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 Number: **Baseefa09ATEX0173X – Issue 9**

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: **Series 7 Proximity Switches**

5 Manufacturer: **Topworx Incorporated**

6 Address: **3300 Fern Valley Road, Louisville, Kentucky, 40213 United States of America**

7 This re-issued certificate extends EC Type Examination Certificate No. **Baseefa09ATEX0173X** 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 60079-11: 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:

Ex **II 1 GD** **See Schedule for full marking**

SGS Fimko Oy Customer Reference No. **2191** Project File No. **21/0357**

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13 # Schedule

14 ## Certificate Number Baseefa09ATEX0173X – Issue 9

15 Description of Product

The Series 7 Proximity Switches are a range of magnetically operated proximity switches which are actuated by the presence of an external ferrous body. The range includes a number of different switch configurations with single pole, double throw or double pole, double throw switches within the switch body.

The proximity switches comprise a tubular stainless steel enclosure in a variety of body styles, with differing external male threads and a thin section wall at the front end.

The rear end of the tubular enclosure is a hexagonal section with the field wiring to the switches. The integral connection leads for the switches, exit the tubular enclosure via a potted seal assembly and must be terminated within an enclosure provided with protection suitable for the zone of installation. Some variants of the equipment have the option of external connections via a 3-pin, 4-pin or 5-pin polarised plug connection.

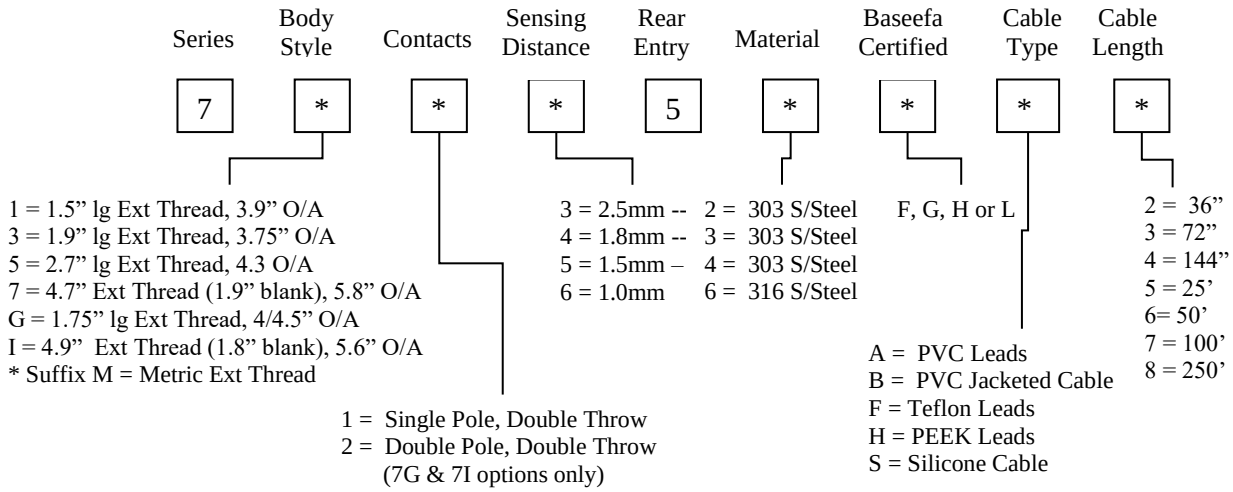
The switches are rated up to 30V peak a.c. or d.c., 0.25A and may be used to switch a circuit from a Certified Ex ia IIC intrinsically safe source. Both sides of each double throw switch and each pole of a double pole switch, within one proximity switch, must form part of the same intrinsically safe circuit. The switched circuit is capable of withstanding a 500V test to earth.

The proximity switches do not require a connection to earth for safety purposes, but an earth connection is provided which is directly connected to the metallic enclosure and must be used with care in any intrinsically safe system.

