

#### 4.4.5. Analog Output with HART

##### 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, multivariable devices
- Safe-state (FAILOPT) behaviors configurable on a per channel basis

##### Safe-state Behavior (FAILOPT)

Series 8 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 8 IO function can detect and annunciate open field wire with a Channel Soft Failure indication.

##### Detailed Specification- Analog Output with HART (8C-PAOHA1)

Parameter	Specification
Input / Output Module	8C-PAOHA1 - Analog Output with HART, Coated
IOTA Modules	8C-TAOXA1 Non-Redundant, Coated 6"
	8C-TAOXB1 Redundant, Coated 12"
Output Type	4-20 mA
Output Channels	16
Output Ripple	< 100 mV peak-to-peak at power line freq, across 250 $\Omega$ load
Output Temperature Drift	0.005% of Full Scale/ $^{\circ}$ C
Output Current Linearity	$\pm$ 0.05% of Full Scale nominal
Load Resistance (24 V supply = 22 VDC through 28 VDC)	50-800 $\Omega$
Voltage Rating	24 VDC
Module current rating	205 mA
Resolution	$\pm$ 0.05% of Full Scale
Calibrated Accuracy	$\pm$ 0.2% of Full Scale (25 $^{\circ}$ C) including linearity
Directly Settable Output Current Range	2.9 mA to 21.1 mA
Maximum Output Compliant Voltage (24 V supply = 22 VDC through 28 VDC)	16 V

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Maximum Open Circuit Voltage	22 V
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)
Module Removal and Insertion Under Power	Supported

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