

Rosemount™ 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 restrictions associated with a safe installation.

⚠ 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.

⚠ WARNING

Conduit/cable entries

Unless marked, the conduit/cable entries in the transmitter housing use a 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.

⚠ 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 to protecting your system. Restrict physical access by unauthorized personnel to protect end users' assets. This is true for all systems used within the facility.

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1 Software installation

Procedure

1. Place the Rosemount 148 PC Programmer CD_ROM into the drive.
2. Run setup.exe from Windows™ 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 12–42.4 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. If there are any problems, refer to the [Reference Manual](#) for troubleshooting suggestions.

3 Mount the transmitter

3.1 Typical European and Asia Pacific installation

Head mount transmitter with DIN plate style sensor

Procedure

1. 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.
 - a) 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.
8. 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. Enclosure covers must be fully engaged to meet explosion-proof requirements.

3.2 Typical North and South American installation

Head mount transmitter with threaded sensor

Procedure

1. Attach the thermowell to the pipe or process container wall. Install and tighten the thermowell before applying process pressure.
2. Attach necessary extension nipples and adapters to the thermowell.
3. Seal the nipple and adapter threads with silicone tape.

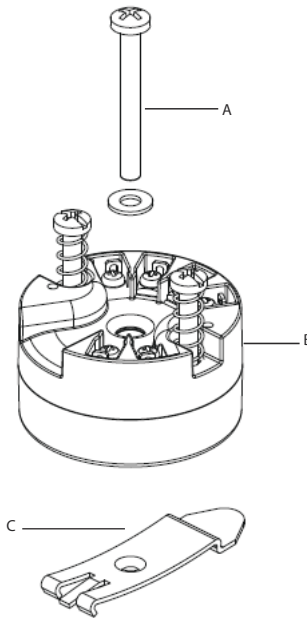
4. Screw the sensor into the thermowell. Install drain seals if required for severe environments or to satisfy code requirements.
5. Pull the sensor wiring leads through the universal head and transmitter.
6. Mount the transmitter in the universal head by threading the transmitter mounting screws into 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.
9. 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 explosion-proof requirements.

3.3 Mount to a DIN rail

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

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:

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

Refer to the [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 with flying heads
- Threaded sensor connection head
- Union and nipple extension assembly
- Threaded thermowell

Refer to 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

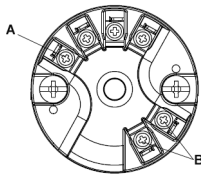
To prevent damaging the transmitter, do not allow terminal voltage to drop below 12.0 Vdc when changing the configuration parameters.

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 (the most common).

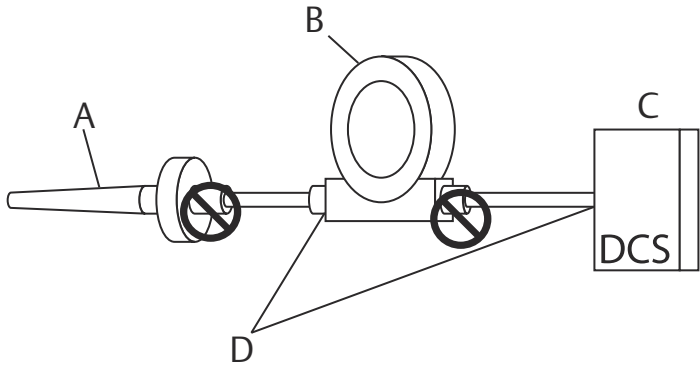
4.3.1 Ground the transmitter: Option 1

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



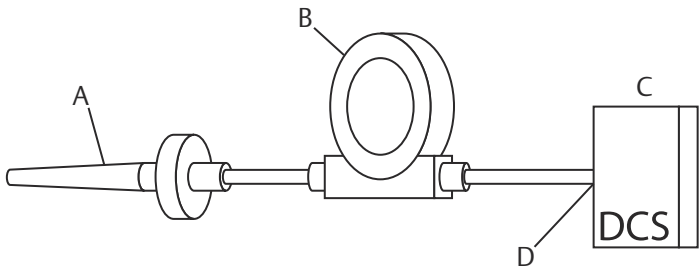
- A. Sensor wires
- B. Transmitters
- C. DCS host system
- D. Shield ground point

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*

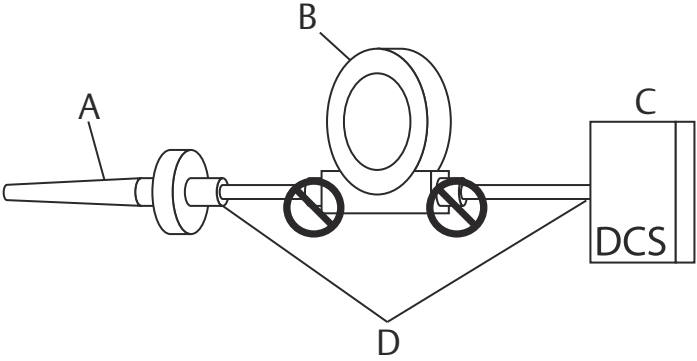
4.3.3 Ground the transmitter: Option 3

Use this method for grounded or ungrounded housing.