The following model ranges are covered by the certificate:

Series 71, 73, 75, 77, 7G & 7I Proximity Switches

Model Range



The seventh character of the Model Number (F, G or H) indicates the temperature classification / maximum surface temperature and ambient temperature range of the equipment, which are as follows:

Seventh character of Model Number	Certification Marking
F	Ex ia IIC T6 Ga (-65°C ≤ T_a ≤ +50°C) Ex ia IIIC T_{200}85°C Da (-65°C ≤ T_a ≤ +50°C)
G	Ex ia IIC T4 Ga (-65°C ≤ T_a ≤ +100°C) Ex ia IIIC T_{200}135°C Da (-65°C ≤ T_a ≤ +100°C)
H	Ex ia IIC T3 Ga (-65°C ≤ T_a ≤ +150°C) Ex ia IIIC T_{200}200°C Da (-65°C ≤ T_a ≤ +150°C)

The model range described here includes an alternative label that carries third-party certification marks not ratified by SGS Baseefa. These models are identified by the inclusion of an "L" as the seventh character of the model number. For those carrying this character the model nomenclature is not relied upon to define the certification parameters.

Input Parameters

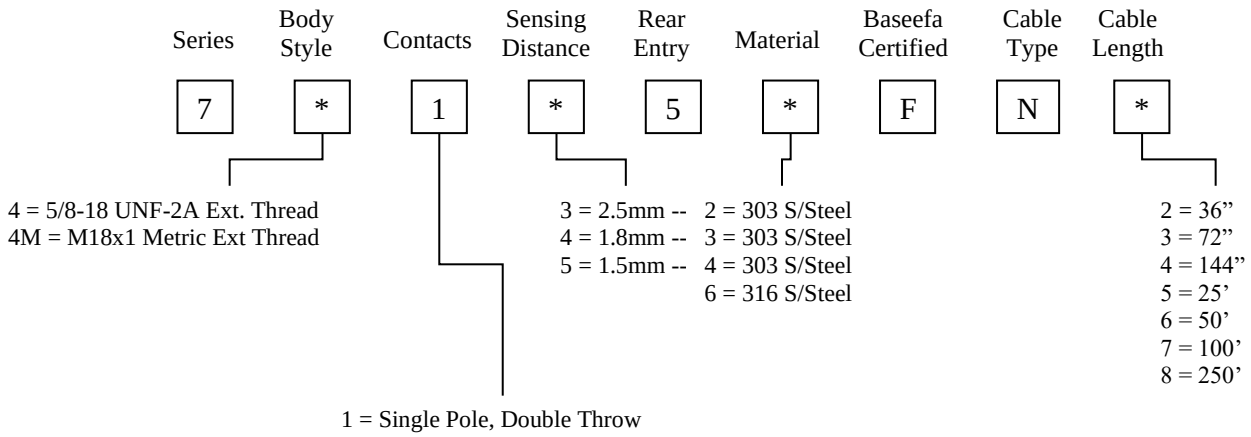
U_i = 30V C_i = 33nF
I_i = 0.25A L_i = 200µH

74 Series Proximity Switches

The 74 Series Proximity Switches comprise a stainless steel enclosure with a Single Pole Double Throw (SPDT) switch mechanism identical to those used in the Series 7 Proximity Switches. External connections to the switch mechanism are made via either Niltox, PVC, Teflon, Peek or Silicone insulated integral cable / leads which exits the equipment via a potted seal assembly and must be terminated within an enclosure provided with protection suitable for the zone of installation. All models of the switches have a degree of protection of IP66 & IP67.

