# **Rosemount**<sup>™</sup> 148 Temperature Transmitter





#### Safety messages

#### **NOTICE**

This guide provides basic guidelines for installing the Rosemount 148 Temperature Transmitter. It does not provide instructions for detailed configuration, diagnostics, maintenance, service, troubleshooting, or installations. Refer to the Rosemount 148 Temperature Transmitter Reference Manual for more instruction. The manual and this guide are also available electronically at Emerson.com/Rosemount.

#### WARNING

#### **Explosions**

Explosions could result in death or serious injury.

Installation of device in an explosive environment must be in accordance with appropriate local, national, and international standards, codes, and practices.

Review the Hazardous Locations Certifications for any restricions associated with a safe installation.

### **A WARNING**

#### Process leaks

Process leaks could result in death or serious injury.

Install and tighten thermowells or sensors before applying pressure.

Do not remove the thermowell while in operation.

### WARNING

#### **Electrical shock**

Electrical shock could cause death or serious injury.

Avoid contact with the leads and terminals. High voltage that may be present on leads can cause electrical shock.

### **A WARNING**

#### Conduit/cable entries

Unless marked, the conduit/cable entries in the transmitter housing use a  $\frac{1}{2}$ -14 NPT thread form. Entries marked "M20" are M20 X 1.5 thread form. On devices with multiple conduit entries, all entries have the same thread form.

Only use plugs, adapters, glands, or conduit with a compatible thread form when closing these entries.

When installing in a hazardous location, use only appropriately listed or Ex certified plugs, glands, or adapters in cable/conduit entries.

### **A WARNING**

#### **Physical access**

Unauthorized personnel may potentially cause significant damage to and/or misconfiguration of end users' equipment. This could be intentional or unintentional and needs to be protected against.

Physical security is an important part of any security program and fundamental in protecting your system. Restrict physical access by unauthorized personnel to protect end users' assets. This is true for all systems used within the facility.

#### **Contents**

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### 1 Software installation

#### **Procedure**

 Place the Rosemount 148 PC Programmer CD\_ROM into the drive.

- 2. Run setup.exe from Windows<sup>™</sup> XP, 7, 8, or 10.
- 3. When first using the software, configure the appropriate COM ports by selecting **Port Settings** from the *Communicate* menu.
- 4. Install MACTek® modem drivers completely before beginning bench configuration on the Rosemount 148 system.

#### Note

The software defaults to the first available COM port.

### **2** Configuration

### 2.1 Configuring the transmitter

The Rosemount 148 must be configured for certain basic variables to operate. Transmitters are pre-configured in the factory to order specifications or factory defaults. Configuration may be required if the transmitter is not configured or if the configuration variables need revision. This can be done in two ways: by ordering factory-configuration by Emerson Automation Solutions, or by using the Rosemount 148 PC Programming interface in a bench configuration setting. The Rosemount 148 PC Programming Kit includes configuration software and a communication modem. The Rosemount 148 device will need an external power supply of 12 to 42.4 Vdc for configuration. To configure the transmitter:

#### **Procedure**

- 1. Hook up the transmitter and a load resistor (250–1100 ohms) wired in series with the power supply.
- 2. Attach the modem in parallel with the load resistor and connect it to the PC.

### 2.2 Verify the transmitter configuration

If the transmitter has a sensor connected (either a test sensor or actual installation hardware), the configuration can be checked using the Information tab on the Rosemount 148 PC Programmer interface. Select **Refresh** to update the status and confirm that the transmitter has been configured correctly. For troubleshooting, refer to the Reference Manual.

### 3 Mounting the transmitter

### 3.1 Typical European and Asia Pacific installation

#### Head mount transmitter with DIN plate style sensor

#### **Procedure**

- Attach the thermowell to the pipe or process container wall. Install and tighten thermowells before applying process pressure.
- 2. Assemble the transmitter to the sensor.
  - a) Push the transmitter mounting screws through the sensor mounting plate.
- 3. Wire the sensor to the transmitter.
- 4. Insert the transmitter-sensor assembly into the connection head:
  - Thread the transmitter mounting screw into the connection head mounting holes.
  - b) Assemble the extension to the connection head.
  - c) Insert the assembly into the thermowell.
- 5. Slip the shielded cable through the cable gland.
- 6. Attach a cable gland into the shielded cable.
- 7. Insert the shielded cable leads into the connection head through the cable entry. Connect and tighten the cable gland.
- Connect the shielded power cable leads to the transmitter power terminals. Avoid contact with sensor leads and sensor connections.
- 9. Install and tighten the connection head cover.

