

1 **EU - TYPE EXAMINATION CERTIFICATE**

2 **Equipment or Protective System Intended for use in Potentially Explosive Atmospheres
Directive 2014/34/EU**

3 EU - Type Examination Certificate **BAS01ATEX2113X – Issue 16**
Number:

3.1 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.

4 Product: **Pressure Switch Series S20**

5 Manufacturer: **Delta Mobrey Limited**

6 Address: **Hudson House, Albany Park, Camberley, Surrey, GU16 7PL, United Kingdom**

7 This re-issued certificate extends EC Type Examination Certificate No. BAS01ATEX2113X to apply to product 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 SGS Fimko Oy, Notified Body number 0598, 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.

8.1 The original certificate was issued by SGS Baseefa Ltd (UK Notified Body 1180). It, and any supplements previously issued by SGS Baseefa Ltd have been transferred to the supervision of SGS Fimko Oy (EU Notified Body 0598). The original certificate number is retained.

The examination and test results are recorded in confidential Report No. See certificate history.

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


EN IEC 60079-0:2018 EN 60079-1:2014 EN 60079-31:2014 EN 60079-26:2015

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 GD Ex db IIC T* Gb (T_{amb} = *°C) Ex tb IIIC T*°C Db (T_{amb} = *°C)**

II 1/2 GD Ex db IIC T* Ga/Gb (T_{amb} = *°C) Ex ta/tb IIIC T*°C Da/Db (T_{amb} = *°C) * - See schedule

SGS Fimko Oy Customer Reference No. 0279


Project File No. 21/0515

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Tuomas Hänninen
SGS Fimko Oy

13

Schedule

14

Certificate Number BAS01ATEX2113X – Issue 16

15 Description of Product

A flameproof pressure switch, series 20, comprising a housing and threaded cover manufacturer in cast stainless steel, cast aluminium, gunmetal or cast iron with an integral spring and venting chamber to which is attached a pressure port. Pressure applied to the port moves a pushrod, which passes through a stainless steel, mild steel or brass brush, threaded into a wall of the enclosure, which actuates one or two internally mounted microswitches. The microswitches are each rated at 5A, 440Vac maximum. The pressure port comprises a piston and diaphragm assembly which can have a pressure rating up to 155 bar or a bellows assembly which can have a pressure rating up to 75 bar.

The enclosure base is provided with four holes for mounting purposes.

Both internal and external earthing facilities are provided.

Cable entry holes are provided as specified on the certified drawings for accommodation of suitable BASEEFA certified flameproof cable entry devices, with or without the interposition of a suitable BASEEFA certified cable flameproof thread adapter. Unused entries are to be fitted with suitable BASEEFA certified flameproof stopping plugs.

Suitable flameproof cable entry devices, thread adaptors and stopping plugs certified as equipment (not a component) under an EU Type Examination Certificate may be used in the manner specified above.

Ambient temperature range / Marking code:

The equipment excluding the 2S24 and 3S24 complies with the requirements of the following standards EN 60079-0, EN 60079-1 and EN 60079-31:

II 2 GD

Ex db IIC T* Gb (Ta = *)

Ex tb IIIC T*°C Db (Ta = *) * See below

O-ring Fitted	Temperature Classification	Dust Marking	Ambient Temperature Range
Fluorosilicone	T6	T85°C	-60°C to + 65°C
	T5	T100°C	-60°C to + 80°C
Nitrile	T6	T85°C	-30°C to + 65°C
	T5	T100°C	-30°C to + 80°C

The types 2S24 or 3S24, equipment types comply with EN 60079-0, EN 60079-1, EN 60079-31 and EN 60079-26 shall be marked as follows:

II 1/2 GD

Ex db IIC T* Ga/Gb (Ta = *°C) * See below

Ex ta/tb IIIC T* Da/Db (Ta = *°C)

O-ring Fitted	Temperature Classification	Dust Marking	Ambient Temperature Range
Fluorosilicone	T6	T85°C	-60°C to + 65°C
	T5	T100°C	-60°C to + 80°C
Nitrile	T6	T85°C	-30°C to + 65°C

	T5	T100°C	-30°C to + 80°C
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VARIATION 0.1

Provision of an alternative pressure port to create: -

A FLAMEPROOF PRESSURE SWITCH TYPE S24 for pressure up to 1500 bar.