These models differ in the enclosure body style and cable type and are available with various integral cable lengths. The model numbering and certification markings & input parameters of the 74 Series Proximity Switches ranges with Niltox & the other integral cables types are as follows:

74 Series Proximity Switches with Niltox Cable Model Range

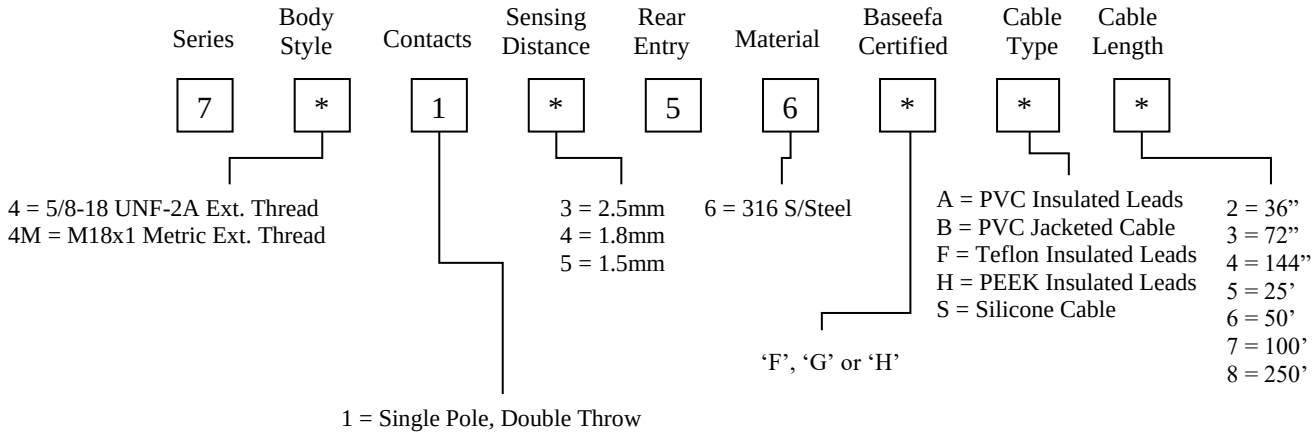


⟨Ex⟩ II 1GD Ex ia IIC T6 Ga (-65°C ≤ T_a ≤ +50°C)
Ex ia IIIC T_{200}85°C Da (-65°C ≤ T_a ≤ +50°C)

Input Parameters

U_i = 30V C_i = 33nF
I_i = 0.25A L_i = 200µH

74 Series Proximity Switches with PVC, Teflon, Peek & Silicone Leads / Cables Model Range



The seventh character of the Model Number (F, G or H) indicates the temperature classification / maximum surface temperature and ambient temperature range of the equipment, which are as follows:

Seventh character of Model Number	Certification Marking	
F	Ⓔx II 1GD	Ex ia IIC T6 Ga (-65°C ≤ T_a ≤ +50°C) Ex ia IIIC T_{200}85°C Da (-65°C ≤ T_a ≤ +50°C)
G	Ⓔx II 1GD	Ex ia IIC T4 Ga (-65°C ≤ T_a ≤ +100°C) Ex ia IIIC T_{200}135°C Da (-65°C ≤ T_a ≤ +100°C)
H	Ⓔx II 1GD	Ex ia IIC T3 Ga (-65°C ≤ T_a ≤ +150°C) Ex ia IIIC T_{200}200°C Da (-65°C ≤ T_a ≤ +150°C)

Input Parameters

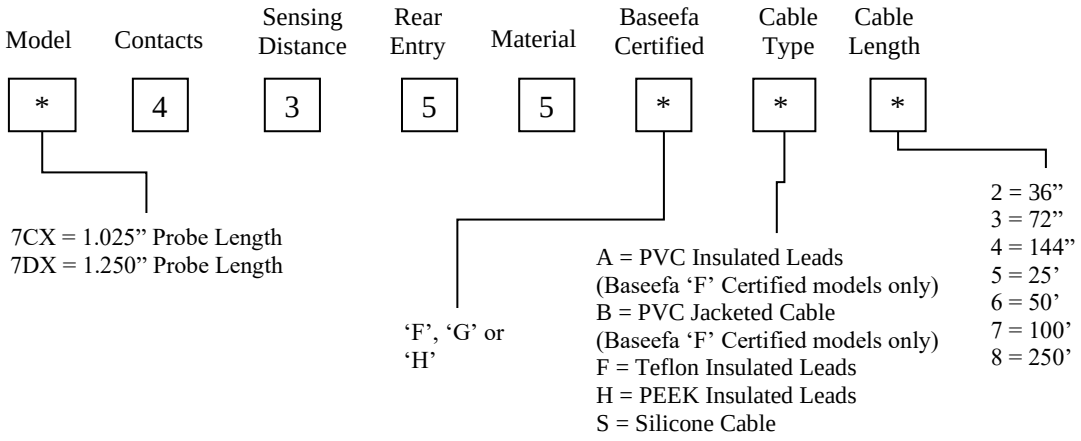
U_i = 30V C_i = 33nF
I_i = 0.25A L_i = 200µH

