# IECEx Certificate of Conformity

## INTERNATIONAL ELECTROTECHNICAL COMMISSION
## IEC Certification Scheme for Explosive Atmospheres

for rules and details of the IECEx Scheme visit www.iecex.com

Certificate No.: IECEx UL 18.0090

Issue No: 0

Certificate history:
Issue No. 0 (2018-11-19)

Status: **Current**



Date of Issue: **2018-11-19**

Applicant: **Barksdale Inc.**
3211 Fruitland Ave.
Los Angeles, CA 90058
**United States of America**

Equipment: **Pressure Transducer, Model 450X**

*Optional accessory:*

Type of Protection: **Flameproof "db", Dust Protection by Enclosure "tb"**

Marking:

Ex db IIC T5 Gb

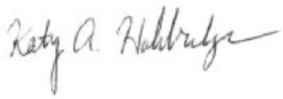
Ex tb IIIC T81°C Db IP66 & IP67

-40°C ≤ Tamb ≤ +80°C

*Approved for issue on behalf of the IECEx Certification Body:* Katy A. Holdredge

*Position:* Senior Staff Engineer

*Signature:*
*(for printed version)*



*Date:* 2018-11-19

1. This certificate and schedule may only be reproduced in full.
2. This certificate is not transferable and remains the property of the issuing body.
3. The Status and authenticity of this certificate may be verified by visiting the Official IECEx Website.

Certificate issued by:

UL LLC
333 Pfingsten Road
Northbrook IL 60062-2096
United States of America

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Certificate No: IECEx UL 18.0090 Issue No: 0

Date of Issue: **2018-11-19** Page 2 of 3

Manufacturer: **Barksdale Inc.**
3211 Fruitland Ave.
Los Angeles, CA 90058
**United States of America**

Additional Manufacturing location(s):

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 apparatus 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**<br>Edition:7.0 | Explosive atmospheres - Part 0: Equipment - General requirements |
| **IEC 60079-1 : 2014-06**<br>Edition:7.0 | Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d" |
| **IEC 60079-31 : 2013**<br>Edition:2 | Explosive atmospheres - Part 31: Equipment dust ignition protection by enclosure "t" |

*This Certificate **does not** indicate compliance with electrical 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 Report:

US/UL/ExTR18.0103/00

Quality Assessment Report:

FR/LCI/QAR08.0004/08

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Date of Issue: **2018-11-19** 

**Schedule**

**EQUIPMENT:**

*Equipment and systems covered by this certificate are as follows:*

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 sealed with epoxy.

**Please see Annex for additional information.**

**SPECIFIC CONDITIONS OF USE: NO**

**Annex:**

Annex to IECEx UL 18.0090Issue 0.pdf

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Issue No.: 0



## TYPE DESIGNATION

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) |

Process Connections

| | |
|---|---|
| Blank | ¼” NPT, Male |
| -P6 | ¼” NPT, Female |
| -P4 | ½” NPT, Male |
| -P5 | ½” NPT, Female |
| -P10 | G ¼, washer seal, Male |
| -P12 | G ¼, washer seal, Female |
| -P11 | G ½, washer seal, Male |
| -P13 | G ½, 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, Female |
| -P15 | HF4 Autoclave, ¼” Tube, Female (9/16-18 UNF-28 THD) |

Options

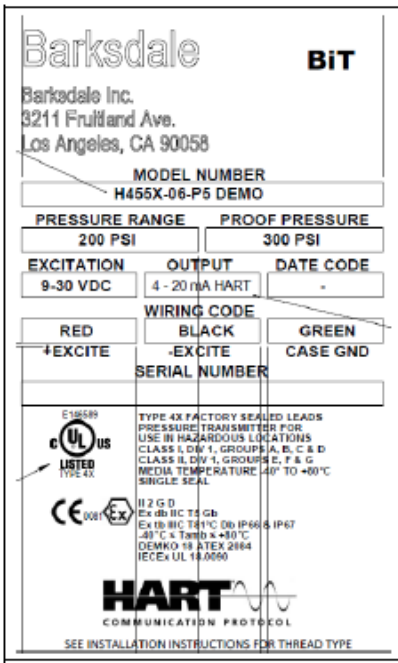
| | |
|---|---|
| -ZVxx | Custom Voltage Output (Available on 452x only) up to 10 VDC |
| -Z17 | Without pressure surge protector |
| -SS | 316L Stainless Steel wetted material (NACE) |
| -SC | 316 Stainless Steel Construction (NACE) |
| -UL | cULus in addition to ATEX & IECEx approvals (-18 range code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

