For Additional Product Information:

If QR code is not affixed here, product documents can be located by entering your product's S/N into the search tool (magnifier icon) at the top of the webpage found at www.emerson.com



Rosemount[™] 3144S Temperature Transmitter

with HART[®] Protocol and Rosemount X-well[™] Technology





1 About this guide

This guide provides basic guidelines for installing the Rosemount 3144S Temperature Transmitter.

It does not provide instructions for detailed configuration, diagnostics, maintenance, service, troubleshooting, explosion-proof, flameproof, or intrinsically safe (IS) installations. Refer to the *Rosemount 3144S Temperature Transmitter Manual* (available on Emerson.com).

A WARNING

For personal and system safety and for optimum product performance, ensure that you thoroughly read and understand all Emerson product literature, including manuals and quick start quides, before installing, using, or maintaining this device.

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 *Product certifications* section of this document for any restrictions associated with a safe installation.

When cover is removed, protect the interior of the transmitter from external contamination exceeding that of a Pollution Degree 2 environment.

Conduit/cable entries

The conduit/cable entries in the transmitter housing use a ½-14 NPT thread form.

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

Electrical shock

Electrical shock can result in death or serious injury.

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

Enclosures

Enclosure covers must be fully engaged to meet explosion-proof requirements.

Physical access

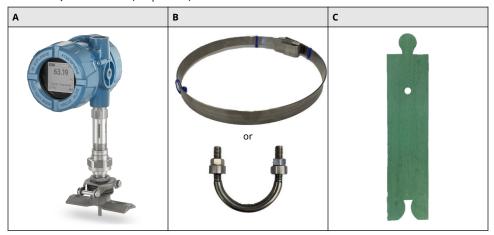
Unauthorized personnel may potentially cause significant damage to and/or misconfiguration of end users' equipment. This could be intentional or unintentional and needs to be protected against.

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.

2 In the box

Figure 2-1: In the Box, Standard Range Configuration

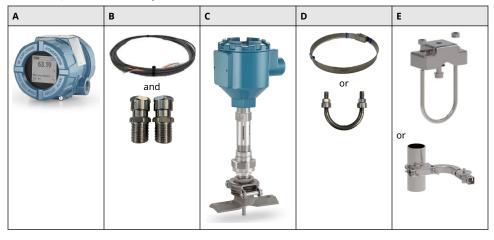
Quick Start Guide (not pictured) also included in box.



- A. Rosemount 3144S Temperature Transmitter with Rosemount X-well* Technology, standard range sensor, and Universal (shown) or Small Pipe Mount
- B. Banding (Universal Pipe Mount) or U-bolt (Small Pipe Mount)
- C. Corrosion protection inlay (if applicable)

Figure 2-2: In the Box, Extended Range Configuration

Quick Start Guide (not pictured) also included in box.



- A. 3144S Temperature Transmitter with X-well Technology
- B. Remote mount cable and cable glands
- C. Connection head, extended range sensor, and Universal (shown) or Small Pipe Mount
- D. Banding (Universal Pipe Mount) or U-bolt (Small Pipe Mount)
- E. Mounting bracket

3 Verify configuration and set the switches

3.1 Verify configuration

Using a HART® field communicator or communication device, Emerson recommends verifying various configuration parameters prior to installing the transmitter into the process:

When ordered with C1 custom software configuration option code, Emerson pre-configures Rosemount X-well Technology's software for specific pipe characteristics at the factory. If ordered without C1 option code or when installing on a pipe that is different from specified, you must reconfigure the device, or it will not perform as specified. For configuration instructions refer to the Rosemount 3144S Temperature Transmitter Manual.

- Alarm and Saturation Levels
- Damping
- Variable Mapping
- · Range Values
- Tag
- Units

Refer to the *Rosemount 3144S Temperature Transmitter Manual* (available on <u>Emerson.com</u>) for complete configuration instructions.

NOTICE

Emerson recommends installing the latest device driver (DD) to ensure full functionality. Download the latest DD at Software & Drivers available on Emerson.com.

Procedure

- Set alarm and saturation values: Device Settings → Setup Overview → Alarm and Saturation Values
- 2. Set damping: **Device Settings** → **Output** → **Measurement 1 or 2**

If Measurement 1 or Measurement 2 is the primary variable, the damping can be changed using: $\textbf{Device Settings} \rightarrow \textbf{Setup Overview} \rightarrow \textbf{Output}$

- 3. Set variable mapping.
 - Primary variable: Device Settings → Setup Overview → Output
 - Secondary/tertiary/quaternary variables: Device Settings → Communication → HART
 → Variable Mapping
- 4. Set range values: **Device Settings** → **Setup Overview** → **Output**
- 5. Set tag: **Device Settings** → **Setup Overview** → **Device**
- 6. Set units: **Device Settings** → **Setup** → **Measurement 1 or 2**

3.2 Wireless configuration via Bluetooth® technology

3.2.1 Download AMS Device Configurator

Procedure

Download and install the AMS Device Configurator from your preferred app store.

