

THE BARRIER and the Universal Barrier Cabinets from Pepperl+Fuchs

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Overview

This document provides information relating to the use of THE BARRIER—HiC2441, the SMART universal barrier—from Pepperl+Fuchs, a multifunctional I/O module. It is installed in the universal barrier cabinet, which is supplied to Honeywell from one of Pepperl+Fuchs' Solution Engineering Centers (SEC). The universal barrier cabinet interfaces directly with Honeywell's Experion Universal Remote Process and Safety Cabinets.

The following items are included:

- Product configurations
- THE BARRIER data sheet
- Termination board data sheet
- System cable data sheet

THE BARRIER

Developed for Honeywell as an intrinsically safe interface for Universal Process I/O, THE BARRIER replaces several traditional modules— analog in, analog out, digital in, digital out—with a single multifunctional I/O module, saving space, maintenance, costs and provides maximum flexibility. By using THE BARRIER, you no longer have to worry about different signal requirements and possible limitations.

Engineering and configuration of the process control infrastructure are drastically simplified with THE BARRIER, enhancing flexibility in design and implementation. As you set up your system, you only have to attach required functionalities to the respective channels from your control side. No need for additional hardware or immediate I/O configurations. With remote access, parameterization changes that previously took days can now be handled within minutes via the universal input card of the DCS. Additionally, conventional marshalling approaches are eliminated, saving marshalling cabinet space, inter-panel wiring, and power requirements.

Pepperl+Fuchs' universal barrier cabinets

Pepperl+Fuchs universal barrier cabinets are available in different sizes and materials. They are linked to a respective universal I/O solution from Honeywell with 64, 32, and 16 I/O using a system cable. Each solution provides:

- Certification for use in hazardous areas
- Fully equipped with universal termination boards to accommodate the designated number of I/Os
- Cable ducts for system and intrinsically safe field wiring with Roxtec sealing system

This complete package provides a simple, prepackaged plug-and-play solution that ensures universal design, fewer errors, and timely acceptance testing. Simply mount the cabinet, connect the system cable and field wiring to the Experion Universal Remote Process and Safety Cabinet, and you're ready to go.

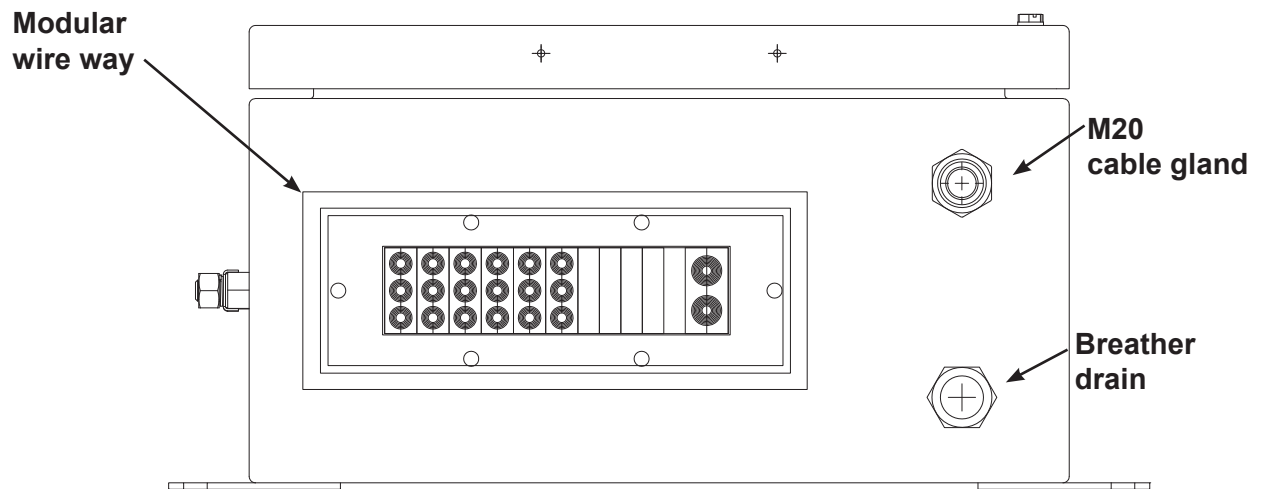
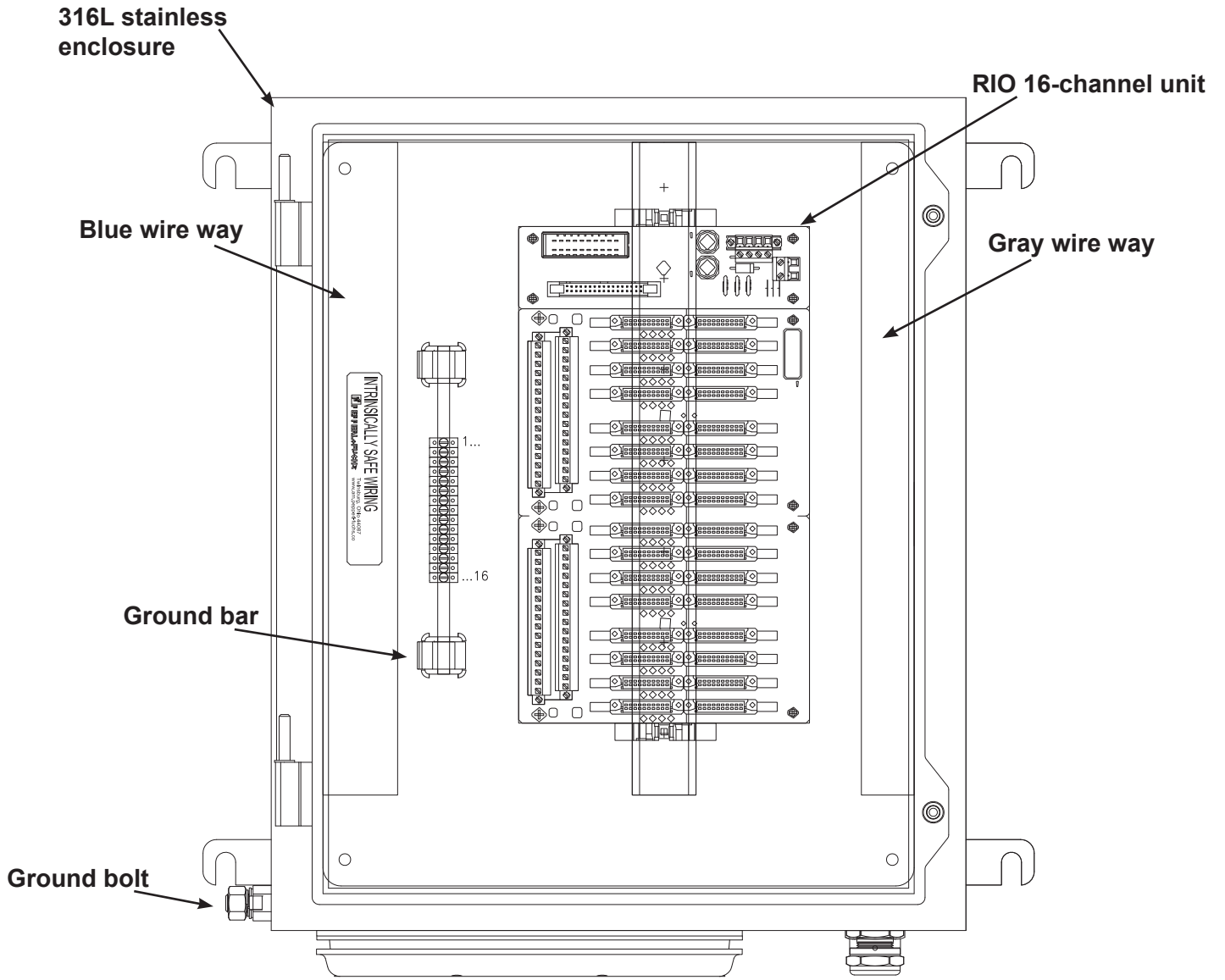
Experion Universal Remote Process and Safety Cabinet

