



1 **EU-TYPE EXAMINATION CERTIFICATE**

2 Equipment intended for use in Potentially Explosive Atmospheres Directive 2014/34/EU

3 Certificate Number: **Sira 14ATEX2110X** Issue: **8**

4 Equipment: **Model AST44xx and AST45xx Series Pressure Transducers**

5 Applicant: **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 equipment and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.

8 CSA Group Netherlands B.V., notified body number 2813 in accordance with Articles 17 and 21 of Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014, certifies that this equipment has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment intended for use in potentially explosive atmospheres given in Annex II to the Directive.

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, with the exception of those listed in the schedule to this certificate, has been assured by compliance with the following documents:

EN IEC 60079-0:2018 EN 60079-11:2012

10 If the sign 'X' is placed after the certificate number, it indicates that the equipment is subject to Specific Conditions of Use identified in the schedule to this certificate.

11 This EU-Type Examination Certificate relates only to the design and construction of the specified equipment. If applicable, further requirements of this Directive apply to the manufacture and supply of this equipment.

12 The marking of the equipment shall include the following:

**AST 4401**



II 1G  
Ex ia IIC T4 Ga  
Ta = -40°C to +80°C  
-40°C ≤ Process Temp. ≤ +125°C

**AST4400, AST44LP, AST4500, AST4530  
AST4510, AST4520**



II 1G  
Ex ia IIB T4 Ga  
Ta = -40°C to +80°C  
-40°C ≤ Process Temp. ≤ +125°C



II 1G  
Ex ia IIB T4 Ga  
Ta = -0°C to +60°C  
0°C ≤ Process Temp. ≤ +60°C



Signed: Michelle Halliwell

Title: Director of Operations

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## SCHEDULE

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#### 13 DESCRIPTION OF EQUIPMENT

Model AST44xx and AST45xx Series Pressure Transducers utilize a mechanical diaphragm to convert a mechanical pressure measurement into an electric signal. The transducers are manufactured as 1-piece stainless steel, sealed assemblies, containing a maximum of 3 PCBs. Depending on the order codes as shown in the table below, user connections can be made using several different types of connectors and can supply 4-20mA current or a range of voltage outputs. Output connections are with cables of lengths up to 1000 ft (for outputs of 4-20 mA) or 150 ft (for all other electrical outputs)

Models for Ex ia IIC and Ex ia IIB	Entity parameter	Entity parameters values per group of gas					
		Ex ia IIC			Ex ia IIB		
		No cable	Up to 1000 ft cable	Up to 150 ft cable	No cable	Up to 1000 ft cable	Up to 150 ft cable
AST4401*****4*****_** (4-20 mA)	Ui Ii Pi Ci Li	14.5 V 93 mA 625 mW 0.391 µF 0	14.5 V 93 mA 625 mW 0.434 µF 155 µH	- - - - -	- - - - -	- - - - -	- - - - -
ASTXXX*****4*****_** Where XXXX = 4400, 44LP, 4500, 4510, 4520, 4530 (4-20 mA)	Ui Ii Pi Ci Li	- - - - -	- - - - -	- - - - -	28 V 93 mA 625 mW 0.391 µF 0	28 V 93 mA 625 mW 0.434 µF 155 µH	- - - - -
AST4401*****1/M*****_** (output rated 0.5-4.5V and 0.25-4.75V)	Ui Ii Pi Ci Li	14.5 V 93 mA 625 mW 0.643 µF 0	- - - - -	14.5 V 93 mA 625 mW 0.649 µF 23.3 µH	- - - - -	- - - - -	- - - - -
ASTXXX*****1/M*****_** Where XXXX = 4400, 44LP, 4500, 4510, 4520, 4530 (output rated 0.5-4.5 V and 0.25-4.75 V)	Ui I Pi Ci Li	- - - - -	- - - - -	- - - - -	28 V 93 mA 625 mW 0.643 µF 0	- - - - -	28 V 93 mA 625 mW 0.649 µF 23.3 µH
AST4401*****A/B/F*****_** (output rated 5, 10 and 20 mV/V)	Ui Ii Pi Ci Li	14.5 V 93 mA 625 mW 0.643 µF 0	- - - - -	14.5 V 93 mA 625 mW 0.649 µF 23.3 µH	- - - - -	- - - - -	- - - - -
ASTXXX*****A/B/F*****_** Where XXXX = 4400, 44LP, 4500, 4510, 4520, 4530 (output rated 5, 10 and 20 mV/V)	Ui Ii Pi Ci Li	- - - - -	- - - - -	- - - - -	28 V 93 mA 625 mW 0.643 µF 0	- - - - -	28 V 93 mA 625 mW 0.649 µF 23.3 µH
AST4401*****3/6/8/9/G/J/P*****_** (output rated 1-5 V, 1-6 V, 0.5-5.5 V, 0.25-5 V, 1-10 V, 0.1-5.1 V, 0.5-4.5 V)	Ui Ii Pi Ci Li	14.5 V 93 mA 625 mW 0.643 µF 0	- - - - -	14.5 V 93 mA 625 mW 0.649 µF 23.3 µH	- - - - -	- - - - -	- - - - -
ASTXXX*****3/6/8/9/G/J/P*****_**	Ui	-	-	-	28 V	-	28 V

