

Universal Marshalling Solution Specification



EP-SCA-100 - ANALOG INPUT BARRIER (model CC- UGAI04)
Sept 2025, Version 1.3

Revision History

| Revision | Date | Description |
|----------|-----------|--|
| 1.0 | Jan 2020 | R100 – Active Modules |
| 1.1 | Nov 2020 | Technical specifications updated |
| 1.2 | Sept 2024 | Updated with label and removed assembly specifications |
| 1.3 | Sept 2025 | Updated Entity parameter |

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1. Overview


This document provides technical information for the following components of the Universal Marshalling Solution.

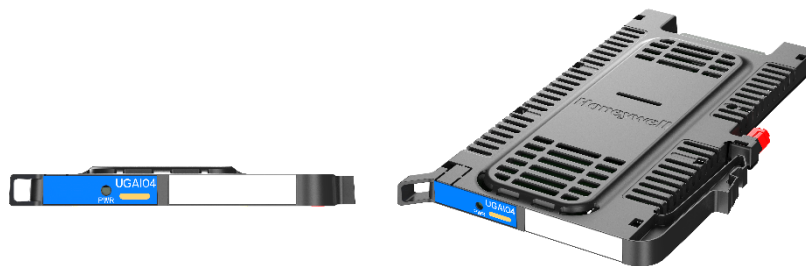
- Analog Input barrier module

For information on the Universal Signal Conditioning Assembly, see the EP-SCA-100 CC-UGIA01 document

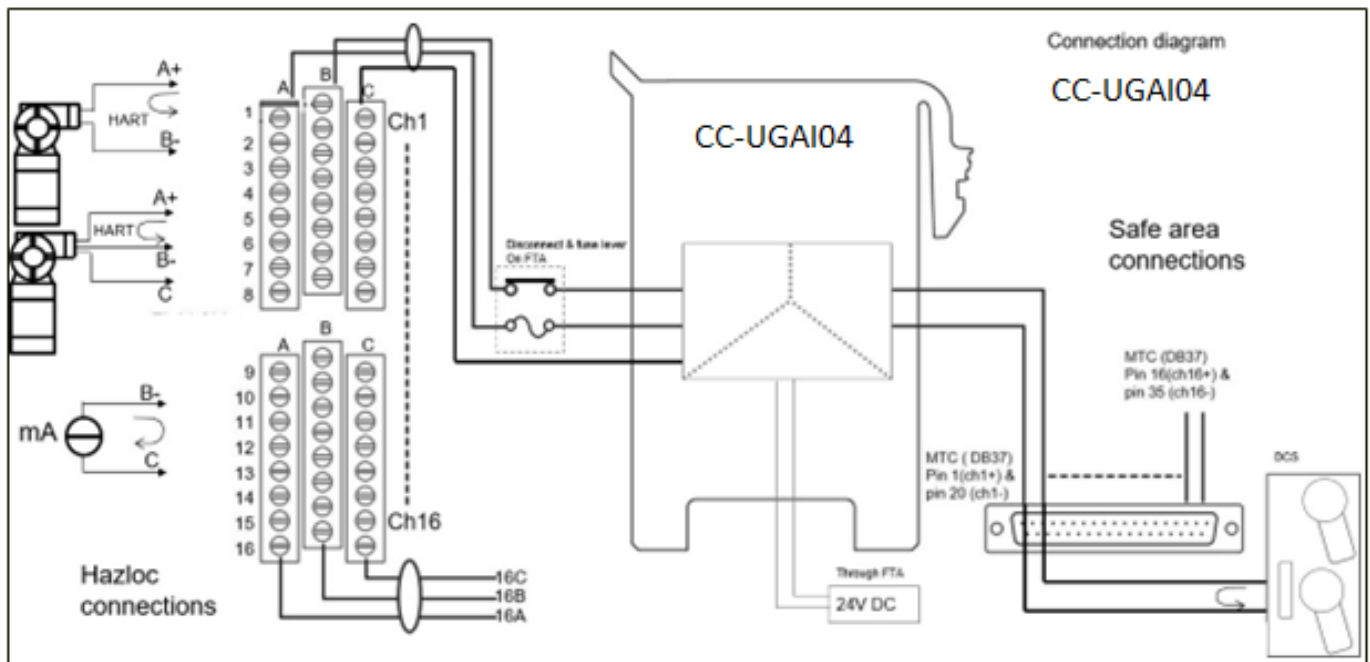
2. Universal Analog Input Barrier CC-UGAI04

CC-UGAI04 is a single channel Galvanically Isolated Analog Input Barrier module which is suitable for use with CC-UGIA01. This module supports 4-20mA and HART. CC-UGAI04 offers 3-way isolation, fault transparency for field side open wire conditions and reverse polarity protection.

| | |
|-------------------------------------|---|
| KEY TYPE No. | 6 |
| 50187496 KEY VIEW IN ASSEMBLY |  |
| DESCRIPTION | 300° ALIGNMENT |



