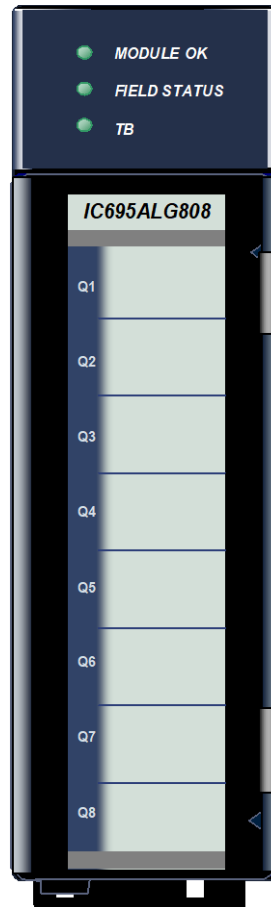


PACSystems™ RX3i

ISOLATED ANALOGUE OUTPUT MODULE (IC695ALG808)



Product Description

Isolated Analog Voltage/Current Output module IC695ALG808 provides eight configurable voltage or current output channels. Analog channels can be configured for these output ranges:

- Current: 0 to 20mA, 4 to 20mA
- Voltage: $\pm 10V$, 0 to 10V

The module must be located in an RX3i Universal Backplane. It requires an RX3i CPU with firmware version 5.0 or later. PAC Machine Edition Version 5.7 SP3 Logic Developer-PLC or later must be used for configuration.

These modules can be used with a Box-style (IC694TBB032), Extended Box-style (IC694TBB132), Spring-style (IC694TBS032), or Extended Spring-style (IC694TBS132) Terminal Block. Extended terminal blocks provide the extra shroud depth needed for shielded wiring. See the PACSystems RX3i System Manual, GFK-2314 revision B or later for more information about Terminal Blocks. Terminal Blocks are ordered separately.

Isolated +24 VDC Power

The module must receive +24 VDC field power from an external source. The external source must be connected directly to the module's terminal block. It cannot be connected via the TB1 connector on the RX3i Universal Backplane.

Module Features

- Completely software-configurable, no module jumpers to set
- Individually enable or disable channels
- Clamping and Alarm Limits
- Latching of Alarms
- Configurable output bias
- Rapid channel acquisition times based on filter frequency
- On-board error-checking
- Configurable scaling and offsets per channel
- High alarm, low alarm, high-high alarm, low-low alarm detection and reporting selectable per channel
- Module fault reporting
- Configurable Hold Last State or Output Defaults

Specifications

Specification	Description
Output Ranges	Current: 0 to 20mA, 4 to 20mA Voltage: $\pm 10V$, 0 to 10V
Backplane Power Requirements	250mA maximum at 3.3V 17mA maximum at 5.0V
Power Dissipation within Module	7.25 Watts maximum ($V_{user}=24V$)
Thermal Derating	None required
External +Power Supply	Voltage Range: 19.2V to 30V (24V nominal) Current: 660mA maximum Class 2 or Limited Voltage/Current circuit required.
Resolution	$\pm 10V$: 15 bits 0 to 10V: 14 bits 0 to 20mA: 15 bits 4 to 20mA: 15 bits
Output Data Format	Configurable as floating point IEEE 32 bit or 16-bit integer in a 32-bit field
Analog Update Rate (Determined by I/O scan time, application dependent)	8 milliseconds (approximate, all eight channels)
Output Overvoltage Protection	Current outputs only: -30V for 60 seconds, +30V for one hour
Calibrated Accuracy	Accurate to within 0.15% of full scale at 25°C (from 0 to 0.05mA, accuracy is +/- 35uA). Accurate to within 0.25% of full scale at 0-60°C (from 0 to 0.05mA, accuracy is +/- 70uA). In the presence of severe RF interference (IC 801-3, 10V/M), accuracy may be degraded to $\pm 1\%$ FS.
Output Load Reactance	Current: 10 μ H maximum, Voltage: 1 μ F maximum
Maximum Output Load	Current: 1350 Ohms maximum Voltage: 2 Kohms minimum
Output Gain Drift	Voltage output: 20ppm per degree C typical Current output: 35ppm per degree C typical
Output Settling Time	Voltage or current output: 2ms, 0 to 95%
Isolation, Field to Backplane	2550VDC for one second
Isolation, Channel to Channel	250 VAC continuous 1500VAC for one minute

Refer to the PACSystems RX3i System Manual, GFK-2314, for product standards and general specifications.

LED Status

The **Module OK** LED indicates module status. The **Field Status** LED indicates whether the external +24 VDC power supply is present and is above the minimum level and whether or not faults are present. All LEDs are powered from the backplane power bus.

LED	Indicates
Module OK	ON Green: Module OK and configured. Quick Flashing Green: Module performing powerup sequence. Slow Flashing Green or Amber: Module OK but not configured. OFF: Module is defective or no backplane power present
Field Status	ON Green No faults on any enabled channel, Terminal Block is present, and field power is present. ON Amber and TB Green: Terminal Block is installed, fault on at least one channel, or field power is not present. ON Amber and TB Red: Terminal Block not fully removed, field power still detected. OFF and TB Red: Terminal block not present and no field power is detected.
TB	ON Red: Terminal block not present or not fully seated. See above. ON Green: Terminal block is present. See above. OFF: No backplane power to module.