Procedure

1. Ground sensor wiring shield at the sensor, if possible.
2. Ensure that the sensor wiring and signal wiring shields are electrically isolated from the transmitter housing.
Do not connect the signal wiring shield to the sensor wiring shield.
3. Ground 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

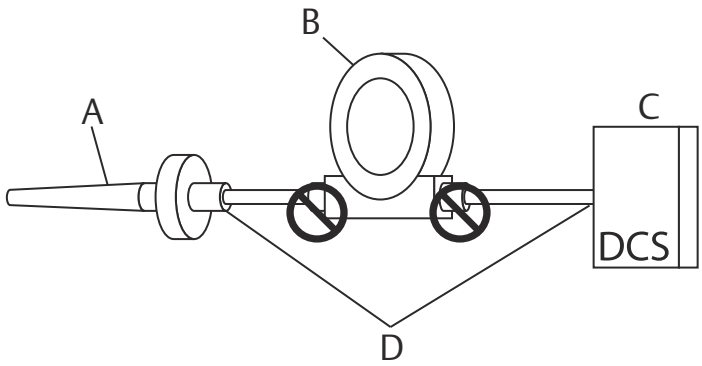
4.3.4 Ground the transmitter: Option 4

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.
Do not connect the signal wiring shield to the sensor wiring shield.
3. Ground 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 1.13

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 Explosionproof and Dust-Ignitionproof

Certificate	1091070
Standards used	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 Intrinsic Safety and Nonincendive

Certificate	1091070
Standards used	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 used	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 CSA Intrinsically Safe, Explosionproof, and Division 2

Certificate	1091070
Standards used	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, 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 Flameproof


Certificate	FM12ATEX0065X
Standards used	EN 60079-0: 2012+A11:2013, EN 60079-1: 2014, EN 60529:1991 +A1:2000 + A2:2013
Markings	 II 2 G Ex db IIC T6...T1 Gb, T6(-50 °C ≤ T _a ≤ +40 °C), T5...T1(-50 °C ≤ T _a ≤ +60 °C); see Table 5-1 for process temperatures.

Specific Conditions of Safe Use (X):

1. See certificate for ambient temperature range.
2. The non-metallic label may store an electrostatic charge and become a source of ignition in Group III environments.
3. Guard the LCD display cover against impact energies greater than four joules.

4. Flameproof joints are not intended for repair.
5. A suitable certified Ex d or Ex tb enclosure is required to be connected to temperature probes with Enclosure option "N".
6. Care shall be taken by the end user to ensure that the external surface temperature on the equipment and the neck of DIN Style Sensor probe does not exceed 266 °F (130 °C).
7. Non-standard paint options may cause risk of 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.


5.6.2 I1 ATEX Intrinsic Safety

Certificate	Baseefa18ATEX0090X
Standards used	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 ≤ T _a ≤ +60 °C). See Table 5-2 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 1 GΩ; light alloy or zirconium enclosures must be protected from impact and friction if located in a Zone 0 environment.

5.6.3 N1 ATEX Zone 2 - with enclosure

Certificate	Baseefa18ATEX0091X
Standards used	EN IEC 60079-0:2018, EN 60079-15:2010
Markings	 II 3 G Ex nA IIC T5/T6 Gc, T5(-60 °C ≤ T _a ≤ +80 °C), T6(-60 °C ≤ T _a ≤ +60 °C);

5.6.4 NC ATEX Zone 2 - without enclosure

Certificate	Baseefa18ATEX0091X
Standards used	EN IEC 60079-0:2018, EN 60079-15:2010
Markings	 II 3 G 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):

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 Dust-Ignitionproof

Certificate FM12ATEX0065X

Standards used EN 60079-0: 2012+A11:2013, EN 60079-31:2014, EN 60529:1991 +A1:2000 + A2:2013

Markings  II 2 D Ex tb IIIC T130 °C Db, (-40 °C ≤ T_a ≤ +70 °C);
IP66
See [Table 5-1](#) for process temperatures.

Specific Conditions of Safe Use (X):

1. See certificate for ambient temperature range.
2. The non-metallic label may store an electrostatic charge and become a source of ignition in Group III environments.
3. Guard the LCD display cover against impact energies greater than four joules.
4. Flameproof joints are not intended for repair.
5. A suitable certified Ex d or Ex tb enclosure is required to be connected to temperature probes with Enclosure option "N".
6. Care shall be taken by the end user to ensure that the external surface temperature on the equipment and the neck of DIN Style Sensor probe does not exceed 266 °F (130 °C).
7. Non-standard paint options may cause risk of 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.

5.7 International**5.7.1 E7 IECEx Flameproof**

Certificate IECEx FMG 12.0022X

Standards used IEC 60079-0:2011, IEC 60079-1:2014-06, IEC 60079-31:2013

Markings Ex db IIC T6...T1 Gb, T6(-50 °C ≤ T_a ≤ +40 °C), T5...T1(-50 °C ≤ T_a ≤ +60 °C);
Ex tb IIIC T130 °C Db, (-40 °C ≤ T_a ≤ +70 °C); IP66
See [Table 5-1](#) for process temperatures.

