Honeywell

Technical Information

Universal Marshalling Solution for Safety Systems Specification

EP-DOCX-SCA-SMSC-100

Release 310

March 2021, Version 2.0

Revision History

Revision	Date	Description
1.0	August 2020	First release
1.1	September 2020	Update on specifications
2.0	March 2021	GIIS Barriers, FC-UDOF01 adaptor and High Current baseplate added

Table of Contents

1. Product Introduction Summary

1.1. Overview

This document provides technical information for the various components of the Universal Marshalling Solution for Safety Systems Release R100.

1.2. Scope

The following Universal Marshalling Solution items are included in this document.

- CC-USCA01, Universal Signal Conditioning Assembly 24 VDC
- CC-UPTA01, Pass Through Adapter 24 VDC
- FC-UDI501, Digital Input with 5K resistor Adapter 24 VDC SIL 3
- FC-UIR501, Digital Input Relay with 5K resistor Adapter 24 VDC SIL1
- FC-UDIR01, Digital Input Relay Adapter 24 VDC SIL 3
- FC-UDOR01, Digital Output Relay Adapter 24 VDC SIL 3
- FC-UDOF01, Digital Output Relay Adapter F&G 24 VDC SIL 3
- FC-UAIA01, Analog Input, 3 wire, 4-20Ma SIL 3
- FC-UAIS01, Analog input Sink, 3 wire, 4-20mA SIL 2
- FC-UDIN01, Namur proximity switch input SIL 2
- FC-UDNS01, Namur Safety proximity switch input SIL 2
- FC-UGAI01, Analog Input Barrier, SIL 2
- FC-UGAO01, Analog Output Barrier, SIL 2
- FC-UGDA01, Digital Input/Output Barrier, SIL 2
- CC-UGIA01, Universal Signal Conditioning Assembly IS 24 VDC
- FC-USCA01, Universal Signal Conditioning High Current Assembly 24 VDC

1.3. Definitions

- **Universal Signal Conditioning Assembly (USCA):** An assembly that holds the 16 adapters, the connections for field wiring and mass termination cable connector
- **Input Output Termination Assembly (IOTA):** An assembly that holds the IOM and the connections for field wiring,
- **Input Output Module (IOM):** A device that contains most of the electronics required to perform a specific I/O function. The IOM plugs onto the IOTA.

2. Features

Universal Marshaling Solution provides standardized marshalling for central and distributed installations using signal conditioning assemblies. The signal conditioning assemblies handle 16 I/O's including disconnect, fusing as default, and when needed signal conditioning adapters (SCA) including isolation, intrinsic safety, relay, and other functions can be plugged in optionally. The SCA supports standardized cabinet assembly and wiring configurations without the need for custom wiring.

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The unique features of UMS include:

- Three level flexible field terminations are provided to cater to various field wiring requirements.
- The Signal Conditioning Adapters are plugged into the USCA to eliminate the need for a separate installation of isolators, relays, signal converters and barriers.
- USCA has integral (optional) fuse and knife disconnect for easier plant installation and maintenance.
- D-Sub connector is provided on the USCA for interfacing with the IOTA.
- Field power is supplied through the USCA via the system integration cable (SIC) from the Safety IOTA.
- Optional power connector is provided to supply power to the active signal conditioning adapters.
- Optional 16 plug and play Signal Conditioning Adapters.
- Vertical mounting for more effective wiring since most field wiring applications require entry from the top or bottom of the cabinet.
- An LED for a quick visual cue to draw the Maintenance Technician's eye to important status information of relay and active signal conditioning adapters.

USCA's combine multiple functions into a single piece of equipment:

- Plug and Play adapters for optional signal conditioning.
- On-board flexible termination of process signals.
- On-board connection to Safety IOTAs.
- On-board Field power distribution.
- USCA receives 24 VDC power.
- Field disconnect.
- Field fuse.
- Probe points for testing.

3. Universal Marshalling Solution

In virtually all configurations, the Universal Marshaling Solution provides useful, maintainable safety equipment connections in a smaller footprint than existing competitors and Honeywell equivalent products. Installing signals conditioning adapters contribute to overall total installed cost savings.

3.1. Functions

- **Universal Signal Conditioning Assembly** – CC-USCA01 is a backplane assembly which can accommodate 16 signal conditioning modules. Field side terminals of each channel is provided with integrated fuse and knife disconnect function. The safety system side interface is provided through a single mass termination cable (SIC) which connects all 16 channels. CC-USCA01 is DIN rail mountable.
- **Universal Pass Through Adapter** – CC-UPTA01 is a single channel pass through module which allows direct connectivity between safety system field terminals (both live & return) and the field device. This module does not require external power to operate.
- **Digital Input with 5K resistor Adapter** - FC-UDI501 is a single channel digital input module with a 5K resistor for digital input devices without EOL. Output side interfaces with the field device and the input side gets connected to safety system. This module does not require external power to operate.
- **Digital Input Relay with 5K resistor Adapter** - FC-UIR501 is a single channel relay input module with a 5K resistor for wet contact applications. Coil side of the relay interfaces with the field device and the contact side gets connected to safety system. This module does not require external power to operate
- **Digital Input Relay Adapter** - FC-UDIR01 is a SIL 3 single channel relay input module for low voltage applications. Coil side of the relay interfaces with the field device and the contact side gets connected to safety system. This module does require external power to operate.
- **Digital Output Relay Adapter** - FC-UDOR01 is a SIL 3 Normally Open single channel relay output module for low voltage applications. Contact side of the relay interfaces with the field device and the coil side gets connected to safety system. This module does not require external power to operate.
- **Digital Output Relay Adapter F&G** - FC-UDOF01 is a SIL 3 Normally Open single channel relay output module for low voltage applications. The adaptor is capable to drive high current field devices. Contact side of the relay interfaces with the field device and the coil side gets connected to safety system. This module does not require external power to operate.
- **Analog Input Adapter, type 3 wire -** FC-UAIA01 is a single channel analog input module which supports three wire sensors. Only if used in 3-wire mode, this module requires an external power to operate. This gets connected to the UIO module of the safety system.
- **Analog Input Adapter, type Sink -** FC-UAIS01 is a single channel analog input module which supports source type sensors. This module does require an external power to operate. This gets connected to the UIO module of the safety system.
- **Digital Namur proximity switch Adapter** - FC-UDIN01 is a single channel digital input module for digital proximity switches. Output side interfaces with the field device and the input side gets connected to the UIO module of the safety system. This module does not require external power to operate.
- **Digital Namur safety proximity switch Adapter** - FC-UDNS01 is a single channel digital input module for digital safety proximity switches. Output side interfaces with the field device and the input side gets connected to the UIO module of the safety system. This module does not require external power to operate.
- **Analog Input Barrier Adapter** – FC-UGAI01 is a single channel analog input barrier module, for Intrinsically Safe Analog Input devices. Output side interfaces with the field device in a non-Safe zone and the input side gets connected to the USIO module of the safety system. This module does not require external power to operate.
- **Analog Output Barrier Adapter** – FC-UGAO01 is a single channel analog output barrier module, for Intrinsically Safe Analog Output devices. Output side interfaces with the field device in a non-Safe zone and the input side gets connected to the USIO module of the safety system. This module does not require external power to operate.
- **Digital Input/Output Barrier Adapter** – FC-UGDA01 is a single channel digital input or output barrier module, for Intrinsically Safe Digital Input or Output devices. Output side interfaces with the field device in a non-Safe zone and

the input side gets connected to the USIO module of the safety system. This module does not require external power to operate.

- **Universal IS Signal Conditioning Assembly** – CC-UGIA01 is a backplane assembly which can accommodate 16 IS barrier modules. Field side terminals of each channel is provided with integrated fuse and knife disconnect function. The safety system side interface is provided through a single mass termination cable (SIC) which connects all 16 channels. CC-UGIA01 is DIN rail mountable.
- **Universal Signal Conditioning High Current Assembly** – FC-USCA01 is a backplane assembly which can accommodate 16 signal conditioning modules for high current applications. Field side terminals of each channel is provided with integrated fuse and knife disconnect function. The safety system side interface is provided through a single mass termination cable (SIC) which connects all 16 channels. FC-USCA01 is DIN rail mountable.

4. Specifications

Specifications for Universal Marshalling Solution are shown below.

4.1. Universal Signal Conditioning Assembly CC-USCA01

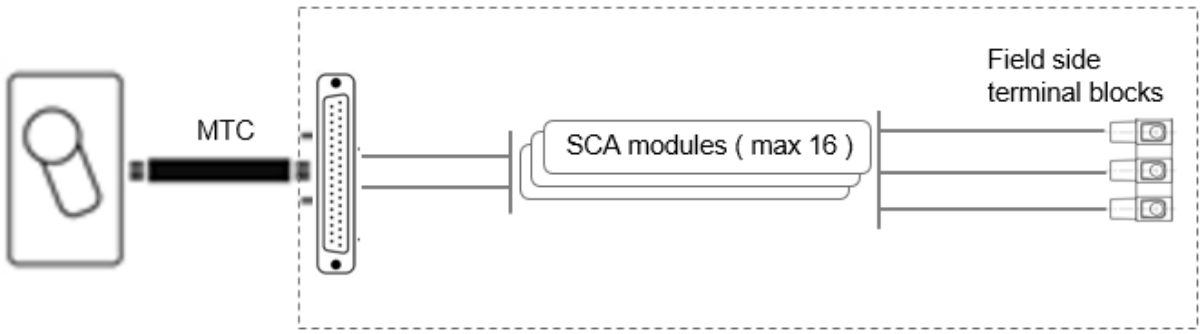
Function

CC-USCA01 is a back plane assembly which can accommodate 16 signal conditioning modules. Field side terminals of each channel is provided with integrated fuse and knife disconnect function. The safety system side interface is provided through a single System Integration Cable (SIC) which connects all 16 channels. CC-USCA01 is DIN rail mountable.