7CX & 7DX Series Proximity Switch Models

The 7CX & 7DX Series Proximity Switches comprise a stainless steel enclosure with a Single Pole Double Throw (SPDT) switch mechanism identical to those used in the Series 7 Proximity Switches. The switch mechanism can be additionally hermetically sealed. The switches are fitted with a bracket either 1.025 inch (7CX models) or 1.250 inch (7DX models) from the switch end of the equipment to permit mounting of the switch. External connections to the switch mechanism are made via either PVC, Teflon or Peek insulated integral cable / leads which exits the equipment via a potted seal assembly. These external connections must be terminated within an enclosure provided with protection suitable for the zone of installation.

In addition to the probe length determined by the mounting bracket position, the various models of the 7CX & 7DX only differ in the cable type and lengths.

Model Range



The sixth character of the Model Number (F, G or H) indicates the temperature classification / maximum surface temperature and ambient temperature range of the equipment, which are as follows:

Sixth character of Model Number	Certification Marking	
F	⟨Ex⟩ II 1GD	Ex ia IIC T6 Ga (-65°C ≤ T_a ≤ +50°C) Ex ia IIIC T_{200}85°C Da (-65°C ≤ T_a ≤ +50°C)
G	⟨Ex⟩ II 1GD	Ex ia IIC T4 Ga (-65°C ≤ T_a ≤ +100°C) Ex ia IIIC T_{200}135°C Da (-65°C ≤ T_a ≤ +100°C)
H	⟨Ex⟩ II 1GD	Ex ia IIC T3 Ga (-65°C ≤ T_a ≤ +150°C) Ex ia IIIC T_{200}200°C Da (-65°C ≤ T_a ≤ +150°C)