### NOTICE

Enclosure covers must be fully engaged to meet explosionproof requirements.

### 3.2 Typical North and South American installation

Head mount transmitter with threaded sensor

#### **Procedure**

Attach the thermowell to the pipe or process container wall.
 Install and tighten the thermowell before applying the process pressure.

- Attach necessary extension nipples and adapters to the thermowell.
- 3. Seal the nipple and adapter threads with silicone tape.
- 4. Screw the sensor into the thermowell. If required, install drain seals for severe environments or to satisfy code requirements.
- 5. Pull the sensor wiring leads through the universal head and transmitter.
- Mount the transmitter in the universal head by threading the transmitter mounting screws into the universal head mounting holes.
- 7. Mount the transmitter-sensor assembly into the thermowell. Seal adapter threads with silicone tape.
- 8. Install conduit for field wiring to the conduit entry of the universal head. Seal conduit threads with silicone tape.
- Pull the field wiring leads through the conduit into the universal head.
- 10. Attach the sensor and power leads to the transmitter. Avoid contact with other terminals.
- 11. Install and tighten the universal head cover.

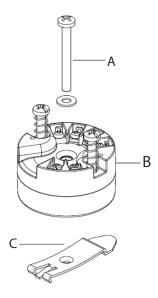
#### Note

Enclosure covers must be fully engaged to meet explosionproof requirements.

### 3.3 Mount to a DIN rail

To attach the Rosemount 148H to a DIN rail, assemble the appropriate rail mounting kit (part number 00248-1601-0001) to the transmitter as shown in Figure 3-1.

Figure 3-1: Mounting to DIN Rail



- A. Mounting hardware
- B. Transmitter
- C. Rail clip

### 3.4 Rail mount transmitter with remote mount sensor

The least complicated assembly uses:

- Integral mount sensor with terminal block
- Integral style connection head
- Remote mounted transmitter
- Standard extension
- Threaded thermowell

Refer to the Rosemount Sensor Product Data Sheet for complete sensor and mounting accessory information.

### 3.5 Rail mount transmitter with threaded sensor

The least complicated assembly uses:

- Threaded sensor connection head
- Threaded sensor with flying heads
- Threaded thermowell
- Union and nipple extension assembly

Refer to the Rosemount Sensor Product Data Sheet for complete sensor and mounting accessory information.

### 4 Connect the wiring

### 4.1 Diagrams and power

- Wiring diagrams are located on the top label of the transmitter.
- An external power supply is required to operate the transmitter.
- The power required across the transmitter power terminals is 12 to 42.4 Vdc (the power terminals are rated to 42.4 Vdc).

#### Note

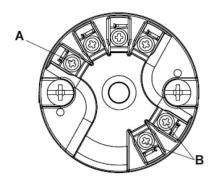
To prevent damaging the transmitter, do not allow terminal voltage to drop below 12.0 Vdc when changing the configuration parameters.

#### 4.2 Power the transmitter

#### **Procedure**

- 1. Connect the positive power lead to the "+" terminal.
- 2. Connect the negative power lead to the "-" terminal.
- 3. Tighten the terminal screws.
- 4. Apply power (12-42 Vdc).

Figure 4-1: Power, Communication, and Sensor Terminals



- A. Sensor terminals
- B. Power/communication terminals

### 4.3 Ground the transmitter

### Ungrounded thermocouple, mV, and RTD/Ohm inputs

Each process installation has different requirements for grounding. Use the grounding options recommended by the facility for the specific sensor type, or begin with grounding Option 1, which is the most common option.

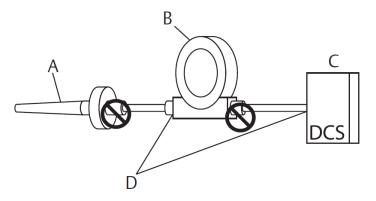
### 4.3.1 Ground the transmitter: Option 1

Use this method for grounded housing.

#### **Procedure**

- 1. Connect sensor wiring shield to the transmitter housing.
- 2. Ensure the sensor shield is electrically isolated from surrounding fixtures that may be grounded.
- 3. Ground signal wiring shield at the power supply end.

