



**Analog I/O Modules (Input)**

GE offers easy-to-use analog modules and HART analog modules for control processes such as flow, temperature and pressure.

	IC694ALG232	IC694ALG233	IC695ALG600
<b>Product Name</b>	<b>PACSystems RX3i Analog Input, Voltage, High Density (16 Channel) 16 Bit with advanced diagnostics</b>	<b>PACSystemsRX3i Analog Input, Current, High Density (16 Channel) 16 Bit with advanced diagnostics</b>	<b>PACSystems RX3i Analog Input. Configurable per channel for Current, Voltage, RTD, Thermocouple and Resistive. High Density (8 Channel) Requires High Density Terminal Block (IC694TBB032 or IC694TBS032). Cold Junction Compensation are available for Thermocouple configurations (IC695ACC600 contains 2 CJC's)</b>
<b>Lifecycle Status</b>	Active	Active	Active
<b>Module Type</b>	Analog Input	Analog Input	Universal Analog Input
<b>Backplane Support</b>	No Backplane Restrictions	No Backplane Restrictions	Universal Backplane Only. Uses PCI Bus.
<b>Number of Slots Module Occupies on Backplane</b>	1	1	1
<b>Range</b>	-10 V to +10 V, 0 to 10 V	0-20 mA, 4-20 mA, 4-20 mA Enhanced	Voltage: +50 mV, +150 mV, 0-5 V, 1-5 V, 0-10 V, +10 V; Current: 0-20 mA, 4-20 mA, +20 mA; Thermocouple Inputs: B, C, E, J, K, N, R, S, T; RTD Inputs: PT 385 / 3916, N 618 / 672, NiFe 518, CU 426; Resistance Inputs: 0 to 250 / 500 / 1000 / 2000 / 3000 / 4000 Ohms
<b>HART Support</b>	N/A	N/A	N/A
<b>Channel-to-Channel Isolation</b>	No	No	Two Groups of Four
<b>Number of Channels</b>	16 Single Ended, 8 Differential	16	8
<b>Update Rate</b>	Single Ended: 5 ms for all channels Differential: 3 ms all channels	6 ms all channels	10ms per Channel; 4 Channels = 40ms (1KHz filter) 127ms per Channel 4 Channels = 508ms (8Hz filter) Channels that are disabled are not scanned, shortening scan time.
<b>Resolution</b>	16 bit; ±10 V, 0.3125 mV, 1 LSB; 0-10 V, 0.3125 mV, 1 LSB	16 bit; 0-20 mA, 0.625 µA/bit; 4-20 mA, 0.5 µA/bit; 4-20 mA Enhanced, 0.5 µA/bit	11 to 16 bits, depending on configured range and A/D filter frequency
<b>Accuracy</b>	0.25% at 25°C (77°F)	0.25% at 25°C (77°F)	Calibrated Accuracy at 25°C. Better than 0.1% of range (except 10 ohm CU RTD) Accuracy depends on A/D filter, data format, input noise, and ambient temperature.
<b>Input Impedance</b>	500K Ohms (single-ended mode) 1 MegaOhms (differential mode)	250 ohms	Current 249 ohms ±1%
<b>Input Filter Response</b>	23 Hz (single-ended mode) 38 Hz (differential mode)	23 Hz	Configurable: 8Hz, 12Hz, 16Hz, 40Hz, 200Hz, 1000Hz
<b>Notch Filter</b>	N/A	N/A	Yes
<b>Diagnostics</b>	Under Range/Over Range, Positive/Negative Rate of Change, High, High-High, Low, Low-Low	Under Range/Over Range, Open Wire, Positive/Negative Rate of Change, High, High-High, Low, Low-Low	Open Wire, Short Circuit, Positive/Negative Rate of Change, High, High-High, Low, Low-Low
<b>Internal Power Used</b>	112 mA (maximum) @ +5 VDC	120 mA @ +5 VDC	400 mA @ 5 V; 350 mA @ 3.3 V
<b>External Power Requirement</b>	110 mA (maximum) +24 VDC supply connected to TB1 on IC695CHSxxx	65 mA @ 24 VDC	N/A
<b>Connector Type</b>	Terminal Block (20 screws), included with module.	Terminal Block (20 screws), included with module.	IC694TBBx32 or IC694TBSx32. Sold Separately.