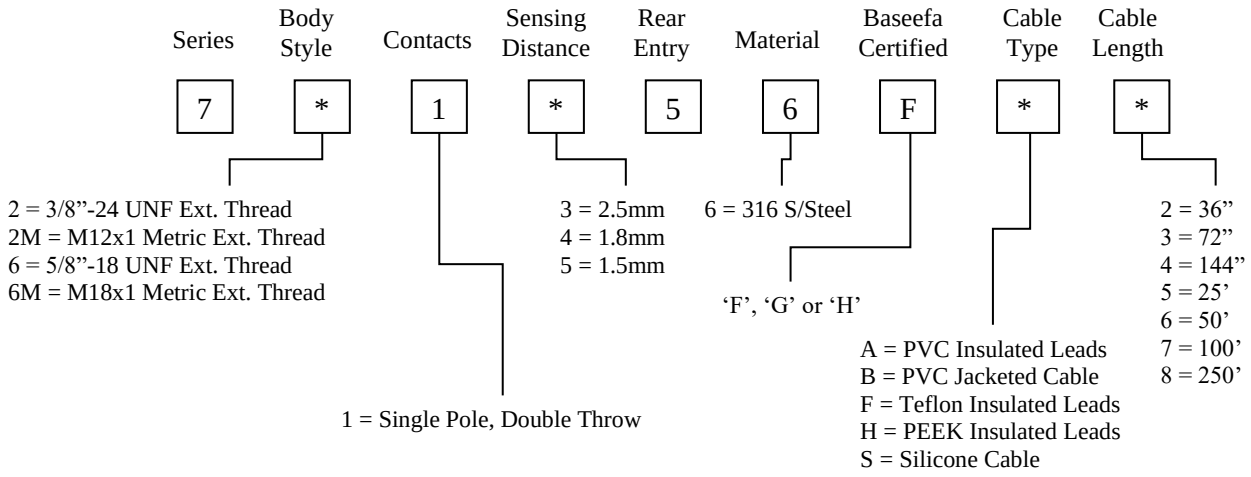
Input Parameters

U_i = 30V C_i = 33nF
I_i = 0.25A L_i = 200µH

72 & 76 Series Proximity Switch Models

The 72 & 76 Series Proximity Switches comprise a stainless steel enclosure with a Single Pole Double Throw (SPDT) switch mechanism identical to those used in the Series 7 Proximity Switches. External connections to the switch mechanism are made via an integral cable / leads which exits the equipment via a potted seal assembly and must be terminated within an enclosure provided with protection suitable for the zone of installation.

These models differ in the enclosure body style and are available with various integral cable types and lengths. The model numbering and certification markings & input parameters of the 72 & 76 Series Proximity Switches ranges are as follows:



The seventh character of the Model Number (F, G or H) indicates the temperature classification / maximum surface temperature and ambient temperature range of the equipment, which are as follows:

Seventh character of Model Number	Certification Marking	
F	Ⓔx II 1GD	Ex ia IIC T6 Ga (-65°C ≤ T_a ≤ +50°C) Ex ia IIIC T_{200}85°C Da (-65°C ≤ T_a ≤ +50°C)
G	Ⓔx II 1GD	Ex ia IIC T4 Ga (-65°C ≤ T_a ≤ +100°C) Ex ia IIIC T_{200}135°C Da (-65°C ≤ T_a ≤ +100°C)
H	Ⓔx II 1GD	Ex ia IIC T3 Ga (-65°C ≤ T_a ≤ +150°C) Ex ia IIIC T_{200}200°C Da (-65°C ≤ T_a ≤ +150°C)

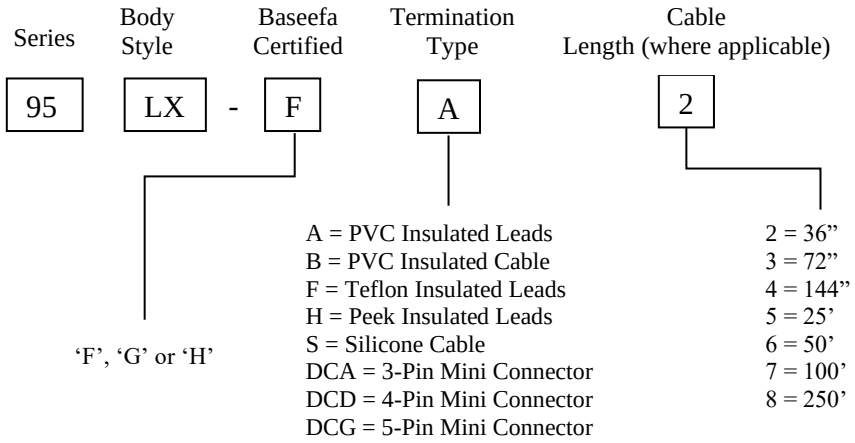
Input Parameters

U_i = 30V C_i = 33nF
I_i = 0.25A L_i = 200µH

95LX Series Proximity Switch Models

The 95LX Series Proximity Switches comprise a stainless steel enclosure with either a Single Pole Single Throw (SPST) or Single Pole Double Throw (SPDT) switch mechanism identical to those used in the Series 71 & 72 Series Proximity Switches. External connections to the switch mechanism are made either via either PVC, Teflon, Peek or Silicone insulated integral cable / leads which exits the equipment via a potted seal assembly, or via a 3-, 4- or 5-pin plug connector. Where applicable, the integral cable / lead connections must be terminated within an enclosure provided with protection suitable for the zone of installation.

