

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 **Baseefa06ATEX0091X – Issue 3**
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: **GR Series Pressure Switches**

5 Manufacturer: **Delta Controls Limited**

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

7 This re-issued certificate extends EC Type Examination Certificate No. **Baseefa06ATEX0091X** 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 The Electrical Equipment Certification Service (UK Notified Body 0600). It, and any supplements previously issued by SGS Baseefa Ltd (UK Notified Body 1180) 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 60079-11: 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 1 GD Ex ia IIC T6 Ga (-40°C ≤ T_a ≤ +60°C) or Ex ia IIC T4 Ga (-40°C ≤ T_a ≤ +85°C)

Ex ia IIIC T₂₀₀85°C Da (-40°C ≤ T_a ≤ +60°C) or Ex ia IIIC T₂₀₀135°C Da (-40°C ≤ T_a ≤ +85°C)

SGS Fimko Oy Customer Reference No. **0279**

Project File No. **24/0129**

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SGS Fimko Oy

Takomotie 8
FI-00380 Helsinki, Finland
Telephone +358 (0)9 696 361
e-mail sgs.fimko@sgs.com
web site www.sgs.fi

Business ID 0978538-5 Member of the SGS Group (SGA SA)



Mikko Välimäki
SGS Fimko Oy

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Schedule

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Certificate Number Baseefa06ATEX0091X – Issue 3

15 Description of Product

The GR Series Pressure Switches are designed to allow the switching of one or two internally mounted microswitches connected to intrinsically safe circuits, actuated by pressure being applied to a piston / level / diaphragm assembly.

The apparatus comprises an aluminium or stainless steel enclosure with a pressure port containing a piston and diaphragm assembly connected externally to various process connections. The piston passes through a bushing arrangement into the main enclosure to actuate one or two microswitches fitted in a sealed snap switch assembly. External connections to the microswitches are via flying lead connections fed out through the top of the enclosure or via terminals fitted in a plastic enclosure.

The GR Series Pressure Switches has a number of different models, the differences being the type and number of microswitches fitted and the process connection. The following models in the range have been assessed: -

Typical Model Number

4	GR2	A* **	HP	* ** ****
↑	↑	↑	↑	
1.	2.	3.	4.	

1. Enclosure Type – 2 options:-

- 4** = Stainless Steel Enclosure
- 5** = Aluminium Enclosure

2. Pressure Switch Type – 5 Options:-

- GR2** = Fixed Switching Differential Pressure Switch (Max. Working Pressure 155 Bar.)
- GR3** = Fixed Switching Differential Pressure Difference Switch (Max. Working Pressure 110 Bar)
- GR4** = Fixed Switching Differential Pressure Switch (Max. Working Pressure 600 Bar or 1000 Bar)
- GR6** = Fixed Switching Differential Pressure Difference Switch (Max. Working Pressure 250 Bar)
- GR7** = Fixed Switching Differential Temperature Switch

3. Electrical Entry – 5 Options: -

- A** = Flying Leads - 0.5 Metre Lead Length
- B** = Flying Leads - 1 Metre Lead Length
- L** = Flying Leads – 3 Metre Lead Length
- V** = Plastic Terminal Enclosure with Screw Terminals
- W** = Plastic Terminal Enclosure with DIN rail mounted terminals

4. Switch Options – 6 Options:-

- HP** = Single Pole Double Throw (SPDT) gold plated silver contacts
- HQ** = Double Pole Double Throw (DPDT) gold plated silver contacts (Simultaneous falling under pressure)
- HT** = Double Pole Double Throw (DPDT) gold plated silver contacts (Simultaneous rising under pressure)
- HV** = Single Pole Double Throw (SPDT) gold alloy contacts for low voltage switching
- HW** = Double Pole Double Throw (DPDT) gold alloy contacts for low voltage switching (Simultaneous falling under pressure)
- HY** = Double Pole Double Throw (DPDT) gold alloy contacts for low voltage switching (Simultaneous rising under pressure)

* denotes other parameters of the model number relating to the construction, setting and process connections options of the apparatus. The differences in these options do not have an affect on the intrinsic safety assessment.