Figure 4-2: Option 1: Grounded Housing



- A. Sensor wires
- B. Transmitters
- C. DCS host system
- D. Shield ground point

### 4.3.2 Ground the transmitter: Option 2

Use this method for grounded housing.

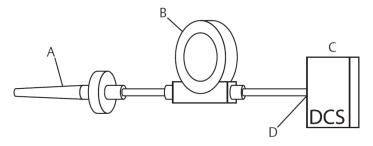
#### **Procedure**

1. Connect signal wiring shield to the sensor wiring shield.

2. Ensure the two shields are tied together and electrically isolated from the transmitter housing.

- 3. Ground shield at the power supply end only.
- 4. Ensure the sensor shield is electrically isolated from the surrounding grounded fixtures.

Figure 4-3: Option 2: Grounded Housing



- A. Sensor wires
- B. Transmitters
- C. DCS host system
- D. Shield ground point

### 4.3.3 Ground the transmitter: Option 3

Use this method for either grounded or ungrounded housing.

#### **Procedure**

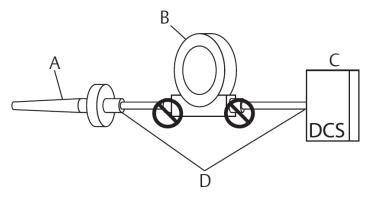
- 1. If possible, ground sensor wiring shield at the sensor.
- 2. Ensure that the sensor wiring and signal wiring shields are electrically isolated from the transmitter housing.

#### Note

Do not connect the signal wiring shield to the sensor wiring shield.

3. Ground the signal wiring shield at the power supply end.

Figure 4-4: Option 3: Grounded or Ungrounded Housing



- A. Sensor wires
- B. Transmitters
- C. DCS host system
- D. Shield ground point

### 4.3.4 Ground the transmitter: Option 4

Use this method for grounded thermocouple inputs.

#### **Procedure**

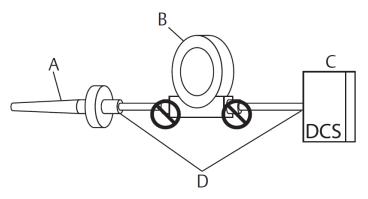
- 1. Ground sensor wiring shield at the sensor.
- 2. Ensure that the sensor wiring and signal wiring shields are electrically isolated from the transmitter housing.

#### Note

Do not connect the signal wiring shield to the sensor wiring shield.

3. Ground the signal wiring shield at the power supply end.

Figure 4-5: Option 4: Grounded Thermocouple Inputs



- A. Sensor wires
- B. Transmitters
- C. DCS host system
- D. Shield ground point

### 5 Product certifications

Rev 0.4

### 5.1 European Directive information

A copy of the EU Declaration of Conformity can be found at the end of the Quick Start Guide. The most recent revision of the EU Declaration of Conformity can be found at Emerson.com/Rosemount.

### 5.2 Ordinary location certification

As standard, the transmitter has been examined and tested to determine that the design meets the basic electrical, mechanical, and fire protection requirements by a Nationally Recognized Test Laboratory (NRTL), as accredited by the Federal Occupational Safety and Health Administration (OSHA).

### 5.3 North America

The US National Electrical Code® (NEC) and the Canadian Electrical Code (CEC) permit the use of Division marked equipment in Zones and Zone marked equipment in Divisions. The markings must be suitable for the area classification, gas, and temperature class. This information is clearly defined in the respective codes.

### 5.4 USA

### 5.4.1 E5 USA Explosion-proof and Dust-Ignitionproof

Certificate 1091070

**Standards** FM Class 3600-2011, FM Class 3611-2004, FM Class 3615-2006, FM 3616-2011, UL Std. No. 60079-0: Ed.6, UL

Std. No. 50E

Markings CL I/II/III, DIV 1, GP B, C, D, E, F, G; when installed per

Rosemount drawing 00644-1059; Type 4X; IP66/68

### 5.4.2 I5 USA Intrinsic Safety and Nonincendive

Certificate 1091070

**Standards** FM Class 3600-2011, FM Class 3610-2010, FM Class

3611-2004, UL Std. No. 60079-0: Ed.6, UL Std. No.

