

# CERTIFICATE OF CONFORMITY

1. **HAZARDOUS (CLASSIFIED) LOCATION ELECTRICAL EQUIPMENT PER US REQUIREMENTS**
2. **Certificate No:** FM20US0092X
3. **Equipment:** T82 Head Transmitters  
**(Type Reference and Name)**
4. **Name of Listing Company:** Pyromation, Inc.
5. **Address of Listing Company:** 5211 Industrial Road  
Fort Wayne, IN 46825  
USA
6. The examination and test results are recorded in confidential report number:  
  
3049440 dated 6<sup>th</sup> August 2013
7. FM Approvals LLC, certifies that the equipment described has been found to comply with the following Approval standards and other documents:  
  
FM Class 3600:2018, FM Class 3610:2018, FM Class 3611:2018, FM Class 3615:2018, FM Class 3810:2018, ANSI/ISA 60079-0:2009, ANSI/ISA 60079-1:2013, ANSI/ISA 60079-11:2011, ANSI/ISA 60079-27:2006, ANSI/ISA 61010-1: 2012, ANSI/UL 121201: 2018, ANSI/NEMA 250: 2003, ANSI/ISA 60529:2004
8. If the sign 'X' is placed after the certificate number, it indicates that the equipment is subject to specific conditions of use specified in the schedule to this certificate.
9. This certificate relates to the design, examination and testing of the products specified herein. The FM Approvals surveillance audit program has further determined that the manufacturing processes and quality control procedures in place are satisfactory to manufacture the product as examined, tested and Approved.

**Certificate issued by:**

  
\_\_\_\_\_  
J.E. Marquedant  
VP, Manager - Electrical Systems

8 January 2021  
\_\_\_\_\_  
Date

To verify the availability of the Approved product, please refer to [www.approvalguide.com](http://www.approvalguide.com)

**THIS CERTIFICATE MAY ONLY BE REPRODUCED IN ITS ENTIRETY AND WITHOUT CHANGE**

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T: +1 (1) 781 762 4300 F: +1 (1) 781 762 9375 E-mail: [information@fmapprovals.com](mailto:information@fmapprovals.com) [www.fmapprovals.com](http://www.fmapprovals.com)

# SCHEDULE



US Certificate Of Conformity No: FM20US0092X

10. Equipment Ratings:

***T82-b-c-d-f-g-h-I Temperature Transmitter.***

Intrinsically Safe for use in Class I, Division 1, Groups A, B, C, & D, T4 with  $-50\text{ }^{\circ}\text{C} \leq T_a \leq +85\text{ }^{\circ}\text{C}$ , T5 with  $-50\text{ }^{\circ}\text{C} \leq T_a \leq +75\text{ }^{\circ}\text{C}$ , and T6 with  $-50\text{ }^{\circ}\text{C} \leq T_a \leq +58\text{ }^{\circ}\text{C}$  Entity per M008502; Nonincendive for use in Class I, Division 2, Groups A, B, C & D, T4 with  $-50\text{ }^{\circ}\text{C} \leq T_a \leq +85\text{ }^{\circ}\text{C}$ , T5 with  $-50\text{ }^{\circ}\text{C} \leq T_a \leq +75\text{ }^{\circ}\text{C}$ , and T6 with  $-50\text{ }^{\circ}\text{C} \leq T_a \leq +58\text{ }^{\circ}\text{C}$  NIFW per M008502.

***aT82-b-c-d-e-f-g-h-i Temperature Transmitter.***

Explosionproof for Class I, Division 1, Groups A, B, C and D ; T\*, Tamb\*\*, per M008402; Dust-ignitionproof for Class II,III, Division 1, Groups E, F and G; T\*, Tamb\*\*, per M008402; Nonincendive for use in Class I, Division 2, Groups A, B, C & D; T\*, Tamb\*\*, NIFW per M008402, IP 66, IP67; Type 4X, IP66, IP67

<i>T-Code*</i>	<i>Tambient** with display</i>
T4	$-40\text{ }^{\circ}\text{C} \leq T_a \leq +85\text{ }^{\circ}\text{C}$
T5	$-40\text{ }^{\circ}\text{C} \leq T_a \leq +80\text{ }^{\circ}\text{C}$
T6	$-40\text{ }^{\circ}\text{C} \leq T_a \leq +70\text{ }^{\circ}\text{C}$

11. The marking of the equipment shall include:

***T82-b-c-d-f-g-h-I Temperature Transmitter.***

IS Class I, Division 1, Groups A, B, C and D; T\*; Tamb\*\*; M008502; Entity;  
NI Class I, Division 2, Groups A, B, C, and D; T\*; Tamb\*\*; M008502; NIFW;

***aT82-b-c-d-e-f-g-h-i Temperature Transmitter.***

XP Class I Division 1, IIC T\* Tamb\*\* Ga; M008402;  
DIP Class II,III, Division 1, Groups E, F and G; T\*, Tamb\*\*; M008402;  
NI Class I, Division 2, Groups A, B, C, and D; T\* Tamb\*\*, M008402; NIFW  
Type 4X; IP66; IP67

12. **Description of Equipment:**

The temperature transmitter T82, is a two wire transmitter Head with analogue output. It has measuring input circuits for resistance thermometers (RTD) in 2-, 3- or 4-wire connection, thermocouples and voltage transmitters.