The S24 is permitted to be connected to a process system classified as Zone 0 as defined in EN 60079-10 when fitted with the 2S24 or 3S24 process head.

VARIATION 0.2

Provision of an alternative pressure port to create: -

A FLAMEPROOF DIFFERENTIAL PRESSURE SWITCH TYPE S30 for pressure up to 250 bar.

VARIATION 0.3

Provision of an alternative pressure port to create: -

A FLAMEPROOF DIFFERENTIAL PRESSURE SWITCH TYPE S70 for pressure up to 50 bar.

VARIATION 0.4

Optional alternative switch arrangement rated 1A at 48 Vdc.

VARIATION 0.5

Optional alternative switch arrangement rated 5A to 15A, 480V a.c.

When this option is invoked a warning is included on an external label stating ‘DO NOT OPEN WHEN EXPLOSIVE GAS ATMOSPHERE IS PRESENT.’

Additionally a label fitted externally to the apparatus warns the user that cabling suitable for a temperature of 91 °C for T6 version and 106 °C for the T5 version.

VARIATION 0.6

The optional addition of up to four end of line resistors, as detailed in table A below, connected across the terminals of the terminal block.

Table A

Power Rating of Resistor (Watts)	Minimum Value (ohms)	Maximum Power Dissipation (Watts)
0.25	7200	0.125
0.5	3600	0.25
1.00	1800	0.50
2.00	900	1.00

The addition of the end of line resistor is limited to a maximum working voltage of 30V d.c.

When this option is invoked a warning is included on an external label stating DO NOT OPEN WHEN AN EXPLOSIVE GAS ATMOSPHERE IS PRESENT.

Additionally, a label fitted externally warns the user that cabling suitable for a temperature of 85 °C for the T5 version.

16 Report Number

Baseefa test report number 21(C)0515-03

17 Specific Conditions of Use

1. The flamepaths are not to be repaired.

Additional specific conditions of use which apply only to the Type 2S23 and the Type 2S24 versions of the Pressure Switch Series 20, when used in the boundary between an area requiring EPL Ga and an area requiring EPL Gb. The specific conditions of use are: -

2. The partition wall (the process diaphragm) is less than 1 mm thick and shall not be subject to environmental conditions that adversely affect the partition wall.
3. The unit shall be tested in such a way that the operational parameters (for example, pressure or temperature limits) stated by the manufacturer are verified.

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:

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

New drawings submitted for this issue of certificate:

Number	Sheet	Issue	Date	Description
14580	1 of 1	L	08/03/2023	Enclosure Assembly
14581	1 of 1	I	08/03/2023	Wiring and Label Combinations
14583	1 of 1	C	07/03/2023	General Arrangement 15 Amp Variation
14584	1 of 1	D	07/03/2023	General Arrangement EOL resistors and Do not open label
14778	1 of 1	E	27/04/2023	Wiring and label (S24 1/2 GD)
14929	1 of 1	C	07/03/2023	General Arrangement Zener Diodes and do not open label

Current drawings which remain unaffected by this issue:

Number	Sheets	Issue	Date	Description
14582	1 of 1	B	15/01/2015	Variations of pressure, pressure difference & temperature actuators

Number	Sheets	Issue	Date	Description
14585	1 of 1	B	16/01/2015	Mk 7/6 terminal block and earth
14599	1 of 1	C	16/01/2015	Piston Actuator pressures up to 1500bar
14600	1 of 1	C	16/01/2015	Variation to piston assembly Type S24
14771	1 of 1	C	16/01/2015	Code 2/3 S24 ATEX approval

These drawings are held on certificate number Baseefa01ATEX2113X and BAS22UKEX0260X.

