Honeywell

Technical Information

Experion Series-C I/O Specification

EP03-490-520

Release 520

Dec 2021, Version 1.5

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4. I/O Module Sizes

IOTA Sizing is nominal (6in = 152mm, 9in =228mm, 12in =304mm, 18in = 457mm)I/O modules are associated with their respective IOTAs in the table below. An I/O Module is supported by one or more IOTAs.

I/O Module	IOTA	Description	Circuits	Size (in ")	Red.
CC-PAIH01		High-Level AI HART	16		√
	CC-TAIX01	AI IOTA		6	
	CC-TAIX11	AI IOTA Red		12	√
CC-PAIH02 CC-PAIX01 / 02		High-level AI HART High-level AI w/o HART	16		√
	CC-TAIX01	AI IOTA		6	
	CC-TAIX11	AI IOTA Red		12	√
	CC-TAID01	AI IOTA – 16 Channel Differential		9	
	CC-TAID11	AI IOTA Red – 16 Channel Differential		12	√
CC-PAIH51		High-level AI HART	16		√
	CC-TAIX51	AI IOTA		6	
	CC-TAIX61	AI IOTA Red		12	√
CC-PAIN01		High-level AI w/o HART	16		√
	CC-TAIN01	AI IOTA		6	
	CC-TAIN11	AI IOTA Red		12	√
CC-PPIX01		Pulse Input w/ Fast Cut-off	8		√
	CC-TPIX11	PI IOTA Red		12	√
CC-PAIM01		PMIO LL Mux	64		
	CC-TAIM01	PMIO LL Mux IOTA		6	
	FTA				
	Mx-TAMT04	LL Mux TC FTA	16	12	
	Mx-TAMT14	LL Mux TC FTA w/Remote CJR	16	12	
	Mx-TAMR04	LL Mux RTD FTA	16	12	
CC-PAIL51	CC-TAIL51	Low-level AI	16	9	
CC-PPIX01	CC-TPIX01	Pulse Input	8	12	√

5.6. Low Level Analog (Temperature) Input – CC-PAIL51

Function

The Low Level IOP module supports up 16 channels of temperature inputs. Any single channel can support either Thermocouple or Resistance Temperature Device (RTD) inputs. Unlike the LLMUX (CC-PAIM01), 16 channels are supported directly on the Series-C IOTA. No external Process Manager FTA is required.

Notable Features

- TC and RTD operation
- Cold junction compensation
- 1 Second PV scanning with OTD protection
- Configurable OTD protection (See below)

Detailed Specs - Low Level Input 16 Channel

Parameter	Specification	
Input / Output Model	CC-PAIL51	
IOTA (16pt)	CC-TAIL51	9”
Input Type	Thermocouple or RTD (configurable per channel)	
Temperature	Operating Temperature	-40 to +70
	Storage Temperature	-40 to +85
Input Channels	Fully isolated Channel to Channel and Channel to Power System	
Input scan rate	1 Second	
Channel bandwidth	0 to 4.7 Hz (-3 dB)	
Nominal input range (TC only)	-20 to +100 millivolts	
Maximum normal mode continuous input (non-damaging)	-10 to +10 volts (TC) -1 to +2 Volts @ 100 milliamps (RTD)	
Gain error	0.050% full scale max	
Temperature stability	TC, Millivolt inputs	+/-20 ppm per max
	RTD inputs	+/-20 ppm per max
Long term drift	500 ppm	
Input impedance	1 megohm at dc (TC only)	
CMV with respect to Power System common, dc to 60 Hz	+/-250 VDC or VAC RMS	
CMRR, 50 or 60 Hz (with 1000 ohms source impedance max.)	120 dB min	
Voltage, channel-to-channel, dc to 60 Hz	+/-250 VDC or VAC RMS	
Crosstalk, dc to 60 Hz	80 dB (120 dB at 50 and 60 Hz)	

Parameter	Specification	
NMRR at 50/ 60 Hz	60 dB min	
Line frequency integration	Fixed selection of 50 Hz or 60 Hz	
RTD sensor excitation current	1 milliamp	
Cold junction compensation range	-20 to +60 ℃ (+/-0.5 ℃ typical)	
TC Linearization Accuracy (2)	± 0.05 Ω / ℃	
Open Thermocouple Detection	Each conversion qualified, ≤ 1000 Ω = guaranteed no-trip 1500 Ω guaranteed trip.	
RTD Max Lead Resistance	15 Ω	
Supported types (RTD)	Pt: 100 ohm DIN 4376	-180 to +800 ℃
	Pt: 100 ohm JIS C-1604	-180 to +650 ℃
	Ni: 120 ohm ED #7	-45 to +315 ℃
	Cu: 10 ohm SEER	-20 to +250 ℃
	Cu: 50 ohm SEER	-50 to +150 ℃
Supported types (Thermocouple)	ANSI specification J	-200 to +1200 ℃
	ANSI specification K	-100 to +1370 ℃
	ANSI specification E	-200 to +1000 ℃
	ANSI specification T	-230 to +400 ℃
	ANSI specification B	+100 to +1820 ℃
	ANSI specification S	0 to +1700 ℃
	ANSI specification R	0 to +1700 ℃
Supported millivolt types	-20 to +100 millivolts	