Honeywell

Technical Information

# Experion Series-C I/O Specification

## EP03-490-520

**Release 520**

**Dec 2021, Version 1.5**

## 5.10. Analog Output – CC-PAOX01

### Function

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

### Notable Features

- Extensive self-diagnostics
- Optional redundancy
- Safe-state (FAILOPT) behaviors configurable on a per channel basis
- Output read-back and alarm on discrepancy
- 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 – High Level Analog Output

| Parameter | Specification | | |
|---|---|---|---|
| Input / Output Model | CC-PAOX01 - High-Level Analog Output | | |
| IOTA Models | CC-TAOX01 | Non-Redundant | 6” |
| | CC-TAOX11 | Redundant | 12” |
| | CC-GAOX11 | Redundant | 12” |
| | CC-GAOX21 | Non-Redundant | 6” |
| 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 (25ºC) including linearity | | |
| Directly Settable Output Current Range | 0 mA, 2.9 mA to 21.1 mA | | |
| Maximum Resistive Load<br>(24 V supply = 22 VDC through 28 VDC) | 800 ohms | | |
| Maximum Output Compliant Voltage<br>(24 V supply = 22 VDC through 28 VDC) | 16 V | | |

| Parameter | Specification |
|---|---|
| Maximum Open Circuit Voltage | 22 V |
| Response Time<br>(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” | |