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Models for Ex ia IIC and Ex ia IIB	Entity parameter	Entity parameters values per group of gas					
		Ex ia IIC			Ex ia IIB		
		No cable	Up to 1000 ft cable	Up to 150 ft cable	No cable	Up to 1000 ft cable	Up to 150 ft cable
Where XXXX = 4400, 44LP, 4500, 4510, 4520, 4530 (output rated 1-5V, 1-6V, 0.5-5.5V, 0.25-5V, 1-10V, 0.1-5.1V, 0.5-4.5V)	Ii	-	-	-	93 mA	-	93 mA
	Pi	-	-	-	625 mW	-	625 mW
	Ci	-	-	-	0.643 µF	-	0.649 µF
	Li	-	-	-	0	-	23.3 µH

**Variation 1** - This variation introduced the following changes:

- i. A change of ownership was recognised:  
From - American Sensor Technology, 450 Clark Drive' Mount Olive, New Jersey, 07828, USA To - Measurement Specialities., 6801 Kaiser Drive, Fremont, CA, 94555, USA

**Variation 2** - This variation introduced the following changes:

- i. Following appropriate assessment to demonstrate compliance with the latest technical knowledge, EN 60079-0:2012 was replaced by EN IEC 60079-0:2018.
- ii. EN 60079-26 was removed from the list of standards as the requirements are covered by the later editions of those listed.

**Variation 3** - This variation introduced the following changes:

- i. Addition of optional integral connector for the AST4510, designated by the suffix "6", which allows provision for M12 connection.
- ii. Addition of the drawings 014-02400 & 11112677-00 to outline the M12 connector:
- iii. Removed the following drawing. A07612.

**Variation 4** - This variation introduced the following changes:

- i. Update 17 drawings for addition of PCB quality inspection notes.
- ii. Update 4 drawings for Brexit and audit recommendations.
- iii. Update DWG 11112677-00 for editorial change only.

**Variation 5** - This variation introduced the following changes:

- i. Update of 4 drawings for revising the nameplate with correct information.
- ii. Update to include process temperature.
- iii. Introduction of New manufacturing location.

**Variation 6** - 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. Fremont 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

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#### 14 DESCRIPTIVE DOCUMENTS

##### 14.1 Drawings

Refer to Certificate Annexe.

##### 14.2 Associated Reports and Certificate History

Issue	Date	Report number	Comment
0	12 June 2014	R70006508A	The release of the prime certificate.
1	10 September 2014	R70011599A	Issued to correct a typographical error.
2	09 October 2018	R70179065A	This Issue covers the following changes: <ul style="list-style-type: none"><li>• EC Type-Examination Certificate in accordance with 94/9/EC updated to EU Type-Examination Certificate in accordance with Directive 2014/34/EU. (In accordance with Article 41 of Directive 2014/34/EU, EC Type-Examination Certificates referring to 94/9/EC that were in existence prior to the date of application of 2014/34/EU (20 April 2016) may be referenced as if they were issued in accordance with Directive 2014/34/EU. Variations to such EC Type-Examination Certificates may continue to bear the original certificate number issued prior to 20 April 2016.)</li><li>• The introduction of Variation 1.</li></ul>
3	18 October 2018	R70192967A	The introduction of Variation 2.
4	15 October 2019	1814	Transfer of certificate Sira 14ATEX2110X from Sira Certification Service to CSA Group Netherlands B.V.
5	14 May 2021	R80049314A	The introduction of Variation 3.
6	08 September 2021	R80073004A	The introduction of Variation 4.
7	30 November 2022	R80132245A	The introduction of Variation 5.
8	10 May 2023	R80162238A	The introduction of Variation 6.

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

15.1 Since Pressure Transducers models AST4401, AST4400, AST44LP, AST4500, AST4510, AST4520 and AST4530 are not earthed and a charge-generating mechanism may be present when in contact with non-metallic charge generating materials, the device shall be grounded before use.

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 they shall be cleaned with a damp cloth.

15.3 The enclosure is manufactured from light metal. In rare cases, ignition sources due to impact and friction sparks could occur. This shall be considered during installation, particularly if the equipment is installed in a zone 0 location.

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16 **ESSENTIAL HEALTH AND SAFETY REQUIREMENTS OF ANNEX II (EHSRs)**

The relevant EHSRs that are not addressed by the standards listed in this certificate have been identified and individually assessed in the reports listed in Section 14.2.

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The relevant EHSRs that are not addressed by the standards listed in this certificate have been identified and individually assessed in the reports listed in Section 14.2.

17 **CONDITIONS OF MANUFACTURE**

17.1 The use of this certificate is subject to the Regulations Applicable to Holders of CSA Group Netherlands B.V. certificates.

17.2 Holders of EU-Type Examination Certificates are required to comply with the conformity to type requirements defined in Article 13 of Directive 2014/34/EU.