

EU-TYPE EXAMINATION CERTIFICATE



[1]

[2]

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

[3]

EU-Type Examination Certificate Number: **DEMKO 18 ATEX 2084 Rev. 0**

[4]

Product: **Flameproof Pressure Transducer, Model 450X**

[5]

Manufacturer: **Barksdale Inc.**

[6]

Address: **3211 Fruitland Ave., Los Angeles, CA 90058 USA**

[7]

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

[8]

UL International Demko A/S, notified body number 0539 in accordance with Article 17 of the Council Directive 2014/34/EU of 26 February 2014, certifies that this product has been found to comply with the Essential Health and Safety Requirements relating to 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 confidential report no. **4788490110.3.1**

[9]

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

EN IEC 60079-0:2018

EN 60079-1:2014

EN 60079-31:2014

[10]

If the sign "X" is placed after the certificate number, it indicates that the product is subject to special conditions for safe 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 the certificate.

[12]

The marking of the product shall include the following:



II 2 G Ex db IIC T5 Gb



II 2 D Ex tb IIIC T81°C Db IP66&67

Certification Manager

Jan-Erik Storgaard

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: 2018-11-19



Notified Body

UL International Demko A/S, Borupvang 5A, 2750 Ballerup, Denmark
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[13]

[14]

Schedule EU-TYPE EXAMINATION CERTIFICATE No. DEMKO 18 ATEX 2084 Rev. 0

[15] **Description of Product**
Model 450X Flameproof Pressure Transducer consists of pressure sensing elements mounted inside a stainless-steel enclosure. The pressure element is welded to the body and comes in 4 basic sizes for super high, high, medium, and low-pressure ranges. The device has a 1/2 in – 14 NPT or M20 x 1.5 externally threaded cover through which the cable leads pass and is cemented with epoxy.

Nomenclature

455X	T6	-29	-BA	-P6	-SS
Base model	Electrical connection	Pressure range	Pressure type	Process connections	options

Base model

H455X	4-20 mA Current Output with HART comm. Protocol
455X	4-20 mA Current Output
452X	1-5 VDC Voltage output

Electrical Connection

Blank	1-2"-14 NPT Male Conduit
T6	M20 x 1.5 Male Conduit

Pressure Range

-23	0-29.9" of Hg (Vac.)	0 to -1 Bar
-01	0-15 PSI	0-1 Bar
-21	0-30 PSI	0-2 Bar
-03	0-50 PSI	0-3 Bar
-22	0-60 PSI	0-4 Bar
-04	0-100 PSI	0-7 Bar
-05	0-150 PSI	0-10 Bar
-06	0-200 PSI	0-15 Bar
-07	0-300 PSI	0-20 Bar
-08	0-500 PSI	0-40 Bar
-10	0-1000 PSI	0-70 Bar
-11	0-1500 PSI	0-100 Bar
-12	0-2000 PSI	0-150 Bar
-13	0-3000 PSI	0-200 Bar
-14	0-4000 PSI	0-300 Bar
-15	0-5000 PSI	0-350 Bar
-16	0-6000 PSI	0-400 Bar
-17	0-7500 PSI	0-500 Bar
-18	0-10000 PSI	0-700 Bar
-29	0-15000 PSI	0-1000 Bar
-30	0-20000 PSI	0-1400 Bar
-31	0-22000 PSI	0-1500 Bar
-32	0-25000 PSI	0-1700 Bar
-33	0-30000 PSI	0-2000 Bar

Pressure Unit & Type

Blank	PSI – Gauge Pressure
A	PSI – Absolute Pressure (Not applicable with “-23” range)
B	Bar – Gauge Pressure
BA	Bar – Absolute Pressure (ranges start from -1 Bar) (Not applicable with “-23” range)

[13]

[14]

Schedule

EU-TYPE EXAMINATION CERTIFICATE No.

DEMKO 18 ATEX 2084 Rev. 0

Process Connections

Blank	1/4" NPT, Male
-P6	1/4" NPT, Female
-P4	1/2" NPT, Male
-P5	1/2" NPT, Female
-P10	G 1/4, washer seal, Male
-P12	G 1/4, washer seal, Female
-P11	G 1/2, washer seal, Male
-P13	G 1/2, washer seal, Female
-P3	7/16-20, with 37° Flared, Male
-P1	7/16-20, with 37° Flared, Female
-P2	7/16-20, SAE #4, ORB, Male
-P14	7/16-20, SAE #4, ORB Female
-P15	HF4 Autoclave, 1/4" Tube, Female (9/16-18 UNF-28 THD)

Options

-ZVxx	Custom Voltage Output (Available on 452x only) up to 10 VDC
-Z17	Without pressure surge protector
-SS	316L Stainless Steel wetted material (NACE)
-SC	316 Stainless Steel Construction (NACE)
-UL	cULus in addition to ATEX & IECEx approvals (-18 range code only)
-A1	Accuracy BSFL 0.1% FSO (LHR) at 75°F
-ZXXY	Special pressure Ranges XX – significant digits Y – number of trailing zeros
-Wxxx	Custom length of free leads (in inches)
-Jxxx	Jacketed Cable

Temperature range

The ambient temperature range is $-40\text{ }^{\circ}\text{C} \leq T_{amb} \leq +80\text{ }^{\circ}\text{C}$.

Electrical data

30V dc, 4-20 mA

Routine tests

Routine overpressure tests in accordance with EN 60079-1:2014 shall be conducted on all units in accordance with clause 16.1.2, at a pressure of 1000 kPa for a duration of not less than 10 seconds. There shall be no sign of damage, deformation or rupture that will invalidate the concept of protection.

[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:

None

[18]

Essential Health and Safety Requirements

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

Additional information

The Flameproof Pressure Transducer, Model 450X has in addition passed the tests for Ingress Protection to IP 66 and IP 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.