Base Load Power Hub (BLPH)

INTEGRATED CONTROL AND SAFETY SYSTEM (ICSS)

ATEX REGISTER

Document Number: 1724000594-IN-LIS-00036

Document Class: 2

02	12/12/2024	Accepted for Construction (AFC)	A.Giorgetti	A.Berra	S.Corradi
01	30/08/2024	Issue for Review (IFR)	A.Giorgetti	A.Berra	S.Corradi
00	04/07/2024	Issue for Review (IFR)	A.Giorgetti	A.Berra	S.Corradi
Rev.	Date	Description	Prepared	Reviewed	Approved

YOKOGAWA Co-innovating tomorrow

This document undergoes an issuance cycle within EDMS "Fusionlive".
Its distribution is electronically controlled. Once printed shall be considered as "NOT CONTROLLED" copy

Table of Contents

SH.	DESCRIPTION	REVISIONS							
		00	01						
1	Cover	X	X	X					
2	Table of Contents	X	X	X					
3	Revision / Change Log	X	X	X					
4	ATEX Register	X	X	X					
ATT.1	Device datasheet - 321423_eng	X	X	-					
ATT.2	Type Examination Certificate - cert0909a	X	X	-					
ATT.3	EU-Declaration of conformity - DOC-4563B	X	X	-					

This document undergoes an issuance cycle within EDMS "Fusionlive".
Its distribution is electronically controlled. Once printed shall be considered as "NOT CONTROLLED" copy

Revision / Change Log

Rev.	Description
00	ISSUE FOR REVIEW (IFR)
01	ISSUE FOR REVIEW (IFR)
02	ACCEPTED FOR CONSTRUCTION (AFC)

HOLDS LIST

No.	Description
1.	-
2.	-
3.	-
4.	-

This document undergoes an issuance cycle within EDMS "Fusionlive".
Its distribution is electronically controlled. Once printed shall be considered as "NOT CONTROLLED" copy

