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

Certificate No.:	**IECEx BAS 12.0106X**	Page 1 of 4	Certificate history:
Status:	**Current**	Issue No: 2	Issue 1 (2015-06-09) Issue 0 (2013-01-08)
Date of Issue:	2023-09-14		
Applicant:	**Topworx Incorporated** 3300 Fern Valley Road Louisville Kentucky 40213 **United States of America**		
Equipment:	**Series 10 & 20 GO Switch**		
Optional accessory:			
Type of Protection:	**Intrinsic Safety**		
Marking:	**Ex ia IIC T3/T4/T6 Ga** **Ex ia IIIC T_{200}200°C / T_{200}135°C / T_{200}85°C Da**		
	See certificate Annex for Specific markings and ambient temperature ranges		

Approved for issue on behalf of the IECEx Certification Body: **R. S. Sinclair**

Position: **Technical Manager**

Signature: (for printed version)

Date: (for printed version) 14.09.2023

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Certificate issued by:

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

IECEx Certificate of Conformity

Certificate No.: **IECEx BAS 12.0106X**

Date of issue: 2023-09-14 Issue No: 2

Manufacturer: **Topworx Incorporated**
3300 Fern Valley Road
Louisville
Kentucky 40213
United States of America

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

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 60079-11:2011 Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
Edition:6.0

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/ExTR12.0238/00 GB/BAS/ExTR15.0139/00 GB/BAS/ExTR22.0191/00

Quality Assessment Report:

GB/SIR/QAR07.0025/11

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EQUIPMENT:
Equipment and systems covered by this Certificate are as follows:

The Series 10 & 20 GO Switch are a range of magnetically operated 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 a switch body.

The switches comprise a rectangular stainless steel or lacquered brass enclosure housing the switch mechanism sealed in the top of the enclosure with the sensing magnets located below. These, and the integral connections to the switch mechanism are potted in the enclosure with external connections to the switch made by a threaded entry on the side or bottom of the switch enclosure. The switch is mounted in place using two mounting points that pass through the enclosure.

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 Series 10 & 20 GO Switch are available with a number of different switch configurations, sensing range and external connection outlet positions, all with either screw terminals, plug and socket or integral lead external connection options. When fitted with the integral leads, the external connections must be terminated within an enclosure provided with protection suitable for the zone of installation. The only difference between the Series 10 and 20 variants is the dimensions of the switch enclosure. In terms of intrinsic safety, all variants of the Series 10 & 20 switches are identical with exception of the potting used on the ‘H’ high temperature variants is suitable for the higher ambient temperature.

See Certificate Annex for details of the model range, temperature classification and input parameters.

SPECIFIC CONDITIONS OF USE: YES as shown below:

1. Both contacts of the Double Throw and the separate poles of the Double Pole switch, within one 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 implication of this must be fully considered in any installation, e.g. by 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.
5. The terminal block variants of the equipment are fitted with a non-metallic cover that constitutes a potential electrostatic hazard and must only be cleaned with a damp cloth.
6. Prior to installation of the installer must inspect the device for damage to the applied coating that may expose the brass enclosure and install the device in a manner that protect or prevents impact to the enclosure of the device. Consult manufacturer should there be any damage to the applied coating exposing the brass enclosure.

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DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)

Variation 2.1

To confirm compliance to the requirements of IEC 60079-0, Edition 7.

Variation 2.2

Updating the marking and Annex to reflect new marking requirements for EPL Da.

Variation 2.3

Introduction of new Specific Condition of Use

Variation 2.4

Correction of equipment lower ambient temperature range not impacting previous assessment. See Annex.

Variation 2.5

Updating Annex and certification to include alternative labels.

ExTR: **GB/BAS/ExTR22.0191/00**	File Reference: **21/0357**

Annex:

IECEx BAS 12.0106X Annex Issue 2.pdf

SGS Baseefa Limited
Rockhead Business Park
Staden lane, Buxton, Derbyshire
SK17 9RZ
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Series 10 & 20 GO Switch Model Range

'F' or 'G' Model Range

*1 - * * * * * - * * * * *

Model
11 = Size 1½" Square x 4 9/16" Length
(add ½" for bottom outlet)
21 = Size 1½" Square x 3 13/16" Length

Contact Form
1 = Single Pole, Double Throw
3 = Single Pole, Double Throw Latching
5 = Double Make, Double Break, 2 Circuit Form Z
6 = Double Make, Double Break, 2

Sensing Range
1 = Standard – 3/8"
2 = Extended – 9/16"
7 = Precision – ¼"

Outlet Position
1 = Behind Sensing Area
2 = Left of Sensing Area
3 = Right of Sensing Area
4 = Same Side as Sensing Area