2.1 Connections



2.2 Detailed Specifications - CC-UGAI04

| Parameter | Specifications |
|---|---|
| Assembly | CC-UGIA01 |
| Input / Output Model | CC-UGAI04 - Analog Input Barrier Module |
| Number of channels | 1 |
| Physical Specification | |
| Dimensions | 141.5mm (L) x 85.75mm (W) x10mm (H). |
| Assembly option | Back-plane mount, screw less |
| Mistake Proofing | By mechanical Keys |
| Power Supply | |
| Power supply | 24 VDC |
| Rated Current | 60 mA at 24 V |
| Power Consumption | 1.45 W |
| Power dissipation | 1.15 W at 24 VDC with 20 mA loop current |
| Power Indication | Green LED |
| Electrical Isolation | |
| Power/DCS to Field | 1500 VAC |
| Safe side interface | |
| DCS side connections | 37 pin DSUB connector on CC-UGIA01 |
| Voltage Input | 24 VDC |
| Current Input | 4 to 20 mA with HART. |
| Open wire current | <150uA |
| HAZLOC interface | |
| Field Terminals | Through 3 tier terminal blocks on CC-UGIA01 |
| Transfer accuracy at 20°C (4-20mA) | +/- 20 uA |
| Short circuit current | 23.5+0.5 mA |
| Available voltage at max load | >16.64 V at 20 mA field side current |
| HAZLOC interface | A(+), B(-) : CC-UGAI04 in 2 wire current source mode Supports 4-20mA with HART A(+), B(-), C : CC-UGAI04 in 3 wire current source mode Supports 4-20mA B(-), C : CC-UGAI04 in 2 wire current sink mode Supports 4-20mA |
| Influence of ambient temperature | Influence of ambient temperature reference to +20°C -30°C to +70 °C : < 2uA / °C -40°C to -30 °C : < 6uA / °C |
| Ambient Conditions | |
| Ambient temperature (operation) | -40 degree C to + 70 degree C |
| Ambient temperature (storage/transport) | -40 degree C to + 85degree C |
| Permissible humidity (operation) | 5 % -. 95 % (non-condensing) |

| Parameter | Specifications |
|---------------------|--|
| Mechanical | |
| Vibration | Non-Operational 1g 10Hz to 150Hz, Operational 0.5g 10Hz to 150Hz. |
| Shock | 15g Non-Operational, 5g operational. |
| Parameter | Specifications |
| Compliance | |
| Ingress protection | IP20 as per IEC 60529 |
| Flammability rating | V0 as per UL 94 |
| HAZLOC Conformance | ANSI/ISA 60079-0; 60079-15, 60079-11, 60079-7 |
| EMC directive | 2014/30/EU (IEC 61326-1 2012) |
| ATEX | Ex ec [ia Ga] IIC T4 Gc |
| IEC Ex | Ex ec [ia Ga] IIC T4 Gc |
| USA/Canada | Class I Division 2, Group A, B, C, D, T4 Ex ec [ia Ga] IIC T4 Gc Ex nA [ia Ga] IIC T4 Gc Class I, Zone 2 AEx ec [ia Ga] IIC T4 Gc Class I, Zone 2 AEx nA [ia Ga] IIC T4 Gc |
| Compliance | RoHS |

2.3 IO modules supported

| | IO module | IOTA | IO type | Description |
|---|-----------|---|---------|--|
| 1 | CC-PAIX02 | CC-TAIX01, CC-TAIX11 | AI-HL | High Level Analog Input with Differential/Single-ended non-HART |
| 2 | CC-PAIX01 | CC-TAIX01, CC-TAIX11 | AI-hl | High Level Analog Input with Differential non-HART |
| 3 | CC-PAIN01 | CC-TAIN01,CC-TAIN11 DC-TAIX51, DC-TAIX61 | AI-hl | High Level Analog Input with non-HART 1 Modem, High Level Analog Input with HART |
| 4 | CC-PUIO31 | CC-TUIO31,CC-TUIO41, DC-TUIO31,DC-TUIO41 | UIO-2 | UIO-2 |
| 5 | CC-PAIH51 | CC-TAIX51,CC-TAIX61 DC-TAIX51, DC-TAIX61 | AIH | High Level Analog Input with HART |

Note : CC-UGAI01 will continue with all the I/O Modules(CC-PAIH01, CC-PAIH02, CC-PAIX02, CC-PAIX01, CC-PAIN01, CC-PUIO31, CC-PAIH51) and UIO modules. CC-UGAI04 will be compatible with the I/O Modules(CC-PAIX02, CC-PAIX01, CC-PAIN01, CC-PUIO31, CC-PAIH51) and UIO modules.

2.4 Label

| | |
|---|---|
| <p>Honeywell Analog Input Barrier</p> <p>Fort Washington, PA, USA 19034 Model: CC-UGAI04</p> <p>Country of Origin: CHINA</p> <p>Pat.:hsmplats.com</p> <p>Power:+24V DC, 60 mA</p> <p>Ta: -40°C to +70°C</p> <p>Uo=25.2V Io=91.29 mA</p> <p>Um=250V</p> | |
| <p>Serial No.: M29-R XXXXXXXX</p> | |
| | |
| <p>CSA 19CA70215903X</p> | <p>CL.I, Div.2 Gr A-D, T4</p> <p>CL.I, Zn2, AEx/Ex nA [Ia Ga] IIC T4 Gc</p> <p>CL.I, Zn2, AEx/Ex ec [Ia Ga] IIC T4 Gc</p> <p>Provides Intrinsically safe</p> <p>DIV1/Zn0/non Incendive</p> <p>Outputs as per 50149737</p> |
| | <p>II 3(1)G Ex ec [Ia Ga] IIC T4 Gc</p> <p>CSANe 20ATEX3283X</p> <p>Ex ec [Ia Ga] IIC T4 Gc</p> <p>IECEX SIR 20.0049X</p> <p>Installations as per 50149737</p> |
| <p>2813</p> | <p>2011/65/EU</p> |

2.5 Entity parameters

| Parameter | Specification |
|---------------------------|--|
| Maximum Safe Voltage (Um) | 250V |
| Uo | 25.2 V |
| Io | 91.29 mA |
| Po | 570.32 mW |
| Lo | Lo = (IIC) 4.265 mH, (IIB) 17.059 mH, (IIA) 34.132 mH |
| Co | Co = (IIC) 0.085 μ F, (IIB) 0.798 μ F, (IIA) 2.878 μ F |

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EP-SCA-100 - ANALOG INPUT BARRIER (model CC- UGAI04)
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