60079-11: Ed. 6, UL Std. No. 50E

Markings CL I/II/III, DIV 1, GP A, B, C, D, E, F, G; NI CL1, DIV 2,

GP A, B, C, D when installed per Rosemount drawing

00148-1056; Type 4X; IP66/68

#### 5.5 Canada

### 5.5.1 I6 Canada Intrinsically Safe

Certificate 1091070

**Standards** CAN/CSA C22.2 No. 0-10, CSA Std. C22.2 No. 25-1966,

CAN/CSA C22.2 No. 94-M91, CAN/CSA C22.2 No. 157-92, CSA C22.2 No. 213-M1987, CAN/CSA C22.2 No.

60079-11:14, C22.2 No 60529-05

Markings IS CL I, DIV 1 GP A, B, C, D when installed per Rosemount

drawing 00148-1056; CL I DIV 2 GP A, B, C, D; Type 4X;

IP66/68

#### 5.5.2 K6 Canada Intrinsically Safe, Explosionproof, and Division 2

Certificate 1091070

**Standards** CAN/CSA C22.2 No. 0-10, CSA Std. C22.2 No. 25-1966,

CSA Std. C22.2 No. 30-M1986, CAN/CSA C22.2 No. 94-M91, CSA Std. C22.2 No.142-M1987, CAN/CSA C22.2 No. 157-92, CSA C22.2 No. 213-M1987, CAN/CSA C22.2 No.

60079-11:14, C22.2 No 60529-05

Markings XP CL I/II/III, DIV 1, GP B, C, D, E, F, G when installed per

Rosemount drawing 00644-1059; IS CL I, DIV 1 GP A, B, C, D when installed per Rosemount drawing 00148-1056; CL I DIV 2 GP A, B, C, D; Type 4X, IP66/68; Conduit Seal

not required

### 5.6 Europe

### 5.6.1 E1 ATEX/UKEX Flameproof

ATEX Certificate DEKRA 19ATEX0076X

**UKEX Certificate** DEKRA 21UKEX0285X

**Standards** EN IEC 60079-0:2018, EN 60079-1:2014

Markings II 2 G Ex db IIC T6...T1 Gb, T6 (-60 °C  $\leq$  T<sub>a</sub>  $\leq$  +70

°C), T5...T1 (-60 °C  $\leq$  T<sub>a</sub>  $\leq$  +80 °C)

### Specific Conditions of Use (X):

1. Flameproof joints are not intended for repair.

Non-standard paint options may cause risk from electrostatic discharge. Avoid installations that cause electrostatic build-up on painted surfaces, and only clean the painted surfaces with a

damp cloth. If paint is ordered through a special option code, contact the manufacturer for more information.

# Additional Specific Conditions of Use (X) when "XA" designation is ordered:

1. Guard DIN Style sensors against impacts greater than 4J.

Process Temperature Range at Sensor Connection (°C) <sup>(1)</sup>	Ambient Temperature Range (°C)	Temperature Class
-60 °C to +70 °C	-60 °C to +80 °C	Т6
-60 °C to +80 °C	-60 °C to +80 °C	T5T1

(1) Sensor Connection is where the sensor threads into the transmitter or junction box housing.

### 5.6.2 I1 ATEX/UKEX Intrinsic Safety

ATEX Baseefa18ATEX0090X

Certificate

BAS21UKEX0696X

Certificate Standards

UKEX

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

Markings

☑ II 1 G Ex ia IIC T5/T6 Ga, T5 (-60 °C ≤  $T_a$  ≤ +80 °C),

T6 (-60 °C  $\leq$  T<sub>a</sub>  $\leq$  +60 °C)

See Tables at the end of the Product Certifications

section for Entity Parameters.

### Special Condition of Safe Use (X):

1. The equipment, if supplied without an enclosure, must be installed in an enclosure which affords it a degree of protection of at least IP20. Non-metallic enclosures must have a surface resistance of less than  $1G\Omega$ ; light alloy or zirconium enclosures must be protected from impact and friction if located in a Zone 0 environment.