If this is your first time opening AMS Device Configurator, than you may be asked to allow the application to access media on your device and to access your device's location. If prompted, select **Allow**. See <u>Bluetooth® Connectivity for Field Instrumentation</u> available on <u>Emerson.com</u>.

3.2.2 Configure via Bluetooth® wireless technology

Bluetooth wireless technology enables faster commissioning and improved ease of use.

Procedure

1. Launch AMS Device Configurator.

See AMS Device Configurator for Emerson Field Devices available on Emerson.com.

- 2. Select the device you want to connect to.
- 3. On first connection, enter the key for this device.
- 4. At the top left, click the menu icon to navigate the desired device menu.
- 5. Verify and configure according to the parameters.

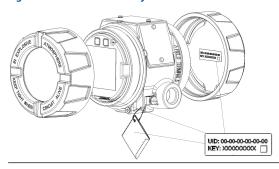
3.2.3 Bluetooth® unique identifier (**UID**) and **Key**

The **UID** is the identification number unique to the Bluetooth radio on the device.

The **UID** will be advertised when Bluetooth functionality is enabled on the output board. The **Key** is the required passkey to access the device. The information is only available in the tags located as shown in <u>Figure 3-1</u>. Emerson does not retain copies of this information. You can find the **UID** and **Key** in the following locations:

- Disposable paper tag attached to the device
- Label inside the terminal block cover
- Label on the display unit

Figure 3-1: Bluetooth Security Information



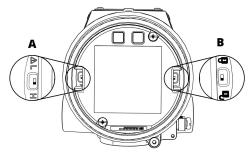
3.3 Set the switches

The Rosemount 3144S Temperature Transmitter comes with hardware switches to configure alarms and lock the device. The default for the **Alarm** switch is High, and the default for the **Security** switch is Off.

Procedure

- 1. Set the loop to Manual (if applicable) and disconnect the power.
- 2. Remove the electronics (LCD side) housing cover.
- 3. Verify the **Alarm** and **Security** switches are set to the desired position. Reset if necessary.
- 4. Reattach housing cover.
- 5. Apply power and set the loop to Automatic Control.

Figure 3-2: Switches



- A. High/Low Alarm switch
- B. Security switch

4 Installation

4.1 Technology considerations

Rosemount X-well Technology is for temperature monitoring applications and is not intended for control or custody transfer.

X-well Technology will only work as specified with factory-supplied and assembled pipe mount sensors available through the Rosemount 3144S, 3144P, and 648 Temperature Transmitters or Rosemount 214XW Temperature Sensor. It will not work as specified with other sensors.

NOTICE

Installing and using the incorrect sensor will result in inaccurate process temperature calculations.

It is important that you adhere to the following requirements and installation steps to ensure X-well Technology works as specified.

4.2 Installation considerations

Follow pipe mount sensor installation best practices as well as the specific Rosemount X-well™ Technology requirements noted below:

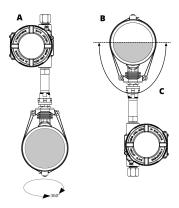
- Ensure that the pipe surface is clean of debris. When using Extended Range sensor, smooth pipe mount surface with 800 grit sandpaper to remove any oxidation, paint, or coatings.
- Install the assembly away from dynamic external temperature sources, such as a boiler or heat tracing.
- Mount the sensor on the outside section of the pipe where the process medium is in contact with the inside of the pipe wall. Avoid mounting sensor over vapor space.
- Mount the pipe mount in a secure position to ensure there is no rotational movement after installation.
- Ensure the pipe mount sensor makes direct contact with the pipe surface. Moisture buildup between the sensor and the pipe surface can cause inaccurate process temperature calculations.

4.2.1 Horizontal orientation

Emerson recommends mounting the pipe mount sensor on the upper half of the pipe.

Only consider bottom mounting when there is partial pipe flow in order to maintain accurate measurement.

Figure 4-1: Horizontal Orientation

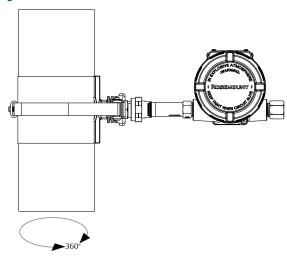


- A. Full pipe flow
- B. Partial pipe flow
- C. Recommended zone

4.2.2 Vertical orientation

The pipe clamp sensor can be installed in any position around the circumference of the pipe.

Figure 4-2: Vertical Orientation



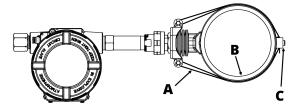
4.2.3 Standard range/direct mount configuration

For Rosemount X-well[™] Technology to properly function with the Standard Range sensor, it is necessary to directly mount the transmitter on a pipe mount sensor.

Direct mount configurations are limited to process temperatures between -58 and +572 $^{\circ}$ F (-50 and +300 $^{\circ}$ C).

Figure 4-3 displays a transmitter/pipe mount assembly that is in a direct mount configuration.