Operation Temperature Ranges:

See Model Code Listings below

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**Construction:**

The Field Temperature Transmitter T82 consists of a field enclosure, containing head transmitter and optionally a display.

**Electrical Parameters:**

See Model Code for Entity and NIFW Parameters listed below

***T82-b-c-d-f-g-h-I Temperature Transmitter.***

a	Field Enclosure	36, 76
b	Display option	00, D10
c	Configuration input	Not Safety Relevant
d	Sensor Input Channel 1	Not Safety Relevant
e	Sensor Input Channel 2	Not Safety Relevant
f	Input Setup	Not Safety Relevant
g	Failure Mode	Not Safety Relevant
h	Range	Not Safety Relevant
i	Unit of measure	Not Safety Relevant

**Entity Parameters: T82**

	Vmax / Ui (V)	I <sub>max</sub> / I <sub>i</sub> (mA)	P <sub>i</sub> (mW)	C <sub>i</sub> (nF)	L <sub>i</sub> (μH)
Terminals 1-2	30	130	800	0	0

**Outputs:**

Terminals	V <sub>oc</sub> / U <sub>o</sub> (V)	I <sub>o</sub> / I <sub>sc</sub> (mA)	P <sub>o</sub> (mW)	C <sub>o</sub> / C <sub>a</sub> (μF)	L <sub>o</sub> / L <sub>a</sub> (mH)		
3 – 7	7.6	13	24.7	Group A & B resp IIC	10.4	Group A & B resp IIC	236

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Nonincendive Field Wiring Parameters:

<i>Terminals</i>	$V_{max}$ (V)	$C_i$ (nF)	$L_i$ ( $\mu$ H)
1 and 2	35	0	0

<i>T-Code*</i>	<i>Tambient**</i>
T4	$-50\text{ }^{\circ}\text{C} \leq T_a \leq +85\text{ }^{\circ}\text{C}$
T5	$-50\text{ }^{\circ}\text{C} \leq T_a \leq +75\text{ }^{\circ}\text{C}$
T6	$-50\text{ }^{\circ}\text{C} \leq T_a \leq +58\text{ }^{\circ}\text{C}$

***aT82-b-c-d-e-f-g-h-i Temperature Transmitter.***

a	Field Enclosure	76
b	Display option	00, D10
c	Configuration input	Not Safety Relevant
d	Sensor Input Channel 1	Not Safety Relevant
e	Sensor Input Channel 2	Not Safety Relevant
f	Input Setup	Not Safety Relevant
g	Failure Mode	Not Safety Relevant
h	Range	Not Safety Relevant
i	Unit of measure	Not Safety Relevant

Nonincendive Field Wiring Parameters:

<i>Terminals</i>	$V_{max}$ (V)	$C_i$ (nF)	$L_i$ ( $\mu$ H)
1 and 2	35	0	0

Outputs:

<i>Terminals</i>	$V_{oc} / U_o$ (V)	$I_o / I_{sc}$ (mA)	$P_o$ (mW)	$C_o / C_a$ ( $\mu$ F)	$L_o / L_a$ (mH)
3 – 7	7.6	13	24.7	Group A & B resp IIC 10.4	Group A & B resp IIC 236

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# SCHEDULE

US Certificate Of Conformity No: FM20US0092X

T-Code*	Tambient** without display	Tambient** with display
T4	$-50\text{ °C} \leq T_a \leq +85\text{ °C}$	$-40\text{ °C} \leq T_a \leq +85\text{ °C}$
T5	$-50\text{ °C} \leq T_a \leq +80\text{ °C}$	$-40\text{ °C} \leq T_a \leq +80\text{ °C}$
T6	$-50\text{ °C} \leq T_a \leq +70\text{ °C}$	$-40\text{ °C} \leq T_a \leq +70\text{ °C}$

### 13. Specific Conditions of Use:

*T82 Head and DINrail transmitter shall be installed in a tool secured enclosure in compliance with the mounting, spacing and segregation requirements of the ultimate application.*

### 14. Test and Assessment Procedure and Conditions:

This Certificate has been issued in accordance with FM Approvals US Certification Requirements.

### 15. Schedule Drawings

A copy of the technical documentation has been kept by FM Approvals.

### 16. Certificate History

Details of the supplements to this certificate are described below:

Date	Description
6 <sup>th</sup> August 2013	Original Issue.
8 <sup>th</sup> January 2021	<u>Supplement 1:</u> Report Reference: RR223767 dated 8 <sup>th</sup> January 2021. Description of the Change: Updated T82 with the latest editions of FM3610, FM3611, FM3810, ANSI/ISA 61010-1 and added ANSI/ISA 121201.

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