#### 5.6.3 N1 ATEX/UKEX Zone 2 with enclosure

ATEX Certificate Baseefa18ATEX0091X

UKEX Certificate BAS21UKEX0703X

**Standards** EN IEC 60079-0:2018. EN 60079-15:2010

Markings  $\boxtimes$  II 3 G Ex nA IIC T5/T6 Gc, T5 (-60 °C  $\leq$  T<sub>a</sub>  $\leq$ 

+80°C), T6 (-60 °C  $\leq$  T<sub>a</sub>  $\leq$  +60 °C);

#### 5.6.4 NC ATEX/UKEX Zone 2 without enclosure

ATEX Certificate Baseefa18ATEX0091X

UKEX Certificate BAS21UKEX0703X

**Standards** EN IEC 60079-0:2018, EN 60079-15:2010

Markings II 3 G Ex nA IIC T5/T6 Gc, T5 (-60 °C  $\leq$  T<sub>a</sub>  $\leq$  +80

°C), T6 (-60 °C  $\leq$  T<sub>a</sub>  $\leq$  +60 °C);

#### Special Condition of Safe Use (X):

1. The equipment, if supplied without an enclosure, must be installed in a suitably certified enclosure such that it is afforded a degree of protection of at least IP54 in accordance with IEC 60529 and EN 60079-15 and be located in an area of pollution degree 2 or better as defined in IEC 60664-1.

### 5.6.5 ND ATEX/UKEX Dust-Ignitionproof

ATEX Certificate DEKRA 19ATEX0076X

UKEX Certificate DEKRA 21UKEX0285X

**Standards** EN IEC 60079-0:2018, EN 60079-31:2014

Markings II 2 D Ex tb IIIC T130 °C Db, (-60 °C  $\leq$  Ta  $\leq$  +80

°C) See Tables for process temperatures.

### Specific Conditions of Safe Use (X):

 Non-Standard Paint options may cause risk from electrostatic discharge. Avoid installations that cause electrostatic build-up on painted surfaces, and only clean the painted surfaces with a damp cloth. If paint is ordered through a special option code, contact the manufacturer for more information.

# Additional Specific Conditions of Use (X) when "XA" designation is ordered:

 The spring loaded adapter style sensors and DIN style sensors must be installed in a thermowell to maintain Ex tb protection.

Process Temperature Range at Sensor Connection <sup>(1)</sup> (°C)	Ambient Temperature Range (°C)	Maximum surface temperature "T"
-60 °C to +80 °C	-60 °C to +80 °C	T130 °C

(1) Sensor Connection is where the sensor threads into the transmitter or junction box housing.

#### 5.7 International

### 5.7.1 E7 IECEx Flameproof and Dust

Certificate IECEx DEK 19.0041X

**Standards** EC 60079-0:2017, IEC 60079-1:2014, IEC 60079-31:2013

Markings Ex db IIC T6...T1 Gb, T6 (-60 °C ≤  $T_a$  ≤ +70 °C), T5...T1 (-60 °C ≤  $T_a$  ≤ +80 °C); Ex tb IIIC T130°C Db, (-60 °C ≤  $T_a$  ≤ +80

°C) See Tables for process temperatures.

#### Specific Conditions of Safe Use (X):

- 1. Flameproof joints are not intended for repair.
- Non-standard paint options may cause risk from electrostatic discharge. Avoid installations that cause electrostatic build-up on painted surfaces, and only clean the painted surfaces with a damp cloth. If paint is ordered through a special option code, contact the manufacturer for more information.

# Additional Specific Conditions of Use (X) when "XA" designation is ordered:

- 1. Guard DIN Style sensors against impacts greater than 4J.
- 2. The spring loaded adapter style sensors and DIN style sensors must be installed in a thermowell to maintain Ex tb protection.

Process Temperature Range at Sensor Connection <sup>(1)</sup> (°C)	Ambient Temperature Range (°C)	Temperature Class / Maximum Surface Temperature "T"
-60 °C to +70 °C	-60 °C to +70 °C	Т6
-60 °C to +80 °C	-60 °C to +80 °C	T5T1
-60 °C to +80 °C	-60 °C to +80 °C	T 130 °C

(1) Sensor Connection is where the sensor threads into the transmitter or junction box housing.

### 5.7.2 I7 IECEx Intrinsic Safety

Certificate IECEx BAS 18.0062X

Standards IEC 60079-0:2017, IEC 60079-11:2011

**Markings** Ex ia IIC T5/T6 Ga, T5 (-60 °C  $\leq$  T<sub>a</sub>  $\leq$  +80 °C), T6 (-60 °C  $\leq$  T<sub>a</sub>

≤ +60 °C);

See Tables at the end of the Product Certifications

section for Entity Parameters.