Figure 4-3: Pipe Mount Assembly in Direct Mount Configuration



- A. Banding
- B. Pipe
- C. Buckle and screw

Insulation at least $\frac{1}{2}$ in. (13 mm) thick (with R-value of > 0.42 m² x K/W) is required over the sensor mount assembly and the sensor extension to prevent heat loss and ensure accurate measurement. When using the Standard Range sensor, insulation should cover the entire sensor extension, up to the transmitter head. Apply a minimum of 6 in. (152 mm) of insulation on each side of the pipe mount sensor. Take care to minimize air gaps between insulation and pipe.

Figure 4-4: Insulation Requirements for Direct Mount/Standard Range Configuration



NOTICE

Over-insulation

Do not apply insulation over the transmitter head, as this may result in longer response times and may damage the transmitter electronics.

4.2.4 Extended range/remote mount configuration

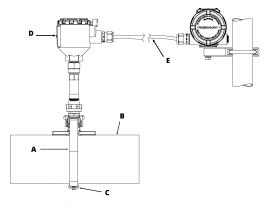
Emerson requires remote mounting the transmitter from the pipe mount sensor when using Rosemount X-well[™] Technology with the Extended Range sensor.

NOTICE

Failure to remote mount with an Extended Range sensor may lead to transmitter head overheating and electronics failure.

Figure 4-5 displays a transmitter/pipe mount assembly that is in a remote mount configuration.

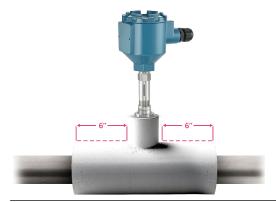
Figure 4-5: Remote Mount Configuration



- A. Banding
- B. Pipe
- C. Buckle and screw
- D. Connection head
- E. Remote mount cable

Insulation at least ½ in. (13 mm) thick (with R-value of $> 0.42 \text{ m}^2 \times \text{K/W}$) is required over the sensor mount assembly and the sensor extension to prevent heat loss. When using the Extended Range sensor, insulation should cover the nipple union of the extension. Apply a minimum of 6 in. (152 mm) of insulation on each side of the pipe mount sensor. Take care to minimize air gaps between insulation and pipe.

Figure 4-6: Insulation Requirements for Remote Mount/Extended Range Configuration



NOTICE

Over-insulation

Do not apply insulation above the union, as this may result in damage to sensor components due to overheating.

4.3 Installation instructions

Follow the installation instructions based on the type of mounting hardware (Universal or Small Pipe Mount) specified with your Rosemount X-well device.

4.3.1 Install Universal Pipe Mount

Prerequisites

The tools required for installation are:

- Hand-crank banding tensioner tool
- 4 mm Allen wrench
- 1 1/16-inch or 27 mm open-ended wrench

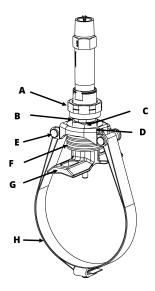


Universal Pipe Mount installation video

A CAUTION

Emerson recommends wearing safety glasses and gloves during this process.

Figure 4-7: Universal Pipe Mount Component Overview



- A. Union
- B. Threaded stem
- C. Tension nut
- D. Tensioner plate
- E. Removable tension rods
- F. Springs
- G. Mount foot
- H. Banding and buckle

Procedure

1. Place mount and banding on pipe.

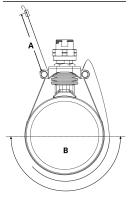
Loosen collar to remove mount assembly from transmitter and sensor.

Place the mount foot onto the pipe surface; then run the banding around the pipe and through the inside of the tensioner plate, making sure that the **screw side of the buckle is facing inward**, as shown.



2. Install banding loosely.

Bend the banding down around the rods of the tensioner plate. The end of the band with the buckle attached should be bent at a length that allows the buckle to sit near the bottom side of the pipe, opposite to the mount assembly. Acceptable location for the buckle is anywhere on the lower half of the pipe, opposite to the mount. The buckle must not fall within the distance between the tensioner plate and the pipe.





- A. Slack length
- B. Ideal buckle location

Due to limited surface area of small pipes, it can be challenging to judge the amount of banding slack length required to land the buckle on bottom side of pipe. For these small pipes, refer to the following tables for suggested slack length from buckle to bend over rod based on line size.

Table 4-1: Slack Length (English)

Pipe size	Length to first bend (A)
2 in.	4.7 in.
2.5 in.	5.5 in.
3 in.	6.2 in.

Table 4-1: Slack Length (English) (continued)

Pipe size	Length to first bend (A)
4 in.	7.5 in.
5 in.	9 in.
6 in.	10.6 in.
8 in.	13.6 in.
10 in.	16.7 in.

