IECEx Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION
IEC Certification System for Explosive Atmospheres

for rules and details of the IECEx Scheme visit www.iecex.com

Ex COMPONENT CERTIFICATE

Certificate No.: **IECEx BAS 12.0019U**

Page 1 of 4

Certificate history:
Issue 3 (2019-07-15)
Issue 2 (2016-11-08)
Issue 1 (2015-07-13)
Issue 0 (2013-08-15)

Status: **Current**

Issue No: 4

Date of Issue: 2020-08-03

Applicant: **Intelligent Platforms LLC**
2500 Austin Drive
Charlottesville, VA 22911
United States of America

Ex Component: 8201-HI-IS 8-Channel IS AI 4-20mA with HART

This component is NOT intended to be used alone and requires additional consideration when incorporated into other equipment or systems for use in explosive atmospheres (refer to IEC 60079-0).

Type of Protection: **Intrinsic Safety**

Marking: **[Ex ia Ga] IIC (-40°C ≤ Ta ≤ +70°C)**

[Ex ia Da] IIIC (-40°C ≤ Ta ≤ +70°C)

Approved for issue on behalf of the IECEx Certification Body: **R S Sinclair**

Position: **Technical Manager**

Signature: (for printed version)

Date: 4.8.2020

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2. This certificate is not transferable and remains the property of the issuing body.
3. The Status and authenticity of this certificate may be verified by visiting www.iecex.com or use of this QR Code.

Certificate issued by:

SGS Baseefa Limited
Rockhead Business Park
Staden Lane
Buxton, Derbyshire, SK17 9RZ
United Kingdom

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Certificate No.: **IECEx BAS 12.0019U**

Date of issue: 2020-08-03 Issue No: 4

Manufacturer: **Intelligent Platforms LLC**
2500 Austin Drive
Charlottesville, VA 22911
United States of America

Additional manufacturing locations:

This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEx Quality system requirements.This certificate is granted subject to the conditions as set out in IECEx Scheme Rules, IECEx 02 and Operational Documents as amended

STANDARDS :
The equipment and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards

IEC 60079-0:2011 Explosive atmospheres - Part 0: General requirements
Edition:6.0

IEC 60079-11:2011 Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
Edition:6.0

This Certificate **does not** indicate compliance with safety and performance requirements other than those expressly included in the Standards listed above.

TEST & ASSESSMENT REPORTS:
A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in:

Test Reports:

GB/BAS/ExTR12.0024/00 GB/BAS/ExTR15.0198/00 GB/BAS/ExTR16.0200/00
GB/BAS/ExTR19.0098/00 GB/BAS/ExTR20.0021/00

Quality Assessment Report:

GB/FME/QAR19.0017/01

IECEx Certificate of Conformity

Ex Component(s) covered by this certificate is described below:

The 8201-HI-IS, 8-Channel IS AI, 4-20mA with HART is designed to restrict the transfer of energy, from an input supply voltage of 18V, provided with galvanic isolation and voltage clamping with triplicated crowbar protection e.g. the 8920-PS-DC, I.S. System Power Supply, to eight galvanically isolated and independent intrinsically safe circuits, by the limitation of voltage and current. Digital data is passed between the Hazardous Area and the Non-hazardous Area equipment, via power blocking circuitry within the module, to a data interface unit such as the 8922-RB-IS, Railbus Isolator.

The module consists of electronic components on three printed circuit boards mounted within a moulded plastic enclosure. Each module has eight separate channels which are all referenced to a common electrical connection but will be considered as separate intrinsically safe circuits. Each output channel is designed to provide an intrinsically safe power source, for conventional 4-20mA HART compatible two wire transmitters which may be situated within a hazardous area, and to monitor the loop current. The module supports "pass through" of the HART parameters, and data signals between the field devices and safe area apparatus, on the railbus data lines.