Combined with Honeywell's Series C Experion® Process Knowledge System Universal Channel Technology, THE BARRIER uses a state-of-the-art technology that automatically recognizes I/O requirements and adapts by self-adjusting to the correct signal type. Universal Channel Technology allows cabinets to be standardized, since any field signal can be connected to any I/O channel. The results include improved uptime, asset availability and effectiveness, optimized process throughput and work processes, and lower costs of ownership, operations, and maintenance.

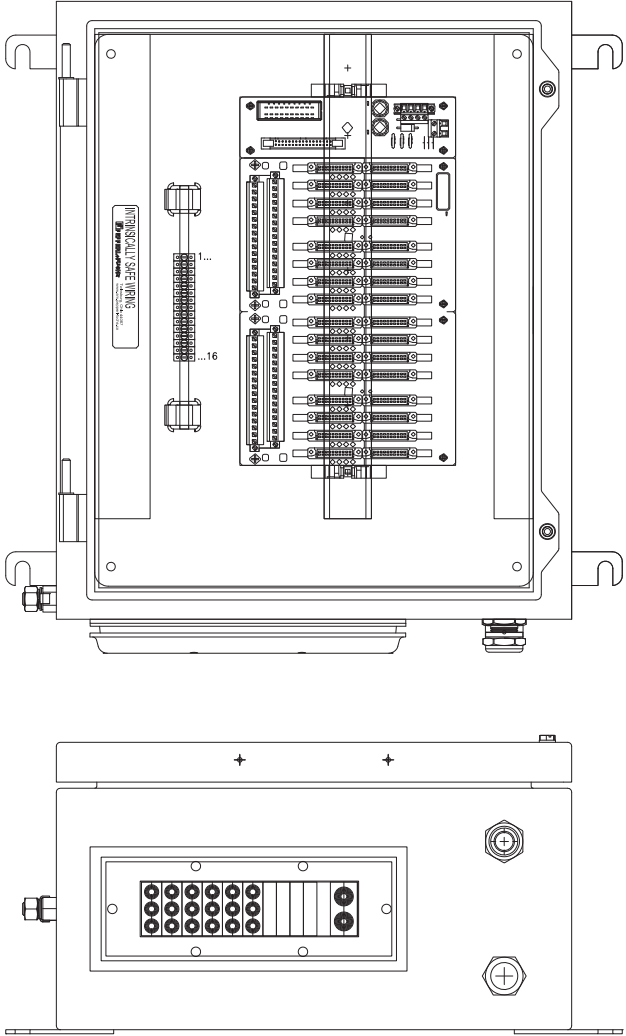


Honeywell and Pepperl+Fuchs – strong partners in process automation

THE BARRIER is was developed in line with the Universal I/O technology by Honeywell, and is the result of a partnership between Honeywell and Pepperl+Fuchs. This cooperation has led to innovative product solutions for process automation for the past 20 years.