20 Certificate History

Certificate No.	Date	Comments
Baseefa01ATEX2113X	26 July 2001	The release of the prime certificate. The associated test and assessment against the requirements of EN 50014:1997+Amds 1 & 2 and EN 50018:2000 is documented in Test Report No. 01(C)0784.
Baseefa01ATEX2113X /1	16 October 2001	Optional alternative method for marking of cable thread from. Test Report: None.
Baseefa01ATEX2113X /2	14 October 2002	Minor modifications to the certification label details to facilitate manufacture. Test Report: None.
Baseefa01ATEX2113X /3	17 November 2003	Alternative end of line resistor. Test Report: None.
Baseefa01ATEX2113X /4	12 December 2003	Modification of certification label to clarify detail and add temperature ranges for operational purposes. Test Report: None.
Baseefa01ATEX2113X /5	16 March 2004	Increase in the maximum drill depth to 14mm for the M4 mounting plate fixing holes located in the base of the enclosure. Test Report: None.
Baseefa01ATEX2113X /6	25 March 2004	To permit the equipment to be used in explosive dust atmospheres, in accordance with EN 50281-1-1: 1998 + Amendment 1, in addition to explosive gases, mists and vapours. The warning included on the information label now reads 'Do not open when an explosive atmosphere is present', IP6X is added to the certification label and the marking for the equipment is modified as follows; II 2 GD EEx d IIC T85°C (T _{amb} -60°C to +65°C) T100°C (T _{amb} -60°C to +80°C) Test Report: None.
Baseefa01ATEX2113X /7	8 June 2005	Clarification of drawings with respect to the fitting of alternative terminal blocks. Test Report: None.

Certificate No.	Date	Comments
Baseefa01ATEX2113X /8	27 June 2005	<p>To provide an additional flamepath to the Type S24 process head to produce a Type 2S24 or a Type 3S24 pressure switch in accordance with EN 50284: 1999. The Type 2S24 and Type 3S24 pressure switches are manufactured in aluminium alloy and stainless steel respectively.</p> <p>The pressure switch is permitted to be connected to a process system classified as Zone 0 as defined in EN 60079-10 when fitted with the 2S24 or 3S24 process head.</p> <p>The marking for this arrangement is modified as follows; II 1/2 GD EEx d IIC T85°C (T_{amb} -60°C to +65°C) T100°C (T_{amb} -60°C to +80°C) Test Report: None.</p>
Baseefa01ATEX2113X /9	17 October 2005	<p>Clarification of drawings to define non critical issues.</p> <p>Test Report: None.</p>
Baseefa01ATEX2113X /10	13 December 2005	<p>Clarification of drawing detail.</p> <p>Test Report: None.</p>
Baseefa01ATEX2113X /11	24 July 2007	<p>To confirm that the equipment covered by this certificate has been reviewed against the requirements of EN 60079-0: 2006, EN60079-1: 2004, EN 61241-0: 2006 and EN 61241-1: 2004 in respect of the differences from EN 50014:1997 + Amds. 1 and 2, and EN50018: 2000 EN50281-1-1: 1998+ Amendment 1 respectively and that none of these differences affect this equipment.</p> <p>II 2 GD Exd IIC T6 T85 A21 IP66 (T_{amb} - 60°C to + 65°C) or Exd IIC T5 T100 A21 IP66 (T_{amb} - 60°C to + 80°C) Test Report: None</p>
Baseefa01ATEX2113X /12	19 August 2008	<p>To allow an increase in the flameproof diametral clearance between the pushrod and bush assembly to aid production, together with a consequent change in the Special Condition for Safe Use.</p> <p>Test Report 08(C)0371</p>
Baseefa01ATEX2113X /13	15 March 2011	<p>To permit up to four Zener diodes to be in circuit with the microswitches in place of the end of line resistors. Test Report: None.</p>