### Analog I/O Modules (Input)

GE offers easy-to-use analog modules and HART analog modules for control processes such as flow, temperature and pressure.

	IC695ALG608	IC695ALG616	IC695ALG628
<b>Product Name</b>	<b>PACSystems RX3i Analog Input. Configurable per channel for Current or Voltage. High Density (8 Channel) Requires High Density Terminal Block (IC694TBB032 or IC694TBS032).</b>	<b>PACSystems RX3i Analog Input. Configurable per channel for Current or Voltage. High Density (16 Channel) Requires High Density Terminal Block (IC694TBB032 or IC694TBS032).</b>	<b>PACSystems RX3i Analog Input with HART Communications. Configurable per channel for Current or Voltage. High Density (8 Channel) Requires High Density Terminal Block (IC694TBB032 or IC694TBS032).</b>
<b>Lifecycle Status</b>	Active	Active	Active
<b>Module Type</b>	Analog Input	Analog Input	Analog Input with HART Communications
<b>Backplane Support</b>	Universal Backplane Only. Uses PCI Bus.	Universal Backplane Only. Uses PCI Bus.	Universal Backplane Only. Uses PCI Bus.
<b>Number of Slots Module Occupies on Backplane</b>	1	1	1
<b>Range</b>	Current: 0 to 20 mA, 4 to 20 mA, ±20 mA; Voltage: ±10 V, 0 to 10 V, ±5 V, 0 to 5 V, 1 to 5 V	Current: 0 to 20 mA, 4 to 20 mA, ±20 mA; Voltage: ±10 V, 0 to 10 V, ±5 V, 0 to 5 V, 1 to 5 V	Current: 0 to 20 mA, 4 to 20 mA, ±20 mA; Voltage: ±10 V, 0 to 10 V, ±5 V, 0 to 5 V, 1 to 5 V
<b>HART Support</b>	N/A	N/A	Get HART Device Information (Function 1) Simplified HART Pass-Thru Command (Function 2) Enterprise HART Pass-Thru Command (Function 3)
<b>Channel-to-Channel Isolation</b>	One Group of Eight	One Group of Sixteen	One Group of Eight
<b>Number of Channels</b>	8	16	8
<b>Update Rate</b>	All 8 Channels at 5 msec @ 500Hz. Performance is dependent on filtering.	All 16 Channels at 9 msec @ 500Hz. Performance is dependent on filtering.	All 8 Channels at 5 msec @ 500Hz. Performance is dependent on filtering and HART enabled channels could add 6 to 8 seconds.
<b>Resolution</b>	32-bit IEEE floating point or 16-bit integer (in 32-bit field) input data format	32-bit IEEE floating point or 16-bit integer (in 32-bit field) input data format	Selectable per channel
<b>Accuracy</b>	Calibrated Accuracy @ 13°C – 33°C with 8 Hz, 12 Hz and 16 Hz filter; 0 to 10 V, ±10 V input types: 10 mV0 to 5 V, 1 to 5 V, ±5 V input types: 5 mV0 to 20 mA, 4 to 20 mA, ±20 mA input types: 20 µA	Calibrated Accuracy @ 13°C – 33°C with 8 Hz, 12 Hz and 16 Hz filter; 0 to 10 V, ±10 V input types: 10 mV0 to 5 V, 1 to 5 V, ±5 V input types: 5 mV0 to 20 mA, 4 to 20 mA, ±20 mA input types: 20 µA	Calibrated Accuracy @ 13°C – 33°C with 8 Hz, 12 Hz and 16 Hz filter; 0 to 10 V, ±10 V input types: 10 mV0 to 5 V, 1 to 5 V, ±5 V input types: 5 mV0 to 20 mA, 4 to 20 mA, ±20 mA input types: 20 µA
<b>Input Impedance</b>	Current 249 ohms ±1%	Current 249 ohms ±1%	Current 249 ohms ±1%
<b>Input Filter Response</b>	Configurable: 8Hz, 12Hz, 16Hz, 40Hz, 200Hz, 500Hz	Configurable: 8Hz, 12Hz, 16Hz, 40Hz, 200Hz, 500Hz	Configurable: 8Hz, 12Hz, 16Hz, 40Hz, 200Hz, 500Hz
<b>Notch Filter</b>	Yes	Yes	Yes
<b>Diagnostics</b>	Open wire, short circuit, positive/negative rate of change, High, High-High, Low, Low-Low	Open wire, short circuit, positive/negative rate of change, High, High-High, Low, Low-Low	Open wire, short circuit, positive/negative rate of change, High, High-High, Low, Low-Low
<b>Internal Power Used</b>	450 mA @ 5 V; 600 mA @ 3.3 V	450 mA @ 5 V; 600 mA @ 3.3 V	450 mA @ 5 V; 600 mA @ 3.3 V
<b>External Power Requirement</b>	N/A	N/A	N/A
<b>Connector Type</b>	IC694TBBx32, IC694TBSx32 or IC694TBC032 Sold Separately.	IC694TBBx32, IC694TBSx32 or IC694TBC032 Sold Separately.	IC694TBBx32 or IC694TBSx32. Sold Separately.