These models differ in the enclosure body style, and external connection facilities, with the integral cable variants available with various integral cable lengths. The model numbering and certification markings & input parameters of the 95LX Series Proximity Switches ranges are as follows:



The third character of the Model Number (F, G or H) indicates the temperature classification / maximum surface temperature and ambient temperature range of the equipment, which are as follows:

Third character of Model Number	Termination Option(s)	Certification Marking	
F	A, B, F, H, S, DCA, DCD & DCG	⟨Ex⟩ II 1GD	Ex ia IIC T6 Ga ($-65°C \leq T_a \leq +50°C$) Ex ia IIIC T_{200}85°C Da ($-65°C \leq T_a \leq +50°C$)
G	F, H & S	⟨Ex⟩ II 1GD	Ex ia IIC T4 Ga ($-65°C \leq T_a \leq +100°C$) Ex ia IIIC T_{200}135°C Da ($-65°C \leq T_a \leq +100°C$)
H	F only	⟨Ex⟩ II 1GD	Ex ia IIC T3 Ga ($-65°C \leq T_a \leq +150°C$) Ex ia IIIC T_{200}200°C Da ($-65°C \leq T_a \leq +150°C$)

95LX Series Proximity Switches fitted with Integral Cables

U_i = 30V C_i = 33nF
I_i = 0.25A L_i = 200µH

95LX Series Proximity Switches fitted with 3, 4 or 5-pin Plug Connections

U_i = 30V C_i = 0
I_i = 0.25A L_i = 0

16 Report Number

See Certificate History

17 Specific Conditions of Use

1. Both contacts of the Double Throw and the separate poles of the Double Pole switch, within one proximity switch must form part of the same intrinsically safe circuit.
2. The proximity switches do not require a connection to earth for safety purposes, but an earth connection is provided which is directly connected to the metallic enclosure. Normally an intrinsically safe circuit may be earthed at one point only. If the earth connection is used, the implications of this must be fully considered in any installation. i.e. by the use of a galvanically isolated interface.
3. The switch must be supplied from a Certified Ex ia IIC intrinsically safe source.
4. The flying leads must be terminated in a manner suitable for the zone of installation.

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
CERT-ES-02881-1	1 of 1	5	10/21/2022	Artwork, Label Go Switch Series 72, 74, & 76 Intrinsically Safe
CERT-ES-01778-1	1 of 1	9	10/21/2022	Stencil-Artwork Approval, 70 Switch ATEX Intrinsically Safe (-65°C to 50°C)
CERT-ES-01779-1	1 of 1	9	10/21/2022	Stencil-Artwork Approval, 70 ATEX Hi-Temp Intrinsically Safe (-65°C to +150°C)
CERT-ES-01780-1	1 of 1	9	10/21/2022	Stencil-Artwork Approval, 70 ATEX Hi-Temp Intrinsically Safe (-60°C to 100°C)
CERT-ES-02880-1	1 of 1	4	10/21/2022	Stencil, 74 Switch with Niltox Cable Intrinsically Safe (-65°C to +50°C)
CERT-ES-03127-1	1 of 1	4	10/21/2022	Stencil-Artwork Approval, 7CX / 7DX ATEX Intrinsically Safe (-65°C to +50°C)
CERT-ES-03128-1	1 of 1	4	10/21/2022	Stencil-Artwork Approval, 7CX / 7DX ATEX Hi-Temp Intrinsically Safe (-65°C to +100°C)
CERT-ES-03129-1	1 of 1	4	10/21/2022	Stencil-Artwork Approval, 7CX / 7DX ATEX Hi-Temp Intrinsically Safe (-65°C to +150°C)
CERT-ES-08009-1	1 of 1	3	10/21/2022	Markings 95LX Ex ia Baseefa09ATEX0173X / IECEx BAS 09.0080X
*CERT-ES-09585-1	1 of 1	AA	05/18/2023	Nameplate – 70 Series ATEX Ex ia – CLI Zone 0

*This drawing is common to BAS21UKEX0667X and IECEx BAS 09.0080X.

