



UNITED KINGDOM CONFORMITY ASSESSMENT

1 **UK TYPE EXAMINATION CERTIFICATE**

2 Equipment Intended for use in Potentially Explosive Atmospheres

UKSI 2016:1107 (as amended) – Schedule 3A, Part 1

3 Certificate Number: **CSAE 21UKEX1188X** Issue: **1**

4 Product: **Models AST4600, AST46HA, AST46PT and 46SW Series Pressure Transducers.**

5 Manufacturer: **TE Sensores S de RL de CV, a TE Connectivity Company**

6 Address: Av. Obrero Mundial # 9
Parque Industrial Dynatech
Hermosillo
Sonora, 83174
Mexico

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

8 CSA Group Testing UK Limited, Approved Body number 0518, in accordance with Regulation 42 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 the confidential reports listed in Section 14.2.

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

Except in respect of those requirements listed at Section 16 of the schedule to this certificate. The above standards may not appear on the UKAS Scope of Accreditation, but have been added through flexible scope of accreditation, which is available on request.

10 If the sign 'X' is placed after the certificate number, it indicates that the product is subject to Specific Conditions of Use identified 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 this product shall be in accordance with Regulation 41 and include the following:



II 2 G D*
Ex db IIC T5 Gb
*Ex tb IIIC T100 °C Db
Ta = -40°C to +85°C
* Models with suffix G or V not suitable for Zone 21(Dust) atmosphere and not marked, see Product Description.

Name: Michelle Halliwell
Title: Director of Operations



**UKUK
CANI**

Certificate No. **CSAE 21UKEX1188X**
CSA Group Testing UK Ltd., Unit 6 Hawarden Industrial Park, Hawarden, CH5 3US, UK

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QD-1599 Issue 4 (2022-08-22)

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13 DESCRIPTION OF PRODUCT

The AST46XX Series' Pressure Transducers utilize a mechanical diaphragm to convert a mechanical pressure measurement into an electrical signal for use in the measurement of gases and liquids compatible with stainless steel. The transducers are manufactured as stainless steel sealed assemblies containing up to 2 PCBs.

The transducers consist of 3 parts:

- i. the sensing element;
- ii. the housing tube and;
- iii. a conduit entry connection(adapter) 1/2" MNPT made from stainless steel.

A green ground (earth) conductor in both construction types (3, 4 or 5 lead wires sensors) is connected to the metallic housing.

The transmitters range in Maximum Working Pressure (MWP) rating up to 20000 psi. The physical construction of the Sensing Element varies in accordance with the pressure range. A representative list of sensing element part numbers appears in the table below:

Transmitter Maximum Working Pressure (psi)	Sensing Element Part Number
50	A09745
100	A09746
200	A09747
300	A09748
500	A09749
1000	A09750
3000	A09752
5000	A09753
7500	A09754
10000	A09755
20000	A03972 (1" housings)
20000	A10834 & A01704 (7/8 " housings)

The part numbers of the range of pressure transducers are as follows:

- AST4600***bcdefghijklmnopqr* (-Z = CRN, SS, or other non-performance related)
- AST46HA***bcdefghijklmnopqr* (-Z = CRN, SS, or other non-performance related)
- AST46PT***bcdefghijklmnopqr* (-Z = CRN, SS, or other non-performance related)

Where:

a (temperature output)

- 1:** -40 to 85C
- 2:** -40 to 125C
- 3:** 0 to 70C
- 4:** -55 to 125C
- 5:** 0 to 200F

b (port information)

- A:** 1/4" NPT male
- B:** 1/8" NPT male
- C:** 1/4"BSP male
- D:** G1/4 male
- I:** 1/4"NPT female
- J:** 1/8FNP
- K:** 7/16-20UNF female
- L:** Frontend Cone
- R:** 7/16-20UNF female
- S:** 1/2"NPT female
- T:** G1/2 MALE
- U:** 1/8BSP male



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46SW $abcdefghijklm$ (-Z = CRN, SS, or other non-performance related)

Where:

a (port information)

