Allen-Bradley 1769-IM12

01 AC Digital Input Module / system role

Product function and operating context

All twelve inputs share internally connected commons. It is therefore a grouped AC sensing interface, not twelve independent isolated circuits.

The field voltage category differs from the DC logic supply that operates the backplane electronics. Input wiring, isolation and enclosure practices must suit the AC circuit, while the bus power budget and module placement are evaluated within the Compact I/O bank.

Integration checkpoints

- Isolate the AC field circuits
- Inspect bank placement
- Verify voltage and frequency
- Confirm sequence timing

Field interface	grouped mains-level AC status sensing
Timing behavior	account for both input transitions in the control sequence
Circuit review	distinguish AC common wiring from backplane power

Input ON and OFF delays suppress rapid transitions but also affect event capture. Leakage through switches or suppression components can keep an input above its intended OFF condition. Commissioning should verify the real disconnected and energized field states rather than relying only on a terminal continuity test.

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02 Technical operating envelope

Inputs	12 in one common group	Backplane current	100 mA at 5.1 V
Voltage category	200/240 V AC	OFF voltage	40 V AC maximum
Operating input	159–265 V AC; 47–63 Hz	OFF current	2.5 mA maximum
ON delay	20 ms	Power-supply distance	8 modules
OFF delay	20 ms	Terminal screw torque	0.68 N·m

Values retain their individual conditions and interface boundaries. Technical values apply to 1769-IM12 with the stated operating conditions. Check supplied revision and the configured installation.

Why should 1769-IM12 be checked against line frequency as well as voltage?

The AC input has a defined operating-frequency range. A source within the voltage range but outside the frequency conditions is not automatically acceptable.

Can an unused 1769-IM12 NC terminal serve as a convenient wiring junction?

No. Leave terminals marked NC unused. Use an appropriate external terminal point for unrelated connections.

How should 1769-IM12 input timing be included in a machine sequence test?

Exercise both energization and de-energization with the real controller scan and logic. Verify that the combined delay still meets the sequence requirements.

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03 System integration and applications

Mains-level contact status

Acquire compatible AC circuit states through the shared-common input group.

Compact I/O cabinet installations

Combine the field interface with the correct bus-power and assembly placement.

Timed AC sequence feedback

Use input response together with controller timing when assessing the sequence.

Existing grouped AC wiring

Retain the circuit common and protective arrangements rather than treating points as separately isolated inputs.

System and supply context

The 1769-IM12 belongs to the Compact I/O 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 a short AC pulse be reliably captured by 1769-IM12 regardless of duration?

No. The input response and controller scan impose timing constraints. Use a suitable event-input arrangement if the pulse is shorter than the accepted acquisition interval.

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04 Engineering selection decisions

Why must 1769-IM12 commons not be treated as independent isolated returns?

They are connected internally for the twelve-point group. Review the connected AC circuits as a common-reference arrangement before combining field sources.

How can a suppression component keep 1769-IM12 indicating ON after a contact opens?

Leakage through the field circuit can maintain voltage or current above the OFF-state limits. Test the actual open-contact condition with all connected components present.

What must be reviewed if 1769-IM12 is relocated within a Compact I/O bank?

Check its supply-distance rating and the bank current budget, as well as mechanical bus engagement. A vacant mounting position alone does not establish compatibility.

Why is a DC test source inappropriate for accepting 1769-IM12 field operation?

The module is an AC voltage input with specified frequency conditions. Use a controlled, suitable AC test arrangement that represents the intended circuit.

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05 Configuration boundary and references

Lifecycle and support

The current production and manufacturer-support stage of 1769-IM12 is unconfirmed. Replacement planning must preserve the supported system and the supplied hardware execution.

Replacement assessment

Identify the shared common and all energized sources. Establish the approved isolation state before loosening terminals or moving the module.

Document roles

Use the original manufacturer excerpt for its preserved technical tables and drawings. This product brief explains selection and system context. The separate installation guide covers preparation, connection, tests and handover; use it together with the applicable manufacturer instructions.

Technical basis

Rockwell Automation Compact I/O Modules Specifications, 1769-TD006H-EN-P.

Related product navigation

- Allen-Bradley 1769-IQ32T
- Allen-Bradley 1769-PA2

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

Product enquiries