## PARAMETERS RELATING TO THE SAFETY

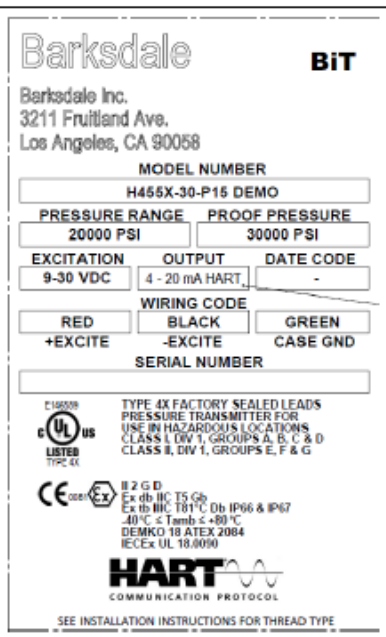
30V dc, 4-20 mA

## MARKING

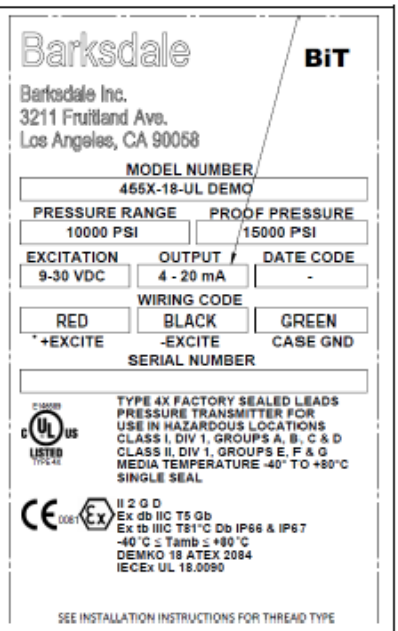
Marking has to be readable and indelible; it has to include the following indications:



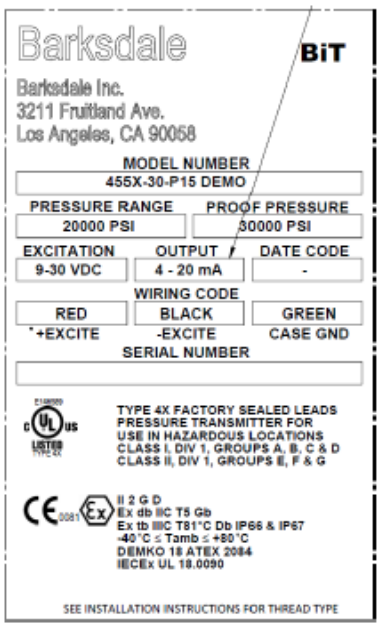

H455X, UL, HART, Single Seal



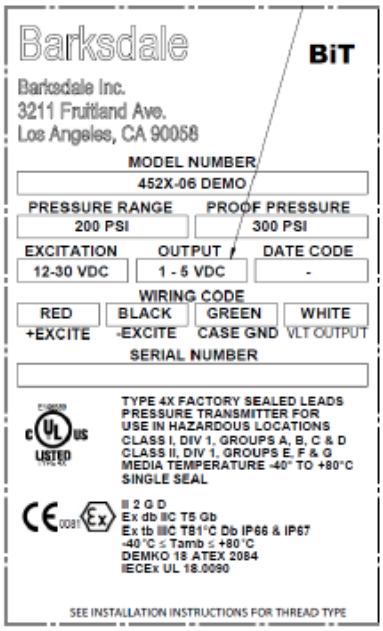

H455X, UL, HART, High Press



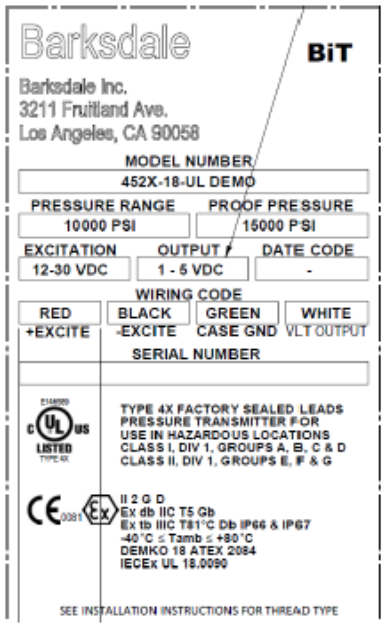

455X, UL, Digital Amplifier, Single Seal




455X, UL, Digital Amplifier, High Press




452X, UL, Voltage, Single Seal




452X, UL Voltage, High Press

## ROUTINE EXAMINATIONS AND TESTS

Each piece of equipment defined above has to have successfully passed; before delivery:

Routine overpressure tests in accordance with IEC 60079-1, 7th Ed. 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.