Features

- Integrated fuse and disconnect function for field side interfaces
- Fuse blown indication for field side fuses
- Disconnect function with current measurement terminals
- 2 wire or 3 wire interface towards field for each channel
- 24V DC power with LED indication
- System Integration Cable (SIC) for 16 channel system side interface
- Screw less assembly to the base plate
- Compatibility with Honeywell IO families: Series C module, Universal IO, Universal Safety IO

Connections



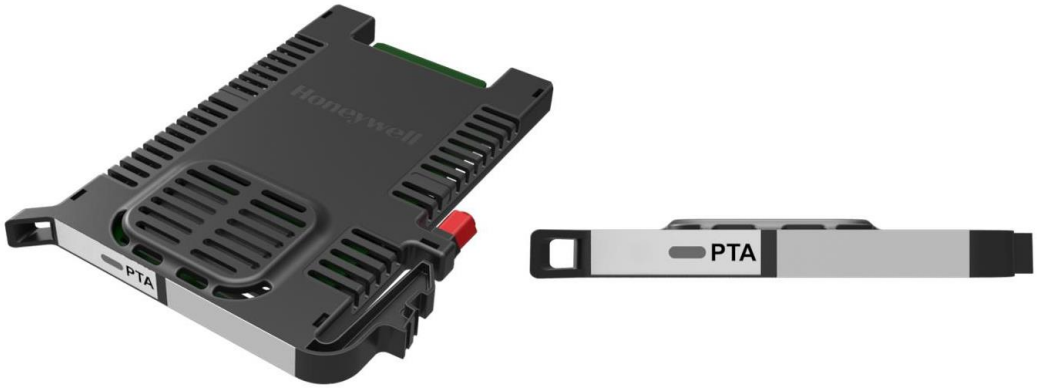
Detail Specifications – Universal Signal Conditioning Assembly

Parameter	Specifications
Physical Specification	
Dimensions	199mm (H) x 140mm(W) x 135mm (D)
Assembly option	DIN rail mount using base plate
Ambient Conditions	
Ambient temperature (operation)	-40 °C to + 70 °C
Ambient temperature (storage/transport)	-40 °C to + 85 °C
Permissible humidity (operation)	5 % ... 95 % (non-condensing)
Vibration	IEC 60068-2-6; 1 G at 57 Hz to 150 Hz; 10 Hz to 57 Hz: 0.075mm
Shock	IEC 60068-2-27; 15 G for 11 ms, 3 axes
Enclosure and Mounting	
Assembly	Base plate and housing
Mounting	Base plate with DIN rail mount & snap housing to the base plate
Electrical Specifications	
Power	24V DC
Max current	1.3A
Power indication	Green LED
Interface to Safety System	37 pin DSUB (For SIC cable)
Field side interface	Dedicated 3 terminals per channel
Power connector wire gauge	10-26 AWG
Field side wire gauge	12-24 AWG
Compliance	
SIL Rating	SIL 3 as per IEC61508
Flammability rating	V0 as per UL 94
Protection level	IP20 (When modules are mounted)
Conformance	IEC/UL 60079-0; 60079-7, 60079-11, 60079-15
EMC directive	2014/30/EU (IEC 61326-1, EN 61000-6-7)
HAZLOC Compliance	ATEX, IEC Ex, cCSAus
Compliance	RoHS

4.2. Universal Pass Through Adapter CC-UPTA01

Function

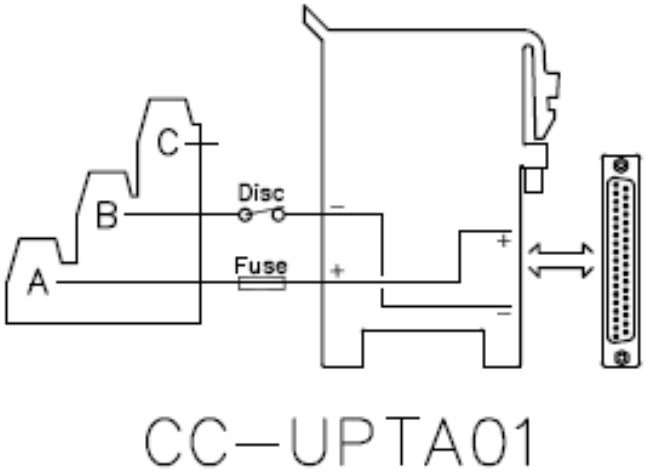
CC-UPTA01 is a single channel pass through module which allows direct connectivity between Safety System or Safety field terminals (both live & return) and the field device. This module does not require external power to operate.



Features

- Single channel Pass Through Adapter
- 2 wire AI/AO/DIL/DO/DOL
- System powered field I/O
- HART Pass Through
- Interface with conventional Series C IOMs, Universal IO and Universal Safety IO Module

Connections



Detail Specifications – Universal Pass Through Adapter

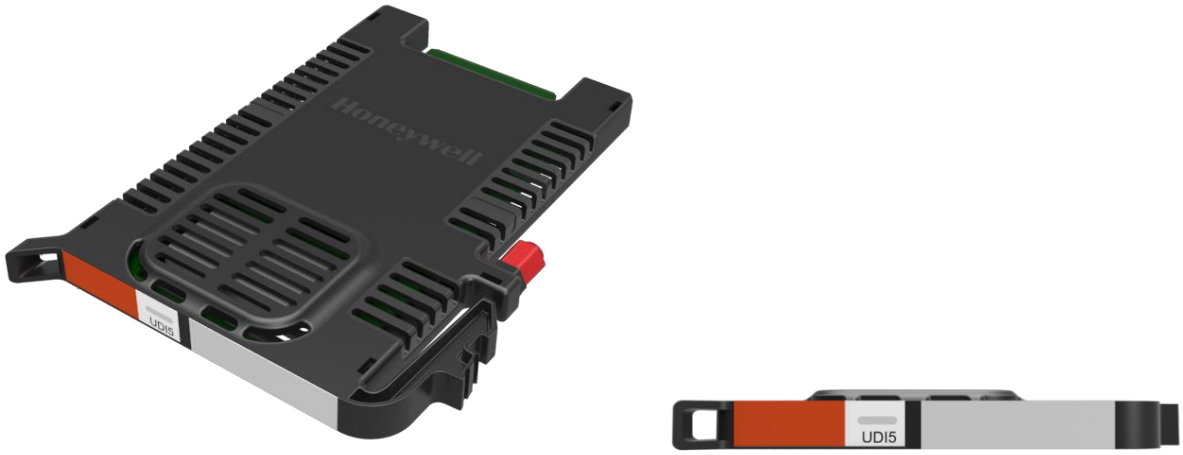
Parameter	Specifications
Physical Specification	
Dimensions	118 mm (D) x 85.75 mm (W) x 10.0mm (H)
Assembly option	Backplane mount, screw less
Mistake Proof	NA

Indicators	None
Connections	2 signal lines from Safety System to field side
Ambient Conditions	
Ambient temperature (operation)	-40 °C to + 70 °C
Ambient temperature (storage/transport)	-40 °C to + 85°C
Permissible humidity (operation)	5 % ... 95 % (non-condensing)
Vibration	Non-Operational 1g 10Hz to 150Hz, Operational 0.5g 10Hz to 150Hz
Shock	5g operational, 15g Non-Operational
Enclosure and Mounting	
Assembly	Base plate and housing
Mounting	Base plate with DIN rail mount & snap housing to the base plate
Electrical Specifications	
Power	24V DC
Max current	500mA
Power indication	NA
Interface to Safety System	37 pin DSUB (For SIC cable)
Field side interface	Dedicated 3 terminals per channel
Field side wire gauge	12-24 AWG
Compliance	
SIL rating	SIL 3 as per IEC 61508
Ingress protection	IP20 as per IEC 60529
Flammability rating	V0 as per UL 94
Conformance	ANSI/ISA 60079-0; 60079-15
EMC directive	IEC 61326-1 2012
ATEX	Ex ic IIC T4 Gc, Ex ec nC IIC T4 Gc
IEC Ex	Ex ic IIC T4 Gc, Ex ec nC IIC T4 Gc
USA/Canada	Class I, Div. 2, Groups A, B, C, D T4 Class I, Zone 2, IIC T4
Compliance	RoHS

4.3. Digital Input 5K Adapter FC-UDI501

Function

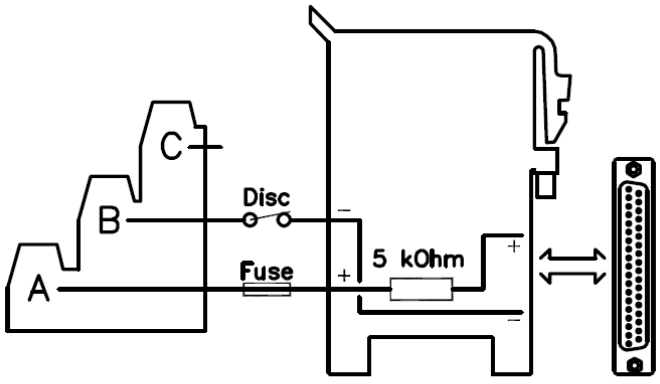
FC-UDI501 is a SIL 3 single channel input module with a 5KOhm shunt resistor for low voltage applications. Output of the adaptor interfaces with the field device and the input side gets connected to Safety system. This module does not require external power to operate.



Features

- Single channel Digital Input with 5KOhm shunt
- Interface with Universal Safe Input Output Module

Connections



FC–UDI501

Detail Specifications – Universal Input 5K Adapter

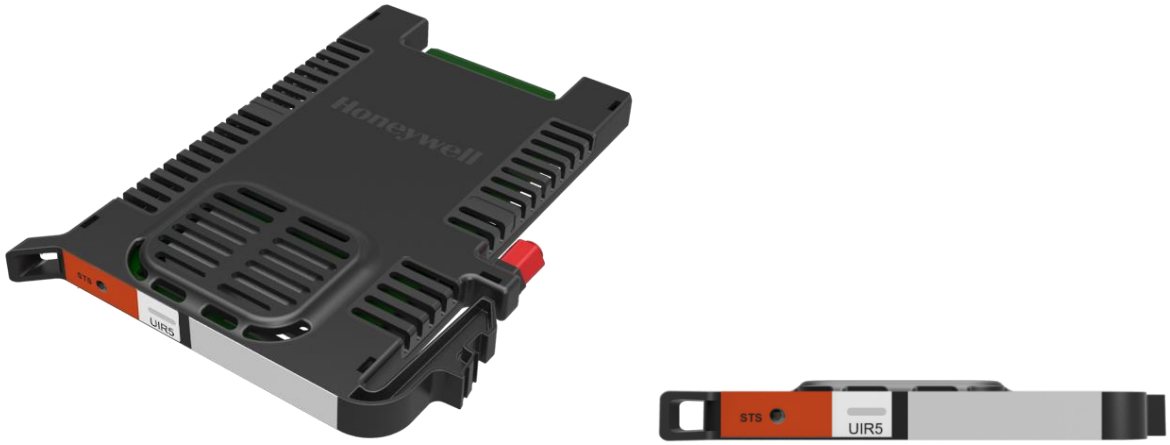
Parameter	Specifications
Physical Specification	
Dimensions	118 mm (D) x 85.75 mm (W) x 10.0mm (H)
Assembly option	Backplane mount, screw less
Mistake Proof	Mechanical Keys

Indicators	NA
Ambient Conditions	
Ambient temperature (operation)	-40 °C to + 70 °C
Ambient temperature (storage/transport)	-40 °C to + 85 °C
Permissible humidity (operation)	5 % ... 95 % (non-condensing)
Vibration	IEC 60068-2-6; 1 G at 57 Hz to 150 Hz; 10 Hz to 57 Hz: 0.075mm
Shock	IEC 60068-2-27; 15 G for 11ms, 3 axes
Electrical Specifications	
Resistor	5 KOhm +/- 2%
Voltage	24VDC -15% and +30%
Interface to Safety System	37 pin DSUB (For SIC cable)
Current	Max. 6mA
Compliance	
SIL rating	SIL 3 as per IEC 61508
Ingress protection	IP20 as per IEC 60529
Flammability rating	V0 as per UL 94
Conformance	IEC/UL 60079-0; 60079-7, 60079-11, 60079-15
EMC directive	2014/30/EU (IEC 61326-1, EN 61000-6-7)
ATEX / IEC Ex	Ex ic IIC T4 Gc, Ex ec IIC T4 Gc
USA/Canada	Cl. 1, Div. 2 Grp. ABCD; T4 Cl.1,Zn2, AEx\Ex ic IIC T4 Gc Cl.1,Zn2, AEx\Ex ec IIC T4 Gc Cl.1,Zn2, AEx\Ex nA IIC T4 Gc
Compliance	RoHS

4.4. Digital Input Relay 5K Adapter FC-UIR501

Function

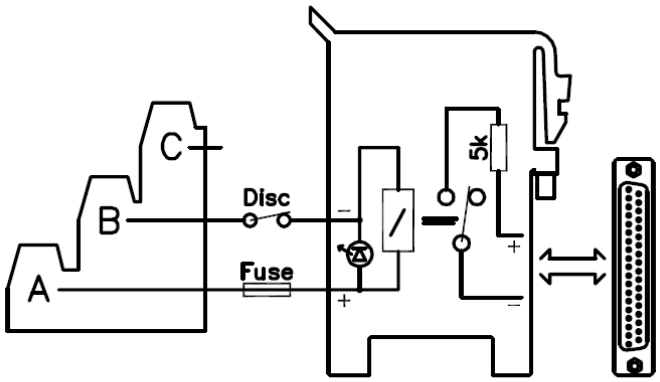
FC-UIR501 is a SIL 1 single channel relay isolated input module with a 5KOhm shunt resistor for low voltage applications. The relay coil of the adaptor interfaces with the field and the contact side gets connected to Safety system. This module is powered by the field.