Table 4-2: Slack Length (Metric)

Pipe size	Length to first bend (A)
DN50	120 mm
DN65	140 mm
DN80	157 mm
DN100	192 mm
DN125	228 mm
DN150	254 mm
DN200	346 mm
DN250	424 mm

3. Temporarily secure banding.

Wrap the free end of the band around the pipe and through the buckle. Fold back loose end at least 90° to temporarily secure the band in place. Then pull the banding snug and bend it so that it is perpendicular to the pipe.



4. Prepare banding for tensioning.

Place banding within tensioner tool. Place nose of tensioner tool against the buckle, and slide banding into tool.

Note

The position of the mount assembly may be moved after the banding has been tensioned, so the mount does not need to be in the final position during this step. Emerson recommends that the mount be positioned to allow for the most ergonomic use of the tensioner tool for this step.



5. Tension banding and mount.

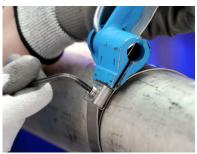
Turn the crank on the tensioner tool to tighten the banding.

This will slowly compress the tensioner plate and spring.

Tighten the banding until the tension nut can be moved freely.

6. Lock banding and tighten buckle.

Using a 4 mm Allen wrench, tighten the set screw on the buckle to lock the banding in place.



7. Remove tension tool.

Once the banding is secured, reduce tension on the tensioner tool by spinning the crank counter-clockwise and remove the tool. Then bend the loose end of the banding over top of the buckle.

Note

Emerson recommends leaving enough length of banding to allow for re-tensioning of the banding if ever necessary. If you choose to trim any excess banding, be sure to remove any sharp edges or burrs.



8. Final positioning.

With the banding tensioned, the mount assembly may now be moved to its desired location.

Using a 1 1/16-inch or a 27 mm open-ended wrench, turn the tension nut clockwise on the threaded stem until it contacts the tensioner plate.

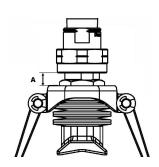
Continue to tighten the tension nut to compress the springs until the banding loses tension and the mount may be freely moved around the pipe.



9. Finalize installation location and tension.

Once the Universal Pipe Mount is in its desired position, loosen the tension nut to decompress the spring to return tension to the banding. When loosening, return the tension nut to the top of the threaded stem.





A. Tension plate to bottom of union stem

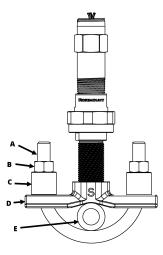
If the Universal Pipe Mount is properly installed, the distance from bottom of union stem head to top of tension plate should be set at 0.47 in. (±0.01 in.) or 11.9 mm (±0.25 mm).

For instructions on uninstalling and reinstalling the Universal Pipe Mount, refer to ${\underline{\sf Rosemount}}$ 3144S Temperature Transmitter Manual.

4.3.2 Install Small Pipe Mount



Figure 4-8: Small Pipe Mount Component Overview



- A. U-bolt
- B. Nut
- C. Spacer (shown) or washer
- D. Mount foot
- E. Pipe

Procedure

- Place the mount foot assembly on the pipe with the slots running perpendicular to the pipe.
- 2. Insert U-bolt around the pipe and through the slots.
 - Emerson ships all Small Pipe Mounts with two short washers and two tall spacers. For installation on line sizes ½-inch (DN15) to 1-inch (DN25), use only the spacers. For line sizes 1¼-inch (DN32) to 1½-inch (DN40), use only the washers.
- 3. Place first washer/spacer through threads of U-bolt to sit on top of foot mount assembly; then loosely tighten nut onto the same U-bolt thread.
- 4. Repeat step 3 for other side of U-bolt.
- 5. Incrementally tighten the nuts in an alternating manner until assembly sits squarely against the pipe.
- 6. Install transmitter and sensor assembly into foot mount assembly. During sensor installation, stabilize the Small Pipe Mount by placing 1%-inch (29 mm) wrench on the flats of the foot mount. Ensure sensor passes through hole of mount foot and has direct contact between the sensor tip and pipe.

5 Wiring and powering

5.1 Verify Rosemount X-well[™] sensor wiring

Wiring diagrams are located inside the terminal block cover. Emerson ships X-well assemblies from the factory pre-wired. Verify the sensor wiring matches the expected configuration (standard or extended range).

For installations using the Rosemount 3144S Transmitter without X-well Technology, refer to the Rosemount 3144S Temperature Transmitter Quick Start Guide.

Figure 5-1: Single Sensor Wiring

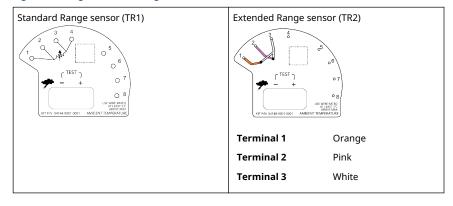
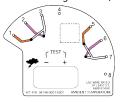


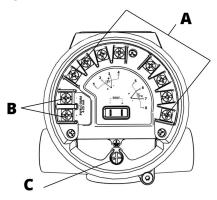
Figure 5-2: Dual Sensor Wiring

Extended Range sensor (TR2)



Terminal 1	Orange	
Terminal 2	Pink	
Terminal 3	White	
Terminal 5	Orange	
Terminal 6	Pink	
Terminal 7	White	

Figure 5-3: Transmitter Terminals



- A. Sensor terminals (1-8)
- B. Power terminals
- C. Ground

An external power supply is required to operate the transmitter.