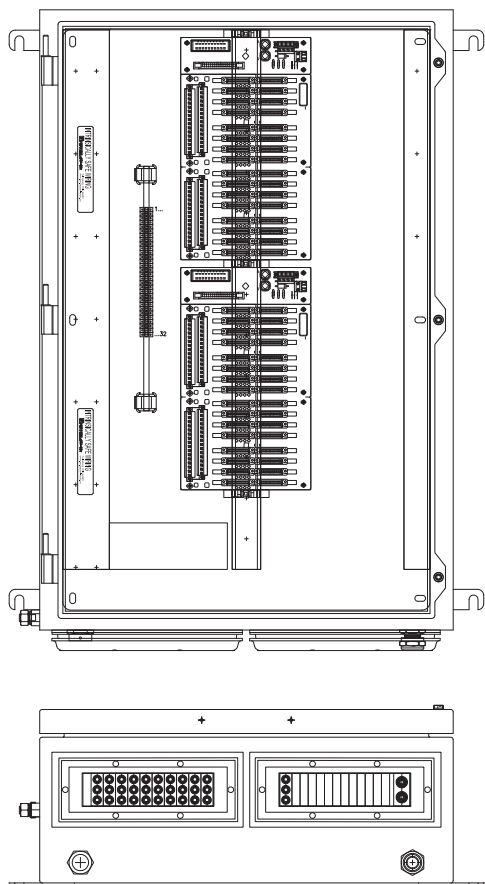


16-Channel Intrinsic Safety Universal Barrier Cabinet - HCJB-GPCS-RIO-16

Cabinet material	316L stainless steel with electro polish
Size	458 mm x 382 mm x 215 mm (18.0" x 15.0" x 8.5") [HxWxD]
Weight	~ 40 lbs (18 kg)
Ambient temperature range	-20 ... +50 °C (-4 ... +122 °F)
Certifications (module)	"Ex" II 3G Ex nA II T4 Gc [device in zone 2] [Ex ia Ga] IIC, [Ex ia Da] IIIC, [Ex ia Ma] I
Ingress protection	IP 66, NEMA 4X
Input power	24 VDC
Output circuits	The device can transfer the following signals: - as an analog input: 0/4 mA ... 20 mA - as an analog output: 0/4 mA ... 20 mA - as a digital input: signals from NAMUR sensors or dry contacts - as a digital output: 0 mA ... 45 mA
I/O channel capacity	16 channels
Communications	System cable: CA-HWC300-AIO-DIO-*M (one required for every termination board)
	<p>Modules:</p> <ul style="list-style-type: none"> • 1-channel isolated barrier • 24 V DC supply (bus powered) • THE BARRIER: <ul style="list-style-type: none"> • Analog input • Digital input • Analog output • Digital output • No configuration required, device is self-adapting • HART transparency • 3-way isolation • Low power dissipation <p>Cabinet:</p> <ul style="list-style-type: none"> • Weather and corrosion resistant • UL listed, ATEX and IECEx • 16 channels of I/O • Cable entry gland plates

32-Channel Intrinsic Safety Universal Barrier Cabinet - HCJB-GPCS-RIO-32

Cabinet material	316L stainless steel with electro polish
Size	762 mm x 508 mm x 215 mm (30.0" x 20.0" x 8.5") [HxWxD]
Weight	~ 60 lbs (28 kg)
Ambient temperature range	-20 ... +50 °C (-4 ... +122 °F)
Certifications (module)	"Ex" II 3G Ex nA II T4 Gc [device in zone 2] [Ex ia Ga] IIC, [Ex ia Da] IIIC, [Ex ia Ma] I
Ingress protection	IP 66, NEMA 4X
Input power	24 VDC
Output circuits	The device can transfer the following signals: - as an analog input: 0/4 mA ... 20 mA - as an analog output: 0/4 mA ... 20 mA - as a digital input: signals from NAMUR sensors or dry contacts - as a digital output: 0 mA ... 45 mA
I/O channel capacity	32 channels
Communications	System cable: CA-HWC300-AIO-DIO-*M (one required for every termination board)



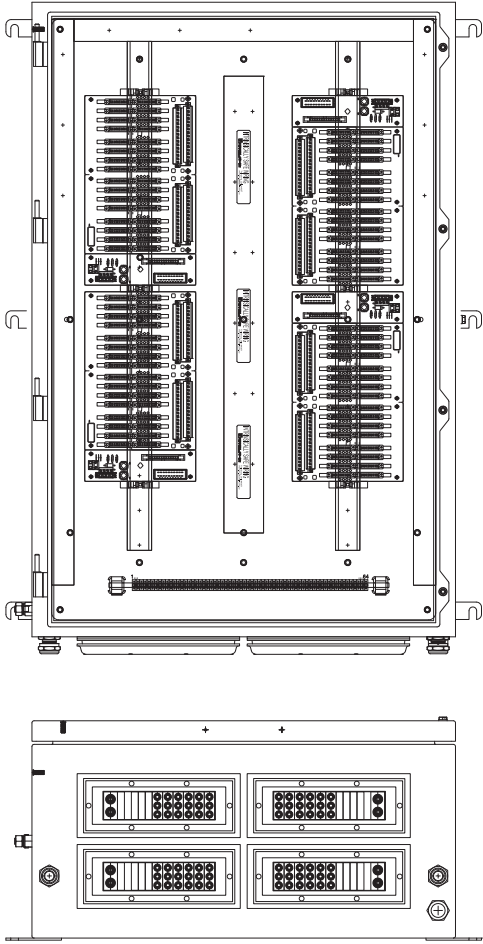
Modules:

- 1-channel isolated barrier
- 24 V DC supply (bus powered)
- THE BARRIER:
 - Analog input
 - Digital input
 - Analog output
 - Digital output
- No configuration required, device is self-adapting
- HART transparency
- 3-way isolation
- Low power dissipation

Cabinet:

- Weather and corrosion resistant
- UL listed, ATEX and IECEx
- 32 channels of I/O
- Cable entry gland plates