- | | | |
|---------------------------|-----------------------------|-----------------------------|
| A: 1/4" NPT male | I: 1/4"NPT female | R: 7/16-20UNF female |
| B: 1/8" NPT male | J: 1/8FNP | S: 1/2"NPT female |
| C: 1/4"BSP male | K: 7/16-20UNF female | T: G1/2 MALE |
| D: G1/4 male | L: Frontend Cone | U: 1/8BSP male |
| E: 9/16-18UNF male | M: 3/8-24UNF male | V: 1/8BSP female |
| F: 7/16-20UNF male | N: VCR male | W: F250C female |
| G: M14x1.5 male | P: 1/2"NPT male | Z: 1/2-20UNF male |
| H: M20x1.5 male | | |

b (max working pressure in PSI)

- | | | |
|-------------------|--------------------|---------------------|
| 01: 50PSI | 05: 1000PSI | 09: 10000PSI |
| 02: 100PSI | 06: 3000PSI | 10: 15000PSI |
| 03: 250PSI | 07: 5000PSI | 11: 20000PSI |
| 04: 500PSI | 08: 7500PSI | |

c (pressure unit)

P: PSI

d (switch)

E: SPDT (FORM C)

e (electrical connection)

T: 2 feet of 18 AWG wires

W: 2 metres

U: 4 feet

X: Special lengths 18 inches minimum

f (header material)

0: 17-4PH stainless steel

3: Titanium

1: 316L

4: Hastelloy

2: Inconel 718

6: Waspaloy

g (pressure reference)

0, 1, 2, A, C, G, V (Models with suffix G or V not suitable for Zone 21(Dust) atmosphere)

h (switching pressure)

5 digits: 0 to 20000

i (switching direction)

F: Falling switchpoint specified

R: Rising switchpoint specified

j (hysteresis)

XX; hysteresis as a % of max working pressure between falling and rising switchpoints

k, l, m (special options)

eg: tolerances

Model Similarities and Differences:

AST4600 & AST46HA: Provide pressure measurement only.

AST46PT: Provide pressure and temperature measurement.

46SW: Provide pressure set point switched output.

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Variation 1 - This variation introduced the following change:

- i. To recognise the change of Company Name and Address:

From	To
Measurement Specialties Inc. A TE Connectivity Company 6801 Kaiser Dr. Freemont California 94555 United States of America	TE Sensores S de RL de CV A TE Connectivity Company Av. Obrero Mundial #9 Parque Industrial Dynatech Hermosillo Sonora 83174 Mexico

14 DESCRIPTIVE DOCUMENTS

14.1 Drawings

Refer to Certificate Annexe.

14.2 Associated Reports and Certificate History

Issue	Date	Report number	Comment
0	07 November 2022	R80144833A	The release of the prime certificate.
1	10 May 2023	R80162238A	The introduction of Variation 1.

15 SPECIFIC CONDITIONS OF USE (denoted by X after the certificate number)

- 15.1 The product label indicates that the process temperature range is -40°C to +125°C, taking this into account, the user/installer shall take precautions that ensure that the operating service temperature of the overall pressure transducer assembly is between -40°C to 92°C.
- 15.2 Under certain extreme circumstances, exposed plastic and unearthed metal parts of the enclosure may store an ignition-capable level of electrostatic charge. Therefore, the user/installer shall implement precautions to prevent the build-up of electrostatic charge, e.g. locate the equipment where a charge-generating mechanism (such as wind-blown dust) is unlikely to be present and clean with a damp cloth.
- 15.3 The integral conductors shall be suitably mechanically protected and terminated in a suitable terminal or junction facility.
- 15.4 It is the user’s responsibility to ensure that the earth continuity of the equipment is maintained via the mounting arrangement.
- 15.5 The enclosure is manufactured from light metal. In rare cases, ignition sources due to impact and friction sparks could occur and that shall be considered during installation.
- 15.6 The external pressure on potted flying leads shall not exceed 30 bar maximum.

16 ESSENTIAL HEALTH AND SAFETY REQUIREMENTS (REGULATIONS SCHEDULE 1)

In addition to the Essential Health and Safety Requirements covered by the standards listed in Section 9, all other requirements are demonstrated in the relevant reports.



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17 PRODUCTION CONTROL

- 17.1 Holders of this certificate are required to comply with production control requirements defined in Schedule 3A, as applicable, and CSA Group Testing UK Regulations for Certificate Holders.
- 17.2 At the conclusion of manufacture, and before shipment, the equipment shall be checked for continuity between the enclosure and green ground conductor.
- 17.3 The weld quality of each sensor shall be tested using helium mass spectrometry method to assure that leaks through the welded joints do not exceed the rate of $5e-8$ cc/sec.



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