No.	Revision	Tag Number	Description	Location	Manufacturer	Model Type Catalogue Number	Serial Number	ATEX Certification Marking	Reference Document	ATEX Certificate Number	Installation Zone	Notes / Comments	P.O.	Vendor	Skid / Package	Barrier Calculation Ref.	Non-Electrical Equipment	Special Conditions of safe use Applicable
1	02	BR01	IS Barrier for AI	Room 400, Cabinet B400-FGS-003	Pepperl+Fuchs	HiC2025	4000017 0503292	CESI 06 ATEX 017	1724000594-IN-DA-00010 1724000594-IN-DG-00021	cert0909a	Safe Area	Interface with IS Device	1724000594 123A90A	Yokogawa	FGS	-	NO	NO
2	02	BR02	IS Barrier for AI	Room 400, Cabinet B400-FGS-003	Pepperl+Fuchs	HiC2025	4000017 0503507	CESI 06 ATEX 017	1724000594-IN-DA-00010 1724000594-IN-DG-00021	cert0909a	Safe Area	Interface with IS Device	1724000594 123A90A	Yokogawa	FGS	-	NO	NO
3	02	BR03	IS Barrier for AI	Room 400, Cabinet B400-FGS-003	Pepperl+Fuchs	HiC2025	4000017 0503304	CESI 06 ATEX 017	1724000594-IN-DA-00010 1724000594-IN-DG-00021	cert0909a	Safe Area	Interface with IS Device	1724000594 123A90A	Yokogawa	FGS	-	NO	NO
4	02	BR04	IS Barrier for AI	Room 400, Cabinet B400-FGS-003	Pepperl+Fuchs	HiC2025	4000017 3669121	CESI 06 ATEX 017	1724000594-IN-DA-00010 1724000594-IN-DG-00021	cert0909a	Safe Area	Interface with IS Device	1724000594 123A90A	Yokogawa	FGS	-	NO	NO
5	02	BR05	IS Barrier for AI	Room 400, Cabinet B400-FGS-003	Pepperl+Fuchs	HiC2025	4000017 3669155	CESI 06 ATEX 017	1724000594-IN-DA-00010 1724000594-IN-DG-00021	cert0909a	Safe Area	Interface with IS Device	1724000594 123A90A	Yokogawa	FGS	-	NO	NO
6	02	BR06	IS Barrier for AI	Room 400, Cabinet B400-FGS-003	Pepperl+Fuchs	HiC2025	4000017 0503312	CESI 06 ATEX 017	1724000594-IN-DA-00010 1724000594-IN-DG-00021	cert0909a	Safe Area	Interface with IS Device	1724000594 123A90A	Yokogawa	FGS	-	NO	NO
7	02	BR07	IS Barrier for AI	Room 400, Cabinet B400-FGS-003	Pepperl+Fuchs	HiC2025	4000017 0503498	CESI 06 ATEX 017	1724000594-IN-DA-00010 1724000594-IN-DG-00021	cert0909a	Safe Area	Interface with IS Device	1724000594 123A90A	Yokogawa	FGS	-	NO	NO
8	02	BR08	IS Barrier for AI	Room 400, Cabinet B400-FGS-003	Pepperl+Fuchs	HiC2025	4000017 0503425	CESI 06 ATEX 017	1724000594-IN-DA-00010 1724000594-IN-DG-00021	cert0909a	Safe Area	Interface with IS Device	1724000594 123A90A	Yokogawa	FGS	-	NO	NO
9	02	BR09	IS Barrier for AI	Room 400, Cabinet B400-FGS-003	Pepperl+Fuchs	HiC2025	4000017 3669137	CESI 06 ATEX 017	1724000594-IN-DA-00010 1724000594-IN-DG-00021	cert0909a	Safe Area	Interface with IS Device	1724000594 123A90A	Yokogawa	FGS	-	NO	NO
10	02	BR10	IS Barrier for AI	Room 400, Cabinet B400-FGS-003	Pepperl+Fuchs	HiC2025	4000017 3669167	CESI 06 ATEX 017	1724000594-IN-DA-00010 1724000594-IN-DG-00021	cert0909a	Safe Area	Interface with IS Device	1724000594 123A90A	Yokogawa	FGS	-	NO	NO
11	02	BR11	IS Barrier for AI	Room 400, Cabinet B400-FGS-003	Pepperl+Fuchs	HiC2025	4000017 0503324	CESI 06 ATEX 017	1724000594-IN-DA-00010 1724000594-IN-DG-00021	cert0909a	Safe Area	Interface with IS Device	1724000594 123A90A	Yokogawa	FGS	-	NO	NO
12	02	BR12	IS Barrier for AI	Room 400, Cabinet B400-FGS-003	Pepperl+Fuchs	HiC2025	4000017 0503518	CESI 06 ATEX 017	1724000594-IN-DA-00010 1724000594-IN-DG-00021	cert0909a	Safe Area	Interface with IS Device	1724000594 123A90A	Yokogawa	FGS	-	NO	NO
13	02	BR13	IS Barrier for AI	Room 400, Cabinet B400-FGS-003	Pepperl+Fuchs	HiC2025	4000017 3669159	CESI 06 ATEX 017	1724000594-IN-DA-00010 1724000594-IN-DG-00021	cert0909a	Safe Area	Interface with IS Device	1724000594 123A90A	Yokogawa	FGS	-	NO	NO
14	02	BR14	IS Barrier for AI	Room 400, Cabinet B400-FGS-003	Pepperl+Fuchs	HiC2025	4000017 0503328	CESI 06 ATEX 017	1724000594-IN-DA-00010 1724000594-IN-DG-00021	cert0909a	Safe Area	Interface with IS Device	1724000594 123A90A	Yokogawa	FGS	-	NO	NO
