

2.2.10. Digital Output 24VDC

Function

The Digital Output bussed 24VDC (DO24V) module can switch reliable 24V digital output signals to control other process equipment as well as solenoid valves and interposing relays.

Notable Features

- Extensive internal diagnostics to ensure data integrity
- Optional redundancy
- Safe-state (FAILOPT) behaviors
- Latched, pulsed or pulse-width modulated output (per channel)
- Galvanic Isolation (System to Field only with external user supplied power)

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 8 power system. A wiring option on the IOTA determines if outputs are referenced to the Series 8 system power or an external field power source.

Safe-state Behavior (FAILOPT)

Series 8 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 – Digital Output 24VDC

Parameter		Specification		
Input / Output Module		8C-PDODA1 - Digital Output 24 VDC, Field Isolated, Bussed output, Coated		
		8U-PDODA1 - Digital Output 24 VDC, Field Isolated, Bussed output, Uncoated		
IOTA Module Numbers		8C-TDODA1	Non Redundant, Coated	9"
		8U-TDODA1	Non Redundant, Uncoated	9"
		8C-TDODB1	Redundant, Coated	12"
		8U-TDODB1	Redundant, Uncoated	12"
Output Channels		32		
Output Type		Source		
Voltage Rating		24 VDC		
Module current rating		105mA		
Temperature	Operating Temperature	0 to 60 °C		
	Storage temperature	-40 to 85 °C		
Load Voltage		30 VDC Maximum		
Module Removal and Insertion Under Power		Supported		

<p>Load Current Short circuit protection for DO channel would be using series FUSES in the output channel. One FUSE per Eight channels. Total FOUR (4) fuses for 32 channels on DO IOTA</p>	<p>100mA per channel (Max)</p>
<p>Galvanic Isolation</p>	<p>1000 VAC RMS for System – to – Field isolation for user supplied field Power only No System- to-Field isolation for internal system power used for field sensing</p>
<p>On-State Voltage</p>	<p>24 VDC (typ) (load current @ 0.1A max)</p>
<p>Off-State Voltage</p>	<p>0v VDC</p>
<p>Off-State Leak Current</p>	<p>5 μA (max)</p>
<p>Turn-On/Turn-Off Time</p>	<p>10 ms (max)</p>
<p>Gap (0 current) of Output to Field on Switchover</p>	<p>None (0ms) (applies to Redundancy only)</p>
<p>Agency certifications</p>	
	 Class I, Division 2, Group A, B, C, D; T4 Class I, Zone 2 AEx/ Ex nA II C T4
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