Enclosure Material
1 = Brass coated with Lacquer
2 = Stainless Steel
3 = Brass with corrosive resistive coating
4 = Stainless Steel with corrosive resistive coating

ATEX / IECEx Certification Code
F = Zone 0, Temp. Class. T6

Custom Build Indents
4 letters or numbers

Wiring Options
00 = Terminal Block with ½"-14 NPT Conduit Entry
00M = Terminal Block with 20mm Conduit Entry

A2 = 36" PVC Covered Leads
A3 = 72" PVC Covered Leads
A4 = 144" PVC Covered Leads
A--- = PVC Covered Lead Lengths greater than 144"

B2 = 36" Rubber Covered Cable
B3 = 72" Rubber Covered Cable
B4 = 144" Rubber Covered Cable
B--- = Rubber Covered Cable greater than 144"

F2 = 36" Teflon Covered Leads
F3 = 72" Teflon Covered Leads
F4 = 144" Teflon Covered Leads
F--- = Teflon Covered Leads greater than 144"

S2 = 36" Silicone Covered Leads
S3 = 72" Silicone Covered Leads
S4 = 144" Silicone Covered Leads
S--- = Silicone Covered Leads greater than 144"

DBA = 3 Pin Micro-Change Male Connector
DBD = 4 Pin Micro-Change Male Connector
DBG = 5 Pin Micro-Change Male Connector

DCA = 3 Pin Mini-Change Male Connector
DCD = 4 Pin Mini-Change Male Connector

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Input Parameters:

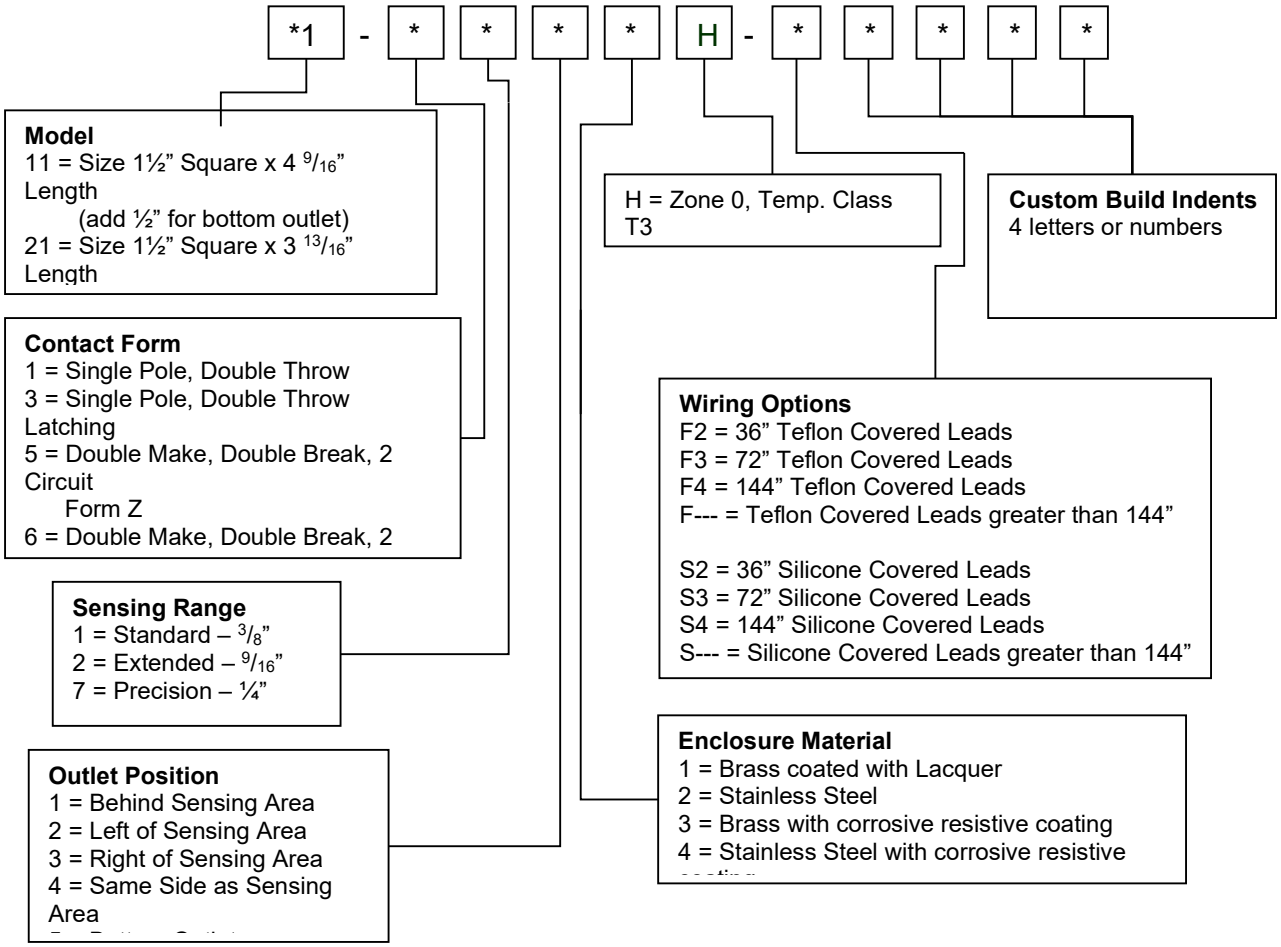
Switch Variants with Wiring Options '00', 'DBA', 'DBD', 'DBG', 'DCA', DCD' & 'DCG'