15	02	BR15	IS Barrier for AI	Room 400, Cabinet B400-FGS-003	Pepperl+Fuchs	HiC2025	4000017 0503336	CESI 06 ATEX 017	1724000594-IN-DA-00010 1724000594-IN-DG-00021	cert0909a	Safe Area	Interface with IS Device	1724000594 123A90A	Yokogawa	FGS	-	NO	NO
16	02	BR16	IS Barrier for AI	Room 400, Cabinet B400-FGS-003	Pepperl+Fuchs	HiC2025	4000017 0503320	CESI 06 ATEX 017	1724000594-IN-DA-00010 1724000594-IN-DG-00021	cert0909a	Safe Area	Interface with IS Device	1724000594 123A90A	Yokogawa	FGS	-	NO	NO
17	02	BR17	IS Barrier for AI	Room 400, Cabinet B400-FGS-003	Pepperl+Fuchs	HiC2025	4000017 0503546	CESI 06 ATEX 017	1724000594-IN-DA-00010 1724000594-IN-DG-00021	cert0909a	Safe Area	Interface with IS Device	1724000594 123A90A	Yokogawa	FGS	-	NO	NO
18	02	BR18	IS Barrier for AI	Room 400, Cabinet B400-FGS-003	Pepperl+Fuchs	HiC2025	4000017 0503506	CESI 06 ATEX 017	1724000594-IN-DA-00010 1724000594-IN-DG-00021	cert0909a	Safe Area	Interface with IS Device	1724000594 123A90A	Yokogawa	FGS	-	NO	NO
19	02	BR19	IS Barrier for AI	Room 400, Cabinet B400-FGS-003	Pepperl+Fuchs	HiC2025	4000017 0503344	CESI 06 ATEX 017	1724000594-IN-DA-00010 1724000594-IN-DG-00021	cert0909a	Safe Area	Interface with IS Device	1724000594 123A90A	Yokogawa	FGS	-	NO	NO
20	02	BR20	IS Barrier for AI	Room 400, Cabinet B400-FGS-003	Pepperl+Fuchs	HiC2025	4000017 0503047	CESI 06 ATEX 017	1724000594-IN-DA-00010 1724000594-IN-DG-00021	cert0909a	Safe Area	Interface with IS Device	1724000594 123A90A	Yokogawa	FGS	-	NO	NO
21	02	BR21	IS Barrier for AI	Room 400, Cabinet B400-FGS-003	Pepperl+Fuchs	HiC2025	4000017 3669328	CESI 06 ATEX 017	1724000594-IN-DA-00010 1724000594-IN-DG-00021	cert0909a	Safe Area	Interface with IS Device	1724000594 123A90A	Yokogawa	FGS	-	NO	NO
22	02	BR22	IS Barrier for AI	Room 400, Cabinet B400-FGS-003	Pepperl+Fuchs	HiC2025	4000017 0503421	CESI 06 ATEX 017	1724000594-IN-DA-00010 1724000594-IN-DG-00021	cert0909a	Safe Area	Interface with IS Device	1724000594 123A90A	Yokogawa	FGS	-	NO	NO
23	02	BR23	IS Barrier for AI	Room 400, Cabinet B400-FGS-003	Pepperl+Fuchs	HiC2025	4000017 3668858	CESI 06 ATEX 017	1724000594-IN-DA-00010 1724000594-IN-DG-00021	cert0909a	Safe Area	Interface with IS Device	1724000594 123A90A	Yokogawa	FGS	-	NO	NO
24	02	BR24	IS Barrier for AI	Room 400, Cabinet B400-FGS-003	Pepperl+Fuchs	HiC2025	4000017 0503514	CESI 06 ATEX 017	1724000594-IN-DA-00010 1724000594-IN-DG-00021	cert0909a	Safe Area	Interface with IS Device	1724000594 123A90A	Yokogawa	FGS	-	NO	NO
25	02	BR25	IS Barrier for AI	Room 400, Cabinet B400-FGS-003	Pepperl+Fuchs	HiC2025	4000017 0503316	CESI 06 ATEX 017	1724000594-IN-DA-00010 1724000594-IN-DG-00021	cert0909a	Safe Area	Interface with IS Device	1724000594 123A90A	Yokogawa	FGS	-	NO	NO
26	02	BR26	IS Barrier for AI	Room 400, Cabinet B400-FGS-003	Pepperl+Fuchs	HiC2025	4000017 0503352	CESI 06 ATEX 017	1724000594-IN-DA-00010 1724000594-IN-DG-00021	cert0909a	Safe Area	Interface with IS Device	1724000594 123A90A	Yokogawa	FGS	-	NO	NO
27	02	BR27	IS Barrier for AI	Room 400, Cabinet B400-FGS-003	Pepperl+Fuchs	HiC2025	4000017 3672207	CESI 06 ATEX 017	1724000594-IN-DA-00010 1724000594-IN-DG-00021	cert0909a	Safe Area	Interface with IS Device	1724000594 123A90A	Yokogawa	FGS	-	NO	NO
28	02	BR28	IS Barrier for AI	Room 400, Cabinet B400-FGS-003	Pepperl+Fuchs	HiC2025	4000017 0503511	CESI 06 ATEX 017	1724000594-IN-DA-00010 1724000594-IN-DG-00021	cert0909a	Safe Area	Interface with IS Device	1724000594 123A90A	Yokogawa	FGS	-	NO	NO
29	02	BR29	IS Barrier for AI	Room 400, Cabinet B400-FGS-003	Pepperl+Fuchs	HiC2025	4000017 0503356	CESI 06 ATEX 017	1724000594-IN-DA-00010 1724000594-IN-DG-00021	cert0909a	Safe Area	Interface with IS Device	1724000594 123A90A	Yokogawa	FGS	-	NO	NO
30	02	BR30	IS Barrier for AI	Room 400, Cabinet B400-FGS-003	Pepperl+Fuchs	HiC2025	4000017 0503340	CESI 06 ATEX 017	1724000594-IN-DA-00010 1724000594-IN-DG-00021	cert0909a	Safe Area	Interface with IS Device	1724000594 123A90A	Yokogawa	FGS	-	NO	NO