Current drawings which remain unaffected by this issue:

Number	Sheet	Issue	Date	Description
CERT-ES-01519-1	1 of 1	3	08/13/20	76 Series Master Assy Ex d & Ex ia
CERT-ES-02878-1	1 of 1	4	08/13/20	74 Series Master Assy Ex d & Ex ia
CERT-ES-04813-1	1 of 1	3	08/13/20	72 Series Master Assy Ex d & Ex ia
CERT-ES-01464-1	1 of 1	6	05/22/17	7G Series Master Assy Ex db & Ex ia DPDT with Hermetic Seal
CERT-ES-01784-1	1 of 1	7	05/22/17	7G Series Master Assy Ex d & Ex ia DPDT without Hermetic Seal
CERT-ES-01785-1	1 of 1	7	05/22/17	7G Series Master Assy Ex db & Ex ia SPDT with Hermetic Seal
CERT-ES-01788-1	1 of 1	7	06/20/17	7I Series Master Assy Ex d & Ex ia
CERT-ES-01789-1	1 of 1	7	06/20/17	75 Series SPDT Intrinsically Safe
CERT-ES-01790-1	1 of 1	6	06/20/17	75 Series Master Assy Ex d & Ex ia Model 75-13529-PAX
CERT-ES-01792-1	1 of 1	7	06/20/17	77 Series Master Assy Ex d & Ex ia
CERT-ES-01795-1	1 of 1	9	05/25/2017	73 Series Master Assy Ex d & Ex ia with Hermetic Seal
CERT-ES-03076-1	1 of 1	3	06/21/17	STG Series Master Assy Ex d & Ex ia 7CX/7DX with Hermetic Seal
CERT-ES-03131-1	1 of 1	3	06/21/17	STG Series Master Assy Ex d & Ex ia 7CX/7DX without Hermetic Seal
CERT-ES-03276-1	1 of 1	3	05/25/17	71 Series Master Assy Ex d & Ex ia
CERT-ES-07929-1	1 of 1	2	02/27/2019	General Assembly 95LX with QDC Options – Ex ia IECEx BAS 09.0080X / Baseefa09ATEX0173X
CERT-ES-07944-1	1 of 1	2	02/27/2019	95LX General Assembly IECEx BAS 09.0080X / 09ATEX0173X Ex ia with Leads/Cable

All drawings are common to IECEx BAS 09.0080X.

20 Certificate History

Certificate No.	Date	Comments
Baseefa09ATEX0173X	2 February 2010	The release of the prime certificate. The associated test and assessment is documented in Certification Report No. GB/BAS/ExTR09.0113/00.
Baseefa09ATEX0173X/1	3 June 2010	i) To permit minor changes to the external enclosure of the Series 7 Proximity Switches to form the C7, H7, M7, R7, C8, H8 & M8 Proximity Switches. ii) To confirm the current designs of all variants of the Series 7 Proximity Switches have been reviewed against the requirements of EN 60079-0: 2009 in respect of the differences from EN 60079-0: 2006 and, with exception of the dust certification markings, none of the differences affect the equipment. The dust certification markings on the equipment were revised in accordance with EN 60079-0: 2009. The above test and assessment is documented in IECEx ExTR No. GB/BAS/ExTR10.0128/00.

