



# IECEx Certificate of Conformity

## INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification System for Explosive Atmospheres

for rules and details of the IECEx Scheme visit [www.iecex.com](http://www.iecex.com)

Certificate No.:	<b>IECEx BAS 08.0122X</b>	Page 1 of 4	<u>Certificate history:</u>
Status:	<b>Current</b>	Issue No: 9	Issue 8 (2020-02-26)
Date of Issue:	2023-09-08		Issue 7 (2015-06-09)
Applicant:	<b>Topworx Incorporated</b> 3300 Fern Valley Road Louisville Kentucky 40213 <b>United States of America</b>		Issue 6 (2014-02-18)
Equipment:	<b>Series 7 Proximity Switches</b>		Issue 5 (2013-04-09)
Optional accessory:			Issue 4 (2012-06-08)
Type of Protection:	<b>Ex d, Ex tD</b>		Issue 3 (2010-04-07)
Marking:	<b>Ex db IIC T6* Gb T6 (-40°C ≤ Ta ≤ +50°C)*</b> <b>Ex tb IIIC T85°C* Db (-40°C ≤ Ta ≤ +50°C)* IP66</b>		Issue 2 (2009-06-11)
			Issue 1 (2009-02-05)
			Issue 0 (2009-01-06)

**\*Alternative Temperature Class / Ambient combinations are permitted - see schedule for detail.**

Approved for issue on behalf of the IECEx  
Certification Body:

**R S Sinclair**

Position:

**Technical Manager**

Signature:  
(for printed version)

Date:  
(for printed version)

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Certificate issued by:

**SGS UK Limited**  
**Rockhead Business Park**  
**Staden Lane**  
**Buxton, Derbyshire SK17 9RZ**  
**United Kingdom**





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Manufacturer: **Topworx Incorporated**  
3300 Fern Valley Road  
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**United States of America**

Manufacturing locations: **Topworx Incorporated**  
3300 Fern Valley Road  
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Kentucky 40213  
**United States of America**

**Asco Valve (Shanghai) Co. Limited**  
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Xiao Qiao Town  
Song Jiang District  
Shanghai 201612  
**China**

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 equipment 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 60079-0:2017** Explosive atmospheres - Part 0: Equipment - General requirements  
Edition:7.0

**IEC 60079-1:2014** Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"  
Edition:7.0

**IEC 60079-31:2013** Explosive atmospheres - Part 31: Equipment dust ignition protection by enclosure "t"  
Edition:2

This Certificate **does not** indicate compliance with 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 Reports:

**GB/BAS/ExTR08.0252/00**  
**GB/BAS/ExTR10.0037/00**  
**GB/BAS/ExTR13.0211/00**

**GB/BAS/ExTR09.0023/00**  
**GB/BAS/ExTR12.0153/00**  
**GB/BAS/ExTR15.0150/00**

**GB/BAS/ExTR09.0108/00**  
**GB/BAS/ExTR13.0078/00**  
**GB/BAS/ExTR21.0096/00**

#### Quality Assessment Reports:

**GB/SIR/QAR07.0025/11**

**GB/SIR/QAR07.0041/10**



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## EQUIPMENT:

Equipment and systems covered by this Certificate are as follows:

The Series 7 Proximity Switches are rated up to 240V a.c., 2A or 24V d.c., 3A and comprise a tubular stainless-steel enclosure in a variety of body styles, with an external male thread and a thin section wall at the front end.

The rear of the enclosure incorporates an additional thread which may be male, or a hexagonal section incorporating a female thread suitable for connection to conduit or a suitably certified cable entry device. The cable entry device must be certified as equipment, not a component. See Annex for details of typical thread and body length details.

The internal cavity contains a magnetically operated switch assembly, and the integral connection leads exit the enclosure via a potted seal assembly within the rear entry. Various insulation material options are permitted for the integral connection leads.

An internal earth connection is provided by one of the integral conductors. External earth bonding may be achieved by the external switch mounting thread or by the rear cable entry thread.