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

Switch Variants with Wiring Options 'A*', 'B*', 'S*' & 'F*'

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

'H' Model Range



Input Parameters:

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

The seventh character in the model number defines the temperature classification and associated ambient temperature range of the model. These are as follows: -

10/20 Series models with a 'F' as the seventh character in the model number	Ⓔx II 1 GD	Ex ia IIC T6 Ga (-40°C ≤ T_a ≤ 50°C) Ex ia IIIC T_{200}85°C Da (-40°C ≤ T_a ≤ 50°C)
10/20 Series models with a 'G' as the seventh character in the model number	Ⓔx II 1 GD	Ex ia IIC T4 Ga (-40°C ≤ T_a ≤ 100°C) Ex ia IIIC T_{200}135°C Da (-40°C ≤ T_a ≤ 100°C)
10/20 Series models with a 'H' as the seventh character in the model number	Ⓔx II 1 GD	Ex ia IIC T3 Ga (-40°C ≤ T_a ≤ 150°C) Ex ia IIIC T_{200}200°C Da (-40°C ≤ T_a ≤ 150°C)

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Model Range – Additional Marking

*1 1 - * * * * * - * * * * * * * *

Model
11 = Size 1½" Square x 4 $^{9}/_{16}$" Length
(add ½" for bottom outlet)
21 = Size 1½" Square x 3 $^{13}/_{16}$" Length

Contact Form
1 = Single Pole, Double Throw
3 = Single Pole, Double Throw Latching
5 = Double Make, Double Break, 2 Circuit Form Z
6 = Double Make, Double Break, 2

Sensing Range
1 = 10 mm (Standard)
2 = 14 mm (Extended)
7 = 6 mm (Precision)

Outlet Position
1 = Behind Sensing Area
2 = Left of Sensing Area
3 = Right of Sensing Area
4 = Same Side as Sensing Area

Enclosure Material
1 = Stainless Steel
2 = Stainless Steel

ATEX / IECEx Certification Code
L = Baseefa Certification applies

Wiring Options
00 = Terminal Block with ½"-14 NPT Conduit Entry
00M = Terminal Block with 20mm Conduit Entry

A2 = 36" PVC Covered Leads
A3 = 72" PVC Covered Leads
A4 = 144" PVC Covered Leads
A--- = PVC Covered Lead Lengths greater than 144"

B2 = 36" Rubber Covered Cable
B3 = 72" Rubber Covered Cable
B4 = 144" Rubber Covered Cable
B--- = Rubber Covered Cable greater than 144"

F2 = 36" Teflon Covered Leads
F3 = 72" Teflon Covered Leads
F4 = 144" Teflon Covered Leads
F--- = Teflon Covered Leads greater than 144"

S2 = 36" Silicone Covered Leads
S3 = 72" Silicone Covered Leads
S4 = 144" Silicone Covered Leads
S--- = Silicone Covered Leads greater than 144"

DBA = 3 Pin Micro-Change Male Connector
DBD = 4 Pin Micro-Change Male Connector
DBG = 5 Pin Micro-Change Male Connector

DCA = 3 Pin Mini-Change Male Connector
DCD = 4 Pin Mini-Change Male Connector

Termination or Custom

Custom Build Indents
4 letters or numbers

Input Parameters:

Switch Variants with Wiring Options '00', 'DBA', 'DBD', 'DBG', 'DCA', DCD' & 'DCG'

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

Switch Variants with Wiring Options 'A*', 'B*', 'S*' & 'F*'

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

All certification markings related to the models that carry additional marking are presented on the labels. For those carrying the additional markings the model nomenclature is not relied upon to define the certification parameters.