

4.4.2. Analog Input with HART – Single Ended

Function

The Analog Input Module accepts high level current inputs from transmitters and sensing devices.

Notable Features

- Extensive self-diagnostics
- Optional redundancy
- HART-capable, multivariable devices
- Fast loop scan
- Internal or external field power selection
- On board excitation power (no need for marshalling power)
- Suitable for Configure / Status for HART Device
- Galvanic Isolation

Detailed Specification- Analog Input with HART (8C-PAIHA1)

Parameter	Specification		
Input / Output Module	8C-PAIHA1 - Analog Input with HART (16), Coated		
IOTA Modules	8C-TAIXA1	Non Redundant, Coated	6"
	8C-TAIXB1	Redundant, Coated	12"
Input Type	Current (2-wire or self-powered transmitters)		
Input Channels	16 Channels (Single Ended type)		
A/D Converter Resolution	16 bits		
Input Range ¹	4-20 mA (through 250 Ω)		
Voltage Rating	24 VDC		
Module Current Rating	110 mA		
Common Mode Rejection Ratio, dc to 60 Hz (500 Ω source imbalance)	70 dB		
Common Mode Voltage, dc to 60 Hz	-6 to +5 V peak		
Normal Mode Rejection Ratio, at 60 Hz	19 dB		
Normal Mode Filter Response	Single-pole RC, -3 dB @ 6.5 Hz		
Maximum Normal Mode Input	± 30 Volts		
Crosstalk, dc to 60 Hz (channel-to-channel)	-60 dB		
Maximum Input voltage (any input referenced to common, no damage)	± 30 Volts		
Input Scan Rate	50 ms		
Hardware Accuracy (@ CMV = 0 V)	$\pm 0.075\%$ of full-scale (23.5 $^{\circ}\pm 2^{\circ}\text{C}$)		
	$\pm 0.15\%$ of full-scale (0 to 60 $^{\circ}\text{C}$)		

Galvanic Isolation (any input terminal voltage referenced to common) ²	1000VAC RMS or ± 1000 VDC
Isolation Technique	Icoupler (in IOM)
Module Removal and Insertion Under Power	Supported
Transmitter Field Power Conditioning	Individually Protected Current Limiting Circuits. No fuse required
Note 1 – No differential / voltage inputs are supported.	
Note 2 – System to Field type isolation, option available only with external user supplied power	

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- Fast loop scan
- Internal or external field power selection
- On board excitation power (no need for marshalling power)
- Galvanic Isolation (System to Field only with external user supplied power)

Detailed Specification- Analog Input (8C-PAINA1)

Parameter	Specification		
Input / Output Module	8C-PAINA1 - Analog Input without HART (16), Coated		
IOTA Modules	8C-TAIXA1	Non Redundant, Coated	6"
	8C-TAIXB1	Redundant, Coated	12"
Input Type	Current (2-wire or self-powered transmitters)		
Input Channels ¹	16 Channels (Single Ended type)		
A/D Converter Resolution	16 bits		
Input Range	4-20 mA (through 250 Ω)		
Voltage Rating	24 VDC		
Module Current Rating	105 mA		
Common Mode Rejection Ratio, dc to 60 Hz (500 Ω source imbalance)	70 dB		
Normal Mode Rejection Ratio, at 60 Hz	19 dB		
Normal Mode Filter Response	Single-pole RC, -3 dB @ 6.5 Hz		
Maximum Normal Mode Input	± 30 Volts		
Crosstalk, dc to 60 Hz (channel-to-channel)	-60 dB		
Maximum Input voltage (any input referenced to common, no damage)	± 30 Volts		
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Galvanic Isolation (any input terminal voltage referenced to common) ²	1000VAC RMS or ± 1000 VDC		