Each microswitch circuit has the following input parameters: -

$$\begin{aligned}U_i &= 30V \\I_i &= 300mA \\C_i &= 0 \\L_i &= 0\end{aligned}$$

Variation 0.1

To permit the mounting of one or two GR Series Pressure Switches to a plastic terminal enclosure containing screw terminals or DIN rail mounted terminal connections to form the Model GRISASSY02****. The * denote the configuration of the model in terms of the GR Series Pressure Switches and the termination resistors fitted.

Each microswitch circuit has the same input parameters as specified for the GR Series Pressure Switches.

16 Report Number

See Certificate History

17 Specific Conditions of Use

1. The equipment must be installed such that the risk of impact or abrasion is negligible.
2. The permanently attached leads must be suitably protected against mechanical damage and terminated in a suitable junction or terminal facility with a minimum degree of protection of at least IP6x.
3. The installation of external connections to models of the equipment with terminal enclosures must be carried out using appropriate conduit or cable gland with a degree of protection of at least IP6x, equipment certified by an EU approved Certification Body.
4. Some variants of the Model GRISASSY02**** use a plastic enclosure that constitutes a potential electrostatic charging hazard. The equipment must only be cleaned with a damp cloth.

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	Protection against other hazards (LVD type requirements, etc.)
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
14821	1 of 1	I	13/05/2024	Ex ia GR Series Rating Label
14823	1 of 1	E	14/05/2024	Adhesive Label Configuration GR – Ex ia

Current drawings which remain unaffected by this issue:

Number	Sheet	Issue	Date	Description
14817	1 of 1	C	16/06/2017	Ex ia Approval Dwg for GR Series
14818	1 of 1	C	16/06/2017	Ex ia Switch Options
14822	1 of 1	C	19/06/2017	Ex ia Terminal Arrangement

Number	Sheet	Issue	Date	Description
14838	1 of 1	C	19/06/2017	GR Ex ia Terminal Block Assembly
14819	1 of 1	A	08/12/2005	GR4 High Pressure Low Temp Assembly
14820	1 of 1	A	08/12/2005	GR Vacuum and Compound Ranges

20 Certificate History

Certificate No.	Date	Comments
Baseefa06ATEX0091X	8 June 2006	The release of the prime certificate. The associated test and assessment against the requirements of EN 60079-0: 2004, EN 50020: 2002, EN 60079-26: 2004, IEC 61241-0: 2004 and EN 61241-11: 2005 is documented in Test Report No. 05(C)0670.
Baseefa06ATEX0091X/ 1	9 March 2010	<p>i) To confirm that the GR Series Pressure Switches covered by the Original Schedule and Variation 0.1 comply with the requirements of EN 60079-0: 2009, EN 60079-11: 2007, EN 60079-26: 2004, EN 61241-0: 2006, EN 61241-11: 2006, and to confirm that they may be marked with the certification codes: -</p> <p>⊕ II 1GD Ex ia IIC T6 Ga (-40°C ≤ T_a ≤ +60°C) Ex ia IIIC T85°C Da IP6x (-40°C ≤ T_a ≤ +60°C) Ex ia IIIC T4 Ga (-40°C ≤ T_a ≤ +85°C) Ex ia IIIC T135°C Da IP6x (-40°C ≤ T_a ≤ +85°C)</p> <p>To permit the potting compound Stycast 2850FT-FR/Cat 11 to be replaced with Resinlab Grade EP1340 Epoxy Resin, a change in the method of applying the certification details, an alternative entry thread, and for the metallic enclosure to be made from solid instead of welding.</p>
Baseefa06ATEX0091X Issue 2	14 September 2017	<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 60079-0: 2012 + A11: 2013 & EN 60079-11: 2012 including the revision of the equipment marking in accordance with these standards.</p> <p>The certificate also permits: -</p> <p>i) The use of an alternative terminal enclosure used on the Model GRISASSY02**** variants of the equipment. As a result of the use of the alternative enclosure, Specific Condition of Safe Use has been added to the certificate to warn the end user of the potential electrostatic hazard.</p> <p>ii) Minor mechanical, label and drawing changes not affecting the original assessment.</p> <p>The above test and assessment is documented in SGS Baseefa Certification Report No. 16(C)0358.</p>
Baseefa06ATEX0091X Issue 3	31 October 2024	<p>To confirm that the equipment meets the requirements of EN IEC 60079-0: 2018. This issue additionally permits minor changes to the labelling.</p> <p>The test and assessment is recorded in 24(C)0129 and held with Project File 24/0129.</p>
For drawings applicable to each issue, see original of that issue.		