General Electric 8121-DI-DC-01

Technical Reference and Engineering Data

8121-DI-DC-01 is a 16-channel, 24 Vdc non-isolated PAC8000 discrete input module for dry-contact status collection and pulse counting. The complete -01 suffix remains the offered identity while electrical values are applied from the published 8121-DI-DC base module.

01 Exact identity and system role

Complete model	8121-DI-DC-01
Product type	PAC8000 16-Channel DC Discrete Input Module
Manufacturer	General Electric
Technical source	GE Intelligent Platforms PAC8000 8121-DI-DC datasheet
Input channels	16
Nominal field voltage	24 Vdc
Input isolation	Non-isolated; returns commoned internally
OFF-state threshold	Less than 0.3 mA
ON-state threshold	Greater than 1.2 mA
Typical wetting current	2.8 mA

System position

Retain the E1 keyed slot, 8617-FT-NI terminal, 24 Vdc field power, common-return design and sixteen-channel configuration.

Lifecycle and installed-base context

Exact offered identity	The complete marking is 8121-DI-DC-01; the accessible GE datasheet is for base module 8121-DI-DC.
Evidence boundary	No electrical meaning is assigned to suffix -01 without an exact option record.
Replacement rule	Match channel count, common-return architecture, keying, terminal unit, filters and pulse functions.

Available unit details

Supply scope	One 8121-DI-DC-01 input module; 8617-FT-NI terminal unit and field wiring are separate unless quoted.
Unit evidence	Request full label, E1 key, Railbus connector and front-condition photographs.
Configuration evidence	Keep the sixteen-channel map, filter/latch/count settings and field-power drawing with the unit.

02 Verified technical data

Input channels	16
Nominal field voltage	24 Vdc
Input isolation	Non-isolated; returns commoned internally
OFF-state threshold	Less than 0.3 mA
ON-state threshold	Greater than 1.2 mA
Typical wetting current	2.8 mA
Minimum pulse width	5 ms
Maximum count frequency	100 Hz without debounce

Additional engineering data

Configurable filter	0 to 512 ms in 2 ms steps
Channel-to-Railbus isolation	250 Vac
Railbus current	90 mA typical; 135 mA maximum
Field-power current	60 mA at 18 to 30 Vdc
Module key	E1
Published module width	42 mm

Published unit weight	210 g
Terminal unit	8617-FT-NI

Applicability boundary

The public datasheet defines the 8121-DI-DC base module; -01 is retained as the complete offered marking and is not assigned unsupported option meanings.

03 Integration and engineering interpretation

Dry-contact status collection

Monitor switches, auxiliary contacts and relay contacts supplied by the module's 24 Vdc wetting circuit.

Pulse accumulation

Enable counting on selected channels whose pulse width and frequency remain within 5 ms and 100 Hz.

Filtered alarm inputs

Set the 0-512 ms filter per module to reject documented contact bounce without hiding required events.

PAC8000 sequence inputs

Use the 5 ms Railbus response with the configured latch and polarity settings for plant event logic.

Technical notes

Threshold check	Confirm OFF current remains below 0.3 mA and ON current exceeds 1.2 mA at the installed contact.
Pulse check	Test the shortest accepted pulse and confirm the configured count increments once.
Channel record	Save channel name, contact source, filter, latch/polarity and count enable for all sixteen points.

Interpretation boundaries

Product boundary	Apply the listed facts to 8121-DI-DC-01 and the documented GE PAC8000 Remote I/O discrete input modules context only.
Interface boundary	Connector, terminal, bus, cable and companion-device assignments must match the installed drawing.
Electrical boundary	Use exact-model values only; system-level ratings remain conditional on the complete installed configuration.
Configuration boundary	Switches, jumpers, addresses, firmware and project settings must be reconciled before energization.
Diagnostic boundary	Interpret indicators and fault states together with measured inputs, outputs and host-system status.
Acceptance rule	Use the approved system baseline and maintenance procedure for the final as-left decision.