ATTACHMENT-1



SMART Transmitter Power Supply
HiC2025

- 1-channel isolated barrier
- 24 V DC supply (bus powered)
- Input for 2-wire SMART transmitters and current sources
- Output for 4 mA ... 20 mA or 1 V ... 5 V
- Low power dissipation
- Up to SIL 2 (SC 3) acc. to IEC/EN 61508

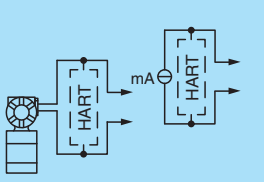
Function

This isolated barrier is used for intrinsic safety applications.
The device supplies 2-wire transmitters in the hazardous area, and can also be used with current sources.
It transfers the analog input signal to the safe area as an isolated current value.
Bi-directional communication is supported for SMART transmitters that use current modulation to transmit data and voltage modulation to receive data.
The output is selected as a current source, current sink, or voltage source via DIP switches.
This device mounts on a HiC Termination Board.

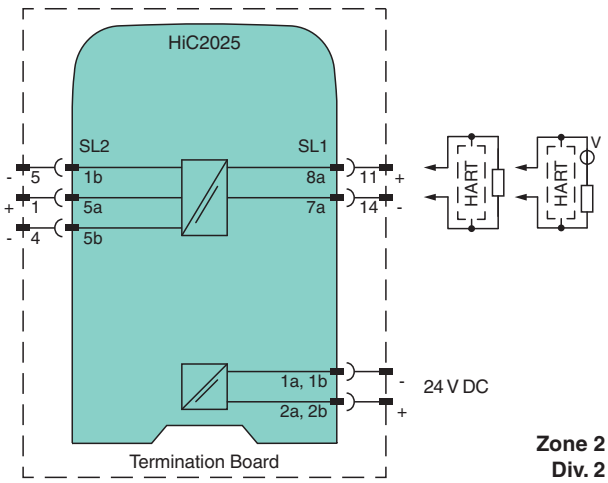
Application

The device supports the following SMART protocols:
- HART
- BRAIN

Connection



Zone 0, 1, 2
Div. 1, 2



Zone 2
Div. 2

Technical Data

General specifications	
Signal type	Analog input

Release date: 2023-06-01 Date of issue: 2023-06-01 Filename: 321423_eng.pdf

Technical Data

Functional safety related parameters		
Safety Integrity Level (SIL)		SIL 2
Systematic capability (SC)		SC 3
Supply		
Connection		SL1: 1a, 1b(-); 2a, 2b(+)
Rated voltage	U_r	19 ... 30 V DC bus powered via Termination Board
Ripple		≤ 10 %
Rated current	I_r	≤ 45 mA at 24 V and 20 mA source mode output
Power dissipation		≤ 800 mW
Power consumption		≤ 1.1 W
Input		
Connection side		field side
Connection		SL2: 5a(+), 1b(-); 5a(+), 5b(-)
Input signal		4 ... 20 mA limited to approx. 26 mA
Voltage drop		approx. 5 V on SL2: 5a(+), 1b(-)
Available voltage		≥ 15 V at 20 mA , ≥ 18 V at 4 mA on SL2: 5a(+), 5b(-)
Output		
Connection side		control side
Connection		SL1: 8a(+), 7a(-)
Load		0 ... 350 Ω (source mode)
Output signal		source mode: 4 ... 20 mA or 1 ... 5 V (internal resistor: 250 Ω, 0.1 %) sink mode: 4 ... 20 mA, operating voltage 10 ... 30 V For additional internal or external loads the voltage drop has to be considered, e. g. 250 Ω x 20 mA = 5 V.
Ripple		20 mV $_{rms}$
Transfer characteristics		
Deviation		at 20 °C (68 °F) < 0.1 % of full scale, incl. non-linearity and hysteresis (source mode and sink mode 4 ... 20 mA) ≤ ± 0.2 % incl. non-linearity and hysteresis (source mode 1 ... 5 V)
Influence of ambient temperature		< 2 µA/K (-20 ... 70 °C (-4 ... 158 °F)); < 4 µA/K (-40 ... -20 °C (-40 ... -4 °F)) (source mode and sink mode 4 ... 20mA) < 0.5 mV/K (-20 ... 70 °C (-4 ... 158 °F)); < 1 mV/K (-40 ... -20 °C (-40 ... -4 °F)) (source mode 1...5 V)
Frequency range		field side into the control side: bandwidth with 0.5 V_{pp} signal 0 ... 3 kHz (-3 dB) control side into the field side: bandwidth with 0.5 V_{pp} signal 0 ... 3 kHz (-3 dB)
Settling time		≤ 50 ms
Rise time/fall time		≤ 10 ms
Galvanic isolation		
Input/Output		safe electrical isolation acc. to IEC/EN 60079-11, voltage peak value 375 V
Input/power supply		safe electrical isolation acc. to IEC/EN 60079-11, voltage peak value 375 V
Output/power supply		basic insulation according to IEC/EN 61010-1, rated insulation voltage 60 V_{eff}
Indicators/settings		
Display elements		LED
Control elements		DIP switch
Configuration		via DIP switches
Labeling		space for labeling at the front
Directive conformity		
Electromagnetic compatibility		
Directive 2014/30/EU		EN 61326-1:2013 (industrial locations)
Conformity		
Electromagnetic compatibility		NE 21:2017 EN 61326-3-2:2018 For further information see system description.
Degree of protection		IEC 60529:2001
Protection against electrical shock		UL 61010-1:2012
Ambient conditions		