64-Channel Intrinsic Safety Universal Barrier Cabinet - HCJB-GPCS-RIO-64

Cabinet material	316L stainless steel with electro polish
Size	914 mm x 610 mm x 315 mm (36.0" x 24.0" x 12.4") [HxWxD]
Weight	~ 75 lbs (34 kg)
Ambient temperature range	-20 ... +50 °C (-4 ... +122 °F)
Certifications (module)	"Ex" II 3G Ex nA II T4 Gc [device in zone 2] [Ex ia Ga] IIC, [Ex ia Da] IIIC, [Ex ia Ma] I
Ingress protection	IP 66, NEMA 4X
Input power	24 VDC
Output circuits	The device can transfer the following signals: - as an analog input: 0/4 mA ... 20 mA - as an analog output: 0/4 mA ... 20 mA - as a digital input: signals from NAMUR sensors or dry contacts - as a digital output: 0 mA ... 45 mA
I/O channel capacity	16 channels
Communications	System cable: CA-HWC300-AIO-DIO-*M (one required for every termination board)
	<p>Modules:</p> <ul style="list-style-type: none"> • 1-channel isolated barrier • 24 V DC supply (bus powered) • THE BARRIER: <ul style="list-style-type: none"> • Analog input • Digital input • Analog output • Digital output • No configuration required, device is self-adapting • HART transparency • 3-way isolation • Low power dissipation <p>Cabinet:</p> <ul style="list-style-type: none"> • Weather and corrosion resistant • UL listed, ATEX and IECEx • 64 channels of I/O • Cable entry gland plates

Features

- 1-channel isolated barrier
- 24 V DC supply (bus powered)
- Analog input, digital input, analog output, digital output
- No configuration required, device is self-adapting
- HART transparency
- 3-way isolation
- Low power dissipation

Function

This isolated barrier is used for intrinsic safety applications.

The device can transfer the following signals:

- as an analog input: 0/4 mA ... 20 mA
- as an analog output: 0/4 mA ... 20 mA
- as a digital input: signals from NAMUR sensors or dry contacts
- as a digital output: 0 mA ... 45 mA

The device requires no configuration and adapts itself automatically to the function of the active input/output of the connected process control system.

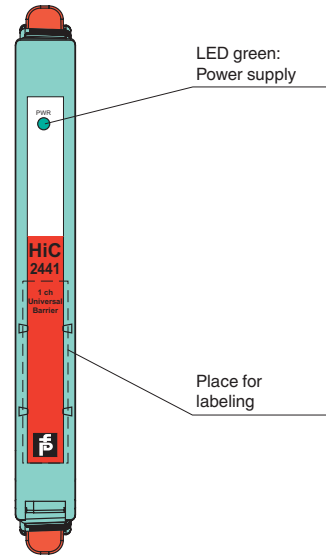
The device permits the bi-directional pass-through of the HART communication.

The device is designed primarily for use with universal I/O cards (e. g. Honeywell Universal Process IO).

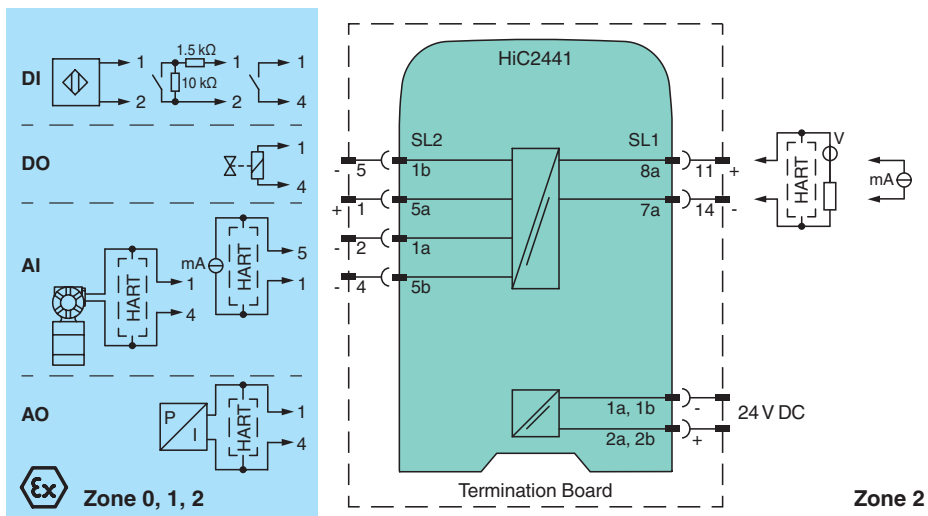
This device mounts on a HiC Termination Board.

