

1 **EU - TYPE EXAMINATION CERTIFICATE**

2 **Safety Device, Controlling Device or Regulating Device intended for use outside a potentially explosive atmosphere but required for or contributing to the safe functioning of Equipment and Protective Systems with respect to the risks of explosion**  
**Directive 2014/34/EU**

3 EU - Type Examination Certificate Number: **Baseefa18ATEX0112X**

4 Product: **P-IS-BARRIER-G**

5 Manufacturer: **Federal Signal Corporation**

6 Address: **2645 Federal Signal Drive, University Park, Illinois 60484, USA**

7 This product and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.

8 SGS Baseefa, Notified Body number 1180, in accordance with Article 17 of Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014, certifies that this product has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of products intended for use in potentially explosive atmospheres given in Annex II to the Directive.

The examination and test results are recorded in confidential Report No. **GB/BAS/ExTR18.0321/00**

9 Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

**EN IEC 60079-0:2018 EN 60079-11:2012**

except in respect of those requirements listed at item 18 of the Schedule.

10 If the sign "X" is placed after the certificate number, it indicates that the product is subject to the Specific Conditions of Use specified in the schedule to this certificate.

11 This EU - TYPE EXAMINATION CERTIFICATE relates only to the design and construction of the specified product. Further requirements of the Directive apply to the manufacturing process and supply of this product. These are not covered by this certificate.

12 The marking of the product shall include the following :

**⊕ II (2) G [Ex ib Gb] IIB (-20°C ≤ Ta ≤ +55°C)**

SGS Baseefa Customer Reference No. **5121**

Project File No. **17/0849**

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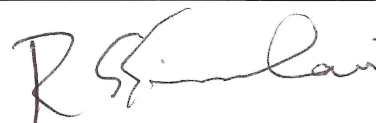
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A handwritten signature in black ink, appearing to read 'R S Sinclair'.

R S SINCLAIR  
TECHNICAL MANAGER  
On behalf of SGS Baseefa Limited

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## Schedule

18

### Certificate Number Baseefa18ATEX0112X

#### 15 Description of Product

The P-IS-BARRIER-G is designed to restrict the transfer of energy from unspecified non-hazardous area equipment to intrinsically safe equipment, such as the Federal Signal Corp. Access Panel Type AP7/AP8, located in a hazardous area through the limitation of voltage and current.

The equipment comprises a number of electronic components, including fuses, resistors and zener diodes, all mounted on a single printed circuit board and housed within a plastic enclosure fitted with terminal blocks and RJ45 sockets. The connection facilities, in addition to be clearly identified, are asymmetrical: external connections for the hazardous area being via a pair of 8-way terminal blocks and connections of the non-hazardous area being via a pair of RJ45 connectors. 2-way terminal block TB1 allows an infallible connection to ground to be made with 1.5mm<sup>2</sup>/16AWG connections.

The segregation of the hazardous area circuits meets the requirements for 253V.

#### Input / Output Parameters Connectors J1 & J2

$$U_m = 253V$$

#### Terminal Block TB2 / TB3 Terminals 1, 2, 5, 6, 7, 8 wrt 3

$$\begin{array}{ll} U_o = 8.6V & C_i = 0 \\ I_o = 100mA & L_i = 0 \\ P_o = 215mW & \end{array}$$

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

#### Terminals 1, 2, 5, 6, 7, 8 wrt 3

GROUP	CAPACITANCE ( $\mu F$ )	INDUCTANCE (mH)	OR	L/R RATIO ( $\mu H/ohm$ )
IIB	55	14.22		660
IIA	1000	28.44		1320

The above 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.

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)  $\geq 1\%$  of the  $L_o$  value and
- the total  $C_i$  of the external circuit (excluding the cable)  $\geq 1\%$  of the  $C_o$  value.

Note: the reduced capacitance of the external circuit (including cable) shall not be greater than 1 $\mu F$  for Groups IIA & IIB

#### Terminal Block TB2 / TB3 Terminal 4 wrt 3

$$\begin{array}{ll} U_o = 15.02V & C_i = 0 \\ I_o = 309mA & L_i = 0 \\ P_o = 1.16W & \end{array}$$

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

Terminal 4 wrt 3

GROUP	CAPACITANCE ( $\mu\text{F}$ )	INDUCTANCE (mH)	OR	L/R RATIO ( $\mu\text{H}/\text{ohm}$ )
IIB	3.55	2.97		119
IIA	14.0	4.88		238

The above 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.

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)  $\geq 1\%$  of the  $L_o$  value and  
 - the total  $C_i$  of the external circuit (excluding the cable)  $\geq 1\%$  of the  $C_o$  value.

Note: the reduced capacitance of the external circuit (including cable) shall not be greater than  $1\mu\text{F}$  for Groups IIA & IIB

**16 Report Number**

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**17 Specific Conditions of Use**

1. The equipment must be installed in an enclosure which affords it a degree of protection of at least IP20.
2. The equipment must be infallibly connected to a suitable intrinsically safe earth via Terminal Block TB1 (1.5mm<sup>2</sup>/16AWG  $\times 2$ ).

**18 Essential Health and Safety Requirements**

In addition to the Essential Health and Safety Requirements (EHSRs) covered by the standards listed at item 9, the following are considered relevant to this product, and conformity is demonstrated in the report:

Clause	Subject
1.2.7	LVD type requirements
1.2.8	Overloading of equipment (protection relays, etc.)
1.4.1	External effects
1.4.2	Aggressive substances, etc.

**19 Drawings and Documents**

Number	Sheet	Issue	Date	Description
850000667A	1 of 1	A0	01.11.18	PCBA, Zener Barrier, Pagasys Gen II
850000668A	1 & 2	A0	01.11.18	Schematic, Zener Barrier, Pagasys Gen II
850000669	1 of 1	A0	01.11.18	PCB, Zener Barrier, Pagasys Gen II
850000670A	1 of 1	A0	01.11.18	IS Barrier Board Gerber
850000688A	1 of 1	A0	08.28.18	PAGA, IS Barrier, Assy
850000689A	1 of 1	A1	09.13.18	Label, PAGA, IS Barrier

All drawings are common to, and held with, IECEx BAS 18.0073X