Features

- Single channel Digital Input Relay with 5KOhm shunt
- Interface with Universal Safe Input Output Module

Connections



FC–UIR501

Detail Specifications – Digital Input Relay 5K Adapter

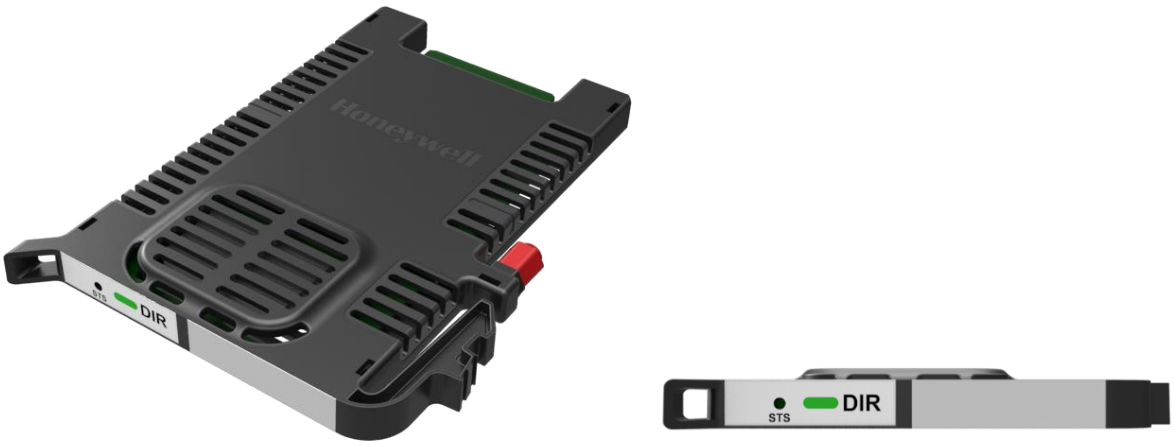
Parameter	Specifications
Physical Specification	
Dimensions	118 mm (D) x 85.75 mm (W) x 10.0mm (H)
Assembly option	Backplane mount, screw less
Mistake Proof	Mechanical Keys

Indicators	Input Status LED (green)
Ambient Conditions	
Ambient temperature (operation)	-40 °C to + 70 °C
Ambient temperature (storage/transport)	-40 °C to + 85 °C
Permissible humidity (operation)	5 % ... 95 % (non-condensing)
Vibration	IEC 60068-2-6; 1 G at 57 Hz to 150 Hz; 10 Hz to 57 Hz: 0.075mm
Shock	IEC 60068-2-27; 15 G for 11ms, 3 axes
Electrical Specifications	
Input Voltage	24VDC -15% and +30%
Input Current	10mA current limited
Interface to Safety System	37 pin DSUB (For SIC cable)
Output Resistor	5 KOhm +/- 2%
Compliance	
SIL rating	SIL 1 as per IEC 61508
Ingress protection	IP20 as per IEC 60529
Flammability rating	V0 as per UL 94
Conformance	IEC/UL 60079-0, 60079-15
EMC directive	2014/30/EU (IEC 61326-1, EN 61000-6-7)
ATEX /IEC Ex	Ex ec nC IIC T4 Gc
USA/Canada	Cl. 1, Div. 2 Grp. ABCD; T4 Cl.1,Zn2, AEx/Ex ec nC IIC T4 Gc
Compliance	RoHS

4.5. Digital Input Relay Adaptor FC-UDIR01

Function

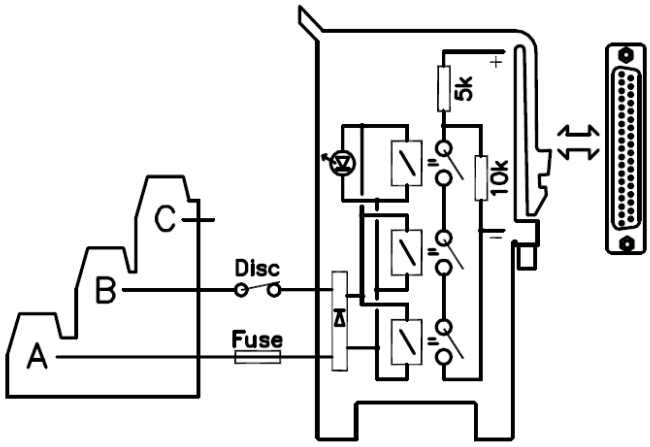
FC- UDIR01 is a SIL 3 single channel isolated digital input relay module.



Features

- Single channel Digital Input relay adaptor

Connections



FC–UDIR01

Detail Specifications

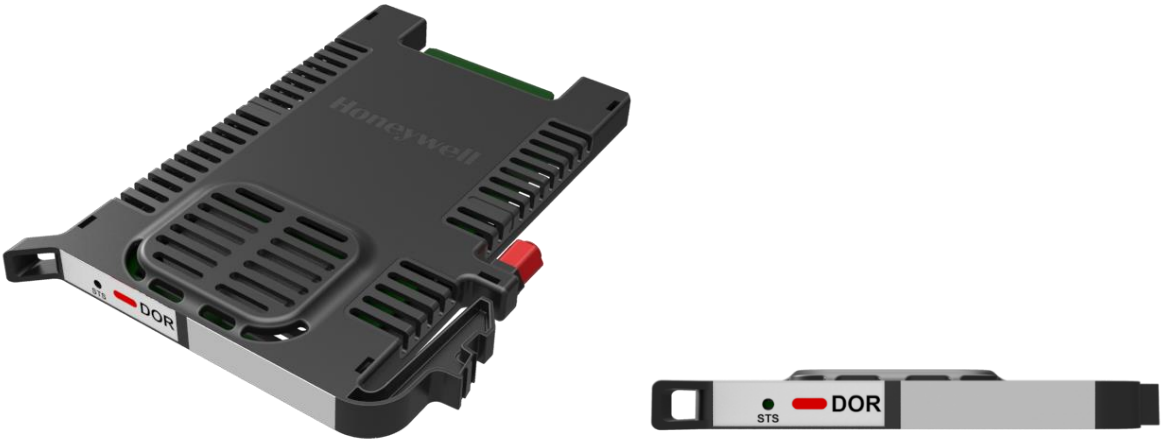
Parameter	Specifications
Physical Specification	
Dimensions	141.5mm (L) x 85.75mm (W) x10mm (H)
Assembly option	Backplane mount, screw less
Mistake Proof	Mechanical Keys

Indicators	Input status LED (green)
Ambient Conditions	
Ambient temperature (operation)	-40 °C to + 70 °C
Ambient temperature (storage/transport)	-40 °C to + 85 °C
Permissible humidity (operation)	5 % ... 95 % (non-condensing)
Vibration	IEC 60068-2-6; 1 G at 57 Hz to 150 Hz; 10 Hz to 57 Hz: 0.075mm
Shock	IEC 60068-2-27; 15 G for 11ms, 3 axes
Enclosure and Mounting	
Assembly	Base plate and housing
Mounting	Base plate with DIN rail mount & snap housing to the base plate
Electrical Specifications	
Input Voltage	24VDC -15% and +30%
Input Current	Max. 20 mA
Interface to Safety System	37 pin DSUB (For SIC cable)
Output resistance (input low)	15kOhm +/- 2%
Output resistance (input high)	5kOhm +/- 2%
Compliance	
SIL rating	SIL 3 as per IEC 61508
Ingress protection	IP20 as per IEC 60529
Flammability rating	V0 as per UL 94
Conformance	IEC/UL 60079-0, 60079-7, 60079-11, 60079-15
EMC directive	2014/30/EU (IEC 61326-1, EN 61000-6-7)
IEC Ex, ATEX	Ex ec nC IIC T4 Gc
USA/Canada	Cl. 1, Div. 2 Grp. ABCD; T4 Cl.1,Zn2, AEx\Ex ec nC IIC T4 Gc
Compliance	RoHS
Galvanic Isolation	
Input to output	1500V RMS

4.6. Digital Output Relay Adaptor FC-UDOR01

Function

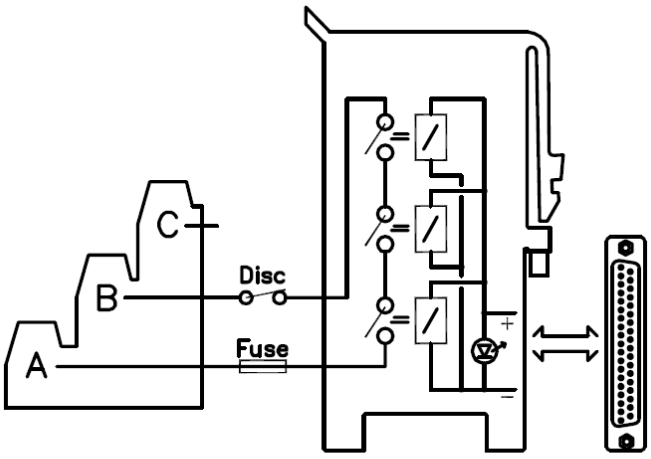
FC- UDOR01 is a SIL 3 single channel isolated digital output relay adaptor module.



Features

- Single channel Digital Output Relay Adaptor.