Assembly

Front view



Connection



General specifications	
Signal type	Universal
Supply	
Connection	SL1: 1a(-), 1b(-); 2a(+), 2b(+)
Rated voltage U_n	19 ... 30 V DC via Termination Board
Ripple	$\leq 10 \%$
Rated current I_n	$\leq 30 \text{ mA}$
Power consumption	$\leq 700 \text{ mW}$
Analog input	
<i>Field circuit</i>	SL2: 5a(+), 5b(-) (2-wire SMART transmitter) SL2: 5a(+), 1b(-) (current source)
Suitable field devices	2-wire SMART transmitters, current sources
Transmitter supply voltage	$\geq 16 \text{ V}$ at 20 mA (2-wire SMART transmitter)
Signal	0/4 ... 20 mA , limited to approx. 40 mA , reverse polarity protected
Voltage drop	approx. 4 V (current source)
<i>Control circuit</i>	SL1: 8a(+), 7a(-)
Voltage	15 ... 30 V
Signal	0/4 ... 20 mA , sink mode , working voltage 15 ... 30 V
Ripple	20 mV _{rms}
Analog output	
<i>Field circuit</i>	SL2: 5a(+), 5b(-)
Suitable field devices	I/P converters (positioner), solenoid drivers, on-site-displays
Signal	0/4 ... 20 mA
Load	0 ... 650 Ω
Voltage	$\geq 13 \text{ V}$ at 20 mA
Ripple	20 mV _{rms}
<i>Control circuit</i>	SL1: 8a(+), 7a(-)
Voltage	12 ... 30 V
Signal	0/4 ... 20 mA
Resistor	$> 100 \text{ k}\Omega$ at max. 30 V, with field wiring open
Voltage drop	approx. 12 V with field wiring closed
Digital input	
<i>Field circuit</i>	SL2: 5a(+), 1a(-) (NAMUR sensor) SL2: 5a(+), 5b(-) (dry contact)
Suitable field devices	NAMUR sensors according to IEC/EN 60947-5-6, dry contacts
Open loop voltage	approx. 10 V DC with 1 k Ω series resistance
Signal	0.1 ... 9 mA
<i>Control circuit</i>	SL1: 8a(+), 7a(-)
Voltage	13 ... 30 V
Signal	0.1 ... 9 mA , sink mode , working voltage 13 ... 30 V
Digital output	
<i>Field circuit</i>	SL2: 5a(+), 5b(-)
Suitable field devices	solenoid valves, acoustic or visual alarms
Drive capability	12 V / 40 mA at 300 Ω load
Open loop voltage	approx. 22 V
Current limit	45 mA
<i>Control circuit</i>	SL1: 8a(+), 7a(-)
Voltage	1-signal: 19 ... 30 V DC 0-signal: 0 ... 5 V DC
Current	1-signal: 0 ... 45 mA, depending on the output load 0-signal: $< 0.1 \text{ mA}$, independent of the output load
Internal resistance R_i	$\geq 240 \Omega$
Power loss	1.1 W at 24 V, 300 Ω load
Transfer characteristics	
Deviation	at 20 °C (68 °F) $\leq \pm 20 \mu\text{A}$ incl. linearity, hysteresis and supply fluctuations at 4 ... 20 mA (analog input, analog output) $\leq \pm 60 \mu\text{A}$ incl. linearity, hysteresis and supply fluctuations at 0 ... 45 mA (digital output)
Influence of ambient temperature	$< 2 \mu\text{A/K}$ (0 ... 70 °C (32 ... 158 °F)) $< 3 \mu\text{A/K}$ (-40 ... 0 °C (-40 ... 32 °F))
Switching frequency	$\leq 50 \text{ Hz}$ nicht uebersetzt! $\leq 20 \text{ Hz}$ (digital output)
Frequency range	bandwidth by 0.5 V_{pp} signal and/or 1 mA _{pp} signal 950 ... 2500 Hz (analog input, analog output)
Settling time	$\leq 20 \text{ ms}$ (analog input, analog output) $\leq 5 \text{ ms}$ (digital input)
Reaction time	$\leq 5 \text{ ms}$, turn-on/turn-off time (digital output)
Electrical isolation	
Control/power supply	basic insulation according to IEC 61010-1, rated insulation voltage 60 V _{eff}

Directive conformity		
Electromagnetic compatibility		
Directive 2004/108/EC		EN 61326-1:2013 (industrial locations)
Conformity		
Electromagnetic compatibility		
Degree of protection		NE 21:2011
Protection against electrical shock		IEC 60529:2001
Input		IEC 61010-1:2010
		EN 60947-5-6:2000
Ambient conditions		
Ambient temperature		
		-40 ... 70 °C (-40 ... 158 °F)
Storage temperature		
		-40 ... 85 °C (-40 ... 185 °F)
Relative humidity		
		95 % non-condensing
Mechanical specifications		
Degree of protection		
		IP20
Mass		
		approx. 100 g
Dimensions		
		12.5 x 128 x 106 mm (0.5 x 5.1 x 4.2 in)
Mounting		
		on Termination Board
Coding		
		pin 1 and 4 trimmed
		For further information see system description.
Data for application in connection with Ex-areas		
EC-Type Examination Certificate		
		???, for additional certificates see www.pepperl-fuchs.com
Group, category, type of protection		
		⊕ II (1)G [Ex ia Ga] IIC , ⊕ II (1)D [Ex ia Da] IIIC , ⊕ I (M1) [Ex ia Ma] I
Supply		
Maximum safe voltage	U _m	250 V (Attention! The rated voltage can be lower.)
Equipment		
		SL2: 5a(+), 5b(-)
Voltage	U _o	25.2 V
Current	I _o	110 mA
Power	P _o	693 mW
Equipment		
		SL2: 5a(+), 1b(-)
Voltage	U _i	< 28 V
Current	I _i	< 115 mA
Voltage	U _o	7.2 V
Current	I _o	0 mA
Power	P _o	0 mW
Equipment		
		SL2: 5a(+), 1a(-)
Voltage	U _o	12.6 V
Current	I _o	13 mA
Power	P _o	41 mW
Statement of conformity		
Group, category, type of protection, temperature class		
		⊕ II 3G Ex nA II T4 Gc [device in zone 2]
Electrical isolation		
Input/Other circuits		safe electrical isolation acc. to IEC/EN 60079-11, voltage peak value 375 V
Directive conformity		
Directive 94/9/EC		EN 60079-0:2012 , EN 60079-11:2012 , EN 60079-15:2010
International approvals		
IECEx approval		
Approved for		[Ex ia Ga] IIC, [Ex ia Da] IIIC, [Ex ia Ma] I
General information		
Supplementary information		EC-Type Examination Certificate, Statement of Conformity, Declaration of Conformity, Attestation of Conformity and instructions have to be observed where applicable. For information see www.pepperl-fuchs.com .

Notes

Application

The device is designed as intrinsically safe interface for Universal Process IO (or Universal Safety IO) by Honeywell. The advantage of the UIO concept is that no marshalling is needed.

Using at higher temperatures

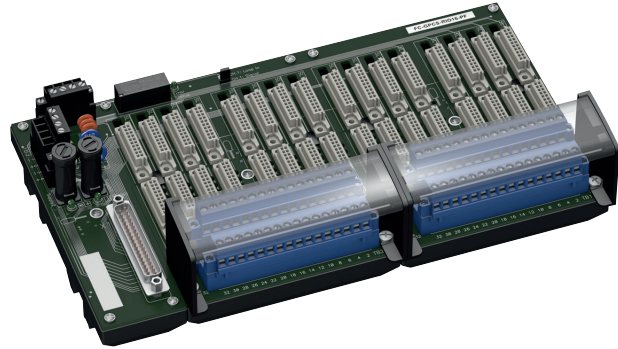
For ambient temperatures higher than 60 °C (140 °F), we recommend horizontal mounting of the termination board.