The safe area connections of the 8204-AO-IS, 8-Channel IS AO, 4-20mA are made via a certified module carrier such as an 8720-CA-04 4-Module carrier or an 8729-CA-08 8-Module carrier and the hazardous area connections are made via certified IS field terminals such as the 8621-FT-IS Standard Field Terminals or the 8622-FT-IS Loop Disconnect Field Terminals.

All of the data lines between the module and the Railbus Isolator are diode blocked and / or optocoupled to prevent power transfer from the module back onto the data lines. Both the PSU and the Railbus Isolator supplies and the Railbus Isolator data signals are referenced to a common point within the Railbus Isolator to ensure that the galvanically isolated supplies are not additive.

See Annex for electrical parameters.

SCHEDULE OF LIMITATIONS:

1) Each output channel must be considered as a separate intrinsically safe circuit which must be segregated from all other circuits by the requirements of Table 5 of IEC 60079-11: 2011 Ed 6.

2) This module must be mounted with suitable connection facilities such that the output connectors are provided with a degree of protection of at least IP20.

3) Plugs and sockets for external connections must be designed such that incorrect connections or interchangeability with in-appropriate field connections is prevented.

4) This module must be segregated from any other Non-IS or IS circuits, by the requirements of Table 5 of IEC 60079-11: 2011 Ed 6.

IECEx Certificate of Conformity

DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)
Variation 4.1

The manufacturer name is changed from ‘GE Intelligent Platforms’ to ‘Intelligent Platforms LLC’

ExTR: **GB/BAS/ExTR20.0021/00**	File Reference: **18/0681**

Annex:

IECEX BAS 12.0019U Annex.pdf

SGS Baseefa Limited
Rockhead Business Park
Staden lane, Buxton, Derbyshire
SK17 9RZ
United Kingdom

8201-HI-IS, 8-Channel IS AI, 4-20mA with HART

Input Parameters

CON 2 Pins 1, 3-5, 10-12, 15 and 16.

U_m = 18V (from the PSU)
The maximum prospective current must be limited to 85A.

CON 2 Pins 13, 14, 17-22 and 31, 33 & 34.

U_m = 18V (from the Railbus Isolator)
The maximum input power must be limited to 2.5W.

Output Parameters

Channels 1 to 8 on Connectors CON 5 and CON 6 (Each Channel)

Channel	Output pins (+)	Output pins (–)	Channel	Output pins (+)	Output pins (–)
1	CON 5, pin 7C	CON 5, pin 7A	**5**	CON 6, pin 7C	CON 6, pin 7A
2	CON 5, pin 5C	CON 5, pin 5A	**6**	CON 6, pin 5C	CON 6, pin 5A
3	CON 5, pin 3C	CON 5, pin 3A	**7**	CON 6, pin 3C	CON 6, pin 3A
4	CON 5, pin1C	CON 5, pin 1A	**8**	CON 6, pin 1C	CON 6, pin 1A

U_o = 28V C_i = 0
I_o = 93mA L_i = 0
P_o = 0.65W

The field outputs share a common rail between the four channels but are galvanically isolated from the PSU and Railbus Isolator supplies and the Railbus data signals.

Load Parameters

The capacitance and either the inductance or the inductance to resistance ratio (L/R) of the load connected to the output terminals must not exceed the following values:

GROUP	CAPACITANCE (µF)	INDUCTANCE (mH)	OR	L/R RATIO (µH/ohm)
IIC	0.083	4.2		56
IIB*	0.65	17.72		210
IIA	2.15	36.02		444

* Group IIB parameters also applicable for associated apparatus [Ex ia Da] IIIC

Notes:

1) The above load parameters apply when one of the two conditions below is given:
   - the total L_i of the external circuit (excluding the cable) is < 1% of the L_o value or
   - the total C_i of the external circuit (excluding the cable) is < 1% of the C_o value.

2) The above parameters are reduced to 50% when both of the two conditions below are given:
- the total L_i of the external circuit (excluding the cable) is ≥ 1% of the L_o value and
- the total C_i of the external circuit (excluding the cable) is ≥ 1% of the C_o value.

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