Release date: 2023-06-01 Date of issue: 2023-06-01 Filename: 321423_eng.pdf

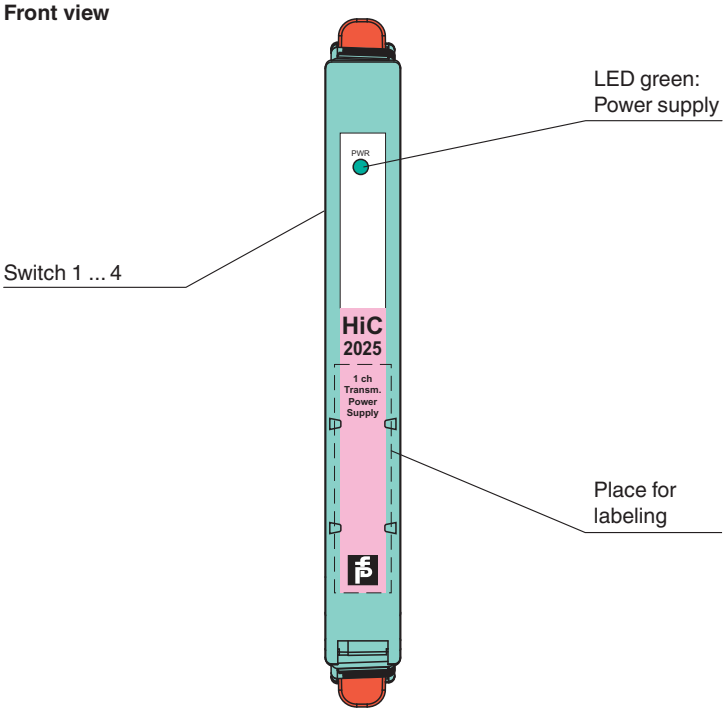
Technical Data

Ambient temperature		-40 ... 70 °C (-40 ... 158 °F)
Mechanical specifications		
Degree of protection		IP20
Mass		approx. 100 g
Dimensions		12.5 x 106 x 128 mm (0.5 x 4.2 x 5.1 inch) (W x H x D)
Mounting		on termination board
Coding		pin 1 and 3 trimmed For further information see system description.
Data for application in connection with hazardous areas		
EU-type examination certificate		CESI 06 ATEX 017
Marking		Ⓔx II (1)G [Ex ia Ga] IIC Ⓔx II (1)D [Ex ia Da] IIIC Ⓔx I (M1) [Ex ia Ma] I
Input		Ex ia
Supply		
Maximum safe voltage	U_m	250 V AC (Attention! U_m is no rated voltage.)
Equipment		SL2: 5a(+), 5b(-)
Voltage	U_o	25.2 V
Current	I_o	100 mA
Power	P_o	630 mW
Internal capacitance	C_i	5.7 nF
Internal inductance	L_i	negligible
Equipment		SL2: 5a(+), 1b(-)
Voltage	U_i	30 V
Current	I_i	128 mA
Voltage	U_o	7.2 V
Current	I_o	100 mA
Power	P_o	25 mW
Internal capacitance	C_i	5.7 nF
Internal inductance	L_i	negligible
Certificate		CESI 19 ATEX 027 X
Marking		Ⓔx II 3G Ex ec IIC T4 Gc
Directive conformity		
Directive 2014/34/EU		EN 60079-0:2012+A11:2013 , EN 60079-11:2012 , EN 60079-7:2015
International approvals		
FM approval		
FM certificate		FM 19 US 0122 X , FM 19 CA 0065 X
Control drawing		116-0470 (cFMus)
UL approval		E106378
Control drawing		116-0458 (cULus)
IECEx approval		
IECEx certificate		IECEx CES 06.0002X
IECEx marking		[Ex ia Ga] IIC , [Ex ia Da] IIIC , [Ex ia Ma] I Ex ec IIC T4 Gc
General information		
Supplementary information		Observe the certificates, declarations of conformity, instruction manuals, and manuals where applicable. For information see www.pepperl-fuchs.com.

Release date: 2023-06-01 Date of issue: 2023-06-01 Filename: 321423_eng.pdf

Assembly

Front view



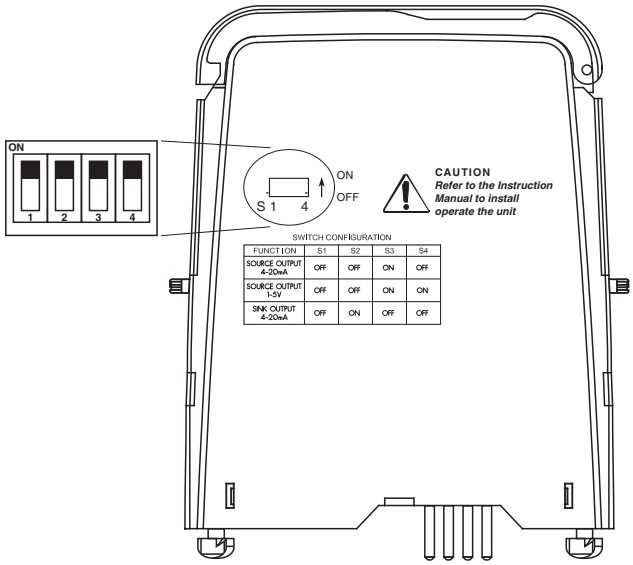
Configuration

Configure the device in the following way:
- Push the red Quick Lok Bars on each side of the device in the upper position.
- Remove the device from termination board.
- Set the switches according to the figure in the **Configuration** section.

Note
The pins for this device are trimmed to polarize it according to its safety parameters. Do not change the setting. For further information see system description.

Release date: 2023-06-01 Date of issue: 2023-06-01 Filename: 321423_eng.pdf

Configuration



Switch position

Function	S1	S2	S3	S4
Current source 4 mA ... 20 mA	OFF	OFF	ON	OFF
Voltage source 1 V ... 5 V	OFF	OFF	ON	ON
Current sink 4 mA ... 20 mA	OFF	ON	OFF	OFF

Factory setting: current source 4 mA ... 20 mA

Release date: 2023-06-01 Date of issue: 2023-06-01 Filename: 321423_eng.pdf

ATTACHMENT-2

CESI S.p.A.
Via Rubattino 54
I-20134 Milano - Italy
Tel: +39 02 21251
Fax: +39 02 21255440
e-mail: info@cesi.it
www.cesi.it

