

EU-TYPE EXAMINATION CERTIFICATE



Equipment or Protective System intended for use in Potentially Explosive Atmospheres Directive 2014/34/EU

- [2] EU-Type Examination Certificate Number: **DEMKO 20 ATEX 2314X Rev. 5**
- [3] Product: **D2 HART7 PST ESD Switchbox, Model DX*-S*0***S*******
- [4] Manufacturer: **TopWorx Inc.**
- [5] Address: **3300 Fern Valley Road, Louisville, KY 40213 USA**
- [6] This product and any acceptable variation thereto are specified in the schedule to this certificate and the documents therein referred to.
- [7] UL International Demko A/S, notified body number 0539 in accordance with Article 17 of the 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.

The examination and test results are recorded in the confidential report no. **US/UL/ExTR20.0072/05.**

- [8] Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

EN IEC 60079-0:2018

EN 60079-11:2012

Where additional criteria beyond those given here have been used, they are listed at item 18 in the Schedule.

- [9] If the sign "X" is placed after the certificate number, it indicates that the product is subject to the "Specific Conditions of Use" listed under item 17 of this certificate.
- [10] This EU-Type Examination Certificate relates only to the technical design of the specified product in accordance to the Directive 2014/34/EU. Further requirements of the Directive apply to the manufacturing process and supply of this product. These are not covered by the certificate.
- [11] The marking of the product shall include the following (marking is provided in the Schedule as a part of item 15, if applicable):

 **II 1 G Ex ia IIC T4 Ga**

 **II 2 D Ex ia IIIC T135°C Db**

Certification Manager
Thomas Wilson

This is to certify that the sample(s) of the Product described herein ("Certified Product") has been investigated and found in compliance with the Standard(s) indicated on this Certificate, in accordance with the ATEX Product Certification Program Requirements. This certificate and test results obtained apply only to the product sample(s) submitted by the Manufacturer. UL did not select the sample(s) or determine whether the sample(s) provided were representative of other manufactured product. UL has not established Follow-Up Service or other surveillance of the product. The Manufacturer is solely and fully responsible for conformity of all product to all applicable Standards, specifications, requirements or Directives. The test results may not be used, in whole or in part, in any other document without UL's prior written approval.

Date of issue: 2020-05-29

Re-issued: 2024-05-24

Notified Body UL International Demko A/S, Borupvang 5A, 2750 Ballerup, Denmark
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Accredited by DANAK under registration number 7011 to certification of products.

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[14]

Schedule EU-TYPE EXAMINATION CERTIFICATE No. DEMKO 20 ATEX 2314X Rev. 5

[15] Description of Product
The D2 HART7 PST ESD, Model DX*-S*0***S***** is an intrinsically safe switchbox monitor. The equipment consists of the DXP/DXS Enclosure and is powered by an associated apparatus. Internal to the enclosure are three boards: The Main Board, the GO-Switch Board, and the Terminal Board.

Nomenclature:

DX	P	SH	O	X	N	4	S	D	A	1	T
I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII

- I. Basic Series Designation
DX – Cast Enclosure
- II. Enclosure Material
P – Aluminum
S – Stainless Steel
- III. Sensor/Switch Supplement
SH or SS – D2 HART v7 ESD, Model ES-06762-1, 28 V dc max, 100 mA, 0.7 W input; switch outputs when fitted 24 V dc, 250 mA per switch
- IV. Area Classification
0 – Class I, Division 1, Groups C and D; Class II, Division 1, Groups E, F and G
- V. Visual Display
X - Any letter or number
- VI. Shaft
S - 1/4" DD, 316L SS
N - NAMUR, 316L SS
- VII. Conduit Entries
X – Any letter or number
- VIII. O-ring Option
S - Silicone
- IX. Pilot Type/Action
Blank - No Pilot Devices
1 - One 24 V dc 1 W coil pilot for fail open/closed
D - Two 24 V dc 1 W coil pilots wired in parallel
- X. Spool Valve Material
Blank - No spool valve
A - Aluminum Black Anodized
6 - 316 SS
- XI. Valve CV
Blank - No valve
X - Any number or letter
- XII. Manual Override
Blank - No PST Button
T - With PST (Partial Stroke Button)

Temperature range:
The ambient temperature range is -40 °C to +80 °C or -40 °C to +50 °C when PST button is fitted.



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Schedule

EU-TYPE EXAMINATION CERTIFICATE No.

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Electrical data:

Table 1 - INPUTS - Entity Parameters					
	Ui	Ii	Ci	Li	Pi
HART+/HART-	28V	100mA	19nF	14uH	0.7W
P1IN+/P1IN-(Pilot 1)	28V	100mA	0	0	0.7W
P2IN+/P2IN-(Pilot 2)	28V	100mA	0	0	0.7W
C1/NO1 or (C1/NC1)*	24V	250mA	0	0	Neg
C2/NO2 or (C2/NC2)*	24V	250mA	0	0	Neg

*Internal USER SW1/SW2 are volt-free contacts. Power is negligible.

Table 2 – OUTPUTS – Entity Parameters					
	Uo	Io	Co	Lo	Po
PSNS+/PSNS- (Pressure Transmitter 4-20mA)	28V	100mA	0.082uF	200uH	0.7W
AUX2+/AUX2- or AUX+/AUX- (AUX Sw 2)	5.88V	52mA	36.374uF	1uH	364mW
AUX1+/AUX1- or +5VO/10V+ (AUX Sw 1)	7.14V	52mA	9.87uF	1uH	364mW
P1IN+, 10V+, 10V- (SOV Position Monitor)	5.88V	52mA	26.347uF	1uH	364mW
PST+/PST- (Partial Stroke Button)	5.88V	52mA	26.347uF	1uH	364mW
P1out+/P1out-	28V	100mA	0.082uF	200uH	0.7W
P2out+/P2out-	28V	100mA	0.082uF	200uH	0.7W
ALM/ALM (Alarm) [Optional]	28V	100mA	0.082uF	200uH	0.7W

Routine tests

None

[16]

Descriptive Documents

The scheduled drawings are listed in the report no. provided under item no. [8] on page 1 of this EU-Type Examination Certificate.

[17]

Specific conditions of use:

- All unused entries must be filled with a suitably certified Ex component blanking plug.
- The plastic parts of the enclosure have the potential to produce electrostatic discharge. Clean only with damp cloth.

[18]

Essential Health and Safety Requirements

The Essential Health and Safety Requirements (EHSRs) covered by the standards listed at item 9.

Additional information

The Model DX*-S*0***S***** has in addition passed the tests for Ingress Protection to IP 66/67 in accordance with EN60529:1991+A1:2000+A2:2013.

The manufacturer shall inform the notified body concerning all modifications to the technical documentation as described in Annex III to Directive 2014/34/EU of the European Parliament and the Council of 26 February 2014.



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