Connections



FC–UDOR01

Detail Specifications

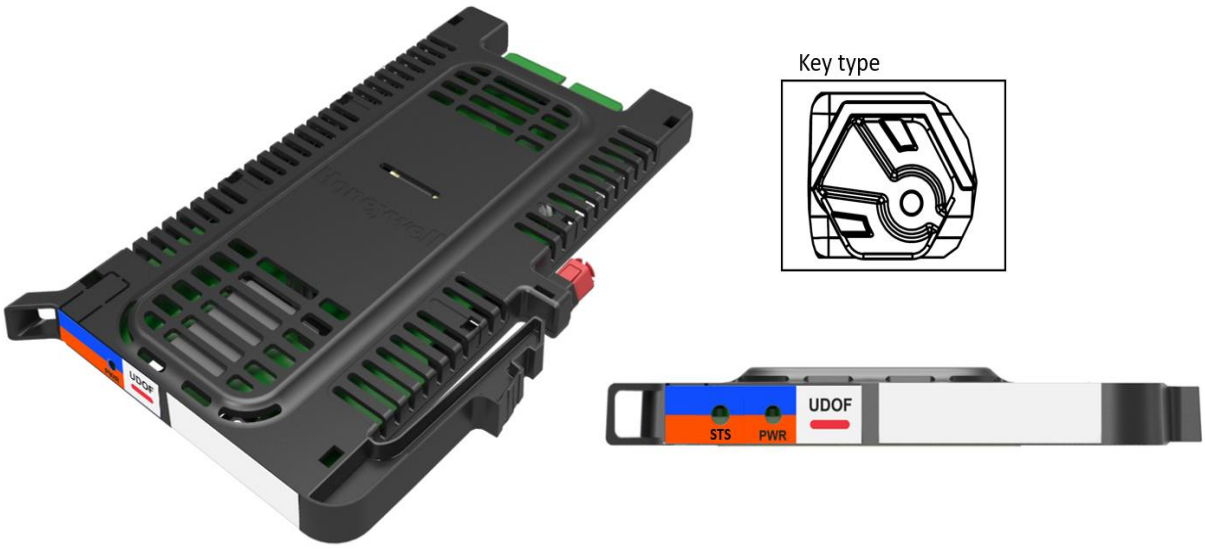
Parameter	Specifications
Physical Specification	
Dimensions	141.5mm (L) x 85.75mm (W) x10mm (H).
Assembly option	Backplane mount, screw less
Mistake Proof	By mechanical Keys
Indicators	Status green LED
Ambient Conditions	
Ambient temperature (operation)	-40 °C to + 70 °C

Ambient temperature (storage/transport)	-40 °C to + 85 °C
Permissible humidity (operation)	5 % ... 95 % (non-condensing)
Vibration	IEC 60068-2-6; 1 G at 57 Hz to 150 Hz; 10 Hz to 57 Hz: 0.075mm
Shock	IEC 60068-2-27; 15 G for 11ms, 3 axes
Enclosure and Mounting	
Assembly	Base plate and housing
Mounting	Base plate with DIN rail mount & snap housing to the base plate
Electrical Specifications	
Input Voltage	24VDC -15% and + 30%
Input Current	15mA at 24V
Power Consumption	0.36 W
Interface to Safety System	37 pin DSUB (For SIC cable)
Output Max. switched voltage	24 VDC
Output Max. switched current	1 Amp (resistive load) use of a correct channel fuse in the CC-USCA01
Compliance	
SIL rating	SIL 3 as per IEC 61508
Ingress protection	IP20 as per IEC 60529
Flammability rating	V0 as per UL 94
Conformance	IEC/UL 60079-0, 60079-15
EMC directive	2014/30/EU (IEC 61326-1, EN 61000-6-7)
ATEX , IEC Ex	Ex eC nC IIC T4 Gc
USA/Canada	Cl. 1, Div. 2 Grp. ABCD; T4 Cl.1,Zn2, AEx\Ex ec nC IIC T4 Gc
Compliance	RoHS
Galvanic Isolation	
Input to output	1500 VAC RMS

4.7. Digital Output Relay Adaptor F&G FC-UDOF01

Function

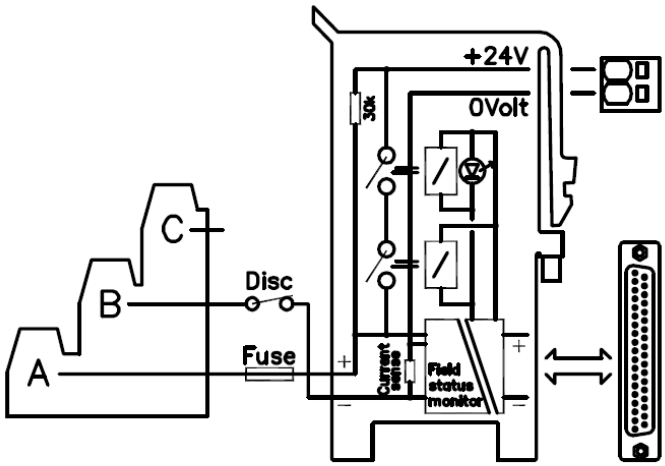
FC- UDOF01 is a SIL 2 single channel isolated digital output relay adaptor module.



Features

- Single channel Digital Output Relay Adaptor.

Connections



Detail Specifications

Parameter	Specifications
Physical Specification	
Dimensions	141.5mm (L) x 85.75mm (W) x10mm (H).
Assembly option	Backplane mount, screw less
Mistake Proof	By mechanical Keys
Indicators	Status green LED, Power green LED

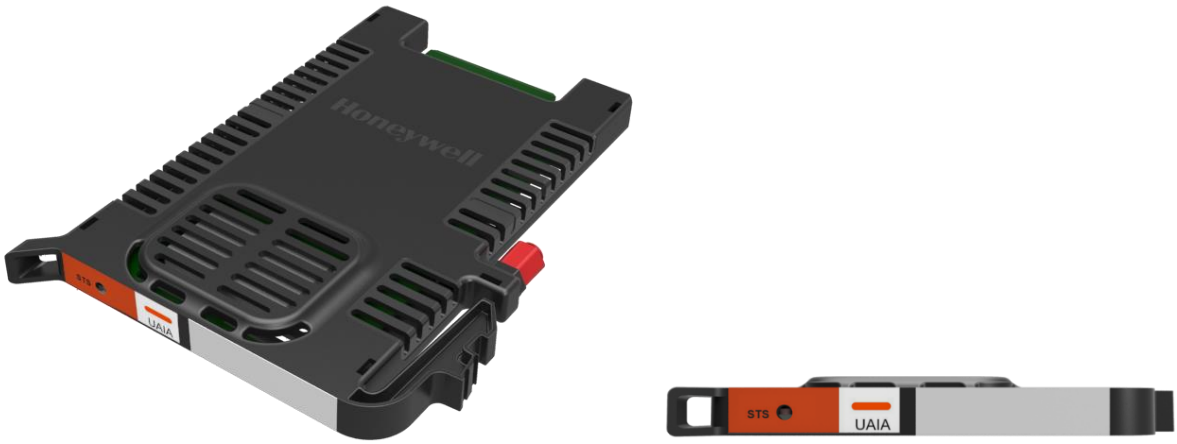
Ambient Conditions	
Ambient temperature (operation)	-40 °C to + 70 °C
Ambient temperature (storage/transport)	-40 °C to + 85 °C
Permissible humidity (operation)	5 % ... 95 % (non-condensing)
Vibration	IEC 60068-2-6; 1 G at 57 Hz to 150 Hz; 10 Hz to 57 Hz: 0.075mm
Shock	IEC 60068-2-27; 15 G for 11ms, 3 axes
Enclosure and Mounting	
Assembly	Base plate and housing
Mounting	Base plate with DIN rail mount & snap housing to the base plate
Electrical Specifications	
Input Voltage	24VDC -15% and + 30%
Input Current	10mA at 24V
Power Consumption	5mA from 24V DC power
Power Dissipation	360 mW at 24V
Interface to Safety System	37 pin DSUB (For SIC cable)
Output Max. switched voltage	24 VDC
Output Max. switched current	Each FC-UDOF01 adaptor can drive max 2A/24V to the field. This is driven from the 24V DC power provided to the power connector of FC-USCA01. When multiple adaptors are used in FC-USCA01 the following limits are mandated. Max 12 channels when 1.5A is driven to field Max 8 channels when 2A is driven to field All 16 channels when 0.5A is driven to field FC-USCA01 can handle up to 18A from 24V power supply which includes field side power driven through DO channels + power consumption of each modules.
Diagnostics features	- Performs line monitoring for field cables (relay outputs) - Provides fault transparency for open wire & short wire for field side cables
Compliance	
SIL rating	SIL2 as per IEC 61508
Ingress protection	IP20 as per IEC 60529
Flammability rating	V0 as per UL 94
Conformance	IEC/UL 60079-0, 60079-15
EMC directive	2014/30/EU (IEC 61326-1, EN 61000-6-7)
ATEX , IEC Ex	Ex eC nC IIC T4 Gc
USA/Canada	Cl. 1, Div. 2 Grp. ABCD; T4 Cl.1,Zn2, AEx\Ex ec nC IIC T4 Gc
Compliance	RoHS

Galvanic Isolation	
Input to output	1500 VAC RMS

4.8. Analog Input 3 wire Adaptor FC-UAIA01

Function

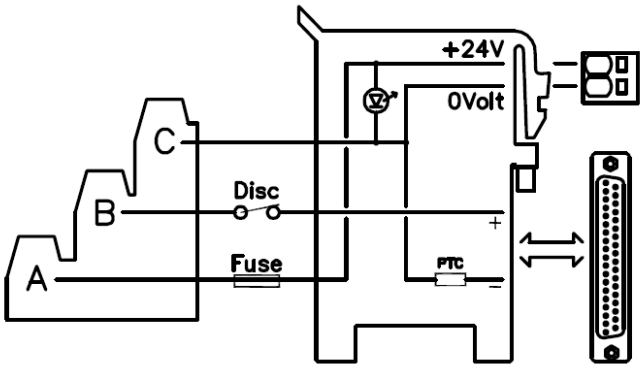
FC- UAIA01 is a SIL3 single channel Analog input module.



Features

- Single channel Analog Input Adaptor
- 3 wire devices.
- Supports HART communication

Connections



FC–UAIA01

Detail Specifications

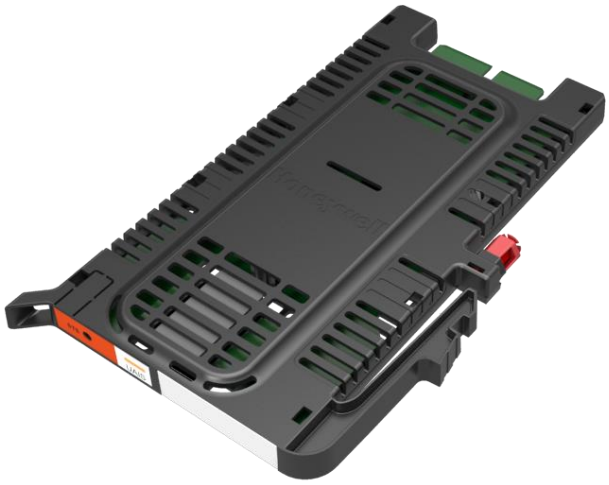
Parameter	Specifications
Physical Specification	
Dimensions	118mm (L) x 85.75mm (W) x10mm (H)
Assembly option	Backplane mount, screw less
Mistake Proof	Mechanical Keys
Indicators	Status LED (green)
Ambient Conditions	

Ambient temperature (operation)	-40 °C to + 70 °C
Ambient temperature (storage/transport)	-40 °C to + 85 °C
Permissible humidity (operation)	5 % ... 95 % (non-condensing)
Vibration	IEC 60068-2-6; 1 G at 57 Hz to 150 Hz; 10 Hz to 57 Hz: 0.075mm
Shock	IEC 60068-2-27; 15 G for 11ms, 3 axes
Enclosure and Mounting	
Assembly	Base plate and housing
Mounting	Base plate with DIN rail mount & snap housing to the base plate
Electrical Specifications	
Input voltage	24V DC
Interface to Safety System	37 pin DSUB (For SIC cable)
Field side wire gauge	12-24 AWG
Compliance	
SIL rating	SIL 3 as per IEC 61508
Ingress protection	IP20 as per IEC 60529
Flammability rating	V0 as per UL 94
Conformance	IEC/UL 60079-0; 60079-7, 60079-11, 60079-15
EMC directive	2014/30/EU (IEC 61326-1, EN 61000-6-7)
IECEx, ATEX	Ex eC T4 Gc Ex ic IIC T4 Gc
USA/Canada	Cl. 1, Div. 2 Grp. ABCD; T4 Cl.1,Zn2, AEx\Ex ic IIC T4 Gc Cl.1,Zn2, AEx\Ex ec IIC T4 Gc Cl.1,Zn2, AEx\Ex nA IIC T4 Gc
Compliance	RoHS

4.9. Analog Input Sink Adaptor FC-UAIS01

Function

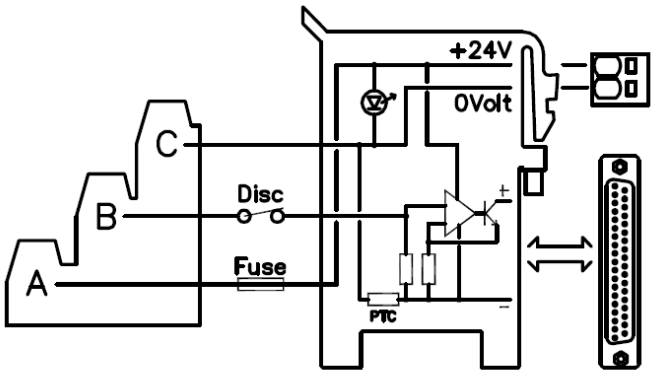
FC- UAIS01 is a SIL 2 single channel analog input for source devices.