Procedure

- 1. Remove the terminal block cover.
- 2. Connect the positive power lead to the "+" terminal.
- 3. Connect the negative power lead to the "-" terminal
- 4. Tighten the terminal screws.
- 5. Reattach and tighten the cover.
- 6. Apply power from external source.

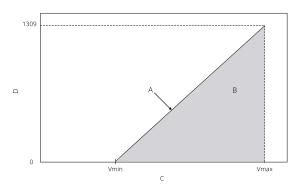
5.3 Load limitations

The voltage required across the transmitter power terminals is dependent on loop resistance and product performance class (as listed in the model structure).

The voltage input range is 11.5 (V_{min}) to 42.4 Vdc (V_{max}) for Classic Performance (see Figure 5-4). The voltage input range is 16.7 (V_{min}) to 42.4 Vdc (V_{max}) for Ultra Performance (see <u>Figure 5-5</u>).

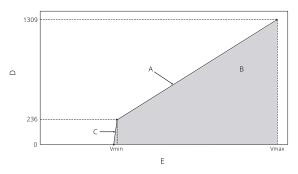
The combinations of power supply voltage and total loop resistance must be within the operating regions shown in the figures. At least 250 Ohms of resistance in the loop are required for reliable HART® communication.

Figure 5-4: Classic Performance



- A. Load line 1
- B. Operating region
- C. Power supply voltage (V)
- D. Loop resistance (ohms)

Figure 5-5: Ultra Performance



- A. Load line 1 (> 236 ohms): Supply voltage = (loop resistance * 0.0236) + 11.5 V
- B. Operating region
- C. Load line 2 (< 236 ohms): Supply voltage = (loop resistance *0.0016) + 16.7 V
- D. Loop resistance (ohms)
- E. Power supply voltage (V)

6 Grounding

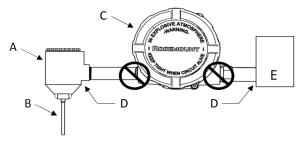
Each process installation has different requirements for grounding. Use the grounding option recommended by the facility for the specific sensor type or begin with grounding option 1 (the most common).

Refer to the *Rosemount 3144S Temperature Transmitter Manual* (available on <u>Emerson.com</u>) for additional grounding options.

6.1 Grounding option 1

Emerson recommends this option for ungrounded transmitter housing.

Figure 6-1: Grounding Option 1



- A. Remote sensor housing
- B. Sensor
- C. Transmitter
- D. Shield ground points
- E. Distributed control system (DCS)

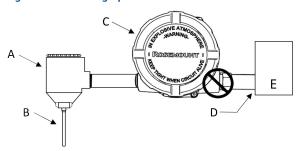
Procedure

- 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.

6.2 Grounding option 2

Emerson recommends this option for grounded transmitter housing.

Figure 6-2: Grounding Option 2



- A. Remote transmitter housing
- B. Sensor
- C. Transmitter
- D. Shield ground point
- E. Distributed control system (DCS)

Procedure

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

7 Loop test

You can perform a loop test with the **Quick Service** buttons or AMS Device Configurator.

Refer to the *Rosemount 3144S Temperature Transmitter Manual* (available on <u>Emerson.com</u>) for complete details.

8 Safety Instrumented Systems (SIS)

For safety certified installations, refer to the *Rosemount 3144S Safety Manual* (available on Emerson.com).

9 Rosemount 3144S Temperature Transmitter Product Certifications

9.1 European directive information – CE

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.

9.2 USA — Federal Communications Commission (FCC)

This device complies with Part 15 of the FCC rules. Operation is subject to the following conditions:

- This device may not cause harmful interference; this device must accept any interference received, including interference that may cause undesired operation.
- This device must be installed to ensure a minimum antenna separation distance of 7.9 in. (20 cm) from all persons.

Changes or modification to the equipment not expressly approved by Emerson could void the user's authority to operate the equipment.

9.3 Canada — Innovation, Science, and Economic Development Canada (ISED)

This device contains license-exempt transmitter(s)/receiver(s) that comply with Innovation, Science, and Economic Development Canada's license exempt RSS(s). Operation is subject to the following two conditions:

- This device may not cause interference.
- This device must accept any interference, including interference that may cause undesired
 operation of the device.

Note

Changes or modification to the equipment not expressly approved by Emerson could void the user's authority to operate the equipment.

L'émetteur/récepteur exempt de licence contenu dans le present appareil est conforme aux CNR d'Innovation, Sciences et Développement économique Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes:

- · L'appareil ne doit pas produire de brouillage;
- L'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

Note

Les changements ou les modifications apportés à l'équipement qui n'est pas expressément approuvé par Emerson pourraient annuler l'autorité de l'utilisateur à utiliser cet équipement.