**Analog I/O Modules (Input)**

GE offers easy-to-use analog modules and HART analog modules for control processes such as flow, temperature and pressure.

	IC695ALG626	IC695ALG106	IC695ALG112
<b>Product Name</b>	<b>PACSystems RX3i Analog Input with HART Communications. Configurable per channel for Current or Voltage. High Density (16 Channel) Requires High Density Terminal Block (IC694TBB032 or IC694TBS032).</b>	<b>PACSystems RX3i Isolated Analog Input Configurable per channel for Current or Voltage. High Density (6 Isolated Channels) Requires High Density Terminal Block (IC694TBB032 or IC694TBS032).</b>	<b>PACSystems RX3i Isolated Analog Input. Configurable per channel for Current or Voltage. High Density (12 Isolated Channels) Requires High Density Terminal Block (IC694TBB032 or IC694TBS032).</b>
<b>Lifecycle Status</b>	Active	Active	Active
<b>Module Type</b>	Analog Input with HART Communications	Analog Input with Channel to Channel Isolation	Analog Input with Channel to Channel Isolation
<b>Backplane Support</b>	Universal Backplane Only. Uses PCI Bus.	Universal Backplane Only. Uses PCI Bus.	Universal Backplane Only. Uses PCI Bus.
<b>Number of Slots Module Occupies on Backplane</b>	1	1	1
<b>Range</b>	Current: 0 to 20 mA, 4 to 20 mA, ±20 mA; Voltage: ±10 V, 0 to 10 V, ±5 V, 0 to 5 V, 1 to 5 V	Current: 0 to 20 mA, 4 to 20 mA, ±20 mA; Voltage: ±10 V, 0 to 10 V, ±5 V, 0 to 5 V, 1 to 5 V	Current: 0 to 20 mA, 4 to 20 mA, ±20 mA; Voltage: ±10 V, 0 to 10 V, ±5 V, 0 to 5 V, 1 to 5 V
<b>HART Support</b>	Get HART Device Information (Function 1) Simplified HART Pass-Thru Command (Function 2) Enterprise HART Pass-Thru Command (Function 3)	N/A	N/A
<b>Channel-to-Channel Isolation</b>	One Group of Sixteen	Yes (250 VAC continuous, 1500 VAC for 1 minute per channel)	Yes (250 VAC continuous, 1500 VAC for 1 minute per channel)
<b>Number of Channels</b>	16	6	12
<b>Update Rate</b>	All 16 Channels at 9 msec @ 500Hz. Performance is dependent on filtering and HART enabled channels could add 6 to 8 seconds.	1 ms for all channels.	1 ms for all channels
<b>Resolution</b>	32-bit IEEE floating point or 16-bit integer (in 32-bit field) input data format	32-bit IEEE floating point or 16-bit integer (in 32-bit field) input data format	32-bit IEEE floating point or 16-bit integer (in 32-bit field) input data format
<b>Accuracy</b>	Calibrated Accuracy @ 13°C – 33°C with 8 Hz, 12 Hz and 16 Hz filter; 0 to 10 V, ±10 V input : types 10 mV0 to 5 V, 1 to 5 V, ±5 V input types: 5 mV0 to 20 mA, 4 to 20 mA, ±20 mA input types: 20 µA	±0.1% of span at 25°C, ±0.25% of span over operating temperature range	±0.1% of span at 25°C, ±0.25% of span over operating temperature range
<b>Input Impedance</b>	Current 249 ohms ±1%	Current = 250 ohms ±1%, Voltage >= 500k Ohms	Current = 250 ohms ±1%, Voltage >= 500k Ohms
<b>Input Filter Response</b>	Configurable: 8Hz, 12Hz, 16Hz, 40Hz, 200Hz, 500Hz	Configurable low-pass: 8Hz, 12Hz, 16Hz, 40Hz, 250Hz, and 1000Hz	Configurable: 8Hz, 12Hz, 16Hz, 40Hz, 250Hz, and 1000Hz
<b>Notch Filter</b>	Yes	N/A	N/A
<b>Diagnostics</b>	Open wire, short circuit, positive/negative rate of change, High, High-High, Low, Low-Low	Open wire, under range, over range, positive/negative rate of change, High, High-High, Low, Low-Low	Open wire, under range, over range, positive/negative rate of change, High, High-High, Low, Low-Low
<b>Internal Power Used</b>	450 mA @ 5 V; 600 mA @ 3.3 V	400 mA @ 5 V; 600 mA @ 3.3 V	800 mA @ 5 V; 600 mA @ 3.3 V
<b>External Power Requirement</b>	N/A	19.2 V to 30 VDC, Current required: 500 mA	19.2 V to 30 VDC, Current required: 500 mA
<b>Connector Type</b>	IC694TBBx32 or IC694TBSx32. Sold Separately.	IC694TBBx32 or IC694TBSx32. Sold Separately.	IC694TBBx32 or IC694TBSx32. Sold Separately.