Features

- Single channel Analog Input.
- Source devices
- Transparent Open Wire Detection
- Three wire devices
- Supports HART communication

Connections



FC–UAIS01

Detail Specifications

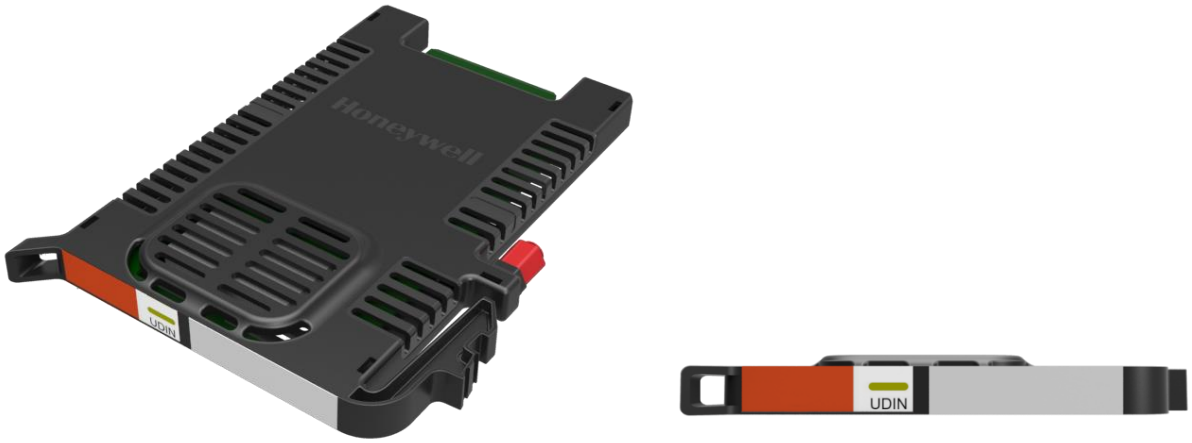
Parameter	Specifications
Physical Specification	
Dimensions	141.5mm (L) x 85.75mm (W) x10mm (H)
Assembly option	Backplane mount, screw less
Mistake Proof	Mechanical Keys

Indicators	Power LED (green)
Ambient Conditions	
Ambient temperature (operation)	-40 °C to + 70 °C
Ambient temperature (storage/transport)	-40 °C to + 85 °C
Permissible humidity (operation)	5 % ... 95 % (non-condensing)
Vibration	IEC 60068-2-6; 1 G at 57 Hz to 150 Hz; 10 Hz to 57 Hz: 0.075mm
Shock	IEC 60068-2-27; 15 G for 11 ms, 3 axes
Enclosure and Mounting	
Assembly	Base plate and housing
Mounting	Base plate with DIN rail mount & snap housing to the base plate
Electrical Specifications	
Supply voltage	18 – 30V DC via power terminal on the CC-USCA01
Rated Current	Field load +2mA
Power Consumption	1.2W
Interface to Safety System	37 pin DSUB (For SIC cable)
Dissipation	0.6W (24VDC supply & 20mA signal
Compliance	
SIL rating	SIL 2 as per IEC 61508
Ingress protection	IP20 as per IEC 60529
Flammability rating	V0 as per UL 94
Conformance	IEC/UL 60079-0; 60079-7, 60079-11, 60079-15
EMC directive	2014/30/EU (IEC 61326-1, EN61000-6-7)
ATEX/IEC Ex	Ex ec IIC T4 Gc
USA/Canada	Cl. 1, Div. 2 Grp. ABCD; T4 Cl.1,Zn2, AEx\Ex ec IIC T4 Gc Cl.1,Zn2, AEx\Ex nA IIC T4 Gc
Compliance	RoHS

4.10. Universal NAMUR Adaptor FC-UDIN01

Function

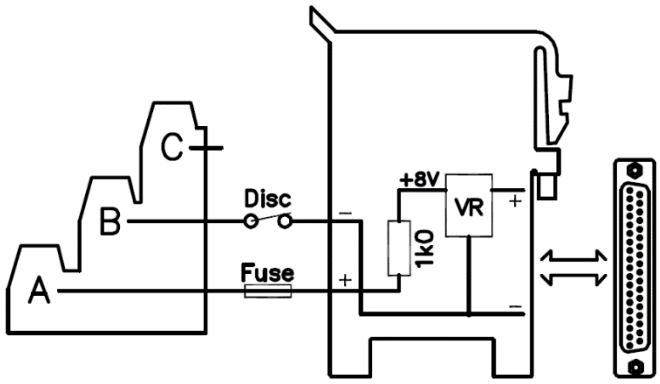
FC- UDIN01 is a SIL 2 single channel Digital Input Adaptor for Namur proximity switches.



Features

- Single channel Namur Input.
- Proximity switches

Connections



FC–UDIN01

Detail Specifications

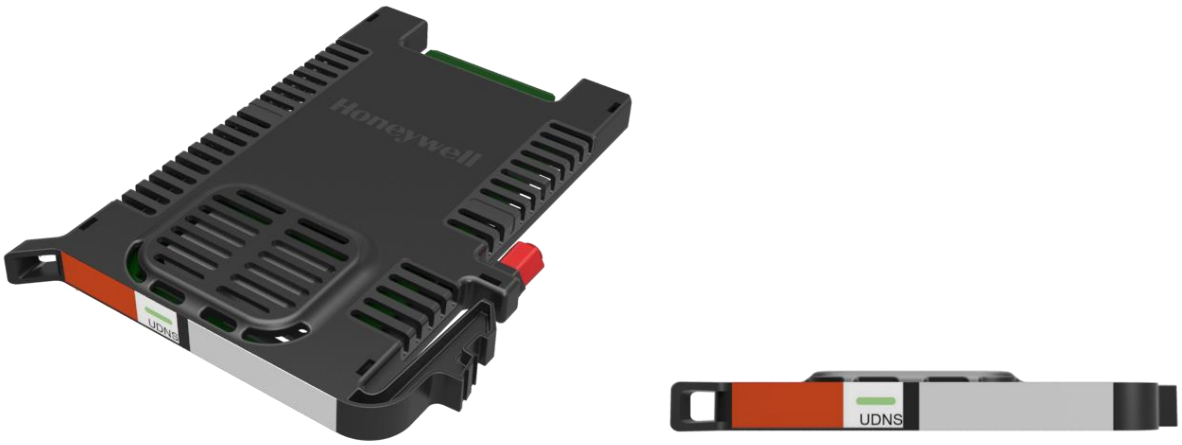
Parameter	Specifications
Physical Specification	
Dimensions	118mm (L) x 85.75mm (W) x10mm (H)
Assembly option	Backplane mount, screw less
Mistake Proof	By mechanical Keys
Indicators	NA
Ambient Conditions	

Ambient temperature (operation)	-40 °C to + 70 °C
Ambient temperature (storage/transport)	-40 °C to + 85 °C
Permissible humidity (operation)	5 % … 95 % (non-condensing)
Vibration	IEC 60068-2-6; 1 G at 57 Hz to 150 Hz; 10 Hz to 57 Hz: 0.075mm
Shock	IEC 60068-2-27; 15 G for 11ms, 3 axes
Enclosure and Mounting	
Assembly	Base plate and housing
Mounting	Base plate with DIN rail mount & snap housing to the base plate
Electrical Specifications	
Supply voltage	24VDC
Output voltage	8.2V ± 4%
Interface to Safety System	37 pin DSUB (For SIC cable)
Output resistance	1KOhm ± 2%
Field side wire gauge	12-24 AWG
Compliance	
SIL rating	SIL 2 as per IEC 61508
Ingress protection	IP20 as per IEC 60529
Flammability rating	V0 as per UL 94
Conformance	IEC/UL 60079-0; 60079-7, 60079-11, 60079-15
EMC directive	2014/30/EU (IEC 61326-1, EN 61000-6-7)
ATEX/IEC Ex	Ex ic IIC T4 Gc Ex ec IIC T4 Gc
USA/Canada	Cl. 1, Div. 2 Grp. ABCD; T4 Cl.1,Zn2, AEx\Ex ic IIC T4 Gc Cl.1,Zn2, AEx\Ex ec IIC T4 Gc Cl.1,Zn2, AEx\Ex nA IIC T4 Gc
Compliance	RoHS

4.11. Universal NAMUR Safety Adaptor FC-UDNS01

Function

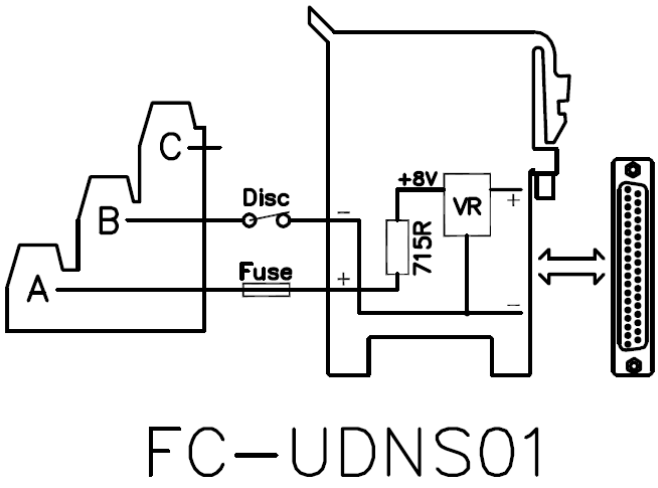
FC- UDNS01 is a SIL 2 single channel Digital Input Adaptor for Namur Safety proximity switches.