9.4 Taiwan — National Communications Commission (NCC)

取得審驗證明之低功率射頻器材,非經核准,公司、商號或使 用者均不得擅自變更頻率、加大功率或變更原設計之特性及功能。低功率射 頻器材之 使用不得影響飛航安全及干擾合法通信;經發現有干擾現象時,應立即停用,並改善至無干擾時方得繼續使用。前述合法通信,指依電信管理 法規 定作業之無線電通信。低功率射頻器材須忍受合法通信或工業、科學及 醫療用電波輻射性電機設備之干擾。

9.5 Thailand — Office of National Broadcasting and Telecommunications Commission (NBTC)

เครื่องโทรคมนาคมและอปกรณ์นี้มีความสอดคล้องตามมาตรฐานหรือข้อกำหนดทางเทคนิค ของ กสทช

9.6 Japan — Ministry of Internal Affairs and Communications (MIC)

当該機器には電波法に基づく、技術基準適合証明等を受けた特定無線設備を装着している。

9.7 Brazil — Anatel

Este equipamento não tem direito à proteção contra interferência prejudicial e não pode causar interferência em sistemas devidamente autorizados.

9.8 Mexico — Agencia de Transformación Digital y Telecomunicaciones (ATDT)

La operación de este equipo está sujeta a las siguientes dos condiciones:

- 1. Es posible que este equipo o dispositivo no cause interferencia perjudicial y
- 2. Este equipo o dispositivo debe aceptar cualquier interferencia, incluyendo la que pueda causar su operación no deseada.

9.9 Ordinary location certification

The Rosemount 3144S has been examined and tested to determine that the design meets the basic electrical, mechanical, and fire protection requirements by one or more test laboratories, accredited as follows:

- As a Nationally Recognized Test Laboratory (NRTL) by the U.S. Federal Occupational Safety and Health Administration (OSHA).
- As a part of the Certification Body Accreditation Program (CBAP) by the Standards Council of Canada (SCC).

9.10 Nominal operating parameters

- Permanently connected equipment
- Overvoltage category II
- Pollution dearee 4
- Enclosure IP 66/68
- Enclosure Type 4X
- Wet location

Environmental conditions

- Altitude: 9,842.5 ft. (3,000 m) maximum
- 0 to 100 percent relative humidity (RH)
- Ambient temperature range: -76 to +185 °F (-60 to +85 °C)
- Atmospheric temperature range: 80 kPa (0.8 bar) to 110 kPa (1.1 bar)

4-20 mA HART® output (A)

Electrical supply requirements - 4-20 mA HART output:

Voltage (V_{MAX}) = 11.5 to 42.4 Vdc

Current $(I_{MAX}) = 24 \text{ mA}$

Power $(P_{MAX}) = 1.018 W$

9.11 North America

9.11.1 I5 USA Intrinsic Safety (IS), Nonincendive (NI)

Certificate FM25US0059X

Markings IS CL I GP ABCD T4

IS CL I ZN 0 AEx ia IIC T4 Ga

NI CL I DIV 2 GP ABCD T4

T4 (-60 °C \leq T_a \leq +70 °C) INSTALL PER 04148-1003 SEAL NOT REQUIRED

Specific Conditions of Use:

- The enclosure may be made from aluminum alloy with a protective polyurethane paint finish. Care should be taken to protect it from impact or abrasion when located in a Zone 0 area.
- 2. When fitted with the transient suppression electronics option (T1), the equipment is not capable of passing the 500 V insulation test. This must be considered during installation.
- 3. Installation of the transmitter shall be limited to Overvoltage Category II.

9.11.2 E5 USA Explosion-proof (XP)

Certificate FM24US0275X

Markings Class I, Division 1, Groups B, C, D; T5

Zone 1 AEx db IIC T6...T1 Gb T6 (-50 °C \leq T_a \leq +70 °C) T5...T1 (-50 °C \leq T_a \leq +85 °C)

IP66, IP68, Type 4X SEAL NOT REQUIRED

Specific Conditions of Use:

- 1. For Ex ta, the Rosemount 3144S must be connected to supply with a short circuit rating no more than 1.5 kA.
- 2. Flameproof joints are not intended for repair.
- 3. The applicable temperature class, maximum surface temperature, ambient temperature range, and process temperature range of the equipment is as follows.

Temperature class/maximum surface temperature	Ambient temperature range (°C)
Т6	-50 to +70
T5T1	-50 to +85

4. Appropriate cable, glands, and conduit seals need to be suitable for a temperature of 5 °C greater than the maximum specified ambient temperature for location where installed. Refer to temperature tables for various ambient and process temperature ranges.

