VersaMax configuration.

REFERENCE PACKAGE

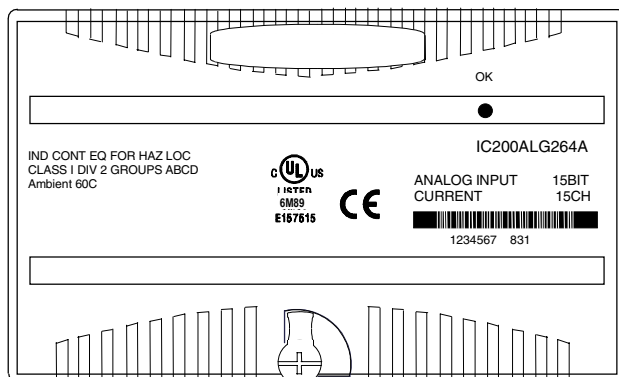
OFFICIAL DOCUMENT

Selected official manufacturer pages follow this cover.

Source: GE Fanuc GFK-1504K, IC200ALG264, chapter 10

IC200ALG264 **Analog Input Module, 15 Bit Current 15 Channels**

Analog input module IC200ALG264 provides an interface to 15 current inputs. The inputs are single-ended, with all inputs sharing a common return.



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.

Intelligent processing for this module is performed by the CPU or NIU. The module provides 15 words of analog input data.

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.

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.

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.

The analog inputs are software-configurable to either default or hold last state upon loss of module.

IC200ALG264**Analog Input Module, 15 Bit Current 15 Channels****Module Specifications**

Module Characteristics	
Channels	15 single ended, one group
Module ID	FFFFB50F (when cfg for 4-20mA range) FFFFB40F (when cfg for 0-20mA range)
Isolation:	
User input to logic (optical) and to frame ground	250VAC continuous; 1500VAC for 1 minute
Group to group	Not applicable
Channel to channel	None
LED indicators	OK LED. See "LED Indicators" for description.
Backplane current consumption	5V output: 100mA maximum
External power supply	None
Thermal derating	None
Configuration parameters	Range select (jumpers on carrier)
Diagnostics	Loss of Internal Power, Open wire detection of 4-20mA signals only
Input Characteristics	
Input current	4 to 20mA (default : no terminal jumper installed) 0 to 20mA (with terminal jumper installed)
Input Impedance	100 Ohms
Accuracy at:	
25 degrees C*	+/-0.3% typical of full scale, +/-0.5% maximum of full scale
0 to 60 degrees C (See Notes 1, 2, & 3)	+/-1% maximum of full scale
Resolution	15 bits 0.5 μ A = 1 counts (for 4-20mA range) 0.625 μ A = 1 counts (for 0-20mA range)
Filter response (3dB Corner Freq)	24 Hz +/-20%
Update rate per module	7.5ms
Compatibility	
VersaPro Software	Version 2.0 or higher
VersaMax PLC CPU Firmware	Version 2.10 or higher
VersaMax Ethernet NIU Firmware	Version 1.10 or higher
VersaMax DeviceNet, Profibus, or Genius NIU Firmware	Planned for future release

* In the presence of severe RF interference, (IEC 1000-4-3, 10V/m), accuracy may be degraded to +/-2%.

IC200ALG264

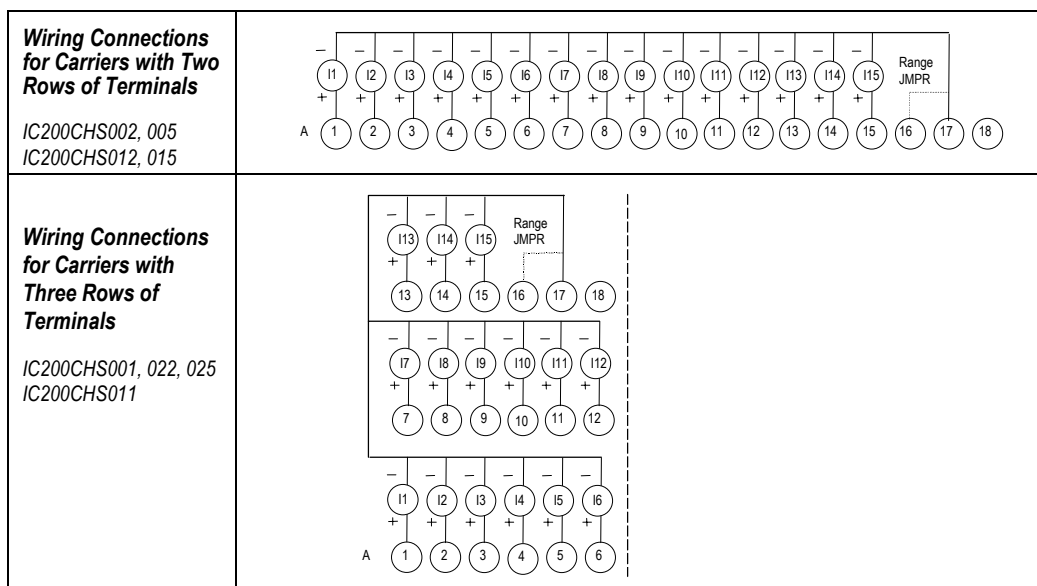
Analog Input Module, 15 Bit Current 15 Channels

Field Wiring

Terminal assignments for the module are shown below.

