

1 **UK-TYPE EXAMINATION CERTIFICATE**

2 **Equipment or Protective System Intended for use in Potentially Explosive Atmospheres**  
**UKSI 2016:1107 (as amended) – Schedule 3A, Part 1**

3 UK-Type Examination Certificate Number: **BAS22UKEX0039X**

4 Product: **D2-FF Valvetop Switchbox**

5 Manufacturer: **Topworx Incorporated**

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

7 This product and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.

8 SGS Baseefa, Approved Body number 1180, in accordance with Regulation 43 of the Equipment and Protective Systems Intended for Use in Potentially Explosive Atmospheres Regulations 2016, UKSI 2016:1107 (as amended), 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 Schedule 1 of the Regulations.

The examination and test results are recorded in confidential Report No. **GB/BAS/ExTR22.0046/00**

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

**EN IEC 60079-0:2018 EN 60079-11:2012 EN 60079-31:2014**

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 UK-TYPE EXAMINATION CERTIFICATE relates only to the design and construction of the specified product. Further requirements of the Regulations 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 2GD Ex ib IIC T4 Gb (-20°C ≤ T<sub>a</sub> ≤ +50°C)  
Ex tb IIIC T80°C Db IP67 (-20°C ≤ T<sub>a</sub> ≤ +50°C)

SGS Baseefa Customer Reference No. **2191**

Project File No. **21/0624**

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**SGS Baseefa Limited**

Rockhead Business Park, Staden Lane,  
Buxton, Derbyshire SK17 9RZ

Telephone +44 (0) 1298 766600 Fax +44 (0) 1298 766601  
e-mail [baseefa@sgs.com](mailto:baseefa@sgs.com) web site [www.sgs.co.uk/sgsbaseefa](http://www.sgs.co.uk/sgsbaseefa)

Registered in England No. 4305578.

Registered address: Rossmore Business Park, Ellesmere Port, Cheshire,  
CH65 3EN



*R S Sinclair*

**R S SINCLAIR**  
**TECHNICAL MANAGER**  
On behalf of SGS Baseefa Limited

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## Schedule

14

### Certificate Number BAS22UKEX0039X

#### 15 Description of Product

The D2-FF Valvetop Switchbox is designed to control and provide feedback of the position of an actuator / valve combination located in the hazardous area via a Foundation Fieldbus or FISCO network.

The equipment comprises an enclosure either made of stainless Steel (DXS models), coated aluminium (DXP models) or glass fibre reinforced resin enclosure (DXR models) housing a certified FF CC Electronic Unit, up to two certified piezoelectric pilot valves, up to two limit switches and an optional potentiometer position sensor. A shaft assembly passes through the enclosure base to which either a potentiometer is connected to provide positional information from the actuator / valve connected or a disc with metallic contacts is fitted to activate limit switches fitted around the shaft, or a combination of both. Based on the inputs from the devices fitted, the FF CC Electronic Unit processed the information and communicates it via the Fieldbus network. The FF CC Electronic Unit also controls the operation of the pilot valves, when fitted, which are connected to the pneumatic valves attached to the side of the enclosure.

On top of the Switchbox enclosure a visual indicator is fitted which mechanically connects to the shaft assembly inside to provide an indication of the position of the actuator / valve to which the equipment is connected.

External connections to the equipment are made using a plug and socket connector with screw terminals via one of two threaded entries on either side of the enclosure. The installation of external connections and the plugging of the unused entry must be carried out using appropriate Ex e or Ex n cable glands or blanking plug components with a minimum IP rating of IP67 certified by an approved certification body.

#### Input Parameters: Bus Connector J1 pins 1 to 3

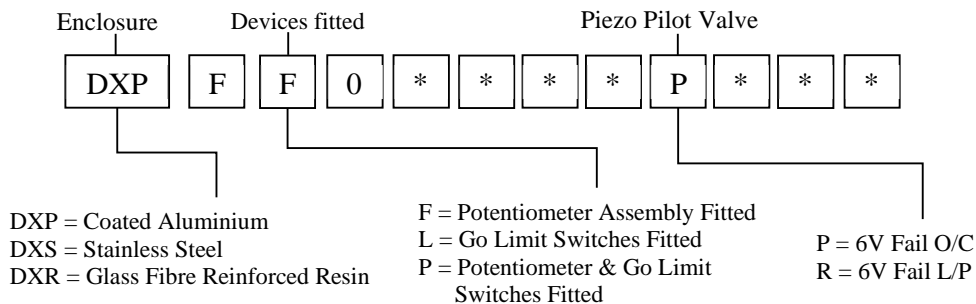
##### LS Parameters

$U_i$	=	30V	$C_i$	=	5nF
$I_i$	=	380mA	$L_i$	=	10 $\mu$ H
$P_i$	=	1.5W			

##### FISCO Input Parameters

$U_i$	=	17.5V	$C_i$	=	5nF
$I_i$	=	380mA	$L_i$	=	10 $\mu$ H
$P_i$	=	5.32W			

The following model range is covered by this certificate:



\* Denotes any number or character

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**17 Specific Conditions of Use**

1. When fitted, only non-combustible fluids may be used in the pneumatic circuit.
2. **DXR Models Only:** The equipment shall only be installed in a location where there is a low risk of mechanical damage. The enclosure constitutes a potential electrostatic risk and 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
13	LVD type requirements
14	Overloading of equipment (protection relays, etc.)
21 (1)	External effects
21 (2)	Aggressive substances, etc.

**19 Drawings and Documents**

Number	Sheet	Issue	Date	Description
CERT-ES-09221-1	1 of 1	AA	03/17/2022	Assembly, Nameplate DXP/DXR/DXS W/D2-FF I.S.

For all other drawings, see Baseefa11ATEX0035X Issue 1.