Features

- Single channel Namur Safety Input.
- Safety Proximity switches

Connections



Detail Specifications

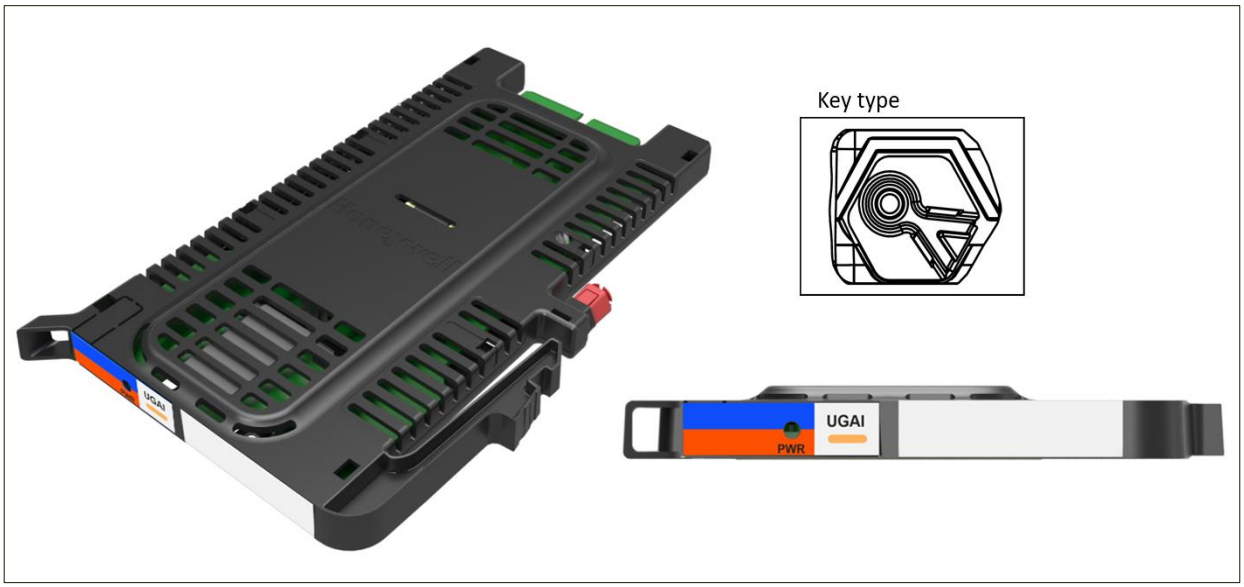
Parameter	Specifications
Physical Specification	
Dimensions	118mm (L) x 85.75mm (W) x10mm (H)
Assembly option	Backplane mount, screw less
Mistake Proof	By mechanical Keys
Indicators	NA
Ambient Conditions	
Ambient temperature (operation)	-40 °C to + 70 °C

Ambient temperature (storage/transport)	-40 °C to + 85 °C
Permissible humidity (operation)	5 % … 95 % (non-condensing)
Vibration	IEC 60068-2-6; 1 G at 57 Hz to 150 Hz; 10 Hz to 57 Hz: 0.075mm
Shock	IEC 60068-2-27; 15 G for 11ms, 3 axes
Enclosure and Mounting	
Assembly	Base plate and housing
Mounting	Base plate with DIN rail mount & snap housing to the base plate
Electrical Specifications	
Supply voltage	24VDC
Output voltage	8.2V ± 4%
Output resistance	715 Ohm ± 2%
Interface to Safety System	37 pin DSUB (For SIC cable)
Compliance	
SIL rating	SIL 2 as per IEC 61508
Ingress protection	IP20 as per IEC 60529
Flammability rating	V0 as per UL 94
Conformance	IEC/UL 60079-0; 60079-7, 60079-11, 60079-15
EMC directive	2014/30/EU (IEC 61326-1, EN 61000-6-7)
ATEX /IEC Ex	Ex ic IIC T4 Gc Ex ec IIC T4 Gc
USA/Canada	Cl. 1, Div. 2 Grp. ABCD; T4 Cl.1,Zn2, AEx/Ex ic IIC T4 Gc Cl.1,Zn2, AEx/Ex ec IIC T4 Gc Cl.1,Zn2, AEx/Ex nA IIC T4 Gc
Compliance	RoHS

4.12. Universal Safety Barrier Adaptor FC-UGAI01

Function

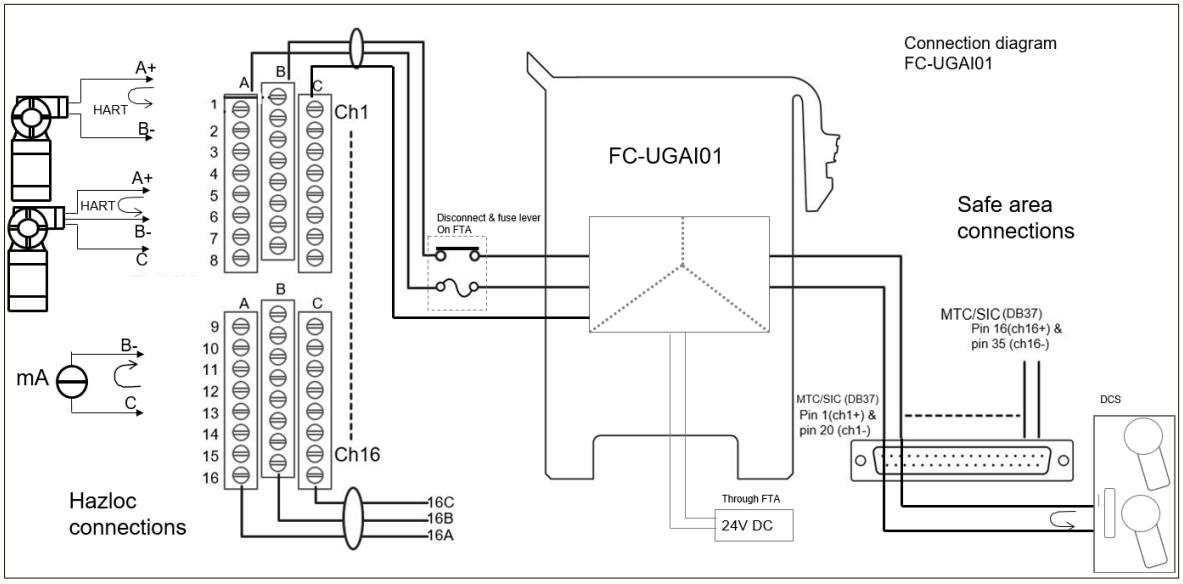
FC-UGAI01 is a SIL2 rated single channel Galvanically Isolated Analog Input Barrier module which is suitable for use with CC-UGIA0. This module supports 4-20mA and HART. FC-UGAI01 offers 3 way isolation, fault transparency for field side open wire conditions and reverse polarity protection.



Features

- Single channel Input.
- Safety

Connections



Detail Specifications

Parameter	Specifications
Physical Specification	
Dimensions	118mm (L) x 85.75mm (W) x10mm (H)

Assembly option	Backplane mount, screw less
Mistake Proof	By mechanical Keys
Indicators	NA
Ambient Conditions	
Ambient temperature (operation)	-40 °C to + 70 °C
Ambient temperature (storage/transport)	-40 °C to + 85 °C
Permissible humidity (operation)	5 % … 95 % (non-condensing)
Vibration	Non-Operational 1g 10Hz to 150Hz, Operational 0.5g 10Hz to 150Hz.
Shock	15g Non-Operational, 5g operational.
Enclosure and Mounting	
Assembly	Base plate and housing
Mounting	Base plate with DIN rail mount & snap housing to the base plate
Electrical Specifications	
Power supply	24V DC
Rated Current	55mA at 24V
Power dissipation	1W. at 24V DC with 20mA 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	24V DC
Current Input	4 to 20mA with HART
Open wire current	<150uA
HAZLOC interface	
Field Terminals	Through 3 tier terminal blocks on CC-UGIA01
Transfer accuracy at 20^0C	+/- 20uA
Short circuit current	23.5mA
Available voltage at max load	16V at 20mA field side current
HAZLOC interface	A(+), B(-) : FC-UGAI01 in 2 wire current source mode Supports 4-20mA with HART A(+), B(-), C : FC-UGAI01 in 3 wire current source mode Supports 4-20mA with HART B(-), C : FC-UGAI01 in 2 wire / 4 wire current sink mode Supports 4-20mA
Influence of ambient temperature	Influence of ambient temperature reference to +20^0C -30^0C to +70 ^{0}C : < 2uA / ^{0}C -40^0C to -30 ^{0}C : < 6uA / ^{0}C

Compliance	
SIL rating	SIL 2 as per IEC 61508
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)
Functional safety	SIL2 (IEC 61508)
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

IO modules supported

	IO module	IOTA	IO type	UMS to DCS cable
1	FC-RUSIO3224	IOTA-(N)R24	Universal Safety I/O)	MTC
2	FC-PUIO01	TUIO11	Universal Safety I/O)	SIC

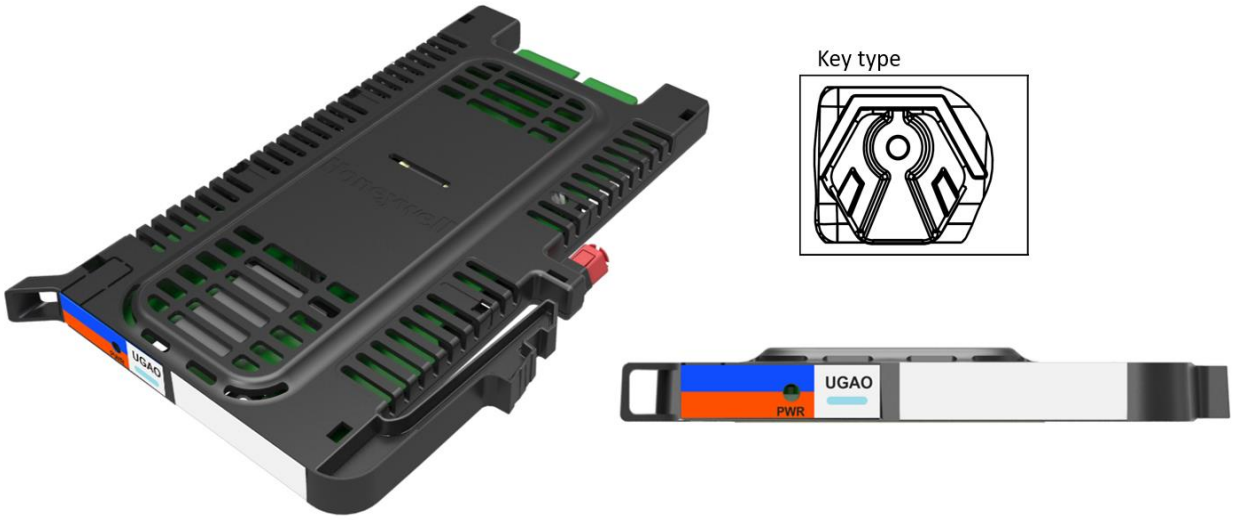
Entity parameters

Parameter	Specification
Maximum Safe Voltage (Um)	250V
Uo	25.2 V
Io	113.13 mA
Po	712.7 mW

4.13. Universal Safety Barrier Adaptor FC-UGAO01

Function

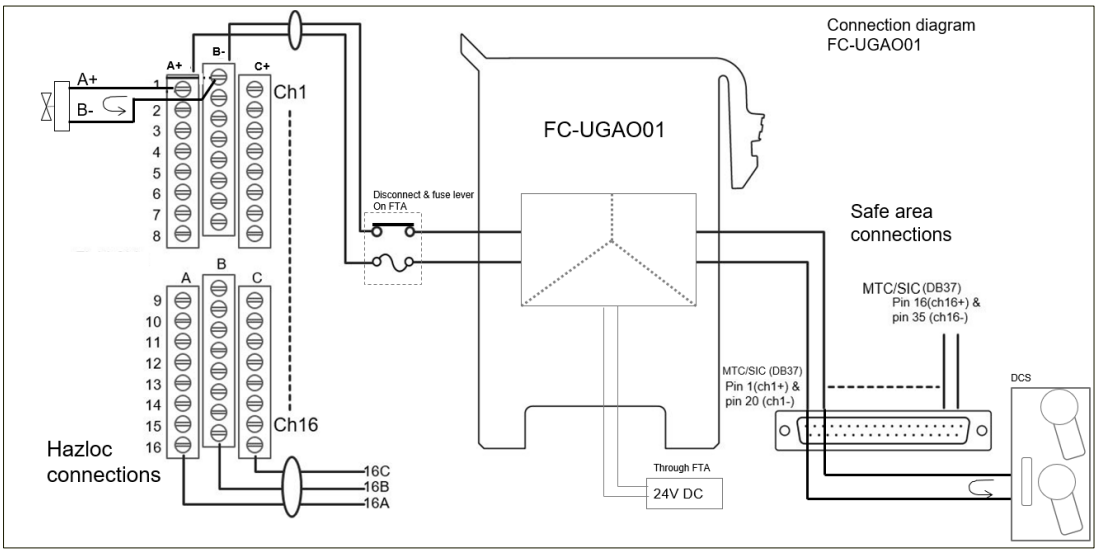
FC-UGAO01 is a SIL2 rated single channel Galvanically Isolated Analog Output Barrier module which is suitable to use with CC-UGIA0. This module supports 4-20mA and HART. FC-UGAO01 offers 3 way isolation, fault transparency for field side open wire conditions and reverse polarity protection.