Certificate No.	Date	Comments
Baseefa09ATEX0173X/2	27 May 2011	To permit the introduction of alternative custom body tubes (ES-02387-1 and ES-02775-1) to the Series 73 Proximity Switches. These custom body tubes have minor dimensional changes for operational reasons, but do not affect the original assessment, temperature limits or certification coding. The above test and assessment is documented in IECEx ExTR No. GB/BAS/ExTR11.0100/00.
Baseefa09ATEX0173X/3	11 May 2012	To permit: - i) The reduction of the minimum ambient temperature range of the 'F' and 'G' switch models in the Series 7 range to -40°C not affecting the original assessment. ii) The 'H' switch models in the Series 7 range to be certified for use in a hazardous dust environment in accordance with IEC 60079-0: 2011 and EN 60079-11: 2012. iii) A minor mechanical change to all variants of the equipment not affecting the original assessment. iv) The addition of the 74 Series Switches with Silicone and Nitrox cables and the 7CX & 7DX Series of Switches to the range covered by the certificate. v) To confirm the current designs of all variants of the Series 7 Proximity Switches have been reviewed against the requirements of IEC 60079-0: 2011 and EN 60079-11: 2012 in respect of the differences from EN 60079-0: 2009, EN 60079-11: 2007, EN 61241-0: 2006 and EN 61241-11: 2006 and, with exception of the markings, none of the differences affect the range of equipment covered by the certificate. The equipment markings were revised in accordance with IEC 60079-0: 2011. The above test and assessment is documented in IECEx ExTR No. GB/BAS/ExTR12.0098/00.
Baseefa09ATEX0173X/4	6 August 2012	To permit the addition of the 71 Series Proximity Switches to the range covered by the certificate. The above test and assessment is documented in IECEx ExTR No. GB/BAS/ExTR12.0197/00.
Baseefa09ATEX0173X Issue 5	29 June 2015	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 in respect of the differences from IEC 60079-0: 2011. The certificate also permits: - i) The addition of variants of the various Series 7 Proximity Switches fitted with silicone cables not affecting the original assessment. ii) The addition of the Series 72 & 76 Series of Proximity Switches to the range covered by the certificate. iii) Minor drawing changes not affecting the original assessment. The above test and assessment is documented in IECEx ExTR No. GB/BAS/ExTR15.0188/00.

Certificate No.	Date	Comments
Baseefa09ATEX0173X Issue 6	31 July 2017	This issue of the certificate permits the following: - i) The increase in the ambient temperature range of variants of the Series 7 Proximity Switches increasing the minimum ambient temperature from -40°C to -65°C. This change in the ambient temperature range is assessed not the affect the previous assessment. The Certificate Schedule was revised to update the certification marking of the variants of the equipment with the new ambient temperature ranges. ii) To permit the removal of the Series C7, H7, M7, R7, C8, H8 & M8 Proximity Switch variants from the certification. The Certificate Schedule was revised and associated drawings removed from those listed. iii) To permit minor drawing changes including the merging of previously certified drawings into common drawings. These changes are assessed not to affect the original assessment. The above assessment is documented in IECEx ExTR No. GB/BAS/ExTR17.0174/00, Project File No. 17/0200.
Baseefa09ATEX0173X Issue 7	20 March 2019	This issue of the certificates permits the addition of the 95LX Series of Proximity Switches to the range covered by the certificate. This range of equipment have SPST switch contact arrangements and are either available with an integral PVC, Teflon, Peek or Silicon insulated cable or 3, 4 or 5-pin plug and socket arrangement for external connections to be made to the equipment. The Certificate Schedule was revised to add the new model details. The above test and assessment is documented in IECEx ExTR No. GB/BAS/ExTR18.0031/00 (Held with IECEx Certificate No. IECEx BAS 09.0080X Iss. 7), Project File No. 18/0210.
Baseefa09ATEX0173X Issue 8	28 August 2020	This issue of the certificates permits the addition of variants of the Series 72, 74 & 76 Proximity Switches fitted with additional cable / lead types. The addition of these variants is assessed not to affect the previous test and assessment of these models. The Certificate Schedule was revised to list the new variants of these models. The above test and assessment is documented in IECEx ExTR No. GB/BAS/ExTR20.0115/00 (Held with IECEx Certificate No. IECEx BAS 09.0080X Iss. 9), Project File No. 20/0307.
Baseefa09ATEX0173X Issue 9	12 September 2023	This issue of the certificate confirms that the equipment complies with the requirements of EN IEC 60079-0: 2018 and EN 60079-11: 2012. Additionally, an alternative marking plate was introduced that contains additional certification marks not ratified by SGS Baseefa Limited. The test and assessment is documented in IECEx ExTR No. GB/BAS/ExTR22.0193/00 and held with Project File No. 21/0357.
For drawings applicable to each issue, see original of that issue.		