Schema di certificazione

CERTIFICATE

[1] SUPPLEMENTARY EU-TYPE EXAMINATION CERTIFICATE

[2] **Equipment or Protective System intended for use in potentially explosive atmospheres Directive 2014/34/EU**

[3] Supplementary EU-Type Examination Certificate number:

CESI 06 ATEX 017 /02

[4] Product: Galvanically isolated barrier type: **HiC2025, HiC2025A** and **HiC2031**

[5] Manufacturer: **Pepperl+Fuchs GmbH**

[6] Address: **Lilienthalstrasse 200, 68307 - Mannheim - Germany**

[7] This supplementary certificate extends EC–Type Examination Certificate CESI 06 ATEX 017 to apply to products designed and constructed in accordance with the specification set out in the Schedule of the said certificate but having any variations specified in the Schedule attached to this certificate and the documents therein referred to..

[8] CESI, notified body n. 0722 in accordance with Article 17 of the Directive 2014/34/EU of the Parliament and Council of 26 February 2014, certifies that this equipment or protective system has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment and protective systems intended for use in potentially explosive atmospheres given in Annex II to the Directive.

The examination and test results are recorded in confidential report n. EX-B9011911.

[9] In accordance with Article 41 of Directive 2014/34/EU, EC-Type Examination Certificates referring to 94/9/EC that were in existence prior to the date of application of 2014/34/EU (20 April 2016) may be referenced as if they were issued in accordance with Directive 2014/34/EU. Supplementary certificates to such EC-Type Examination Certificates, and new issues of such certificates, may continue to bear the original certificate number issued prior to 20 April 2016

[10] If the sign "X" is placed after the certificate number, it indicates that the equipment or protective system is subject to special conditions for safe use specified in the schedule to this certificate.

[11] This EU-TYPE EXAMINATION CERTIFICATE relates only to the design, examination and tests of the specified equipment or protective system in accordance to the Directive 2014/34/EU. Further requirements of the Directive apply to the manufacturing process and supply of this equipment or protective system. These are not covered by this certificate.

[12] The marking of the equipment or protective system shall include the following:

I (M1) [Ex ia Ma] I
II (1) G [Ex ia Ga] IIC
II (1) D [Ex ia Da] IIIC

This certificate may only be reproduced in its entirety and without any change, schedule included.

Date 14.06.2019 - Translation issued the 14th 06.2019

Prepared	**Verified**	**Approved**
Guido Prazzoli	Mirko Balaz	Roberto Piccin

CESI S.p.A.
Testing & Certification Division
Business Area Certification
Il Responsabile
(Roberto Piccin)

ACCREDIA
PRD N. 018B
Membro degli Accordi di Mutuo Riconoscimento EA, IAF e ILAC
Signatory of EA, IAF and ILAC Mutual Recognition Agreements

[13] **Schedule**

[14] **SUPPLEMENTARY EU-TYPE EXAMINATION CERTIFICATE n. CESI 06 ATEX 017 /02**

[15] **Description of the variation to the product**

Variation 2.1: Constructive modifications concerning the improvement of the thermal dissipation of the infallible components, considering the maximum service temperature of +94 °C.
Variation 2.2: Extended the ambient temperature range from -20 °C ÷ +60°C up to -40 °C ÷ +70 °C.
Variation 2.3: Added new alternative I.S. components.
Variation 2.4: Added a new device called HiC2025A with new safety parameters.
Variation 2.5: The product denomination has been updated, introducing asterisks at the end of name.
Variation 2.6: Standards updating.
Variation 2.7: Update to Directive 2014/34/EU.

Description of equipment

The SMART Transmitter Power Supply **HiC2025**, **HiC2025A** and SMART Current Driver **HiC2031** are, galvanically isolated, associated apparatus.
The **HiC2025** and HiC2025A devices are suitable for supply/interface signal transmitter placed in hazardous area and transfer the analog signal to a safe area. The hazardous area connections *(Input circuit)* are for "Sink Input" *(2-wire transmitters)* or 4-wire transmitters.
The **HiC2031** device is suitable to repeat a current signal coming from a safe area to drive smart I/P converter, valve actuator and displays placed in hazardous area.
For all equipmet, a SMART digital communication can be superimposed on the measurement signal of the transmitter, as input or output and can be transferred in both directions.
The products have a plastic enclosure, the boards are equipped with two DIN 41612 B/3 connectors, suitable for direct insertion in the ATEX certified Termination Boards HiC series, produced by Pepperl+Fuchs.
For particular variants, the equipment's name can be extended with additional characters at the end of the name *(es. HiC2025(A)** or HiC2031**)*. These variants do not change the function or the type of protection of the products in any way.
The equipment has been, previously, assessed and marked in compliance with the following standards: EN 60079-0:2009, EN 60079-11:2007, EN60079-26: 2007, EN 61241-11:2006 and EN 50303:2000.
With this Supplement the products are re-assessed and marked on the basis of the standards:
EN 60079-0:2012/A11:2013 and EN 60079-11:2012

Electrical characteristics

Non-intrinsically safe circuits

Um:	250 Vac
Power supply *[connettor SL1 pins: 2a,2b (+) and 1a,1b (-)]:*	Un: 24 Vdc *(19 ÷ 30 Vdc)*
Analog Input/Output *[connector SL1 pins: 8a (+) and 7a (-)]:*	Un: up to 30 Vdc
Tamb.:	from -40 °C up to +70 °C

*Intrinsically safe circuits – equipment **HiC2025***

Connector SL2 pins	Uo	Io	Po	Gas Groups	Co (µF)	Lo (mH)	Lo/Ro (µH/Ω)
5a(+); 5b(-)	25.2 V	100 mA	630 mW	IIC	0.100	3.5	55
				IIB	0.81	14	222
				IIA	2.8	28	444
				I	4.14	46	743

Ci = 5.7nF Li = negligible Output characteristic: linear.

