

4.4.3. Analog Input – Single Ended

Function

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

Notable Features

- Extensive self-diagnostics
- Optional redundancy
- 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 | | |
| Input Scan Rate | 50 ms | | |
| Hardware Accuracy (@ CMV = 0 V) | $\pm 0.075\%$ of full-scale (23.5 \pm 2 $^{\circ}$ C) | | |
| | $\pm 0.15\%$ of full-scale (0 to 60 $^{\circ}$ C) | | |
| Galvanic Isolation (any input terminal voltage referenced to common) ² | 1000VAC RMS or ± 1000 VDC | | |

| Parameter | Specification |
|--|--|
| 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 | |