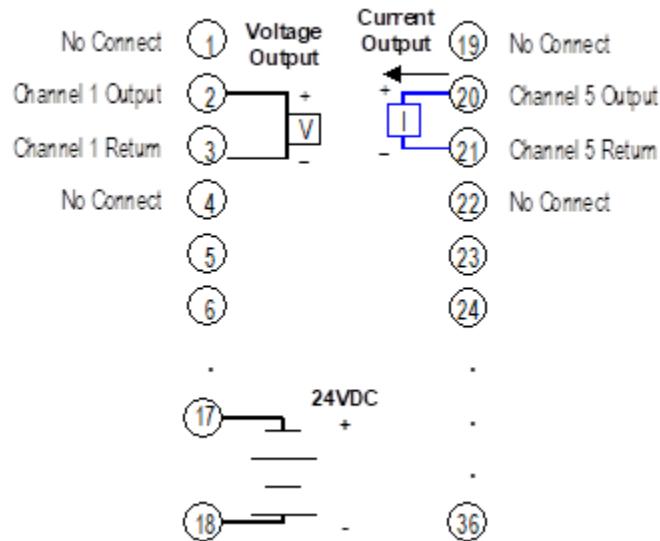
Field Wiring

The table below lists wiring connections for the Isolated Analog Output Modules. There are no shield terminals.

Terminal	Assignment	Assignment	Terminal
1	No Connect	No Connect	19
2	Channel 1 Voltage/Current Output	Channel 5 Voltage/Current Output	20
3	Channel 1 Ground/Return	Channel 5 Ground/Return	21
4	No Connect	No Connect	22
5	No Connect	No Connect	23
6	Channel 2 Voltage/Current Output	Channel 6 Voltage/Current Output	24
7	Channel 2 Ground/Return	Channel 6 Ground/Return	25
8	No Connect	No Connect	26
9	No Connect	No Connect	27
10	Channel 3 Voltage/Current Output	Channel 7 Voltage/Current Output	28
11	Channel 3 Ground/Return	Channel 7 Ground/Return	29
12	No Connect	No Connect	30
13	No Connect	No Connect	31
14	Channel 4 Voltage/Current Output	Channel 8 Voltage/Current Output	32
15	Channel 4 Ground/Return	Channel 8 Ground/Return	33
16	No Connect	No Connect	34
17	External + Power Supply (+24V In)	No Connect	35
18	External - Power Supply (+24V Rtn)	No Connect	36

Each channel can be individually configured to operate as a voltage output or a current output - not both simultaneously.

Figure 1: Field Wiring



There are no shield terminals on these modules. For shielding, tie cable shields to the ground bar along the bottom of the backplane. M3 tapped holes are provided in the ground bar for this purpose.

Release History

Version	Firmware Revision	Description
IC695ALG808-HC IC695ALG808CA-HC	2.01	This change addresses component obsolescence with new firmware to support a drop-in replacement serial flash device. There are no changes to fit, form, or function.
IC695ALG808-HB IC695ALG808CA-HB	2.00	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.
IC695ALG808-GB	2.00	This is a new HW/FW release that addresses component obsolescence and is certified EU RoHS compliant.
IC695ALG808-FA	1.00	This HW-only change address a component tolerance stack-up issue that could result in component overstress on some modules when the terminal block is installed or removed with field power applied.
IC695ALG808-EA	1.00	Hardware revision for improved manufacturability. No change in functions, performance or compatibility.
IC695ALG808-DA	1.00	Label change only. No change in functionality, performance or compatibility.
IC695ALG808-CA	1.00	Modified the terminal block detector switch to increase the size of the switch lever. The increased size of the switch lever allows additional tolerance to assure contact with the terminal block actuator.
IC695ALG808-BA	1.00	Initial Release Added UL Mark to the module
IC695ALG808-AA	1.00	Initial Release

Important Product Information for this Release

Firmware Upgrade

Only Revision -GB and later may be upgraded to firmware version 2.00 using upgrade kit 41G2458-FW01-000-A0, which is available for downloading at <https://www.emerson.com/Industrial-Automation-Controls/support>. This module ships with version 2.00 already installed so the revision -GB does not require an update.

Revision -FA and earlier modules may not be upgraded to firmware version 2.00 or later.

Functional Compatibility

The Thermocouple Input module requires the following CPU firmware and programming software versions:

CPU	RX3i CPU with firmware version 5.50 or later
Programmer	PAC Machine Edition Logic Developer 5.80 and above.

Problems Resolved in this Release

None.

New Features and Enhancements with this Release

Firmware change to address serial flash component obsolescence.

Known Restrictions and Open Issues in this Release

None

Operational Notes

None.

General Contact Information

Home link: <http://www.emerson.com/industrial-automation-controls>
Knowledge Base: <https://www.emerson.com/industrial-automation-controls/support>

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Any escalation request should be sent to: mas.sfdcescalation@emerson.com

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

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