#### **Special Condition of Safe Use (X):**

 The equipment, if supplied without an enclosure, must be installed in an enclosure which affords it a degree of protection of at least IP20. Non-metallic enclosures must have a surface resistance of less than 1GΩ; light alloy or zirconium enclosures must be protected from impact and friction if located in a Zone 0 environment.

#### 5.7.3 N7 IECEx Zone 2 with enclosure

Certificate IECEx BAS 18.0063X

Standards IEC 60079-0:2017, IEC 60079-15:2010

Markings Ex nA IIC T5/T6 Gc; T5 (-60 °C ≤  $T_a$  ≤ +80 °C), T6 (-60 °C ≤  $T_a$  ≤ +60 °C)

#### 5.7.4 NG IECEx Zone 2 without enclosure

Certificate IECEx BAS 18.0063X

Standards IEC 60079-0:2017, IEC 60079-15:2010

Markings Ex nA IIC T5/T6 Gc; T5 (-60 °C ≤  $T_a$  ≤ +80 °C), T6 (-60 °C ≤  $T_a$  ≤ +60 °C)

#### Special Condition of Safe Use (X):

 The equipment, if supplied without an enclosure, must be installed in a suitably certified enclosure such that it is afforded a degree of protection of at least IP54 in accordance with IEC 60529 and IEC 60079-15 and be located in an area of pollution degree 2 or better as defined in IEC 60664-1.

### 5.8 Brazil

### 5.8.1 I2 Brazil Intrinsic Safety

Certificate UL-BR 19.0202X

Standards ABNT NBR IEC 60079-0:2013, ABNT NBR IEC

60079-11:2013

Markings Ex ia IIC T5 Ga (-60 °C  $\leq$  Ta  $\leq$  +80 °C)

Ex ia IIC T6 Ga (-60 °C  $\leq$  Ta  $\leq$  +60 °C)

See Tables for Entity Parameters and Temperature

Classifications.

#### Special Condition of Safe Use (X):

1. The equipment, if supplied without an enclosure, must be installed in an enclosure which affords it a degree of protection of at least IP20. Non-metallic enclosures must have a surface resistance of less than  $1G\Omega$ ; light alloy or zirconium enclosures must be protected from impact and friction when installed if located in a Zone 0 environment (areas that required EPL Ga).

### 5.9 Combinations

K5 Combination of E5 and I5

#### 5.10 Tables

**Table 5-1: Process Temperatures** 

Temperat Ambient		Process Temperature w/o LCD Cover			
ure Class	e Class Temperature		3"	6"	9"
Т6	-58 °F - 104 °F (-50 °C - 40 °C)	131 °F (55 °C)	131 °F (55 °C)	140 °F (60 °C)	149 °F (65 °C)
T5	-58 °F - 140 °F (-50 °C - 60 °C)	158 °F (70 °C)	158 °F (70 °C)	158 °F (70 °C)	167 °F (75 °C)
T4	-58 °F - 140 °F (-50 °C - 60 °C)	212 °F (100 °C)	230 °F (110 °C)	248 °F (120 °C)	266 °F (130 °C)
T3	-58 °F - 140 °F (-50 °C - 60 °C)	338 °F (170 °C)	374 °F (190 °C)	392 °F (200 °C)	392 °F (200 °C)
T2	-58 °F - 140 °F (-50 °C - 60 °C)	536 °F (280 °C)	572 °F (300 °C)	572 °F (300 °C)	572 °F (300 °C)
T1	-58 °F - 140 °F (-50 °C - 60 °C)	824 °F (440 °C)	842 °F (450 °C)	842 °F (450 °C)	842 °F (450 °C)
T130 °C	-40 °F - 158 °F (-40 °C to 70 °C)	212 °F (100 °C)	230 °F (110 °C)	230 °F (110 °C)	248 °F (120 °C)

### **Table 5-2: Entity Parameters**

Parameters	Loop terminals + and -	Sensor terminals 1 to 4
Voltage U <sub>i</sub>	30 V	45 V
Current I <sub>i</sub>	130 mA	26 mA
Power P <sub>i</sub>	1 W	290 mW
Capacitance C <sub>i</sub>	3.6 nF	2.1 nF
Inductance L <sub>i</sub>	0 mH	0 μΗ

### 5.11 Declaration of conformity





### **EU Declaration of Conformity**

No: RMD 1133 Rev. B

We,

Rosemount Inc. 8200 Mark et Boulevard Chanhassen, MN 55317-9685 USA

declare under our sole responsibility that the product,

#### Rosemount™ 148H Temperature Transmitter

manufactured by,

Rosemount Inc. 8200 Market Boulevard Chanhassen, MIN 55317-9685 USA

to which this declaration relates, is in conformity with the provisions of the European Union Directives, including the latest amendments, as shown in the attached schedule.

