



1 **EU-TYPE EXAMINATION CERTIFICATE**

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

3 Certificate Number: **CSANe 23ATEX1010X** Issue: **0**

4 Equipment: **Model 220 Differential Pressure Switch**

5 Applicant: **Mid-West Instrument**

6 Address: **6500 Dobry Drive  
Sterling Heights  
MI 48314  
United States of America**

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 60079-1:2014 EN 60079-31:2014 EN ISO 80079-36:2016

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:



II 2 GD

Ex db h IIB+H<sub>2</sub> T\* Gb

Ex tb h IIIC T\*°C Db IP6X

(-40°C ≤ Ta ≤ +70°C)\*

\*Refer to Product Description for temperature class and ambient combinations.

Signed: M Halliwell

Title: Director of Operations



Project Number 80156035

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**SCHEDULE**

**EU-TYPE EXAMINATION CERTIFICATE**

**CSANe 23ATEX1010X  
Issue 0**

**13 DESCRIPTION OF EQUIPMENT**

The Model 220 Pressure Switch is for measuring differential pressure and comprises a pressure assembly and cover housing a single or double reed switch assembly and either a circuit board with a terminal strip interface or a single or double relay assembly with terminal strip interface. The switch, or switches, and pressure indication are magnetically coupled to a moving magnet inside the pressure assembly.

The Model 220 Pressure Switch has a maximum working pressure rating of up to 20.7MPa (3000psig) with a cast body (pressure assembly) and cover manufactured from aluminium.

The body may optionally include a stainless-steel insert to provide all stainless steel wetted parts.

The cover is secured to the body with seven M5, stainless steel hexagon head captive screws.

Internal and external earth facilities are provided.

The various electrical configurations for the Model 220 Pressure Switches are identified by a 3 letter code, where the first letter identifies the number of switches fitted ( R = single switch & S = double switch), the second letter identifies the input voltage ( A = no input power required, B = 5/6 V dc, C = 12V dc, D = 24V dc, E = 48V dc, F = 24V ac, G = 120V ac, H = 240V ac) and the third letter identifies the output option ( A = 120V ac/dc, E, F, G or H = 240V ac/dc and R relay).

The electrical ratings together with the temperature classification, ambient temperature range and the temperature markings for dust atmospheres associated with each version are listed below.

CONFIGURATION CODE	ELECTRICAL RATINGS	TEMPERATURE CLASS FOR GAS	AMBIENT TEMPERATURE RANGE	TEMPERATURE MARKING FOR DUST
RAA; SAA	0.025A 120V dc/ac 0.1A 30V dc 0.25A 12V dc	T6 T5	-40°C ≤ Ta ≤ 70°C -40°C ≤ Ta ≤ 85°C	T85°C T100°C
RAE; SAE	0.25A 240V dc/ac	T6	-40°C ≤ Ta ≤ 70°C	T85°C
RAF*; SAF*	0.5A 120V dc/ac	T5	-40°C ≤ Ta ≤ 85°C	T100°C
RAG*; SAG*	3.0A 12V dc			
RAH; SAH	0.25A 240V dc/ac 0.5A 120V dc/ac 1.0A 30V dc	T6 T5	-40°C ≤ Ta ≤ 70°C -40°C ≤ Ta ≤ 85°C	T85°C T100°C
RBR; SBR	10A 30V dc	T6	-40°C ≤ Ta ≤ 70°C	T85°C
RCR; SCR	10A 120Vac			
RDR; SDR	10A 240V ac			
RER; SER				
RFR; SFR				
RGR; SGR				
RHR; SHR		T4	-40°C ≤ Ta ≤ 70°C	T135°C
Transmitter unit**	28V dc	T6	-40°C ≤ Ta ≤ 70°C	T85°C

\* These electrical configurations are not available for the Model 240 Pressure Switch, see below.

\*\* As detailed at Variation 0.3 below

A ½" NPT-14 cable entry hole is provided as specified on the certificate schedule drawings for the accommodation of a suitable certified flameproof cable entry device, with or without the interposition of a suitable certified flameproof thread adaptor. The cable entry device and thread adaptor shall be suitable for the equipment, the cable and the conditions of use and shall be certified as Equipment (not a Component).

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## SCHEDULE

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Issue 0

#### Variation 0.1

An alternative version with a maximum working pressure rating of up to 10.3MPa (1500psig). In this form the equipment is designated a Model 240 Pressure Switch.

#### Variation 0.2

The optional fitting of a dial gauge assembly for the indication of differential pressure. The indication assembly is comprised of a circular housing manufactured from a thermoplastic or aluminium material into which is fitted an aluminium dial and a magnetically operated indicating mechanism. The parts are sealed behind a weatherproof plastic or glass lens assembly.

#### Variation 0.3

The optional replacement of the magnetic switches with an electronics unit having a 4-20mA proportional output. In this form the unit is designated a Transmitter Unit.

## 14 DESCRIPTIVE DOCUMENTS

### 14.1 Drawings

Refer to Certificate Annexe.

### 14.2 Associated Reports and Certificate History

Issue	Date	Report number	Comment
0	30 March 2023	R80156036A	The release of the prime certificate.

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

- 15.1 The maximum gap permitted between the body and cover is less than the maximum permitted in the standard. Therefore, it is the responsibility of the user of this equipment to ensure the maximum gap between the body and the cover is not greater than 0.038mm (0.0015").
- 15.2 The cover fasteners are of a non-standard production. For replacement purposes these fasteners shall be obtained from the unit manufacturer only.
- 15.3 The optional dial gauge may present a potential electrostatic charging hazard. Clean only with a damp cloth.
- 15.4 Potential electrostatic hazards shall be addressed in accordance with the guidance given in the instructions, and IEC TS 60079-32-1.

## 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.

## 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.

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# Certificate Annexe



Certificate Number: CSANe 23ATEX1010X  
Equipment: Model 220 Differential Pressure Switch  
Applicant: Mid-West Instrument

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## Issue 0

Drawing	Sheets	Rev.	Date (Stamp)	Title
110776	1 of 1	F	06 Mar 23	Tag, ATEX EEx 'd' Schedule drawing
110806	1 to 10	H	06 Mar 23	Model 240 Assembly schedule drawings
110807	1 to 10	J	06 Mar 23	Model 220 Assembly schedule drawings
113081	1 to 10	E	06 Mar 23	Model 220 Transmitter Assembly schedule drawings
113091	1 to 10	D	06 Mar 23	Model 240 Transmitter Assembly schedule drawings

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