General Markings:

Ex db IIC Gb T6 (-40°C ≤ Ta ≤ +50°C)

or T4 (-40°C ≤ Ta ≤ +100°C)

or T3 (-40°C ≤ Ta ≤ +150°C)

Ex tb IIIC Db T85°C (-40°C ≤ Ta ≤ +50°C) IP66

or T135°C (-40°C ≤ Ta ≤ +100°C)

or T200°C (-40°C ≤ Ta ≤ +150°C)

See Annex for alternative variations and additional information.

## SPECIFIC CONDITIONS OF USE: YES as shown below:

1. The integral supply cables must be mechanically protected and terminated in a suitable terminal or junction facility.
2. An external earth bonding connection may be maintained by either the external mounting thread and/or the internal cable gland/conduit entry thread.



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## **DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)**

### **Variation 9.1**

To confirm that the equipment covered by this certificate has been reviewed against the requirements of IEC 60079-0: 2017 Edition 7.

### **Variation 9.2**

To introduce a revised equipment description and Annex.

ExTR: **GB/BAS/ExTR21.0096/00**

File Reference: **21/0331**

### **Annex:**

[Series 7 Switches - IECEx BAS 08.0122X - Annex.pdf](#)

The Series 7 Proximity Switches have typical general body parameters as detailed below:

Switch Model	Body length	Front male thread	Rear hex. A/F	Rear thread
71	3-15/16"	3/8"-24UNF or M12 x 1.0p	1"	1/2"-14 NPT or M20 x 1.5p
72	3-3/4"	3/8"-24UNF or M12 x 1.0p	None	9/16"-18UNF (not for cable entry connection)
73 / H7 / N7 / M7	3-3/4"	5/8"-18 UNF or M18 x 1.0p	1"	1/2"-14 NPT or M20
74	2-13/16"	5/8"-18 UNF or M18 x 1.0p	None	9/16"-18 UNF (not for cable entry connection)
75	4-5/16"	5/8"-18 UNF or M18 x 1.0p	1"	1/2"-14 NPT or M20
76	3-1/4"	5/8"-18 UNF or M18 x 1.0p	None	9/16"-18UNF (not for cable entry connection)
77	5-13/16"	3/4"-16UNF or M20 x 1.5p	1"	1/2"-14 NPT or M20
7CX / 7DX	4-1/4"	5/8"-18 UNF	1"	1/2"-14NPT
7G	4-1/2"	5/8"-18 UNF or M18 x 1.0p	1-1/4"	3/4"-14 NPT or M24
7I	5-5/8"	1"-14 UNS	1-1/16"	1/2"-14 NPT
C7 / R7	4"	5/8"-18 UNF	1-1/4"	3/4"-14 NPT
C8 / H8 / M8	4-1/4"	1"-14 UNS	1-1/4"	3/4"-14 NPT

For switch models with metric thread options, a 'M' suffix on the switch type denotes the inclusion of Metric threads, e.g. Type 74M.

The Series 7 Proximity Switches are rated up to maximum values as follows:

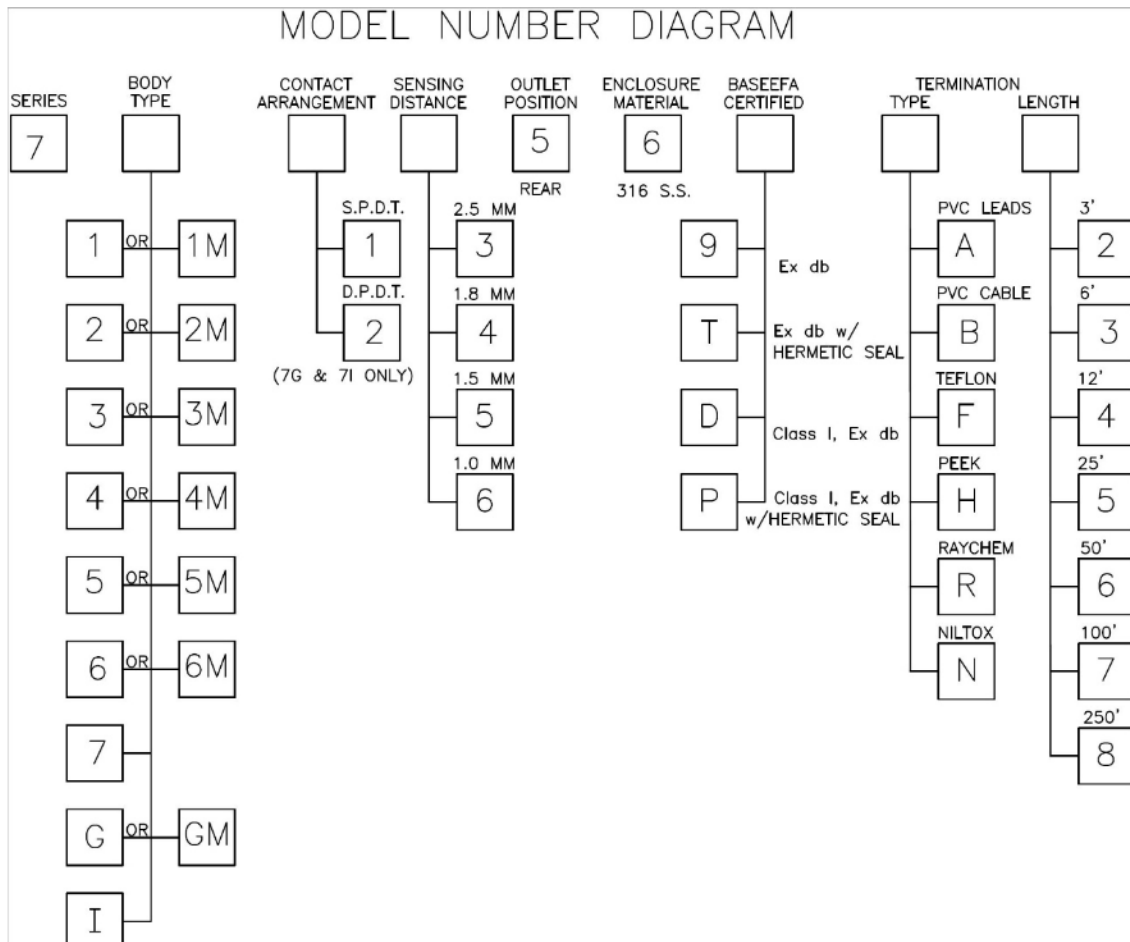
	V a.c.	V d.c.	A
SPDT Switch	240	-	2
	120	-	4
	-	24	3
DPDT Switch	240	-	2
	120	-	3
	-	24	1

As the heat dissipated by the switch is a function of the switch passing current ( $P=I^2R$ ) rather than consuming current the maximum values stated above can be considered to include any values for current which dissipate less energy across the switch than the maximum listed above for example: 120 V a.c / 0.5A.

The alternative markings for temperature class and ambient temperature combinations, dependent on integral cable type are as follows:

Switch Model	Cable Type	Ambient	Temperature class
71, 73, 74, 75, 77, 7G, 7I	PVC leads or cable	-40°C to +50°C	T6/T85°C
72, 74 & 76	Raychem cable	-55°C to +50°C	T6/T85°C
		-55°C to +100°C	T4/T135°C
		-55°C to +100°C	T3/T200°C
71, 73, 74, 75, 77, 7G, 7I	Teflon leads	-40°C to +100°C	T4/T135°C
71, 73, 74, 75, 77, 7G, 7I	Peek leads	-40°C to +150°C	T3/T200°C
74	Niltox	-20°C to +50°C	T6/T85°C

The switch model number is used to further describe each assembly as follows:



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Rockhead Business Park  
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**SGS**

ANNEX to IECEx BAS 08.0122X

Issue No. 0

Date: 21 August 2023

Not all options listed above are available together. See schedule drawings for clarity.

Alternative model variations:

Model 73-13529-H\* High Temperature Proximity Switch may alternatively carry the type designation N7-000-P(XX).

The Type 73 Series Proximity Switch may be alternatively configured with 'B' leads PVC and Insulcast 116FR potting. This variant may carry the following markings:

Ex db IIC T6 Gb (-60°C ≤ Ta + 50°C) with Type 'B' PVC cable.

Ex tb III C T85°C Db (-60°C ≤ Ta + 50°C) IP66 with Type 'B' PVC cable.