1 EU - Type Examination Certificate

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

3 Certificate Number: Ex Veritas 21ATEX0865X Issue: 0

4 Equipment: PTEX1 Pressure transmitters

5 Manufacturer: Analysis Ltd.

6 Address: Delta Velestino, 37500 Magnesia, Greece

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

8 ExVeritas, Notified Body number 2804 in accordance with Article 17 of the Council Directive 2014/34/EU of 26 February 2014, certifies that this equipment or protective system has been found to comply with the Essential Health and Safety Requirements relating to design and construction of equipment and protective systems for use in potentially explosive atmospheres given in Annex II to the Directive

9 Compliance with the applicable Essential Health and Safety Requirements has been assured by compliance with the following Standards and section 16 of this certificate:

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 special conditions for safe use specified in the schedule to this certificate.

11 This EU-Type Examination Certificate relates only to the design, construction, examination and tests of the specified equipment or protective system in accordance to the Directive 2014/34/EU. Further requirements of the Directive apply to the manufacturing process and supply of this equipment or protective system. These are not covered by this certificate.

12 The marking of the equipment shall include the following:

II 1G Ex ia IIC T4 Ga
II 1D Ex ia IIIC T_{200} 107°C Da
Ta = See description

DANAK
PROD Reg.No. 7044
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On behalf of ExVeritas

Peter Lauritzen
Managing Director

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Schedule

13 Description of Equipment or Protective System

The Analysis Limited pressure transmitters are intrinsically safe pressure transducers which are intended for fixed installation in IECEx Zone 0, ATEX CAT1 areas (subgroup IIC & IIIC) to monitor the pressure of the workpiece in question (for example pumps or pneumatic systems). The pressure measurement made by the transducer is converted into a 4-20 mA output signal from two terminals inside the enclosure. The field device terminals therefore require protection using a suitable intrinsically safe barrier which are compatible with the following limiting parameters:

Limiting parameters	Entity parameters for gas atmospheres only	Entity parameters for dust atmospheres only
Ui	28 V	28 V
Ii	119 mA	88 mA
Pi	833 mW	616 mW
Ci	10 nF	10 nF
Li	1.2 µH	1.2 µH
C & L per unit length	150 pF/m and 1.1 µH/m (only for cabled version)	150 pF/m and 1.1 µH/m (only for cabled version)

Note: electronic values are quoted as direct current (DC).

PTEX1-CO ambient temperature range Ta = -40°C to +80°C, PTEX1-CA ambient temperature range Ta = -40°C to +70°C

The device is supplied with a cable which has a capacitance and inductance per meter (also specified in the table above). The ambient temperature range is equal to the process temperature when in service. The Analysis Pressure Transmitter is designed for a range of pressures and has the following part number disambiguation:

PTEX1 – Electrical connection choice – Electrical connection – 420A – Pressure units – Pressure ranges – Wetted Parts material – Process connection

Where

PTEX1	Indicates the part number.
Electrical connection choice*	Indicates the electrical connection of the sensor cable or connector (CO or CA).
Electrical connection	Indicates different electrical connections connectors or cable types or materials according to datasheet.
420A	Indicates the signal output (all variants are 4-20 mA only).
Pressure units*	Indicates the pressure units that pressure range will be measured according to datasheet.
Wetted parts material*	The type of material used in the wetted material.
Process connection*	Indicates process connection.

* See datasheet for possible options.

The identification string (pressure range) identifies the pressure range corresponding to the values in the table below. Items without an asterisk are common to both types, whilst items with asterisk * only apply to transmitter type ‘PTEX-CO’ only.

Pressure range (bar)	Identification String
-0.5 to 0.8	V0.50.8
0 to 0.5	0.5
0 to 1	1
0 to 2	2
0 to 3.5	3.5
0 to 7	7
0 to 10	10
0 to 20	20
0 to 35	35
0 to 70	70
0 to 100	100
0 to 200 *	200
0 to 350 *	350
0 to 700 *	700

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Schedule

14 Descriptive Documents

14.1 Associated Report and Certificate History:

Report Number	Cert Issue Date	Issue	Comment
R3233/A/1	06/06/2022	0	Initial issue of the Prime Certificate

14.2 Compliance Drawings:

Title	Drawing Number	Revision Level	Date
Electronic schematics	EX - PTEX1 infallible circuits.pdf	4	10/06/2022
General assembly 1	Ex-As-PEX1-Cable-2D-1.pdf	A	14/02/2022
General assembly 2	Ex-As-PEX1-Cable-3D-1.pdf	A	14/02/2022
General assembly 3	Ex-As-PEX1-Con-2D-1.pdf	A	14/02/2022
General assembly 4	Ex-As-PEX1-Con-3D-1.pdf	A	14/02/2022
PCB artwork	EX - PTEX1 main circuits pcb	4	10/06/2022
user manual	PTEX1 - manual.pdf	1.2	May-22
Wiring schematic	PTEX1 wire drawing.pdf	-	01/04/2022
Electronic bill of materials	EX-PTEX1-BOM.pdf	1	22/06/2022
Product datasheet 1	PTEX1-CA.pdf	2.04	Nov-21
Product datasheet 2	PTEX1-CO.pdf	1.04	Nov-21
Product datasheet 3	PTEX1.pdf	1.04	Nov-21

15 Conditions of Certification

15.1 Special Conditions for Safe Use

1. The PTEX1-CO device must only be used in applications where the process temperature remains within the ambient temperature range -40°C to +80°C.
2. The PTEX1-CA device must only be used in applications where the process temperature remains within the ambient temperature range -40°C to +70°C.
3. The pressure transmitter PTEX1 enclosure includes non-metallic materials that under certain conditions may accumulate ignition-capable electrostatic charges. Therefore, for applications on areas classified as Category 1G / EPL Ga and Gas Group IIC, it shall not be installed where the external conditions are conducive to the build-up of electrostatic charges. Additionally, the equipment may only be cleaned with a damp cloth.

15.2 Conditions for Use (Routine tests)

- None

16 Essential Health and Safety Requirements

Essential Health and Safety Requirements are addressed by the standards listed in section 9 and where required the report listed in section 14.1

The manufacturer shall inform the Notified Body of any modifications to the design of the product described by this schedule.

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