8C-PDIPA1 51454471-375

01 / Product identity and role

Digital Input Pulse Accumulation Module

Honeywell 8C-PDIPA1 51454471-375 is a coated Series 8 digital input and pulse accumulation module. It accepts discrete field states and can count pulses or measure frequency on configured channels.

Input role

Discrete state acquisition with pulse functions on selected channels

Power boundary

Choose the documented internal or user-supplied field-power arrangement

Redundancy path

Use the matching redundant IOTA when the host configuration requires it

Acceptance focus

Compare channel mode, pulse behavior and diagnostics against the saved project

Installed-system context

The 8C-PDIPA1 provides 32 input channels. Channels 1-16 can be configured individually for discrete input or pulse accumulation; channels 17-32 operate as discrete inputs. The pulse function supports accumulation and frequency measurement, so the C300 point configuration must reflect the connected instrument and the intended calculation.

Controller platform reference: Honeywell Series 8 C300. Match the IOTA, channel setup and field-power design.

What happens if a pulse signal on 8C-PDIPA1 51454471-375 exceeds its documented frequency range?

Counts may no longer represent the source reliably. Check the source against the 0-1 kHz condition and the specified duty cycle, and use a suitable input design if the waveform falls outside those limits.

8C-PDIPA1 51454471-375

02 / Electrical and interface data

Input channels	32	**Pulse-capable channels**	1-16, individually configured
Discrete-only channels	17-32	**Voltage rating**	24 VDC
External DI power range	18-30 VDC	**Module current rating**	105 mA
Pulse frequency	0-1 kHz at minimum 30% duty cycle	**Minimum pulse width**	300 µs
Per-channel scan time	300 µs	**ON threshold**	13 VDC minimum or 3 mA minimum

Applicability

Honeywell specifies these functions and electrical values for the 8C-PDIPA1 module. The accompanying 51454471-375 number is the offered part marking; confirm the installed IOTA and project revision before exchange.

Why can 8C-PDIPA1 51454471-375 show a correct contact state but an incorrect pulse total?

A discrete threshold can be satisfied while a pulse source violates the 300 µs minimum width or the minimum 30% duty cycle. Measure the waveform at the IOTA and review the configured totalization scale.

How should the first sixteen channels of 8C-PDIPA1 51454471-375 be commissioned?

Record the intended DI or pulse mode separately for each channel, verify the connected device and field-power selection, then challenge both the raw channel state and the C300 application value.

8C-PDIPA1 51454471-375

03 / Configuration and operating behavior

OFF threshold	5 VDC maximum or 1.2 mA maximum	**Input impedance**	4.2 kΩ
Input-filter/isolation delay	5 ms ±20%	**Galvanic isolation**	1000 VAC RMS, external-field-power arrangement
Nonredundant IOTA	8C-TDILA1, coated	**Redundant IOTA**	8C-TDILB1, coated

For user-supplied field power, Honeywell specifies an 18-30 VDC DI power range and a 24 VDC module voltage rating. The module current rating is 105 mA. Optical isolation is implemented in the I/O module; the listed 1000 VAC RMS galvanic-isolation figure is subject to the external-power arrangement defined in the specification.

A pulse input accepts a 0-1 kHz source when the device meets the minimum 30% duty-cycle condition. The minimum pulse width and individual-channel scan time are each 300 microseconds. Confirm the real sensor waveform and input-filter delay before relying on the counted value for alarms or maintenance trends.

When does the isolation rating of 8C-PDIPA1 51454471-375 apply?

The 1000 VAC RMS system-to-field figure is specified for the external user-supplied power option. Confirm the IOTA power arrangement and full cabinet separation before applying that rating to an installation.

Use cases

Discrete process states

Map contact or powered-state inputs into the C300 project with the correct threshold and field-power selection.

Pulse totalization

Assign a pulse-capable channel to count a qualified sensor waveform and preserve the engineering-unit conversion in the control strategy.

8C-PDIPA1 51454471-375

04 / Applications, service and support

Frequency monitoring

Use the configured pulse function for frequency measurement when the source duty cycle and pulse width are within the specified limits.

Redundant I/O arrangement

Pair with 8C-TDILB1 where the installed Series 8 design uses the documented redundant IOTA path.

Precautions for service

Preserve the channel map

Record the 32 point assignments and which of channels 1-16 use pulse mode before removing hardware.

Verify field power

Identify internal versus external power at the IOTA; apply the specified external supply range only to a user-supplied arrangement.

Check pulse quality

Measure the source frequency, duty cycle and pulse width at the input under operating conditions.

Respect isolation conditions

Do not interpret the 1000 VAC RMS isolation value as permission to omit circuit separation or grounding design.

Technical enquiry

sales13@apterpower.com | +86 18030235313