Honeywell

Technical Information

Experion Series-C I/O Specification

EP03-490-520

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5.9. Analog Output with HART – CC-PAOH51

Function

The Analog Output (AO) Module delivers high-level constant current to actuators and recording/indicating devices.

Notable Features

- Extensive self-diagnostics
- Optional redundancy
- HART-capable for Status and Configuration
- Safe-state (FAILOPT) behaviors configurable on a per channel basis
- Non-incendive output

FAILOPT

Series C AO module supports the FAILOPT parameter on a per channel basis. The user can configure each channel to either HOLD LAST VALUE, or SHED to a SAFE VALUE. The Output will always go to zero, the safe state, if the IOM device electronics fails.

Open-wire Detection

This Series C IO function will be able to detect and annunciate open field wire with a Channel Soft Failure indication.

Detail Specifications - Analog Output with HART

Parameter	Specification		
Input / Output Model	CC-PAOH51 - High-Level Analog Output with HART		
IOTA Models	CC-TAOX51	Non-Redundant	6”
	CC-TAOX61	Redundant	12”
Output Type	4-20 mA		
Output Channels	16		
Output Ripple	< 100 mV peak-to-peak at power line frequency, across 250 Ω load		
Output Temperature Drift	0.005% of Full Scale/°C		
Output Readback Accuracy	±4% of Full Scale		
Output Current Linearity	± 0.05% of Full Scale nominal		
Resolution	± 0.05% of Full Scale		
Calibrated Accuracy	± 0.35% of Full Scale (25°C) including linearity		
Directly Settable Output Current Range	0 mA, 2.9 mA to 21.1 mA		
Maximum Resistive Load (24 V supply = 22 VDC through 28 VDC)	800 ohms		
Maximum Output Compliant Voltage (24 V supply = 22 VDC through 28 VDC)	16 V		
Maximum Open Circuit Voltage	22 V		

Parameter	Specification
Response Time (DAC input code to output)	settles to within 1% of final value within 80 ms
Gap (0 mA) of Output to Field on Switchover	10 ms maximum (applies to Redundancy only)

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”	

DI Function Matrix

			Function						
IOM	NR IOTA	Red IOTA	24V	HV	SOE	Fast Scan	Open Wire	Isolation	IS
CC-PDIL01	CC-TDIL01	CC-TDIL11	♦			♦	♦	1500V	
CC-PDIL51	CC-TDIL51	CC-TDIL61	♦			♦		1000V	
CC-PDIS01	CC-TDIL01	CC-TDIL11	♦		♦	♦	♦	1500V	
CC-PDIL01	CC-GDIL21	CC-GDIL11	♦			♦	♦	Inf.	♦
CC-PDIH01	CC-TDI110	CC-TDI120		110V			♦	1500V	
CC-PDIH01	CC-TDI220	CC-TDI230		220V			♦	1500V	
CC-PUIO31	CC-TUIO31	CC-TUIO41	♦		♦	♦	♦	None	

DO Function Matrix

				Function					
IOM	**NR IOTA**	**Red IOTA**	**Support IOTA**	**Open Wire Det**	**Short Prot.**	**Output Type**	**Out. I**	**Isolation**	**IS**
CC-PDOB01	CC-TDOB01	CC-TDOB11		♦	♦	Source	0.5A	1500V	
CC-PDOB01	CC-TDOR01	CC-TDOR11	CC-SDOR01	♦		Dry Contact	3A	Inf.	
CC-PDOB01	—	CC-GDOL11	CC-SDXX01	♦	♦	Source	48ma	Inf.	♦
CC-PDOD51	CC-TDOD51	CC-TDOD61		♦	♦	Sink	0.1A	1000V	
CC-PUIO31	CC-TUIO31	CC-TUIO41	♦	♦	♦	Source	0.5A	None	