You can use the digital output without restrictions up to an ambient temperature of 60 °C (140 °F). If you using the digital output at higher temperatures (up to 70 °C (158 °F)) , limit the output current below 25 mA (load > 650 Ω). Alternatively, mount the termination board in horizontal position.

Features

- System Board for Honeywell Universal Safety IO
- System Board for Honeywell Universal Process IO
- For 16-channel cards USIO and UPIO
- For 16 modules
- Recommended modules: HiC2831R2 (DI), HiC2853R2 (DI), HiC2871 (DO), HiC2025 (AI), HiC2031 (AO)
- Recommended system cable: CA-HWC300-AIO-DIO-*M
- 24 V DC supply
- Hazardous area: pluggable screw terminals, blue
- Safe area: Sub-D connector (male), 37-pin

Assembly



Function

The function of the Termination Board and the connector pin assignment is exactly fitted to the requirements of Honeywell system.

Information about missing supply voltage of the isolated barriers is available for the system as volt-free contact.

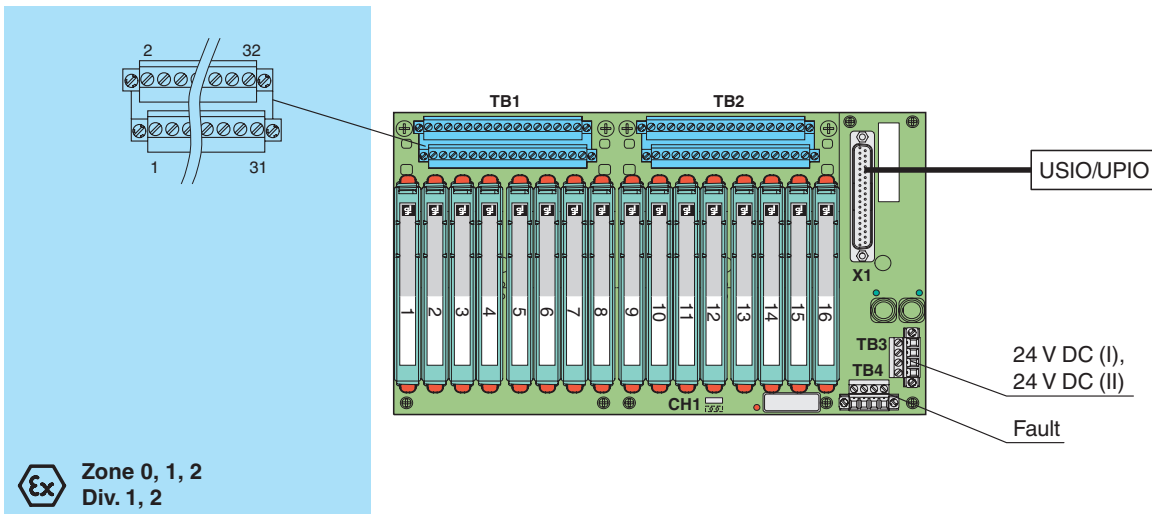
It is possible to transfer a fault signal to channel 1 of the card via the Loop-in function.

The Termination Board has a robust glass fiber reinforced plastic housing.

The Termination Board is mounted in the switch cabinet on a 35 mm DIN mounting rail according to EN 60175.



