

8C-TAIDB1

Redundant AI IOTA

Honeywell 8C-TAIDB1 is the coated redundant IOTA for the 16-channel 8C-PAIH54 differential analog input module. It supports current or voltage transmitters and single-ended or differential channel configuration within Series 8 I/O.

IDENTITY	VERIFIED VALUE
Manufacturer	Honeywell
Complete model	8C-TAIDB1
Product role	Redundant AI IOTA
System family	Series 8 I/O
Source record	S803-150-530, Version 1.0, May 2024, sections 4.3.2 and 4.4.1

DOCUMENT SCOPE

Model identity, official technical data, model-specific applications, precautions, FAQ and controlled acceptance records.

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Technical Specifications

PARAMETER	VERIFIED VALUE
Complete model	8C-TAIDB1
Honeywell item number	51307133-175
IOTA role	Redundant differential analog input termination assembly
Compatible I/O module	8C-PAIH54
Input channels	16 single-ended or differential channels
Input type	Voltage or current; 2-wire or self-powered transmitters
Input ranges	0-5 V, 1-5 V, 0.4-2 V and 4-20 mA through 250 ohms
A/D resolution	16 bits
Voltage rating	24 VDC
Module current rating	310 mA
Input scan rate	50 ms
Normal-mode rejection	19 dB at 60 Hz
Common-mode rejection	70 dB, dc to 60 Hz with 500-ohm source imbalance
Input impedance	Greater than 10 Mohm for powered voltage inputs
Powered insertion/removal	Supported
Field power conditioning	Individually protected current-limiting circuits; no fuse required

ENGINEERING BOUNDARY

Use 8C-TAIDB1 only with the documented 8C-PAIH54 analog input module and the approved channel wiring. Record every current or voltage selection, IOTA jumper state, HART assignment and redundancy path before controlled commissioning.

System Role and Common Applications

Honeywell 8C-TAIDB1 is the coated redundant IOTA for the 16-channel 8C-PAIH54 differential analog input module. It supports current or voltage transmitters and single-ended or differential channel configuration within Series 8 I/O.

FUNCTION 1
Redundant coated IOTA for 8C-PAIH54

FUNCTION 2
Sixteen voltage or current input channels

FUNCTION 3
Single-ended or differential channel operation

FUNCTION 4
HART-capable analog input architecture

APPLICATION	ENGINEERING CONTEXT
Differential transmitter input	Terminates approved differential current or voltage transmitter signals for the 8C-PAIH54 module.
Redundant analog acquisition	Provides the documented redundant IOTA path for high-availability Series 8 analog input service.
HART instrument integration	Supports HART-capable multivariable instruments through the compatible analog input module.
Mixed current-voltage loops	Allows documented current and voltage channels when each IOTA jumper and software range is configured correctly.

ACCEPTANCE DUTY
Confirm identity, interface, companion hardware, configured values and controlled functional response before release.

Engineering Precautions and FAQ

NO.	PRECAUTION
1	Verify the complete 8C-TAIDB1 and 51307133-175 marking before work.
2	Confirm the companion module is the documented Honeywell 8C-PAIH54.
3	Place both redundant paths and the associated process loops in the approved maintenance state.
4	Record whether every channel is single-ended or differential before disturbing wiring.
5	Record every current or voltage range and the corresponding 250-ohm IOTA jumper state.
6	Preserve field conductors, shields, commons and HART device assignments exactly.
7	Use approved ESD controls and inspect the IOTA, connectors and redundant interfaces.
8	Verify all sixteen channels, diagnostics, HART communication and redundancy transfer before release.

QUESTION	ANSWER
Which I/O module is specified for Honeywell 8C-TAIDB1?	Honeywell specifies 8C-TAIDB1 as the redundant coated IOTA for the 8C-PAIH54 analog input module.
How many channels does Honeywell 8C-TAIDB1 support?	The documented 8C-PAIH54 and 8C-TAIDB1 arrangement supports sixteen channels configured as single-ended or differential inputs.
Which signal types can Honeywell 8C-TAIDB1 terminate?	The documented arrangement accepts voltage or current inputs from 2-wire or self-powered transmitters.
Which ranges are documented for Honeywell 8C-TAIDB1?	The official specification lists 0-5 V, 1-5 V, 0.4-2 V and 4-20 mA through 250 ohms.

FAQ, Related Products and Official Sources

QUESTION	ANSWER
What resolution and scan rate apply to Honeywell 8C-TAIDB1?	The compatible analog input module uses 16-bit conversion and a 50 ms input scan rate.
Why must Honeywell 8C-TAIDB1 jumper positions be recorded?	Each voltage channel requires its 250-ohm load resistor connection to be handled according to the IOTA jumper instruction, so the physical state must match the configured range.
Can Honeywell 8C-TAIDB1 be inserted or removed under power?	The official specification states that module removal and insertion under power is supported, subject to the site's approved maintenance procedure.
What proves Honeywell 8C-TAIDB1 commissioning is complete?	All sixteen ranges, wiring assignments, diagnostics and HART devices must agree with the approved record, and the redundant path transfer must pass its controlled test.

MODEL	APTER POWER PAGE
Honeywell 8C-IP0101-51454362-175	View Honeywell 8C-IP0101-51454362-175
Honeywell 8C-PAIH51-51454352-175	View Honeywell 8C-PAIH51-51454352-175
Honeywell 8C-PAIHA1-51454470-275	View Honeywell 8C-PAIHA1-51454470-275
Honeywell 8C-PAIN01-51454356-175	View Honeywell 8C-PAIN01-51454356-175
Honeywell 8C-PAOHA1	View Honeywell 8C-PAOHA1
Honeywell 8C-PAON01	View Honeywell 8C-PAON01
Honeywell 8C-PCNT01-51454363-175	View Honeywell 8C-PCNT01-51454363-175
Honeywell 8C-PCNT02-51454363-275	View Honeywell 8C-PCNT02-51454363-275

MANUFACTURER SOURCE RECORDS

Series 8 Controller and I/O Specification - S803-150-530, Version 1.0, May 2024, sections 4.3.2 and 4.4.1
Honeywell Series 8 I/O Product Page - Honeywell Process Solutions Series 8 controller and I/O overview

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