9.11.3 I6 Canada Intrinsic Safety (IS), Nonincendive (NI)

Certificate FM25CA0028X

Markings IS CL I GP ABCD T4

IS CL II GP EFG; CL III T4

Ex ia IIC T4 Ga

NI CL I DIV 2 GP ABCD T4 T4 (-60 °C \leq Ta \leq +70 °C) INSTALL PER 04148-1003

TYPE 4X

SEAL NOT REQUIRED

AVERTISSEMENT - DANS UNE ATMOSPHÈRE EXPLOSIBLE GARDER BIEN FERME

LORSQUE LE CIRCUIT EST SOUS TENSION

Specific Conditions of Use:

- 1. The enclosure may be made from aluminum alloy with a protective polyurethane paint finish. Care should be taken to protect it from impact or abrasion when located in a Zone 0 area.
- 2. When fitted with the transient suppression electronics option (T1), the equipment is not capable of passing the 500 V insulation test. This must be considered during installation.
- 3. Installation of the transmitter shall be limited to Overvoltage Category II.

9.11.4 E6 Canada Explosion-Proof

Certificate FM24CA0072X

Markings Class I, Division 1, Groups B, C, D; T5

Ex db IIC T6...T1 Gb

T6 (-50 °C ≤ Ta ≤ +70 °C)

T5...T1 (-50 °C ≤ Ta ≤ +85 °C)

IP66, IP68, TYPE 4X

SEAL NOT REQUIRED

AVERTISSEMENT - DANS UNE ATMOSPHÈRE EXPLOSIBLE GARDER BIEN FERME LORSQUE LE CIRCUIT EST SOUS TENSION

Specific Conditions of Use:

- 1. For Ex ta, the Rosemount 3144S must be connected to supply with a short circuit rating no more than 1.5 kA.
- 2. Flameproof joints are not intended for repair.
- The applicable temperature class, maximum surface temperature, ambient temperature range, and process temperature range of the equipment is as follows.

Temperature class/maximum surface temperature	Ambient temperature range (°C)
Т6	-50 to +70
T5T1	-50 to +85

4. Appropriate cable, glands, and conduit seals need to be suitable for a temperature of 5 °C greater than the maximum specified ambient temperature for location where installed. Refer to temperature tables for various ambient and process temperature ranges.

9.12 Europe

9.12.1 I1 ATEX Intrinsic Safety (Ex ia)

EU-Type certificate FM25ATEX00011X

T4 (-60 °C \leq T_a \leq +70 °C)

SEE CERTIFICATE

Specific Conditions of Use:

- The enclosure may be made from aluminum alloy with a protective polyurethane paint finish. Care should be taken to protect it from impact or abrasion when located in a Zone 0 area.
- 2. When fitted with the transient suppression electronics option (T1), the equipment is not capable of passing the 500 V insulation test. This must be considered during installation.
- 3. Installation of the transmitter shall be limited to Overvoltage Category II.
- 4. Non-standard paint options may cause risk from electrostatic discharge. Avoid installations that could 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.

9.12.2 E1 ATEX Flameproof

Certificate FM24ATEX0038X

Markings 🖾 II 2 G Ex db IIC T6...T1 Gb

T6 (-60 °C \leq T_a \leq +70 °C) T5...T1 (-60 °C \leq T_a \leq +80 °C)

IP66, IP68 (rated 20 meters for 168 hours)

Specific Conditions of Use:

- 1. For Ex ta, the Rosemount 3144S must be connected to supply with a short circuit rating no more than 1.5 kA.
- 2. Flameproof joints are not intended to be repaired.
- 3. The applicable temperature class, maximum surface temperature, ambient temperature range, and process temperature range of the equipment is as follows:

Temperature class/maximum surface temperature	Ambient temperature range (°C)
Т6	-60 to +70
T5T1	-60 to +80

- 4. Appropriate cable, glands, and conduit seals need to be suitable for a temperature of 5 °C greater than the maximum specified ambient temperature for location where installed. Refer to temperature tables for various ambient and process temperature ranges.
- 5. Non-standard paint options may cause risk from electrostatic discharge. Avoid installations that could 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.

9.12.3 I7 IECEx Intrinsic Safety (IS), Increased Safety (Zone 2 / Ex ec)

Certificate IECEx FMG 25.0013X

Markings Ex ia IIC T4 Ga

T4 (-60 °C \leq T_a \leq +70 °C)

Ex ec IIC T4 Gc

T4 (-60 °C \leq T_a \leq +70 °C)

Specific Conditions of Use:

- The enclosure may be made from aluminum alloy with a protective polyurethane paint finish. Care should be taken to protect it from impact or abrasion when located in a Zone 0 area.
- 2. When fitted with the transient suppression electronics option (T1), the equipment is not capable of passing the 500 V insulation test. This must be considered during installation.
- 3. Installation of the transmitter shall be limited to Overvoltage Category II.
- 4. Non-standard paint options may cause risk from electrostatic discharge. Avoid installations that could 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.