Features

- Single channel Analog Output Intrinsically Safe

Connections



Detail Specifications

Parameter	Specification
Input / Output Model	FC-UGAO01 - Analog Output Barrier Module for safety
Number of channels	1
Physical Specification	
Dimensions	141.5mm (L) x 85.75mm (W) x10mm (H).
Assembly option	Back-plane mount, screw less

Parameter	Specification
Mistake Proofing	By mechanical Keys
Power Supply	
Power supply	24V DC
Rated Current	55mA at 24V
Power dissipation	1.22W at 24V DC with 20mA loop current & 250 Ohm load
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	24V DC
Interface to DCS	4 to 20mA with HART.
Wiring scheme	2 wire
HAZLOC side interface	
HAZLOC Terminals	Through 3 tier terminal blocks on CC-UGIA01
Transfer accuracy at 20^0C	+/- 20uA
Max load	650 ohms
HAZLOC interface	A(+), B(-) : 4-20mA with HART
Influence of ambient temperature	Influence of ambient temperature reference to $+20^0$C -30^0C to +70 ^{0}C : < 2uA / ^{0}C -40^0C to -30 ^{0}C : < 6uA / ^{0}C
Open wire	Fault transparency for open wire
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)
Mechanical	
Vibration	Non-Operational 1g 10Hz to 150Hz, Operational 0.5g 10Hz to 150Hz.
Shock	15g Non-Operational, 5g operational.
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)
Functional safety	SIL2 (IEC 61508)
ATEX	Ex ec [ia Ga] IIC T4 Gc
IEC Ex	Ex ec [ia Ga] IIC T4 Gc

Parameter	Specification
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

IO modules supported

	IO module	IOTA	IO type	UMS to DCS cable
1	FC-RUSIO3224	IOTA-(N)R24	Universal Safety I/O)	MTC
2	FC-PUIO01	TUIO11	Universal Safety I/O)	SIC

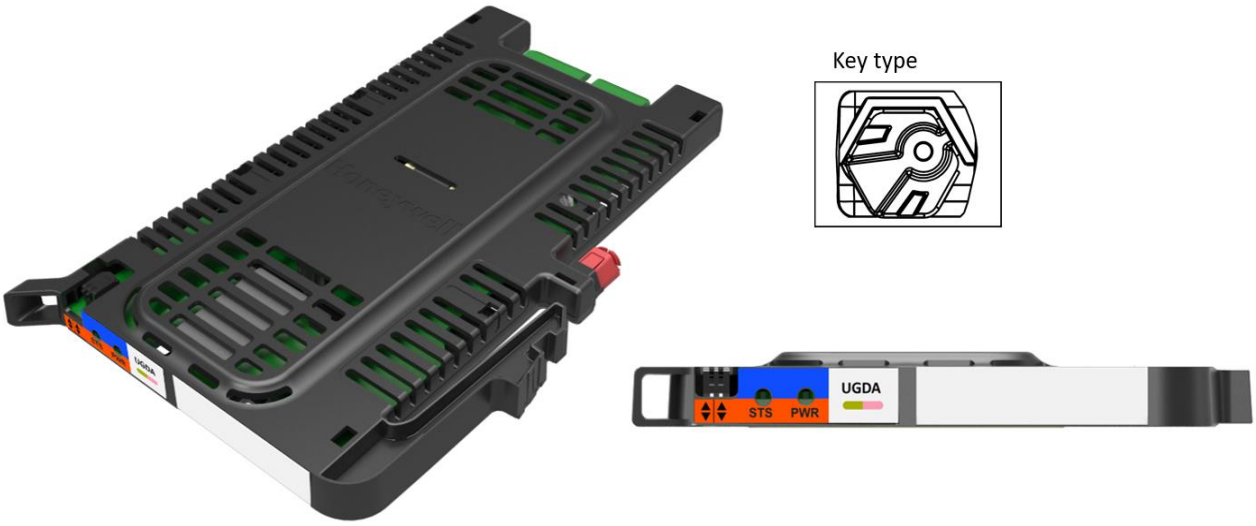
Entity parameters

Parameter	Specification
Maximum Safe Voltage (Um)	250V
Uo	25.2 V
Io	110.1 mA
Po	693.6 mW

4.14. Universal Safety Barrier Adaptor FC-UGDA01

Function

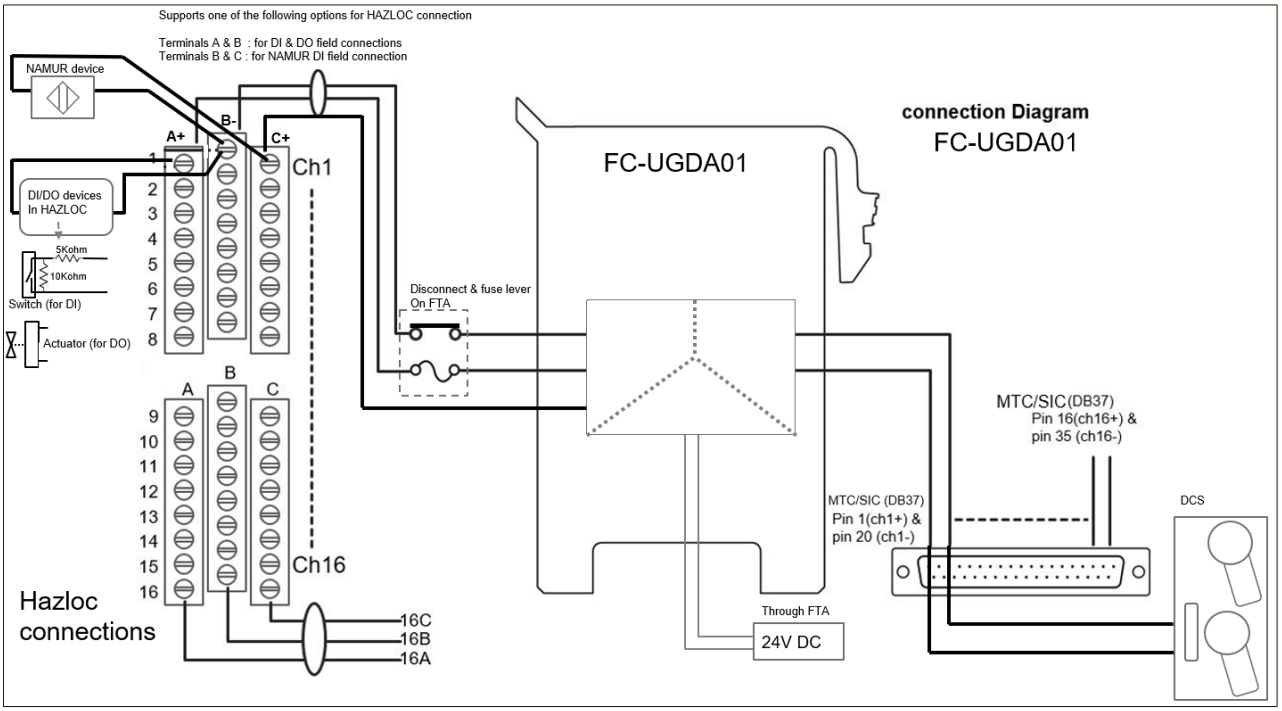
FC-UGDA01 is a SIL2 rated single channel Galvanically Isolated & Intrinsically safe Digital Input Output Barrier module which is suitable for use with CC-UGIA01. FC-UGDA01 modules are self-configuring and work seamlessly with both Digital Input and Digital Output devices. No additional configuration is required to switch between Digital Inputs and Digital Outputs. FC-UGDA01 also supports NAMUR Digital Inputs. FC-UGDA01 offers 3 way isolation, fault transparency for field side open wire conditions, reverse polarity protection and is provided with field status and power indication LEDs.



Features

- Single channel Input or Output Intrinsically Safe
- switches

Connections



Detail Specifications

Parameter	Specification
Input / Output Model	FC-UGDA01 - IS Digital Barrier Module for safety
Number of channels	1 (Digital Input/output)
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	
Terminals	
Supply	24V DC
Rated Current	<= 25mA @ 6.75mA Load (DI) <= 66mA @ 40mA Load (DO)
Power Consumption	600mW @ 6.75mA Load (DI) 1.6W @ 40mA Load (DO)
Power Dissipation	1.1W at 24V supply, 300Ω output load
Power Indication	Green LED
Electrical Isolation	
Power/DCS to Field	1500 VAC
Digital Inputs mode	
HAZLOC interface	
HAZLOC Terminals	Through 3 tier terminal blocks on CC-UGIA01 A+(+), B-(-) for DI dry contacts C(+), B-(-) for DI NAMUR Sensor
Input Type	DI NAMUR Sensor (IEC/EN 60947-5-6), Dry Contacts
DI NAMUR Open Source Voltage	10V, 1KΩ Series Resistance
Current Output (Low Current Mode)	<= 6.75mA, Source Mode
Current for Guaranteed ON Condition	High Current Mode: 400 ohms <= Rload <= 10K Low Current Mode: 3.3K <= Rload <= 10K
Current for Guaranteed OFF Condition	12.5K ohms <= Rload <= 100K
Status Indication LED	AMBER: DI ON RED : DI OFF OFF : Open Wire
Safe side interface	
DCS side connections	Through DB37 connector on CC-UGIA01
Voltage Input	24V DC
Current Input	Sink Mode ON >3.2mA … <6mA OFF < 1.2mA Open Wire < 350 uA
Settling Time	< 1ms
Digital Outputs	

Parameter	Specification
HAZLOC interface	
HAZLOC Terminals	Through 3 tier terminal blocks on CC-UGIA01 A+(+), B-(-) for DO
Output Type	Solenoid Valves, Relays Coils, Alarms
DO Open Source Voltage	~21.5V
Current Output (High Current Mode)	12V/40mA at 300Ω load
Current Output Limit (High Current Mode)	48mA typical
Current Output Limit (Low Current Mode)	6.75mA max
Safe side interface	
DO On/OFF Voltage Thresholds	ON → 18 … 30V OFF → 0 ... 5V
DO On/OFF Current	Sink Mode ON >3.2mA … <6mA OFF : < 1.2mA Open Wire < 350uA
Response Time	< 1ms
Ambient Conditions	
Ambient temperature (operation)	-40 ^{0}C to + 70 ^{0}C
Ambient temperature (storage/transport)	-40 ^{0}C to + 85 ^{0}C
Permissible humidity (operation)	5 % .-. 95 % (non-condensing)
Mechanical	
Vibration	Non-Operational 1g 10Hz to 150Hz, Operational 0.5g 10Hz to 150Hz.
Shock	15g Non-Operational, 5g operational.
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)
Functional safety	SIL2 (IEC 61508)
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

Entity parameters

Parameter	Specification
Maximum Safe Voltage (Um)	250V
HAZLOC Terminals	A(+), B(-) DI Dry Contact/DO
Uo	25.2 V
Io	129.4 mA
Po	816 mW
HAZLOC Terminals	C(+), B(-) DI NAMUR Sensor
Uo	12.6 V
Io	13.3 mA
Po	41.8 mW

Additional Configuration

FC-UGDA01 additionally supports configurations with a use of a DIP switch* located in the front panel of the module.