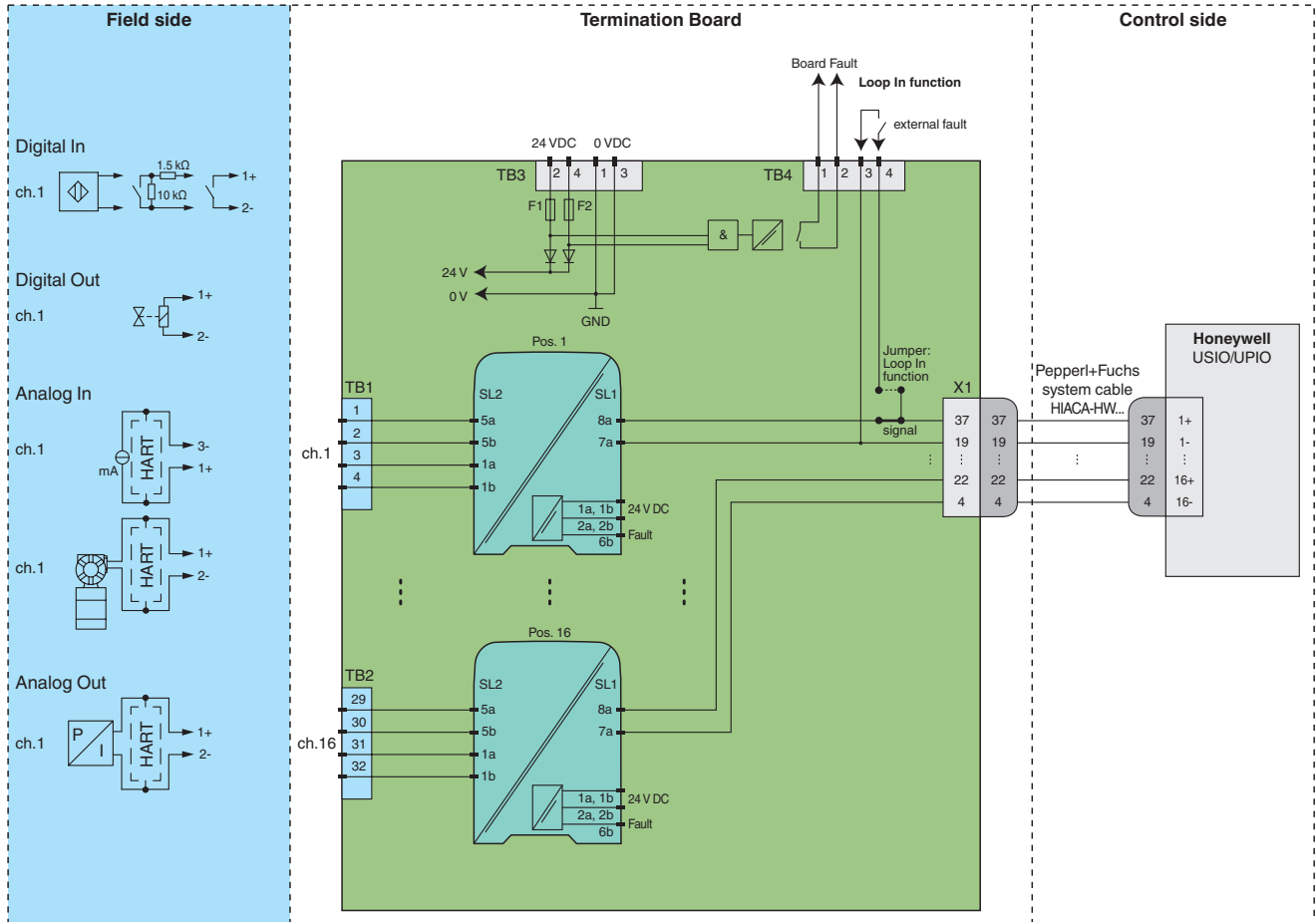
Connection



Supply	
Connection	terminal block TB3 (1-, 2+; 3-, 4+)
Rated voltage U_N	24 V DC , in consideration of rated voltage of used isolated barriers
Voltage drop	0.9 V , voltage drop across the series diode on the Termination Board must be considered
Ripple	≤ 10 %
Fusing	4 A
Power loss	≤ 500 mW , without modules
Reverse polarity protection	yes
Electrical specifications	
volt-free fault indication output	max. 30 V AC/40 V DC, 2 A
Redundancy	
Supply	Redundancy available. The supply for the modules is decoupled, monitored and fused.
Indicators/settings	
Display elements	LEDs PWR ON (power supply) - LED power supply I, green LED - LED power supply II, green LED LED Fault (fault indication), red LED
Directive conformity	
Electromagnetic compatibility	
Directive 2004/108/EC	EN 61326-1:2013
Conformity	
Electromagnetic compatibility	NE 21:2012 For further information see system description.
Degree of protection	IEC 60529:2001
Ambient conditions	
Ambient temperature	-20 ... 60 °C (-4 ... 140 °F)
Storage temperature	-40 ... 70 °C (-40 ... 158 °F)
Mechanical specifications	
Degree of protection	IP20
Connection	hazardous area connection (field side): plugable screw terminals, blue safe area connection (control side): 37-pin Sub-D connector (male)
Core cross-section	0.2 ... 2.5 mm ² (24 ... 12 AWG)
Material	housing: polycarbonate, 30 % glass fiber reinforced
Mass	approx. 900 g
Dimensions	273 x 155 x 153 mm (L x W x H) , height including module assembly
Mounting	on 35 mm DIN mounting rail acc. to EN 60715:2001
Data for application in connection with Ex-areas	
EC-Type Examination Certificate	CESI 06 ATEX 022 , for additional certificates see www.pepperl-fuchs.com
Group, category, type of protection	⊕ II (1)G [Ex ia Ga] IIC ⊕ II (1)D [Ex ia Da] IIIC ⊕ I (M1) [Ex ia Ma] I
Safe area	
Maximum safe voltage	250 V (Attention! U_m is no rated voltage.)
Electrical isolation	
Field circuit/control circuit	safe electrical isolation acc. to IEC/EN 60079-11, voltage peak value 375 V
Directive conformity	
Directive 94/9/EC	EN 60079-0:2012, EN 60079-11:2012, EN 60079-26:2007 , EN 50303:2000
International approvals	
UL approval	
Control drawing	116-0327
IECEx approval	IECEx CES 06.0003
Approved for	[Ex ia Ga] IIC [Ex ia Da] IIIC [Ex ia Ma] I
General information	
Supplementary information	EC-Type Examination Certificate, Statement of Conformity, Declaration of Conformity, Attestation of Conformity and instructions have to be observed where applicable. For information see www.pepperl-fuchs.com .
Accessories	
Designation	provided accessories: Label Carrier HiALC-HI*TF-SET-1** optional accessories: system cable CA-HWC300-AIO-DIO-*M

Application

Typical loop



Pin-out Table

Termination Board field side			Modules		Termination Board control side
Module	Channel	IS Terminal TB1	IS terminals SL2 field side	Non-IS terminals SL1 control side	System connector X1
1	1	1	5a	8a	37
		2	5b		
		3	1a	7a	19
		4	1b		
2	2	5	5a	8a	36
		6	5b		
		7	1a	7a	18
		8	1b		
3	3	9	5a	8a	35
		10	5b		
		11	1a	7a	17
		12	1b		
4	4	13	5a	8a	34
		14	5b		
		15	1a	7a	16
		16	1b		
5	5	17	5a	8a	33
		18	5b		
		19	1a	7a	15
		20	1b		
6	6	21	5a	8a	32
		22	5b		
		23	1a	7a	14
		24	1b		
7	7	25	5a	8a	31
		26	5b		
		27	1a	7a	13
		28	1b		
8	8	29	5a	8a	30
		30	5b		
		31	1a	7a	12
		32	1b		

