5.12. Digital Input 24VDC – CC-PDIL01

Function

The Digital Input 24VDC accepts 24VDC signals as discrete inputs.

Notable Features

- Extensive internal diagnostics for data integrity
- Open wire detection
- Optional redundancy
- Internal or external field power selection
- On board excitation power (no need for marshalling power)
- Supplies Non-incendive field power
- Direct / Reverse Input Indication
- Galvanic isolation

Open-wire Bad PV Detection

This Series C IO function will be able to detect and annunciate Open field wire. In addition, a seemingly-valid PV from a channel diagnosed as having a Open-wire will provide a status of “invalid” (thus preventing incorrect control action).

Detail Specifications – DI 24VDC

Parameter	Specification		
Input / Output Model	CC-PDIL01 - 24Volt Digital Input		
IOTA Models	CC-TDIL01	Non Redundant	9”
	CC-TDIL11	Redundant	12”
	CC-GDIL11	Redundant	12”
	CC-GDIL21	Non Redundant	6”
	CC-GDIL01	Redundant for exp.	12”
	CC-SDXX01	GI-IS I/O Expander	12”
Input Channels	32		
Galvanic Isolation (any input terminal voltage referenced to common)	1500 VAC RMS or ±1500 VDC		
Isolation Technique	Optical (in IOM)		
DI Power Voltage Range	18 to 30 VDC		
ON Sense Voltage/Current	13 VDC (min) or 3 mA (min)		
OFF Sense Voltage/Current	5 VDC (max) or 1.2 mA (max)		
Input Impedance	4.2 KΩ		
Absolute Delay Across Input Filter and Isolation	5 ms ± 20%		
Field Resistance for Guaranteed ON Condition	300 Ωmax @ 15 VDC		
Field Resistance for Guaranteed OFF Condition	30 KΩmin @ 30 VDC		

5.14. Digital Input Sequence of Events – CC-PDIS01

Function

The Digital Input Sequence of Events (DISOE) accepts 24VDC discrete signals as discrete inputs. The inputs can be time tagged to support 1ms resolution Sequence of Events.

Notable Features

- Three modes of operation:
- Normal (20ms PV scan)
- Sequence of Events (1ms resolution SOE, 20ms PV scan)
- Low Latency (5ms PV scan)
- Extensive internal diagnostics for data integrity
- Open Wire Detection (in Normal mode only)
- Optional redundancy
- Internal or external field power selection
- On board excitation power (no need for marshalling power)
- Supplies Non-incendive field power
- Direct / Reverse Input Indication
- Galvanic Isolation

Open-Wire Bad PV Detection

This Series C IO function will be able to detect and annunciate an open field wire. In addition, a seemingly valid PV from a channel diagnosed as having an open wire will provide a status of “invalid” (thus preventing incorrect control action).

Detail Specifications – DISOE

Parameter	Specification		
Input / Output Model	CC-PDIS01 - Digital Input Sequence of Events		
IOTA Models	CC-TDIL01	Non Redundant	9”
	CC-TDIL11	Redundant	12”
	CC-GDIL11	Redundant	12”
	CC-GDIL21	Non Redundant	6”
	CC-GDIL01	Redundant for exp.	12”
	CC-SDXX01	GI-IS I/O Expander	12”
Input Channels	32		
Input Channel Scanning (PV)	Normal = 20ms ; Fast = 5ms		
Digital Input Resolution for Sequence of Events (SOE)	1ms		
Galvanic Isolation (any input terminal voltage referenced to common)	1500 VAC RMS or ±1500 VDC		
Isolation Technique	Optical (in IOM)		
DI Power Voltage Range	18 to 30 VDC		
ON Sense Voltage/Current	13 VDC (min) or 3 mA (min)		
OFF Sense Voltage/Current	5 VDC (max) or 1.2 mA (max)		
Input Impedance	4.2 KΩ		
Absolute Delay Across Input Filter and Isolation	5 ms ± 20%		

Field Resistance for Guaranteed ON Condition	300 Ωmax @ 15 VDC
Field Resistance for Guaranteed OFF Condition	30 KΩmin @ 30 VDC

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	