Emerson IC694MDL645

01 Common selection

The group reference determines positive- or negative-logic use. Draw the complete sensor current path through the selected common before combining different field devices.

A common group establishes the electrical reference for all its inputs. Select the field-sensor arrangement consistently across that group and document the return path as part of the channel assignment.

Inputs	16 in one common group
Logic	Positive or negative

Technical basis: Emerson PACSystems RX3i System Manual, GFK-2314AG. This Apter Power technical reference organizes applicable manufacturer data.

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02 Electrical state margins

The ON region and OFF region are separated. A signal in between is not a useful guaranteed operating point; test the actual sensor at its least favorable supply and leakage conditions.

Input thresholds must be compared with actual sensor levels under load. Include residual off-state voltage in the assessment because a sensor can be electrically connected yet fail to produce a valid off state.

Input voltage	24 V DC nominal; 0–30 V DC
ON voltage	11.5–30 V DC

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03 Auxiliary supply boundary

Using the module’s auxiliary field-power connection changes the circuit isolation conditions. Keep the applicable supply arrangement in the installation record so a later repair does not assume the higher isolated value.

Module response and program execution both contribute to event detection. Define the required signal duration at the input terminal before relying on the module for a short process event.

OFF voltage	0–5 V DC
Typical input current	7 mA at 24 V DC

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04 Pulse acceptance

Input response is only part of event latency. Include controller sampling, application execution and any downstream interlock before accepting a minimum pulse duration.

Backplane operation and field excitation are separate checks. Preserve the field-power arrangement in the wiring record so a loss of sensor supply is not diagnosed solely from the module logic indication.

Typical response	7 ms ON; 7 ms OFF
Backplane current	80 mA at 5 V, all inputs ON

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05 Maintenance sequence

Where the approved RX3i hot-swap procedure applies, remove the field terminal block before extracting or inserting the module. The permission to service the hardware does not remove the need to protect the process.

Commissioning evidence should identify the complete path from field contact to mapped program bit. This makes later troubleshooting more precise than a record that only says the module powered up.

Input current limits	3.2 mA minimum ON; 1.1 mA maximum OFF

Related product navigation

- General Electric IC695CPU310
- General Electric IC693MDL742

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