Allen-Bradley 1769-IQ32T

01 Terminated DC Digital Input Module / system role

Product function and operating context

Each group’s common must match the polarity of its connected sensors; the grouped structure does not permit arbitrary common connections across unrelated field supplies.

Input filtering and hardware propagation contribute separately to response time. The control application should use a filter suited to contact bounce and valid pulse duration, then account for controller scan timing when accepting a sequence.

Integration checkpoints

- Record grouped field wiring
- Check Compact I/O placement
- Validate input-state margins
- Reconcile all input addresses

Wiring organization	four separate common groups
Event handling	combine hardware response with selected digital filtering
Assembly planning	check Compact I/O power placement and connector assignment

The module’s position within the Compact I/O assembly is constrained by its power-supply distance rating. Connector retention, common assignment and available bus current must all be checked when replacing a lower-density input module with this execution.

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02 Technical operating envelope

Inputs	32 terminated; 4 groups of 8
Input type	24 V DC sink/source
Operating voltage	20.4–26.4 V DC at 60 °C
Typical ON delay	0.1 ms, excluding selected filter
Typical OFF delay	0.25 ms, excluding selected filter

Backplane current	170 mA at 5.1 V
Maximum OFF voltage	11 V DC
Minimum ON voltage	19 V DC
Power-supply distance	8 modules

Values retain their individual conditions and interface boundaries. Technical values apply to 1769-IQ32T with the stated operating conditions. Check supplied revision and the configured installation.

What can cause an 1769-IQ32T input to remain ON after a sensor releases?

Check residual sensor voltage and leakage current against the OFF limits, together with common polarity. A healthy connector does not rule out an incompatible sensor interface.

Why should 1769-IQ32T be checked at the highest expected cabinet temperature?

The operating-voltage range is specified with a temperature condition. Verify the actual supply tolerance at that condition rather than relying only on nominal 24 V.

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03 System integration and applications

Dense DC status collection

Organize sensors into common groups with their corresponding field-reference polarity.

Contact filtering

Configure input filtering for the actual bounce and event-duration requirements.

Compact I/O expansion

Review supply distance and bus current when adding this terminated execution to a compatible bank.

Machine interlock indication

Validate raw input assignment and the complete logic response for each controlled function.

System and supply context

The 1769-IQ32T 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.

Why must 1769-IQ32T group commons be reviewed before mixing sensor supplies?

Each eight-point group uses its assigned common. Incorrectly joining independent references can defeat the intended wiring arrangement or create unwanted current paths.

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04 Engineering selection decisions

How can 1769-IQ32T filtering reject both noise and an intended pulse?

A filter rejects transitions shorter than its acceptance interval. Choose it from the shortest valid signal, then verify that contact bounce is suppressed without losing genuine events.

Can the 1769-IQ32T propagation delay alone establish the fastest detectable machine event?

No. Add the configured filter and controller acquisition or scan timing. Validate the complete event path with a representative pulse.

What must be considered when moving 1769-IQ32T farther from the power supply?

Its power-supply distance rating limits the assembly position. Recheck the whole bank’s current budget and placement rather than assuming any free slot is acceptable.

Why is a connector continuity test insufficient to accept 1769-IQ32T after replacement?

It does not establish polarity, filter behavior or correct program addresses. Exercise each field input and compare the raw state and controlled response.

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05 Configuration boundary and references

Lifecycle and support

The current production and manufacturer-support stage of 1769-IQ32T is unconfirmed. Replacement planning must preserve the supported system and the supplied hardware execution.

Replacement assessment

Map each eight-point common and its sensors. Save input filters and program addresses before disconnecting the terminated connector.

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-IM12
- Allen-Bradley 1769-IR6

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

Product enquiries