

EU-TYPE EXAMINATION CERTIFICATE

Equipment or Protective System Intended for use in Potentially Explosive Atmospheres Directive
2014/34/EU

- EU-Type Examination Certificate Number:** ITS19ATEX204962X Issue 0
- Product:** APT1000 Transmitter
- Manufacturer:** PSM Instrumentation Ltd.
- Address:** Unit 3 Burrell Road,
Haywards Heath,
West Sussex,
RH16 1TW, UK
- This product and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.
- Intertek Testing and Certification Limited, Notified Body number 0359 in accordance with Article 17 of Directive 2014/34/EU of the European Parliament and of the Council dated 26 February 2014, certifies that the 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 Annex II of the Directive.
- Compliance with the Essential Health and Safety Requirements has been assured by compliance with EN IEC 60079-0:2018 and EN 60079-11:2012 except in respect of those requirements referred to within item 14 of the Schedule.
- If the sign "X" is placed after the certificate number, it indicates that the product is subject to the special conditions of use specified in the Schedule to this certificate.
- This EU-Type Examination Certificate relates only to the design and construction of the specified product. Further requirements of the Directive apply to the manufacturing process and supply of this product. These are not covered by this certificate.
- The marking of the product shall include the following:



II 1 G Ex ia IIC T4 Ga
-35°C ≤ Ta ≤ +85°C

Certification Officer:

V K Varma

Date:

2nd August 2019

SCHEDULE:

EU-Type Examination Certificate Number: ITS19ATEX204962X Issue 0

11. Description of Equipment or Protective System

The APT 1000 Series transmitters are designed for monitoring pressure or temperature based on a micro-electro-mechanical (MEMS) piezo-resistive cell or PT100 probe respectively.

The pressure measurement cell is isolated from the process by a diaphragm with an internal fluid fill transmitting the process pressure to it. Temperature compensation and zero correction are applied during manufacture by laser trimming of compensation resistors.

The output from the measurement cell or temperature probe is converted by an internal circuit to a 4-20mA signal which is scaled to the user requirements.

An RS485 serial interface is also provided for digital communications as well as the analogue 4-20mA signal.

The sensor is fully encapsulated internally and may be manufactured from a choice of construction materials for the wetted parts.

The model code is defined as follows:

APT 100n – Non-Intrinsically Safe models (not covered by this certificate)

APT 100n/I – Intrinsically Safe, ATEX certification

APT 100n/X – Intrinsically Safe, IECEx certification (not covered by this certificate)

n = 0 – Pressure

n = 1 – Temperature

n = 2 – Pressure & HART communications

The model code may be followed by other alpha-numeric characters, to define other features of the product.

Entity Parameters:

$U_i = 28V$

$I_i = 150\text{ mA}$

$P_i = 0.8W$

$C_i = 0$

$L_i = 0$

12. Report Number

Intertek Report: 103572418LHD-003A Issue 1 dated 1st August 2019.

SCHEDULE:

EU-Type Examination Certificate Number: ITS19ATEX204962X Issue 0

13. Special Conditions of Certification

(a). Special Conditions of Use

- Non-metallic parts on the exterior of the pressure transmitter may present an electrostatic charging hazard. Refer to warning marking and the manufacturer's instructions for further guidance.
- Where external parts of the pressure transmitter incorporate light metal components (i.e. in excess of 10 % in total of aluminium, magnesium, titanium and zirconium), the sensor must be protected from impact such that impact / friction sparks cannot occur, taking into account rare malfunction.

(b). Conditions of Manufacture

- None.

14. Essential Health and Safety Requirements (EHSRs)

The relevant Essential Health and Safety Requirements (EHSRs) have been identified and assessed in Intertek Report: 103572418LHD-003A Issue 1 dated 1st August 2019.

15. Drawings and Documents

Title:	Drawing No. :	Revision:	Date:
APT 1000 ATEX & IECEx Label	P19047-APT-DT	A	11-04-19
APT 1000 Temperature Sensor Build	P19066-APT-GA	A	05-06-19
APT 1000 Marking & Optional Process Fitting	P19044-APT-GA	A	15-04-19
APT Sensor Specification	P19011-APT-DT	A	31-06-17
Artwork for iCT IECEx Labels	P19014-APT-AW	A	02-07-15
APT1000 Local and Remote Terminal Options	P19045-APT-GA	A	11-04-19
APT1000 Exploded Drawing / parts list	P19046-APT-GA	A	15-04-19
APT1000 Board Clearance	P19048-APT-GA	A	11-04-19
APT1000 Transmitter Typical Connection Head	P19049-APT-GA	A	08-04-19
APT1000 Transmitter Typical Connection head	P19052-APT-GA	A	08-04-19
APT1000 Exploded Drawing / parts list	P19062-APT-GA	A	15-04-19
APT1000 Temperature Sensor Type	P19063-APT-GA	A	16-05-19
APT1000 Connection To Suit Environment	P19064-APT-GA	A	16-05-19
APT1000 Thermopocket / Thermowell Type	P19065-APT-GA	A	16-05-19
APT 1000 Series Pressure Transmitter	P19053-APT-BOM	A	10-06-19
APT 1000 Series Temperature Transmitter	P19055-APT-BOM	A	10-06-19
APT 1000 Series HART Transmitter	P19057-APT-BOM	A	10-06-19
APT 1000 Series Pressure Transmitter Top level BOM	P19059-APT-BOM	A	10-06-19
APT 1000 Series Temperature Transmitter Top level BOM	P19060-APT-BOM	A	10-06-19
APT 1000 Series HART Transmitter Top level BOM	P19061-APT-BOM	A	10-06-19

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SCHEDULE:

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Drawings and Documents Cont...

Title:	Drawing No. :	Revision:	Date:
Installation & Operation Instruction Manual APT1000 Series Transmitters & RFM Series Barriers & Termination Modules	MAN 087	A	May 2019
Schematic	ATP Series	3C	13-06-2019
Schematic	ATP1000/A	3C	13-06-2019
Schematic	ATP1001/A	3C	13-06-2019
Schematic	ATP1002/A	3C	13-06-2019