	CC-TUIO31	Universal Input Output IOTA		9	
	CC-TUIO41	Universal Input Output IOTA Red.		12	√

5. Specifications

Specifications for Series-C I/O modules are shown below.

For information on environmental specifications, please refer to the Series-C Platform Specification and Technical data sheet EP03-520-xxx.

5.1. Analog Input with HART – CC-PAIH01 / 02

Function

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

Notable Features

- Extensive self-diagnostics
- Optional redundancy
- Open Wire Detection
- Supplies non-incendive field power
- Non-incendive Power
- HART-capable, multivariable instruments and multiple modems for fast collection of control variables
- Fast loop scan
- PV protection through an open wire detection diagnostic
- Open-wire Bad PV Detection

Detail Specifications – Analog Input with HART

Parameter	Specification	
Input / Output Model	CC-PAIH02 - High-Level Analog Input with HART	
IOTA Models	Non-Redundant	Redundant
	CC-TAIX01	CC-TAIX11
	CC-GAIX21	CC-GAIX11
	CC-TAID01	CC-TAID11
Input Type	Voltage, current (2-wire or self-powered transmitters)	
Input Channels [1]	16 Channels (12 Single Ended / 4 Differential)	
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	
A/D Converter Resolution	16 bits	
Input Range [1]	0 to 5 V, 1 to 5 V, 0.4 to 2 V, 4-20 mA (through 250 Ω)	
Normal Mode Rejection Ratio, at 60 Hz	19 dB	

Parameter	Specification
Normal Mode Filter Response	Single-pole RC, -3 dB @ 6.5 Hz
Maximum Normal Mode Input (differential inputs, no damage)	± 30 Volts
Crosstalk, dc to 60 Hz (channel-to-channel)	-60 dB
Input Impedance (voltage inputs)	> 10 M Ω powered
Input Scan Rate	50 ms
Hardware Accuracy (@ CMV = 0 V)	± 0.075% of full-scale (23.5°± 2°C) ± 0.15% of full-scale (0 to 60°C)
Transmitter Field Power Conditioning	Individually Protected Current Limiting Circuits for Class 1, Div 2 non-incendive interfacing. No fusing required
Note 1: CC-PAIH01 supports voltage inputs for channels 13-16 CC-PAIH02 supports voltage inputs for channels 1-16 when used with CC-TAIDx1 IOTA. Each channel's 250-Ohm load resistor is connected to the input terminal through a wire jumper on the IOTA. This jumper should be cut by the user on channels to be used with voltage transmitters. For channels 13-16 the low-side input connection is normally connected to system common by a wire jumper on the IOTA. This jumper may be cut by the user to enable differential operation subject to operating within the CMV specification.	

5.3. Analog Input – CC-PAIX01 / 02

Function

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

Notable Features

- Extensive self-diagnostics
- Optional redundancy
- Supplies non-incendive field power
- Non-Incendive Power
- Fast loop scan

Detail Specifications –Analog Input

Parameter	Specification	
Input / Output Model	CC-PAIX02 - High-Level Analog Input	
IOTA Models	Non-Redundant	Redundant
	CC-TAIX01	CC-TAIX11
	CC-GAIX21	CC-GAIX11
	CC-TAID01	CC-TAID11
Input Type [1]	Voltage, current (2-wire or self-powered transmitters)	
Input Channels [1]	16 Channels (12 Single Ended / 4 Differential)	
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	
A/D Converter Resolution	16 bits	
Input Range [1]	0 to 5 V, 1 to 5 V, 0.4 to 2 V, 4-20 mA (through 250 Ω)	
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 (differential inputs, no damage)	± 30 Volts	
Crosstalk, dc to 60 Hz (channel-to-channel)	-60 dB	
Input Impedance (voltage inputs)	> 10 M Ω powered	
Input Scan Rate	50 ms	
Hardware Accuracy (@ CMV = 0 V)	± 0.075% of full-scale (23.5°± 2°C) ± 0.15% of full-scale (0 to 60°C)	
Transmitter Field Power Conditioning	Individually Protected Current Limiting Circuits for Class 1, Div 2 non-incendive interfacing. No fusing required	

6. Function Matrix

The following tables assist in selecting I/O Modules and IOTAs with similar functional characteristics

AI Function Matrix

Series-C IO			Function							
IOM	NR IOTA	Red IOTA	AI 4-20ma	HART Conf / Status	HART on CTL	HART Fast Ctl	AI 0-5V 1-5V	Int. IS	NR IOTA Size	Differential Inputs
CC-PAIH01 CC-PAIH02	CC-TAIX01	CC-TAIX11	♦	♦	♦	♦	♦		6"	13 - 16
CC-PAIH02	CC-TAID01	CC-TAID11	♦	♦	♦	♦	♦		9"	1 - 16
CC-PAIH01 CC-PAIH02	CC-GAIX21	CC-GAIX11	♦	♦	♦			♦	6"	NA
CC-PAIH51	CC-TAIX51	CC-TAIX61	♦	♦					6"	NA
CC-PAIX01 CC-PAIX02	CC-GAIX21	CC-GAIX11	♦			♦	♦	♦	6"	NA
CC-PAIX01 CC-PAIX02	CC-TAIX01	CC-TAIX11	♦			♦	♦		6"	13 - 16
CC-PAIX02	CC-TAID01	CC-TAID11	♦			♦	♦		9"	1 - 16
CC-PAIN01	CC-TAIN01	CC-TAIN11	♦						6"	None
CC-PUIO31	CC-TUIO31	CC-TUIO41	♦	♦	♦				9”	None

AO Function Matrix

Series-C IO				Function						
IOM	NR IOTA	Red IOTA	AO 4-20ma	HART Conf / Status	HART on CTL	HART Fast CTL	Output Vali-dation	Open Wire Det.	NR IOTA Size	Int IS
CC-PAOH01	CC-TAOX01	CC-TAOX11	♦	♦	♦		♦	♦	6"	
CC-PAOH01	CC-GAOX21	CC-GAOX11	♦	♦	♦		♦	♦	9"	♦
CC-PAOH51	CC-TAOX51	CC-TAOX61	♦	♦				♦	6"	
CC-PAOX01	CC-TAOX01	CC-TAOX11	♦				♦	♦	6"	
CC-PAOX01	CC-GAOX21	CC-GAOX11	♦				♦	♦	9"	♦
CC-PAON01	CC-TAON01	CC-TAON11	♦				♦	♦	6"	
CC-PUIO31	CC-TUIO31	CC-TUIO41	♦	♦	♦	♦	♦	♦	9”	