Assumption of conformity is based on the application of the harmonized standards and, when applicable or required, a European Union notified body certification, as shown in the attached schedule.

(signature)
Chris LaPoint

(name)

Vice President of Global Quality

(function)

23-Mar-20; Shakopee, MN USA (date of issue & place)

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### **EU Declaration of Conformity**

No: RMD 1133 Rev. B

#### EMC Directive (2014/30/EU)

Rosemount [Model Number & Description]

Harmonized Standards: EN61326-1:2013, EN61326-2-3:2013

#### ATEX Directive (2014/34/EU)

Rosemount 148 Temperature Transmitter

#### Baseefal 8ATEX0090X - Intrinsic Safety Certificate

Equipment Group II, Category 1 G Ex ia IIC 75/T6 Ga Harmonized Standards: EN IEC 60079-0: 2018, EN 60079-11: 2012

#### Baseefal8ATEX0091X - Zone 2 Certificate

Equipment Group II, Category 3 G Ex nA IIC T5/T6 Gc Harmonized Standards: EN IEC 60079-0: 2018, EN 60079-15: 2010

#### $FM12\,ATEX0065X-Flame proof\,C\,ertific\,ate$

Equipment Group II, Čategory 2 G Ex db IIC T6...T1 Gb Harmonized Standards: EN60079-0:2012+A11:2013, EN60079-1:2014

#### FM12ATEX0065X - Dust Certificate

Equipment Group II, Category 2 D Ex tb IIIC T130°C Db Harmonized Standards: EN60079-0 20 12+A 11:2013, EN60079-31:2014

#### RoHS Directive (2011/65/EU)

Harmonized Standard: EN 50581:2012

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### **EU Declaration of Conformity**

No: RMD 1133 Rev. B

#### ATEX Notified Bodies

**FM Approvals Europe Limited** [Notified Body Number: 2809] One Georges Quay Plaza Dublin, Ireland. D02 E440

SGS FIMKO OY [Notified Body Number: 0598] P.O. Box 30 (Sarkmiementie 3) 00211 HELSINKI Finland

#### ATEX Notified Body for Quality Assurance

SGS FIMKO OY [Notified Body Number: 0598] P.O. Box 30 (Sarkiniementie 3) 00211 HELSINKI Finland

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April 2024

### 5.12 RoHS

危害物质成分表 00079-2000, Rev AB 罗斯蒙特产品型号 **148** 7/1/2016

#### 含有 China RoHS 管控物质超过最大浓度限值的部件型号列表 148 List of 148 Parts with China RoHS Concentration above MCVs

	有害物质 / Hazardous Substances					
部件名称 Part Name	铅 Lead (Pb)	汞 Mercury (Hg)	镉 Cadmium (Cd)	六价铬 Hexavalent Chromium (Cr +6)	多溴联苯 Polybrominated biphenyls (PBB)	多溴联苯醚 Polybrominated diphenyl ethers (PBDE)
电子组件 Electronics Assembly	х	0	0	0	0	0
壳体组件 Housing Assembly	0	0	0	Х	0	0
传感器组件 Sensor Assembly	X	0	0	0	0	0

本表格系依据 SJ/T11364 的规定而制作.

This table is proposed in accordance with the provision of SJ/T11364.

- O: 意为该部件的所有均质材料中该有害物质的含量均低于 GB/T 26572 所规定的限量要求.
- O: Indicate that said hazardous substance in all of the homogeneous materials for this part is below the limit requirement of GB/T 26572.
- X: 意为在该部件所使用的所有均质材料里,至少有一类均质材料中该有害物质的含量高于GB/T 26572 所規定的限量要求
- X: Indicate that said hazardous substance contained in at least one of the homogeneous materials used for this part is above the limit requirement of GB/T 26572.

部件名称 Part Name	组装备件说明 Spare Parts Descriptions for Assemblies
电子组件 Electronics Assembly	电子线路板组件 Electronic Board Assemblies 端子块组件 Terminal Block Assemblies
壳体组件 Housing Assembly	电子外壳 Electrical Housing



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