Emerson IC695ALG728

01 HART Analog Output Module / system role

Product function and operating context

Each channel uses its selected voltage or current range; HART data transfer is an additional communication function rather than a replacement for the analog command path.

External field power connects directly to the module terminal block, not through the Universal Backplane TB1 connection. Current-output compliance depends on the supply and total circuit load. Thermal limits also depend on current-mode loading and ambient conditions.

Integration checkpoints

- Record final-element behavior
- Verify direct field power
- Check loop compliance
- Verify fail-response settings

Command path	configurable analog output to compatible field devices
Device communication	HART information alongside the current loop
Timing model	distinguish output refresh, settling and device polling

Analog output refresh, output settling and HART variable acquisition have different timing. HART traffic is grouped and asynchronous to the analog scan. The application should distinguish a fresh analog command from a newly acquired digital device variable when supervising a final element.

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02 Technical operating envelope

Output channels	8, non-isolated
Current output	0–20 mA or 4–20 mA
Voltage output	±10 V or 0–10 V
External supply	19.2–30 V DC; 250 mA maximum
HART protocol	Version 5.0

Analog update	About 16 ms with HART; 8 ms without HART, all channels
Current load	850 Ω maximum at 20 V supply
Voltage load	2 kΩ minimum
Settling to 95%	70 ms current with HART; 23 ms without HART; 2 ms voltage

Values retain their individual conditions and interface boundaries. Technical values apply to IC695ALG728 with the stated operating conditions. Check supplied revision and the configured installation.

Why does IC695ALG728 require a slower acceptance test when HART is enabled?

Current-output settling is longer with HART enabled. Allow the specified settling interval before comparing a new command with a measured current.

Does IC695ALG728 need thermal review when several current outputs are loaded?

Yes. Current-mode derating depends on supply voltage, load and active channels. Evaluate the actual combination rather than assuming eight channels always support the same ambient limit.

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03 System integration and applications

Smart final elements

Combine a supported analog command with HART access to compatible field-device information.

Voltage command circuits

Use the selected voltage range with a receiver whose load meets the output requirements.

Asset-management integration

Validate the CPU and I/O path for supported HART pass-through to a monitoring station.

Defined loss-of-control behavior

Use the configured output fallback or hold strategy as part of an engineered final-element response.

System and supply context

The IC695ALG728 belongs to the PACSystems RX3i arrangement with its specified field interfaces.

Application boundary

Applications must satisfy the module or transducer boundary and the actual controller, receiver or target conditions.

Can the RX3i backplane TB1 supply replace the direct field-power connection on IC695ALG728?

No. The external supply must connect directly to this module terminal block. A powered backplane alone does not energize the analog output circuits.

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04 Engineering selection decisions

Why can an IC695ALG728 HART variable update more slowly than its analog output?

HART acquisition is asynchronous and depends on device grouping, retries and requested variables. Do not use analog scan time as the digital-device update interval.

How should loop resistance be assessed for IC695ALG728?

Include the receiving device, wiring and any series equipment in the load total. Check compliance at the lowest field supply rather than only at nominal voltage.

What should be checked if IC695ALG728 Field Status is amber but Module OK is green?

Inspect field power, terminal-block seating and enabled-channel faults. Module readiness does not establish that every output circuit is healthy.

Why should IC695ALG728 HART pass-through be validated at system level?

It relies on a compatible CPU, I/O location and software communication path. A HART-capable output module alone does not establish end-to-end access from an asset-management station.

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05 Configuration boundary and references

Lifecycle and support

The current production and manufacturer-support stage of IC695ALG728 is unconfirmed. Replacement planning must preserve the supported system and the supplied hardware execution.

Replacement assessment

Capture channel ranges, scaling and hold/default settings. Put actuators in their approved maintenance condition before disturbing output wiring.

Document roles

The separate technical reference organizes manufacturer specifications by function and interface. This product brief explains selection and system context. The independent installation guide covers preparation, connection, tests and handover. All three are authored by Apter Power using the applicable manufacturer data.

Technical basis

Emerson PACSystems RX3i System Manual, GFK-2314AG.

Related product navigation

- Emerson IC695ALG608
- General Electric IC693CPU374 PLUS

These are related references, not confirmed substitutes or an automatically approved assembly.

Product enquiries