Certificate No.	Date	Comments																																				
Baseefa01ATEX2113X /14	24th February 2015	<p>Variation 14.1:</p> <p>To confirm that the equipment as detailed excluding the 2S24 and 3S24 complies with the requirements of the following standards EN 60079-0: 2012 EN 60079-1: 2007 EN 60079-31: 2014</p> <p>The update in standards presented changes to the marking. The equipment shall therefore be marked:- II 2 GD Ex d IIC T* Gb (Ta = *) Ex tb IIIC T*°C Db (Ta = *) * See below</p> <table border="1"> <thead> <tr> <th>O-ring Fitted</th> <th>Temperature Classification</th> <th>Dust Marking</th> <th>Ambient Temperature Range</th> </tr> </thead> <tbody> <tr> <td rowspan="2">Fluorosilicone</td> <td>T6</td> <td>T85°C</td> <td>-60°C to + 65°C</td> </tr> <tr> <td>T5</td> <td>T100°C</td> <td>-60°C to + 80°C</td> </tr> <tr> <td rowspan="2">Nitrile</td> <td>T6</td> <td>T85°C</td> <td>-30°C to + 65°C</td> </tr> <tr> <td>T5</td> <td>T100°C</td> <td>-30°C to + 80°C</td> </tr> </tbody> </table> <p>The types 2S24 or 3S24, equipment types are in compliance with EN 60079-0: 2012, EN 60079-1: 2007, EN 60079-31:2014 and EN 60079-26:2007 shall be marked as follows: II 1/2 GD Ex d IIC T* Ga/Gb (Ta = *°C) * See below Ex ta/tb IIIC T* Ga/Gb (Ta = *°C)</p> <table border="1"> <thead> <tr> <th>O-ring Fitted</th> <th>Temperature Classification</th> <th>Dust Marking</th> <th>Ambient Temperature Range</th> </tr> </thead> <tbody> <tr> <td rowspan="2">Fluorosilicone</td> <td>T6</td> <td>T85°C</td> <td>-60°C to + 65°C</td> </tr> <tr> <td>T5</td> <td>T100°C</td> <td>-60°C to + 80°C</td> </tr> <tr> <td rowspan="2">Nitrile</td> <td>T6</td> <td>T85°C</td> <td>-30°C to + 65°C</td> </tr> <tr> <td>T5</td> <td>T100°C</td> <td>-30°C to + 80°C</td> </tr> </tbody> </table> <p>Variation 14.2: Deletion of drawing number 14635 from certification. Test Report 13(C)0627.</p>	O-ring Fitted	Temperature Classification	Dust Marking	Ambient Temperature Range	Fluorosilicone	T6	T85°C	-60°C to + 65°C	T5	T100°C	-60°C to + 80°C	Nitrile	T6	T85°C	-30°C to + 65°C	T5	T100°C	-30°C to + 80°C	O-ring Fitted	Temperature Classification	Dust Marking	Ambient Temperature Range	Fluorosilicone	T6	T85°C	-60°C to + 65°C	T5	T100°C	-60°C to + 80°C	Nitrile	T6	T85°C	-30°C to + 65°C	T5	T100°C	-30°C to + 80°C
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Baseefa01ATEX2113X /15	8 January 2018	<p>To allow the Introduction of an alternative microswitch or contacts, having a maximum rating of 1A at 48 Vdc. Test report 17(C)0649/1.</p>																																				
Baseefa01ATEX2113X Issue 16	19 June 2023	<p>This issue of the certificate incorporates previously issued primary & supplementary certificates into one certificate and confirms the current design meets the requirements of EN IEC 60079-0:2018 EN 60079-1:2014, EN 60079-31:2014 and EN 60079-26:2015 including the revision of the equipment marking in accordance with these standards. Test report 21(C)0515-3</p>																																				
For drawings applicable to each issue, see original of that issue.																																						