04 Diagnostic decisions and support record

How many inputs are provided by 8121-DI-DC-01?	The base module provides 16 discrete input channels.
Are the input channels of 8121-DI-DC-01 isolated from one another?	No; the channel returns are commoned internally.
What contact current thresholds apply to 8121-DI-DC-01?	OFF is below 0.3 mA and ON is above 1.2 mA.
Can 8121-DI-DC-01 count pulses?	Yes, up to 100 Hz with at least 5 ms pulse width and no debounce that masks the event.
What filter range is available on 8121-DI-DC-01?	The configurable filter range is 0 to 512 ms in 2 ms steps.
Which terminal unit is specified for 8121-DI-DC-01?	The published terminal unit is 8617-FT-NI.
What does suffix -01 mean on 8121-DI-DC-01?	It is retained as part of the offered marking; no unsupported electrical interpretation is assigned.
How should 8121-DI-DC-01 be accepted after replacement?	Stimulate every used input and verify state, filtering, latching, pulse count and Railbus diagnostics.

Verified source

GE Intelligent Platforms PAC8000 8121-DI-DC datasheet

Related product references

Related product	General Electric 531X133PRUALG1
Related product	General Electric IS420ESWBH3AX
Related product	General Electric DS200DSPCH1AEA

Related product	General Electric IS220PTURH1A

Engineering contact

Discuss the exact marking and installed application with Apter Power.
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Acceptance evidence package

Nameplate evidence	Overall and close photographs showing 8121-DI-DC-01, revision, approval and serial details where present.
Installation evidence	Views of the rack position, mechanical datum, terminal assignment, cable route and strain relief.
Configuration evidence	Export or screenshots identifying the approved hardware assignment and parameters without exposing credentials.
Baseline evidence	As-found readings with units, test conditions, machine state and the instrument used.
Inspection evidence	Connector, contact, insulation, fastener, contamination and heat-condition observations.
Functional evidence	As-left readings and the controlled input, output or channel response used for acceptance.
Change evidence	Any wiring, setting, firmware or mechanical change linked to its approved work reference.
Release evidence	Technician, reviewer, date, asset reference and the maintenance-record location for traceability.

Controlled acceptance sequence

01 Dry-contact status collection	Monitor switches, auxiliary contacts and relay contacts supplied by the module's 24 Vdc wetting circuit.
02 Pulse accumulation	Enable counting on selected channels whose pulse width and frequency remain within 5 ms and 100 Hz.
03 Filtered alarm inputs	Set the 0-512 ms filter per module to reject documented contact bounce without hiding required events.
04 PAC8000 sequence inputs	Use the 5 ms Railbus response with the configured latch and polarity settings for plant event logic.

Evidence quality controls

Traceability	Each value is tied to 8121-DI-DC-01, the asset location, test state, instrument and date.
Repeatability	The same approved method and comparable operating state are used for before-and-after readings.
Resolution	Recorded precision does not exceed the capability of the instrument or source document.
Reference state	Stopped, energized, loaded and process-running observations are clearly distinguished.
Change control	Every changed setting, connection or mechanical datum has an approved reason and reviewer.
Retention	Evidence remains accessible with the maintenance record for future troubleshooting and replacement review.

As-left commissioning record

Exact delivered marking	8121-DI-DC-01; photograph and record any additional label detail.
Installed asset reference	Machine, bearing, train, channel and drawing identifiers.
Mechanical as found	Reach, lock position, gap reference, cable route and connector support.
Static reading as found	Gap, bias, continuity or channel value appropriate to the installed system.
Companion identities	Extension cable, Proximitor or conditioner and monitor channel markings.
Mechanical as left	Final reach, lock position, target clearance and route protection.

Exact-model engineering notes

Threshold check	Confirm OFF current remains below 0.3 mA and ON current exceeds 1.2 mA at the installed contact.
Pulse check	Test the shortest accepted pulse and confirm the configured count increments once.
Channel record	Save channel name, contact source, filter, latch/polarity and count enable for all sixteen points.