Switch	Position	Configuration	Specification
1 & 2	Up	Field Current Output	Low Current Mode
	Down		High Current Mode

Supported IO modules

	IO module	IOTA	IO type	UMS to DCS cable
1	FC-RUSIO3224	IOTA-(N)R24	Universal Safety I/O)	MTC
2	FC-PUIO01	TUIO11	Universal Safety I/O)	SIC
3	FC-PDIO01	TDIO11	Safety Digital IO	SIC

4.15. Universal IS Signal Conditioning Assembly CC-UGIA01

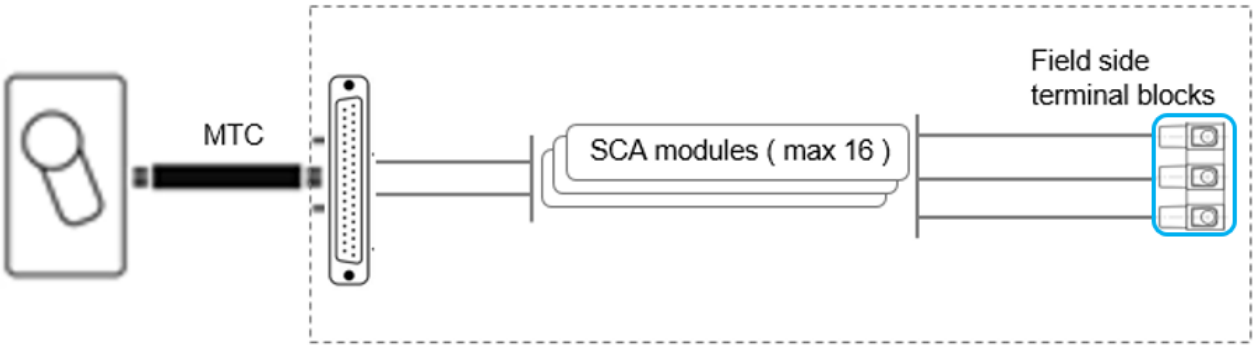
Function

CC-UGIA01 is a back-plane assembly which can accommodate 16 IS barrier modules. Field side terminals of each channel is provided with integrated fuse and knife disconnect function. Safety System side interface is provided through a single mass termination cable (SIC) which connects all 16 channels. CC-UGIA01 is DIN rail mountable.

Features

- Integrated fuse and disconnect function for field side interfaces
- Fuse blown indication for field side fuses
- Disconnect function with current measurement terminals
- 2 wire or 3 wire interface towards field for each channel
- 24V DC power with LED indication
- Mass termination cable (SIC) for 16 channel system side interface
- Screw less assembly to the base plate
- Compatibility with Honeywell IO families: Series C module and Universal IO

Connections



Detail Specifications – Universal Signal Conditioning Assembly

Parameter	Specifications
Physical Specification	
Dimensions	199mm (H) x 140mm(W) x 135mm (D)
Assembly option	DIN rail mount using base plate
Ambient Conditions	
Ambient temperature (operation)	-40 °C to + 70 °C

Ambient temperature (storage/transport)	-40 °C to + 85 °C
Permissible humidity (operation)	5 % ... 95 % (non-condensing)
Vibration	Non-Operational 1g 10Hz to 150Hz, Operational 0.5g 10Hz to 150Hz
Shock	5g operational, 15g Non-Operational
Enclosure and Mounting	
Assembly	Base plate and housing
Mounting	Base plate with DIN rail mount & snap housing to the base plate
Electrical Specifications	
Power	24V DC
Max current	1.3A
Power indication	Green LED
Interface to Safety System	37 pin DSUB (For SIC cable)
Field side interface	Dedicated 3 terminals per channel
Field side wire gauge	12-24 AWG
Compliance	
Flammability rating	V0 as per UL 94
Protection level	IP20 (When modules are mounted)
Conformance	ANSI/ISA 60079-0; 60079-11, 60079-15
EMC directive	2014/30/EU (IEC 61326-1 2012)
Compliance	RoHS

4.16. USC High Current Assembly FC-USCA01

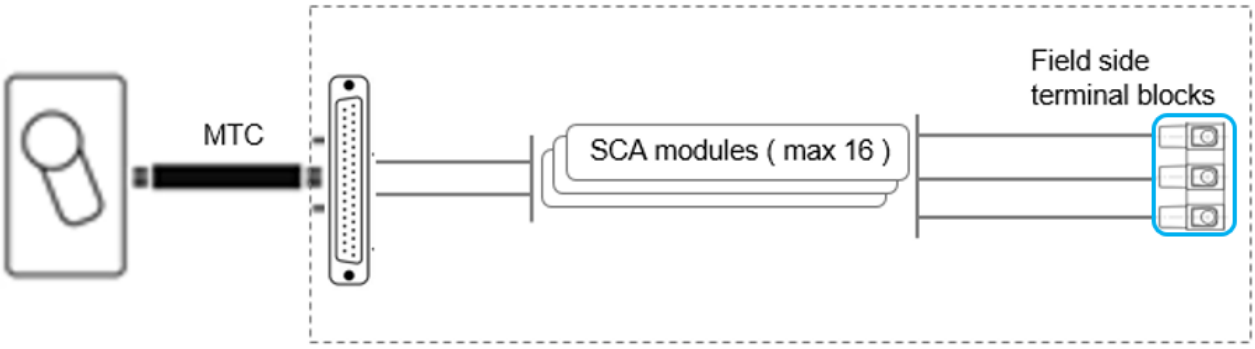
Function

FC-USCA01 is a back-plane assembly which can accommodate 16 barrier modules for high current applications. Field side terminals of each channel is provided with integrated fuse and knife disconnect function. Safety System side interface is provided through a single mass termination cable (SIC) which connects all 16 channels. FC-USCA01 is DIN rail mountable.

Features

- Integrated fuse and disconnect function for field side interfaces
- Fuse blown indication for field side fuses
- Disconnect function with current measurement terminals
- 2 wire or 3 wire interface towards field for each channel
- 24V DC power with LED indication
- Mass termination cable (SIC) for 16 channel system side interface
- Screw less assembly to the base plate
- Compatibility with Honeywell IO families: Series C module and Universal IO

Connections



Detail Specifications – Universal Signal Conditioning Assembly

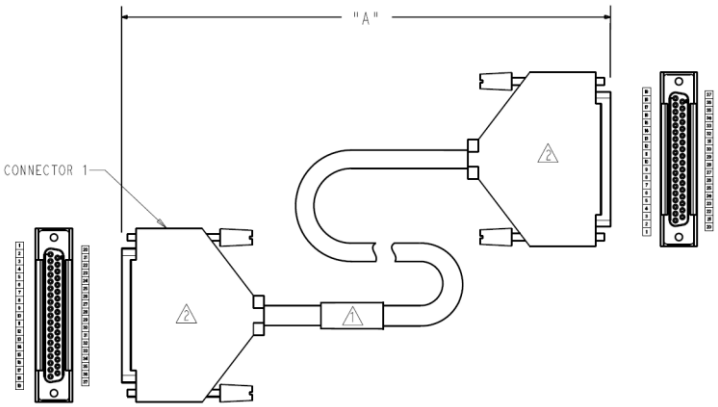
Parameter	Specifications
Physical Specification	
Dimensions	199mm (H) x 140mm(W) x 135mm (D)
Assembly option	DIN rail mount using base plate
Ambient Conditions	
Ambient temperature (operation)	-40 °C to + 70 °C
Ambient temperature (storage/transport)	-40 °C to + 85 °C

Permissible humidity (operation)	5 % ... 95 % (non-condensing)
Vibration	IEC 60068-2-6; 1 G at 57 Hz to 150 Hz; 10 Hz to 57 Hz: 0.075mm
Shock	IEC 60068-2-27; 15 G for 11ms, 3 axes
Enclosure and Mounting	
Assembly	Base plate and housing
Mounting	Base plate with DIN rail mount & snap housing to the base plate
Electrical Specifications	
Power	24V DC
Max current	16A
Power indication	Green LED
Interface to Safety System	37 pin DSUB (For SIC cable)
Field side interface	Dedicated 3 terminals per channel
Power connector wire gauge	10-26 AWG
Field side wire gauge	12-24 AWG
Compliance	
SIL Rating	SIL 3 as per IEC 61508
Flammability rating	V0 as per UL 94
Protection level	IP20 (When modules are mounted)
Conformance	IEC/UL 60079-0; 60079-7, 60079-11, 60079-15
EMC directive	2014/30/EU (IEC 61326-1, EN 61000-6-7)
HAZLOC Compliance	ATEX, IEC Ex, cCSAus
Compliance	RoHS

5. SIC cable

System interconnection cables connect Safety Manager SC IO modules to SCA (via an IOTA). This cable is used for FC-PDIO01 and FC-PUIO01.
FC-SIC5xxx are standard cables of xxx decimeter length.

The below figure shows the FC-SIC5xxx.



The female 37 position d-sub connects to channel 1 thru 16 (CN1 position) or channel 17 thru 32 (CN2 position) of the IOTA.
The female 37 position d-sub connects to the SCA baseplate CC-USCA01 or CC-UGIA01.
The variable 'xxx' in the model number is the cable length (in decimeters).

Cable	Description
FC-SIC5005	SC SIC Cable SCA L0,5M
FC-SIC5008	SC SIC Cable SCA L0.8M
FC-SIC5010	SC SIC Cable SCA L1M
FC-SIC5020	SC SIC Cable SCA L2M
FC-SIC5030	SC SIC Cable SCA L3M
FC-SIC5040	SC SIC Cable SCA L4M
FC-SIC5050	SC SIC Cable SCA L5M
FC-SIC5060	SC SIC Cable SCA L6M
FC-SIC5100	SC SIC Cable SCA L10M
FC-SIC5150	SC SIC Cable SCA L15M
FC-SIC5200	SC SIC Cable SCA L20M
FC-SIC5250	SC SIC Cable SCA L25M
FC-SIC5300	SC SIC Cable SCA L30M

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