### Analog I/O Modules (Input)

GE offers easy-to-use analog modules and HART analog modules for control processes such as flow, temperature and pressure.

	IC694ALG220	IC694ALG221	IC694ALG222	IC694ALG223
	PACSystems RX3i Analog Input, Voltage, 4 Channel	PACSystems RX3i Analog Input, Current, 4 Channel	PACSystems RX3i Analog Input, Voltage, High Density (16 Channel)	PACSystems RX3i Analog Input, Input, Current, High Density (16 Channel)
<b>Product Name</b>				
<b>Lifecycle Status</b>	Active	Active	Active	Active
<b>Module Type</b>	Analog Input	Analog Input	Analog Input	Analog Input
<b>Backplane Support</b>	No Backplane Restrictions	No Backplane Restrictions	No Backplane Restrictions	No Backplane Restrictions
<b>Number of Slots Module Occupies on Backplane</b>	1	1	1	1
	-10 V to +10 V	4-20 mA, 0-20 mA	-10 V to ±10 V, 0 to 10 V	0-20 mA, 4-20 mA
<b>Range</b>				
<b>HART Support</b>	N/A	N/A	N/A	N/A
<b>Channel-to-Channel Isolation</b>	N/A	N/A	N/A	N/A
<b>Number of Channels</b>	4	4	1	16
	4 ms all channels	2 ms all channels	13 ms all channels	13 ms all Channels
<b>Update Rate</b>				
<b>Resolution</b>	12 bit; 5 mV/20 µA/bit	12 bit; 0-20 mA, 5 µA/bit; 4-20 mA, 4 µA/bit	12 bit; ±10 V, 5 mV/20 µA/bit; 0-10 V, 5 mV/20 µA/bit	12 bit; 0-20 mA, 5 µA/bit; 4-20 mA, 4 µA/bit; 4-20 mA Enhanced, 5µA/bit
<b>Accuracy</b>	±10 mV/40µA at 25°C (77°F)	0.1 % full scale	0.25% at 25°C (77°F)	0.25% at 25°C (77°F)
<b>Input Impedance</b>	>9 Megohms	250 ohms	250 ohms	250 ohms
<b>Input Filter Response</b>	17 Hz	325 Hz	200 Hz	200 Hz
<b>Notch Filter</b>	N/A	N/A	N/A	N/A
<b>Diagnostics</b>	N/A	N/A	N/A	N/A
<b>Internal Power Used</b>	27 mA @ 5 VDC; 98 mA @ 24 VDC Isolated	25 mA @ 5 VDC; 100 mA @ 24 VDC Isolated	112 mA @ 5 VDC; 4150 mA- User Supplied 24 VDC	120 mA @ 5 VDC; 65 mA-User Supplied 24 VDC
<b>External Power Requirement</b>	N/A	N/A	N/A	N/A
<b>Connector Type</b>	Terminal Block (20 screws), included with module.	Terminal Block (20 screws), included with module.	Terminal Block (20 screws), included with module.	Terminal Block (20 screws), included with module.