Pin-out Table

Termination Board field side			Modules		Termination Board control side
Module	Channel	IS Terminal TB2	IS terminals SL2 field side	Non-IS terminals SL1 control side	System connector X1
9	9	1	5a	8a	29
		2	5b		
		3	1a	7a	11
		4	1b		
10	10	5	5a	8a	28
		6	5b		
		7	1a	7a	10
		8	1b		
11	11	9	5a	8a	27
		10	5b		
		11	1a	7a	9
		12	1b		
12	12	13	5a	8a	26
		14	5b		
		15	1a	7a	8
		16	1b		
13	13	17	5a	8a	25
		18	5b		
		19	1a	7a	7
		20	1b		
14	14	21	5a	8a	24
		22	5b		
		23	1a	7a	6
		24	1b		
15	15	25	5a	8a	23
		26	5b		
		27	1a	7a	5
		28	1b		
16	16	29	5a	8a	22
		30	5b		
		31	1a	7a	4
		32	1b		

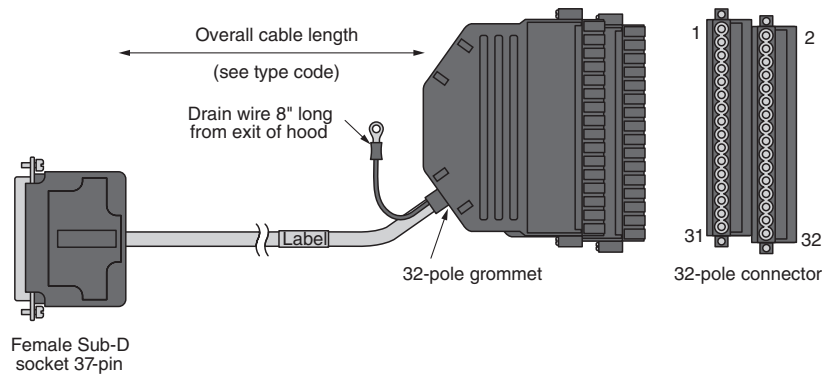
Termination Board pin out			
Power supply	TB3	1	Supply I -
		2	Supply I +
		3	Supply II -
		4	Supply II +
Fault	TB4	1	Board fault
		2	
		3	External fault
		4	

Module pin-out (SL1): module 1 ... 16	
V _{CC}	2a
	2b
GND	1a
	1b
FAULT	6b

Features

- Honeywell specific system cable for Honeywell Experion Series C GI/IO to Pepperl+Fuchs H-System termination boards
- Connects terminal plug on Honeywell Series C GI/IO TA to a single 37-pin Sub-D connector on H-system termination boards
- Preconfigured lengths

Dimensions



Technical data

Electrical specifications

Rated voltage 300 V AC/DC

Ambient conditions

Ambient temperature -20 ... 80 °C (-4 ... 176 °F)

Mechanical specifications

Connection 37 pins/32 pins

Material

Connector plastic/plastic

Cable 22 AWG

Construction type

22 AWG 7/0096 tinned copper
18 individual twisted pairs overall foil

Shielding

aluminium/poly foil 100% coverage
24 AWG 7/32 T.C. DW.

Data for application in connection with Ex-areas

Directive conformity UL / cULus
RoHS compliant

Type code/model number

Part Number	Cable length
CA-HWC300-AIO-DIO-1M	1 m
CA-HWC300-AIO-DIO-2M	2 m
CA-HWC300-AIO-DIO-3M	3 m
CA-HWC300-AIO-DIO-4M	4 m
CA-HWC300-AIO-DIO-5M	5 m
CA-HWC300-AIO-DIO-7.5M	7.5 m
CA-HWC300-AIO-DIO-10M	10 m
CA-HWC300-AIO-DIO-12.5M	12.5 m
CA-HWC300-AIO-DIO-15M	15 m
CA-HWC300-AIO-DIO-20M	20 m
CA-HWC300-AIO-DIO-25M	25 m
CA-HWC300-AIO-DIO-30M	30 m

Additional information

	Pinning	D-sub 37 female	Weidmuller 32-pole
1	Channel 1 (-)	19	2
2	Channel 1 (+)	37	1
3	Channel 2 (-)	18	4
4	Channel 2 (+)	36	3
5	Channel 3 (-)	17	6
6	Channel 3 (+)	35	5
7	Channel 4 (-)	16	8
8	Channel 4 (+)	34	7
9	Channel 5 (-)	15	10
10	Channel 5 (+)	33	9
11	Channel 6 (-)	14	12
12	Channel 6 (+)	32	11
13	Channel 7 (-)	13	14
14	Channel 7 (+)	31	13
15	Channel 8 (-)	12	16
16	Channel 8 (+)	30	15
17	Channel 9 (-)	11	18
18	Channel 9 (+)	29	17
19	Channel 10 (-)	10	20
20	Channel 10 (+)	28	19
21	Channel 11 (-)	9	22
22	Channel 11 (+)	27	21
23	Channel 12 (-)	8	24
24	Channel 12 (+)	26	23
25	Channel 13 (-)	7	26
26	Channel 13 (+)	25	25
27	Channel 14 (-)	6	28
28	Channel 14 (+)	24	27
29	Channel 15 (-)	5	30
30	Channel 15 (+)	23	29
31	Channel 16 (-)	4	32
32	Channel 16 (+)	22	31

Your automation, our passion.

Explosion Protection

- Intrinsically Safe Barriers
- Signal Conditioners
- Fieldbus Infrastructure
- Remote I/O Systems
- HART Interface Solutions
- Wireless Solutions
- Level Measurement
- Purge and Pressurization Systems
- Industrial Monitors and HMI Solutions
- Electrical Explosion Protection Equipment
- Solutions with Explosion Protection

Industrial Sensors

- Proximity Sensors
- Photoelectric Sensors
- Industrial Vision
- Ultrasonic Sensors
- Rotary Encoders
- Positioning Systems
- Inclination and Acceleration Sensors
- AS-Interface
- Identification Systems
- Logic Control Units