

GENERAL ELECTRIC PACSYSTEMS RX3i

IC694ALG223

16-Channel High-Density Analog Current Input Module

General Electric IC694ALG223 acquires up to sixteen single-ended analog current signals for PACSystems RX3i and compatible Series 90-30 systems.

Verified technical data

Field	Documented value
Manufacturer	General Electric / Emerson
Part number	IC694ALG223
Product family	PACSystems RX3i / Series 90-30
Product type	16-channel high-density analog current input module
Analog inputs	1 to 16 selectable, single-ended
Input current ranges	0 to 20 mA; 4 to 20 mA; 4 to 20 mA Enhanced, selectable per channel
Converter resolution	12 bit
Update rate	6 ms
Resolution, 4 to 20 mA	4 μ A per count
Resolution, 0 to 20 mA	5 μ A per count
Resolution, 4 to 20 mA Enhanced	5 μ A per count
Absolute accuracy at 25 °C	$\pm 0.25\%$ of full scale
Accuracy over operating temperature	$\pm 0.5\%$ of full scale
Linearity	<1 LSB from 4 to 20 mA; <1 LSB from 100 μ A to 20 mA for the 0 to 20 mA and Enhanced ranges
Input impedance	250 Ω
Input low-pass filter response	19 Hz
Cross-channel rejection	>70 dB from DC to 1 kHz
Common-mode voltage	0 V for single-ended channels
External supply	20 to 30 V DC; 10% maximum ripple
Internal current consumption	120 mA from the +5 V DC backplane bus; 65 mA from the external 24 V DC supply, plus loop currents
Field-to-backplane/frame isolation	250 V AC continuous; 1500 V AC for 1 minute

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Configuration, wiring and revision notes

Configuration and data handling

- Active channels are selected from 1 through 16 and are scanned in sequential, contiguous order.
- Each channel supplies one 16-bit word of analog input data to the controller CPU; module status reporting can be configured for 0, 8, 16, 24, 32, or 40 bits.
- The 4 to 20 mA Enhanced range maps 0 mA to -8000, 4 mA to 0, and 20 mA to +32000, enabling low-current and open-wire monitoring through configured alarms.
- Low and high alarm limits are configured per channel, and the module can be assigned to CPU I/O Scan Sets 1 through 32.

Installation and field wiring

- Install the module in an I/O slot with a serial connector in a PACSystems RX3i or Series 90-30 system.
- Terminal 1 accepts the user-supplied 24 V DC input; terminal 2 is the +24 V loop-power tie point; terminals 3 through 18 are channels 1 through 16; terminal 19 is common; terminal 20 is frame ground for cable shields.
- The MODULE OK LED reports module configuration and diagnostic status; the USER SUPPLY LED indicates whether the external 24 V DC supply is within specification.

RF-interference accuracy notes

- Severe radiated RF interference at IEC 61000-4-3, 10 V/m may degrade accuracy to $\pm 5\%$ of full scale.
- Severe conducted RF interference at IEC 61000-4-6, 10 Vrms may degrade accuracy to $\pm 1\%$ of full scale.

Documented revision history

Field	Documented value
IC694ALG223-BA	Firmware 1.1; April 2011; added RX3i field-upgrade support and display of serial number, revision, and date code
IC694ALG223-DB	Firmware 1.60; May 2012; addressed issues identified through field and factory testing
IC694ALG223-EB	Firmware 1.60; September 2019; branding and certification-registration update with no form, fit, or function change
IC694ALG223-FC	Firmware 2.00; December 2020; hardware-obsolescence update and corrected conducted-RF accuracy note

Important selection note

Revision A does not support hot swap; Revision BA and later do under the documented system procedure. Confirm the actual module label, controller/rack compatibility, terminal wiring, external 24 V DC capacity, channel ranges, scaling, alarms, and saved configuration before installation or replacement.