5.15. Digital Input High Voltage- CC-PDIH01

Function

The Digital Input High Voltage accepts 120VAC / 125VDC (CC-TDI110, 120), 120VAC (CC-TDI151 PROX) or 250VAC (CC-TDI2xx) signals as discrete inputs. The same IOM but different IOTA is used for both the 120VAC / 125VDC and 250VAC models. This reduces the number of spares required to support Series C system maintenance.

Notable Features

- Extensive internal diagnostics to ensure data integrity
- Optional redundancy (except CC-TDI151)
- Input direct/reverse
- Galvanic isolation

Detail Specifications – Digital Input High Voltage

Parameter	Specification					
Input / Output Model	CC-PDIH01 – Digital Input High Voltage					
Input Channels	32			32		
Galvanic Isolation (field to logic common)	1500 VAC RMS or ±1500 VDC			1500 VAC RMS or ±1500 VDC		
Isolation Technique	Optical			Optical		
	120 VAC IOTA			240 VAC IOTA		
IOTA Models	CC-TDI110	Non Redundant	9"	CC-TDI220	Non Redundant	9"
	CC-TDI120	Redundant	12"	CC-TDI230	Redundant	12"
	CC-TDI151	Non Redundant	12"			
IOTA Specific Specifications	**CC-TDI151**	**CC-TDI110 & CC-TDI120**		**CC-TDI220 & CC-TDI230**		
Nominal Voltage	120 VAC (PROX)	120VAC	125 VDC	240VAC		
Digital Input Pwr. Range	90-132 V AC RMS	90-132 V AC RMS	100-138 V DC	180-264 V AC RMS		
Sense Current (ON condition) minimum	7.5 mA RMS at 90V RMS 10 mA RMS at 132V RMS	1.0 mA	1.2 mA	1.11 mA RMS		
Sense Current (OFF condition) maximum	2.0 mA RMS	0.32 mA	0.32 mA	0.32 mA RMS		
Pick Up Voltage (ON condition) minimum	90 VAC RMS	90 VAC RMS	100 VDC	180 VAC RMS		
Drop Out Voltage (OFF condition) maximum	20 VAC RMS	25 VAC RMS	25 VDC	50 VAC RMS		
Absolute Delay Across Input Filter and Isolation (Bounceless Input to logic level change)	25 ms maximum	25 ms maximum	10 ms maximum	25 ms maximum		
Frequency Range	47-63 Hz	47-63 Hz	NA	47-63 Hz		

5.16. Digital Output - Bussed 24VDC – CC-PDOB01

Function

The Digital Output bussed 24VDC (DO24V) module provides reliable 24V digital output signals to control other process equipment as well as solenoid valves and interposing relays. The DO24V can support high energy outputs to reduce the number of external components in the output loop.

Notable Features

- Extensive internal diagnostics to ensure data integrity
- Optional redundancy
- Direct/Reverse output support
- Safe-state (FAILOPT) behaviors
- "Fuse-less" short circuit protection
- Latched, pulsed or pulse-width modulated output (per channel)
- Galvanic isolation

Bussed 24VDC DO

The Digital Output Bussed 24VDC has provisions for both internal and external field power excitation. As a bussed output device, all of the outputs share a common return (ground). All outputs get their power from the same source, which can be either the system power supply or an externally connected 24V power supply. When selection is from an external source, outputs can be galvanically isolated from the Series C power system.

Fuse-less Short Circuit Protection

This unique feature allows a short circuit to exist without blowing any fuses. When a particular channel is shorted, internal circuits detect this and remove power to the field connection. The channel remains de-energized until the short circuit is repaired.

FAILOPT

Series C DO module will support FAILOPT parameter on a per channel basis. The output can be directed by configuration to either HOLD THE LAST VALUE, or SHED to a SAFE VALUE. The safe value can be configured by the user.

Detail Specifications - Bussed 24VDC DO

Parameter	Specification			
Input / Output Model	CC-PDOB01 - 24Volt Digital Output , Field Isolated, Bussed output			
IOTA Model Numbers	CC-TDOB01	Non Redundant	9"	
	CC-TDOB11	Redundant	12"	
Output Channels	32			
Output Type	Source			
Load Voltage 15	30 VDC Maximum			
Load Current (A group of 8 channels consists of channels: 1-8, 9-16, 17-24, and 25-32)	(Absolute Maximum)	Per Channel	Per 8 Channels	Per Module
	No Short Condition(1)	0.5A	4A	6A
	One Short Condition(1)	0.5A	3A	6A
	Two Short Condition(1)	0.5A	1.5A	6A
Galvanic Isolation	1500 VAC RMS or ±1500 VDC			

Parameter	Specification
On-State Voltage	24 V (typ), load current @ 0.5A
Off-State Voltage	0v VDC (max) (3.3VDC (max) indicated under no-load condition)
Off-State Leak Current	5.0 µA (max)
Turn-On/Turn-Off Time	10 ms (max)
Gap (0 current) of Output to Field on Switchover	None (0ms) (applies to Redundancy only)
Output voltage will be the Source Voltage – 150mV maximum.	
Note 1: One / Two Short Condition parameter denotes the maximum current that can be passed through the DO with the short condition indicated before the short protection mechanism disables the function.	