Specific Conditions of Safe Use (X):

1. See certificate for ambient temperature range.
2. The non-metallic label may store an electrostatic charge and become a source of ignition in Group III environments.
3. Guard the LCD display cover against impact energies greater than four joules.
4. Flameproof joints are not intended for repair.
5. A suitable certified Ex d or Ex tb enclosure is required to be connected to temperature probes with Enclosure option "N".
6. Care shall be taken by the end user to ensure that the external surface temperature on the equipment and the neck of DIN Style Sensor probe does not exceed 266 °F (130 °C).
7. Non-standard paint options may cause risk of 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.

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 ≤ T_a ≤ +80 °C), T6(-60 °C ≤ T_a ≤ +60 °C)
See [Table 5-2](#) 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 1 GΩ; 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 Type n - 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):

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 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 ≤ T_a ≤ +80 °C); Ex ia IIC T6 Ga (-60 °C ≤ T_a ≤ +60 °C)
See [Table 5-2](#) 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 1GΩ; light alloy or zirconium enclosures must be protected from impact and friction 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

Temperature class	Ambient temperatures	Process temperature without LCD display cover (°C)			
		No ext.	3-in.	6-in.	9-in.
T6	-50 °C to +40 °C	55	55	60	65
T5	-50 °C to +60 °C	70	70	70	75
T4	-50 °C to +60 °C	100	110	120	130
T3	-50 °C to +60 °C	170	190	200	200
T2	-50 °C to +60 °C	280	300	300	300
T1	-50 °C to +60 °C	440	450	450	450
T130 °C	-40 °C to +70 °C	100	110	110	120

Table 5-2: Entity Parameters

	Loop terminals + and -	Sensor terminals 1 to 4
Voltage U_i	30 V	30 V
Current I_i	266 mA	26 mA
Power P_i	1 W	191 mW
Capacitance C_i	0 nF	1.54 nF
Inductance L_i	0 mH	0 μ H

5.11 Declaration of conformity

	
<p>EU Declaration of Conformity No: RMD 1133 Rev. B</p>	
<p>We,</p> <p style="margin-left: 40px;">Rosemount Inc. 8200 Market Boulevard Chanhassen, MN 55317-9685 USA</p> <p>declare under our sole responsibility that the product,</p> <p style="text-align: center;">Rosemount™ 148H Temperature Transmitter</p> <p>manufactured by,</p> <p style="margin-left: 40px;">Rosemount Inc. 8200 Market Boulevard Chanhassen, MN 55317-9685 USA</p> <p>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.</p> <p>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.</p>	
 <hr style="width: 100%;"/> <p>(signature)</p>	<p>Vice President of Global Quality (function)</p> <hr style="width: 100%;"/>
<p>Chris LaPoint (name)</p> <hr style="width: 100%;"/>	<p>23-Mar-20, Shakopee, MN USA (date of issue & place)</p> <hr style="width: 100%;"/>
<p>Page 1 of 3</p>	



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

Baseefal8ATEX0090X – Intrinsic Safety Certificate

Equipment Group II, Category 1 G

Ex ia IIC T5/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

FM12ATEX0065X – Flameproof Certificate

Equipment Group II, Category 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 IIC T130°C Db

Harmonized Standards:

EN60079-0:2012+A11:2013, EN60079-31:2014

RoHS Directive (2011/65/EU)

Harmonized Standard:

EN 50581:2012



EU Declaration of Conformity

No: RMD 1133 Rev. B

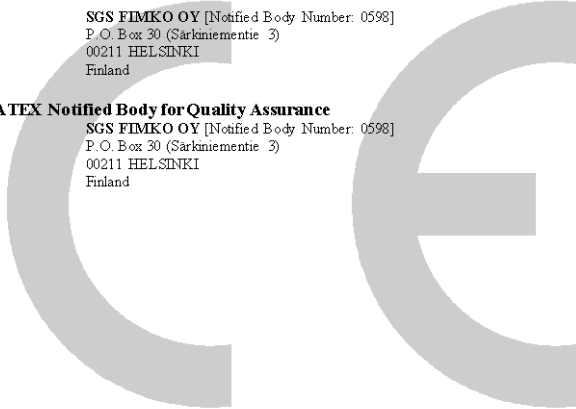
ATEX Notified Bodies

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 (Sarkniementie 3)
00211 HELSINKI
Finland

A TEX Notified Body for Quality Assurance

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



5.12 RoHS

有害物质成分表
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

部件名称 Part Name	有害物质 / Hazardous Substances					
	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	X	○	○	○	○	○
壳体组件 Housing Assembly	○	○	○	X	○	○
传感器组件 Sensor Assembly	X	○	○	○	○	○

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.

○: 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 所规定的限量要求。

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



Global Headquarters

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