IECEx Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION
IEC Certification Scheme for Explosive Atmospheres

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

Certificate No.:	IECEx BAS 12.0016U	Issue No: 1	Certificate history:
			Issue No. 1 (2014-01-08)
Status:	**Current**	Page 1 of 5	Issue No. 0 (2013-09-10)
Date of Issue:	**2014-01-08**		
Applicant:	**GE Intelligent Platforms** 2500 Austin Drive Charlottesville Virginia 22911 **United States of America**		
Electrical Apparatus:	**8215-DO-IS 4-Channel IS DO Solenoid Driver**		
Optional accessory:			
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: General Manager

Signature:
(for printed version)

Date:

1. This certificate and schedule may only be reproduced in full.
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 the Official IECEx Website.

Certificate issued by:

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

IECEx Certificate of Conformity

Certificate No:	IECEx BAS 12.0016U	Issue No: 1
Date of Issue:	**2014-01-08**	Page 2 of 5
Manufacturer:	**GE Intelligent Platforms** 2500 Austin Drive Charlottesville Virginia 22911 **United States of America**	
Additional Manufacturing location(s):		

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 electrical apparatus 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 Edition:6.0	Explosive atmospheres - Part 0: General requirements
IEC 60079-11 : 2011 Edition:6.0	Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"

*This Certificate **does not** indicate compliance with electrical 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 Report:

GB/BAS/ExTR12.0021/00 GB/BAS/ExTR13.0299/00

Quality Assessment Report:

GB/FME/QAR11.0010/03

IECEx Certificate of Conformity

Schedule

EQUIPMENT:

Equipment and systems covered by this certificate are as follows:

The 8215-DO-IS, 4-Channel IS DO Solenoid Driver is designed to restrict the transfer of energy, from an input supply voltage of 18V, which is provided with galvanic isolation and voltage clamping with triplicated crowbar protection e.g. the I.S. System Power Supply Unit Model 8920-PS-DC, to four galvanically isolated and independent intrinsically safe circuits, by the limitation of voltage and current. Digital data is passed between the Hazardous Area and the Safe Area equipment, via power blocking circuitry within the module, to a data interface unit such as the Rail Bus Isolator Unit Model 8922-RB-IS.

The module consists of electronic components on two printed circuit boards mounted within a moulded plastic enclosure. Each module has four separate channels which are all referenced to a common electrical connection but which will be considered as separate intrinsically safe circuits. Each output channel is designed to provide an intrinsically safe power source for solenoid valves, alarms or simple apparatus which may be situated within a hazardous area.

The safe area connections of the 8215-DO-IS, 4-Channel IS DO Solenoid Driver 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 opto-isolated to prevent power transfer from the module back onto the data lines.

Both the PSU and the Railbus Isolator supplies and the Railbus data signals are referenced to a common point within the Railbus Isolator to ensure that the galvanically isolated supplies are not additive.

Please see Page 4 for Schedule of Limitations.

CONDITIONS OF CERTIFICATION: NO

IECEx Certificate of Conformity

Certificate No:	IECEx BAS 12.0016U	Issue No: 1
Date of Issue:	2014-01-08	Page 4 of 5

EQUIPMENT (continued):

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.

See Annex for electrical parameters.

IECEx Certificate of Conformity

Certificate No:	IECEx BAS 12.0016U	Issue No: 1
Date of Issue:	2014-01-08	Page 5 of 5

DETAILS OF CERTIFICATE CHANGES (for issues 1 and above):

Variation 1.1

To permit the fitting of alternative opto-isolators and other minor component changes not affecting the original assessment.

ExTR: GB/BAS/ExTR13.0299/00	**File Reference: 13/0891**

Annex:

IECEX BAS 12.0016UAnnex.pdf

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

8215-DO-IS, 4-Channel IS DO Solenoid Driver

Input Parameters

CON 2 Pins 1-12, 15 and 16.

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

CON 2 Pins 13, 14, 17-34.

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

All of the data lines between the module and the Railbus Isolator are diode blocked and/or opto-isolated to prevent power transfer from the module back onto the data lines.

Both the PSU and the Railbus Isolator supplies and the Railbus data signals are referenced to a common point within the Railbus Isolator to ensure that the galvanically isolated supplies are not additive.

Output Parameters

Channels 1 to 4 on Connectors CON5 and CON6 (Each Channel)

Channel	Output pins (+)	Output pins (–)	Channel	Output pins (+)	Output pins (–)
1	CON5, pin 7C	CON5, pin 5C	**3**	CON6, pin 7C	CON6, pin 5C
2	CON5, pin 3C	CON5, pin 1C	**4**	CON6, pin 3C	CON6, pin 1C

U_o = 25V C_i = 0
I_o = 110mA L_i = 0
P_o = 0.69W

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	0.11	3.08		53
IIB*	0.84	13.02		205
IIA	2.97	26.12		432

* 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.