This certificate may only be reproduced in its entirety and without any change, schedule included.

[13] **Schedule**

[14] **SUPPLEMENTARY EU-TYPE EXAMINATION CERTIFICATE n. CESI 06 ATEX 017 /02**

Electrical characteristics *(continue)*

Intrinsically safe circuits – equipment ***HiC2025***

Connector SL2 pins	Uo / Ui	Io / Ii	Po	Gas Groups	Co (µF)	Lo (mH)	Lo/Ro (µH/Ω)
5a(+); 1b(-) 7a(-)	7.2 V	100 mA	25 mW	IIC	13.49	3.5	27
				IIB	239	14	108
	30 V	128 mA		IIA	1000	28	216
				I	1000	46	356

Ci = 5.7nF Li = negligible Output characteristic: diodes blocking barrier.

Intrinsically safe circuits – equipment ***HiC2025A***

Connector SL2 pins	Uo	Io	Po	Gas Groups	Co (µF)	Lo (mH)	Lo/Ro (µH/Ω)
5a(+); 5b(-)	25.2 V	93 mA	586 mW	IIC	0.100	4.1	61
				IIB	0.81	16.4	244
				IIA	2.8	32.8	488
				I	4.14	53.9	800

Ci = 5.7nF Li = negligible Output characteristic: linear.

Connector SL2 pins	Uo / Ui	Io / Ii	Po	Gas Groups	Co (µF)	Lo (mH)	Lo/Ro (mH/Ω)
5a(+); 1b(-) 7a(-)	1 V	100 mA	25 mW	IIC	100	3.5	1.4
				IIB	1000	14	5.6
	30 V	128 mA		IIA	1000	28	11.2
				I	1000	46	18

Ci = 5.7nF Li = negligible Output characteristic: diodes blocking barrier.

Intrinsically safe circuits – equipment ***HiC2031***

Connector SL2 pins	Uo	Io	Po	Gas Groups	Co (µF)	Lo (mH)	Lo/Ro (µH/Ω)
5a(+); 5b(-)	25.2 V	100 mA	630 mW	IIC	0.100	3.5	55
				IIB	0.81	14	222
				IIA	2.8	28	444
				I	4.14	46	743

Ci = 5.7nF Li = negligible Output characteristic: linear.

Note: External circuits with both inductance and capacitance

The above maximum Lo and Co parameters apply where:
- the total Ci of the external circuit (excluding the cable) is < 1% of the Co value or
- the total Li of the external circuit (excluding the cable) is < 1% of the Lo value.

The above Lo and Co parameters shall reduce to 50% when both of the two conditions below are given:
- the total Li of the external circuit (excluding the cable) > 1% of the Lo value and
- the total Ci of the external circuit (excluding the cable) > 1% of the Co value.

The reduced capacitance of the external circuit (including cable) shall not be greater than 1 µF for Groups I, IIA, IIB and 600 nF for Group IIC.

The intrinsically safe systems shall be realized according to EN 60079-25 standard. The interconnection with active intrinsically safe transmitters must also respect the output parameters of these transmitters.

This certificate may only be reproduced in its entirety and without any change, schedule included.

[13] # Schedule

[14] **SUPPLEMENTARY EU-TYPE EXAMINATION CERTIFICATE n. CESI 06 ATEX 017 /02**

Warning label
None

[16] **Report n.** EX-B9011911

Routine tests
The Manufacturer shall carry out the routine tests provided to clause 27 on the of EN 60079-0 standard and furthermore, the tests prescribed in clause 11.2 of the EN 60079-11 standard.

[17] **Special conditions for safe use**
None

[18] **Essential Health and Safety Requirements**
Compliance with the Essential Health and Safety Requirements is not affected by these variations and are assured by compliance to the following standards:

- EN 60079-0:2012+A11:2013 – Explosive atmospheres – Part 0: Equipment – General requirements.
- EN 60079-11:2012 - Explosive atmospheres – Part 11: Equipment protection by intrinsic safety "i".