Number	Connection	Number	Connection
A1	I1	B1	No connection
A2	I2	B2	No connection
A3	I3	B3	No connection
A4	I4	B4	No connection
A5	I5	B5	No connection
A6	I6	B6	No connection
A7	I7	B7	No connection
A8	I8	B8	No connection
A9	I9	B9	No connection
A10	I10	B10	No connection
A11	I11	B11	No connection
A12	I12	B12	No connection
A13	I13	B13	No connection
A14	I14	B14	No connection
A15	I15	B15	No connection
A16	Range JMPR	B16	No connection
A17	Return (common)	B17	No connection
A18	NC	B18	No connection

Note: All inputs are single-ended, and share a common return.



IC200ALG264

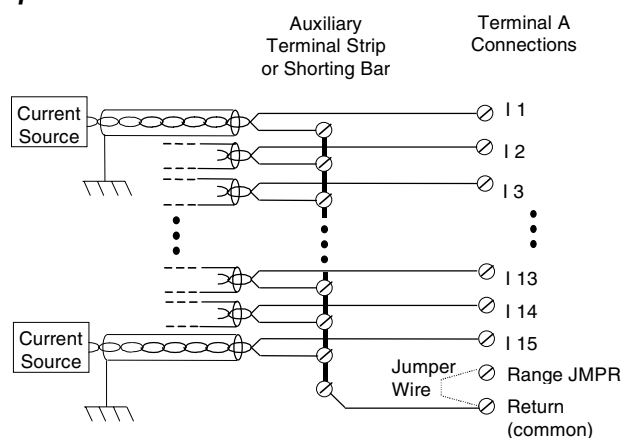
Analog Input Module, 15 Bit Current 15Channels

Jumper Selections

A jumper selects the current input range.

Jumper	Range
None	4-20mA
Installed from A16 to A17	0-20mA

Wiring Examples



An optional Auxiliary I/O Terminal Strip or Shorting Bar can be used for wiring convenience, when multiple Return paths need to be wired together.

An external source must be provided to power input transceivers.

IC200ALG264
Analog Input Module, 15 Bit Current 15 Channels**Cable Shield 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 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 (IC200TBM001, 002, or 005).

If the module is installed on a Terminal-style I/O Carrier (IC200CHS001, 002, or 005), 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 (IC200CHS022, 025), shield connections can be made on an Auxiliary I/O Terminal that is mounted near the I/O carrier. Be sure to ground the Auxiliary I/O Terminal Strip if you plan to use it for this purpose.

If the module is installed on a Connector-style I/O Carrier (IC200CHS003), the cable shield can be connected directly to an Interposing Terminal (IC200CHS011, 012, 015). Be sure to ground the Interposing Terminal. It is recommended to use a shielded interposing cable as well between the Interposing Terminal and the Connector Base. A custom shielded cable can be made using the Connector kit (IC200ACC302). In addition, a custom shield braid can be wrapped around standard Interposing Cables (IC200CBL105, 110, 120, 230). If this approach is used be sure to ground the braid.

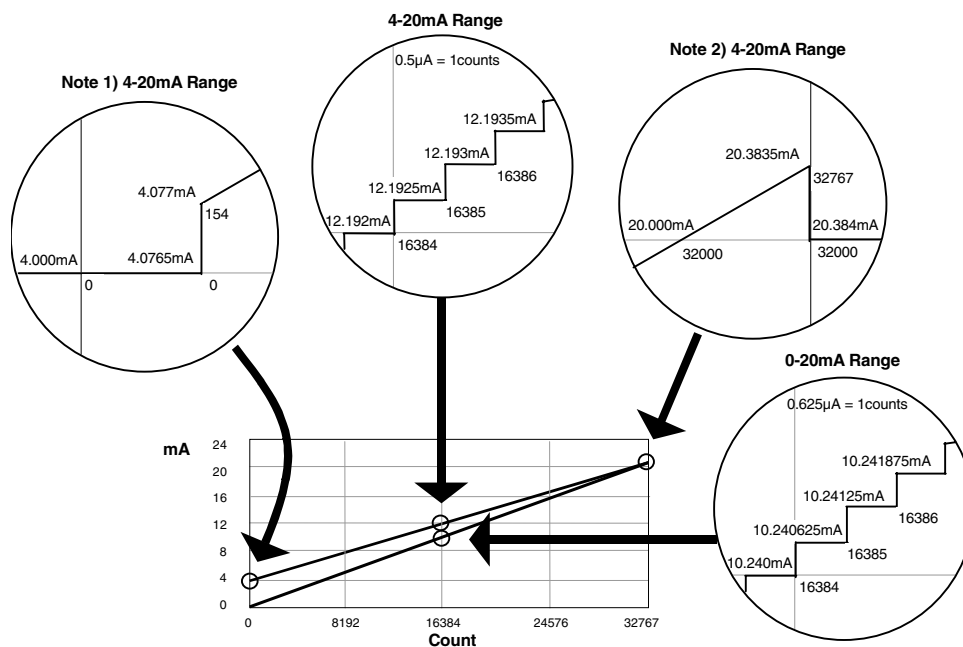
IC200ALG264

Analog Input Module, 15 Bit Current 15 Channels

Scaling

The graphs below show the relationship between the input current measured at the field terminals and the data that is output by the module.

Count and 4-20mA Input Current



The following equations can be used to calculate count values:

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

0-20mA Range: $\text{Counts} = (\text{Current in mA}) \times (32000 / 20\text{mA})$

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