In addition, the following EHSRs *(ref. ANNEX II of the Directive)* are considered relevant for this product:

Clause	Subject	Compliance
1.2.7.	Protection against other hazards	Manufacturer responsibility
1.2.8	Overloading of equipment	User/Installer responsibility
1.4.	Hazards arising from external effects	User/Installer responsibility

[19] **Descriptive documents** (prot. EX-B9011917)

- n.366-0029CE-00B Description	pages 40	date	2018.11.29
- n.366-0029CE-01B Schematic	sheets 2	date	2018.11.29
- n.366-0029CE-02B Bill of material	pages 12	date	2018.11.29
- n.366-0029CE-03B Component set up	sheets 4	date	2018.11.29
- n.366-0029CE-05B Layouts multilayer	sheets 4	date	2018.11.29
- n.366-0029CE-06B Transformer	pages 3	date	2018.11.29
- n.366-0029CE-09B Instructions	pages 3	date	2018.11.29
- n.366-0029CE-10B Type Label	pages 6	date	2018.11.29
- n.CAR-0051 Conformity Assessment Report	pages 6	date	2018.11.29

One copy of all documents is kept in CESI files.

Certificate hystory

Issue N°	Issue Date	Summary description of variation
02	14/06/2019	Constructive modifications, considering the maximum service temperature of +94 °C; extended the ambient temperature range; new alternative I.S. components; new device HiC2025A; updated the product denomination; conformity to European standards EN60079-0:2012+A1:2013 and EN60079-11:2012
01	31/05/2011	Conformity to new edition of harmonized European standards; added Group I equipment marking; circuital modifications barrier HiC2031; minor changes to the non-intrinsically safe circuit; change Manufacturer address
00	22/03/2006	First Issue of the Certificate

This certificate may only be reproduced in its entirety and without any change, schedule included.

EU-Declaration of conformity

EU-Konformitätserklärung

en/de

ATTACHMENT-3

Pepperl+Fuchs SE
Lilienthalstraße 200
68307 Mannheim
Germany
Phone +49 621 776-0
Fax +49 621 776-1000

No. / *Nr.*: DOC-4563B
Date / *Datum*: 2022-01-20

Copyright Pepperl+Fuchs
www.pepperl-fuchs.com

PEPPERL+FUCHS

Declaration of conformity / *Konformitätserklärung*

We, Pepperl+Fuchs SE declare under our sole responsibility that the **products** listed below are in conformity with the listed **European Directives** and **standards**.

*Die Pepperl+Fuchs SE erklärt hiermit in alleiniger Verantwortung, dass die unten gelisteten **Produkte** den genannten **Europäischen Richtlinien** und **Normen** entsprechen.*

Products / *Produkte*

Product / *Produkt*	**Item number**	**Description** / *Beschreibung*
HIC2025	321423	Smart Transmitter
HIC2025A	321425	Smart Transmitter
HIC2025Y1	70147235	Transmitter power supply
HIC2031	321426	Smart Valve Isolator

Directives and Standards / *Richtlinien und Normen*

EU-Directive *EU-Richtlinie*	**Standards** *Normen*
ATEX 2014/34/EU (L96/309-356)	EN 60079-11:2012-01 EN 60079-7:2015-12 EN IEC 60079-0/AC:2020-02 EN IEC 60079-0:2018-07 EN IEC 60079-7/A1:2018-01
EMC 2014/30/EU (L96/79-106)	EN 61326-1:2013-01
RoHS 2011/65/EU (L174/88-110)	EN IEC 63000:2018-12

Affixed CE Marking / *Angebrachte CE-Kennzeichnung*

CE 0102

Signatures / *Unterschriften*

Mannheim, 2022-01-20

ppa. Michael Kessler
Executive Vice President
Components & Technology

i.V. Udo Körner
Continuation Manager
Value Engineering

ANNEX EMC

The products listed above fulfill the immunity test requirements for equipment intended for use in industrial locations.

Die oben gelisteten Produkte erfüllen die Störfestigkeits-Prüfanforderungen an Betriebsmittel, die zum Gebrauch in industriellen Bereichen vorgesehen sind.

ANNEX ATEX

Notified Body QM-System / Notifizierte Stelle des QM-Systems
Physikalisch Technische Bundesanstalt (0102)
Bundesallee 100
38116 Braunschweig
Germany

Marking and Certificates / ***Kennzeichnung und Zertifikate***

Marking *Kennzeichnung*	Certificate *Zertifikat*	Issuer ID *Aussteller* ID
Ex I (M1) Ex II (1) D Ex II (1) G	CESI 06 ATEX 017	0722
Ex II 3 G	CESI 19 ATEX 027X	CES

Key for Issuer ID / ***Schlüssel zur Aussteller ID***

ID	**Issuer** / *Aussteller*
0722	CESI Via Rubattino 54 20134 Milan Italy
CES	CESI Via Rubattino 54 20134 Milan Italy

Pepperl+Fuchs SE declares that the products are only affected by minor or formal changes with respect to the new edition of the standards. These changes are not relevant for compliance with the essential health and safety requirements. The products still comply with the ATEX Directive. This declaration is also valid if the marking and the certificates of the listed devices correspond to previous editions of standards.

Die Pepperl+Fuchs SE erklärt hiermit, dass die Produkte nur von kleineren oder formalen Änderungen in Bezug auf die neue Ausgabe der Normen betroffen sind. Diese Änderungen sind nicht relevant für die Konformität mit den wesentlichen Gesundheits- und Sicherheitsanforderungen. Die Produkte erfüllen nach wie vor die ATEX-Richtlinie. Diese Erklärung gilt auch, wenn die Kennzeichnung und die Zertifikate der aufgeführten Geräte vorangegangenen Normenständen entsprechen.