9.12.4 E7 IECEx Flameproof

Certificate IECEx FMG 24.0042X

Markings Ex db IIC T6...T1 Gb

T6 (-60 °C \leq T_a \leq +70 °C) T5...T1 (-60 °C \leq T_a \leq +80 °C)

IP66, IP68

Specific Conditions of Use:

- 1. For Ex ta, the Rosemount 3144S must be connected to supply with a short circuit rating no more than 1.5 kA.
- 2. Flameproof joints are not intended to be repaired.
- 3. The applicable temperature class, maximum surface temperature, ambient temperature range, and process temperature range of the equipment is as follows:

Temperature class/maximum surface temperature	Ambient temperature range (°C)
Т6	-60 to +70
T5T1	-60 to +80

- 4. Appropriate cable, glands, and conduit seals need to be suitable for a temperature of 5 °C greater than the maximum specified ambient temperature for location where installed. Refer to temperature tables for various ambient and process temperature ranges.
- 5. Non-standard paint options may cause risk from electrostatic discharge. Avoid installations that could 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.

9.13 Combinations

K1	Combination of E1 and I1
K5	Combination of E5 and I5
К6	Combination of E6 and I6
K7	Combination of E7 and I7
KS	Combination of K1, K5, K6, and K7

9.14 Y3 ATEX/IECEx RFID tag approvals

A WARNING

Additional warnings

The plastic enclosure may present a potential electrostatic ignition hazard.

RFID tag is suitable for installation in a limited set of Zone classified locations and ambient temperature ranges when compared to the transmitter.

Certificate EPS 15 ATEX 11011X

II 2D Ex ia IIIC T80 ℃/T130 ℃ Db

Certificate IECEx EPS 15.0042X

Ex ia IIIC T80 °C/T130 °C Db

Ex ia IIC T6/T4 Gb

Special Conditions of Use (X):

Markings

1. Maximum ambient temperature range:

-55 °C to +80 °C (T6 / T80 °C) -55 °C to +110 °C (T4 / T130 °C)

- 2. The RFID tags shall never be exposed to high electromagnetic field strengths exceeding RMS values of 1 A/m or 3 V/m, e.g., in high current electrolysis plants.
- Electrostatic charges shall be avoided. The tags shall never be used next to strong charge generating processes.

9.15 Declaration of Conformity



EU DECLARATION OF CONFORMITY



This declaration of conformity is issued under the sole responsibility of

Rosemount Inc.

6021 Innovation Blvd Shakopee, MN 55379

USA

that the following products,

RosemountTM 3144S Series Temperature Transmitters

comply with the provisions of the European Union Directives, including the latest amendments, valid at the time this declaration was signed.

Scoten La /8,2045 Mark Lee | Vice President, Quality | Boulder, CO, USA (signature & date of issue) (function) (place of issue)

Authorized Representative in Europe: Emerson S.R.L., company No. J12/88/2006 Emerson 4 street, Parcul Industrial Tetarom II, Cluj-Napoca 400638, Romania

Regulatory Compliance Shared Services Department

Email: europeproductcompliance@emerson.com Phone: +40 374 132 035

ATEX Notified Bodies for EU Type Examination Certificates: FM Approvals Europe Limited [Notified Body Number: 2809] Element 78, Ground Floor Block A, One Georges Quay Plaza, Dublin 2 D02 E440

ATEX Notified Body for Quality Assurance: SGS Fimko Oy [Notified Body Number: 0598] Takomotie 8 FI-00380 Helsinki Finland

Ireland



EU DECLARATION OF CONFORMITY



EMC Directive (2014/30/EU)

Harmonized Standards: EN 61326-1:2013 EN 61326-2-3:2013

Other Standards: EN 301 489-1 V2.2.3 EN 301 489-17 V3.2.4

RoHS Directive (2011/65/EU)

Harmonized Standards: EN IEC 63000:2018

Radio Equipment Directive (RED) (2014/53/EU)

Harmonized Standards: EN 18031-1:2024 EN 300 328 V2.2.2

Other Standards: EN 62311:2020

ATEX Directive (2014/34/EU)

EU-Type Examination Certificate: FM25ATEX0011X Equipment protection by intrinsic safety "i" Equipment Group II, Category 1 G Ex ia IIC T4 Ga

Harmonized Standards: EN IEC 60079-0:2018+A11:2024 EN 60079-11:2012

Type Examination Certificate: FM25ATEX0012X Equipment protection by increased safety "e" Equipment Group II, Category 3 G Ex ec IIC T5 Ge

Harmonized Standards: EN IEC 60079-0:2018+A11:2024 EN IEC 60079-7:2015+A1:2018

EU-Type Examination Certificate: FM24ATEX0038X Equipment protection by flameproof enclosure "d" Equipment Group II, Category 2 G Ex db IIC T6...Tl Gb

Harmonized Standards: EN IEC 60079-0:2018+A11:2024 EN 60079-1:2014+A11:2024

EU-Type Examination Certificate: FM24ATEX0038X Equipment dust ignition protection by enclosure "t" Equipment Group II, Category 1 D Ex ta IIIC T₂₀₀110°C Da

Harmonized Standards: EN IEC 60079-0:2018+A11:2024 EN 60079-31:2014

含有 China RoHS 管控物质超过最大浓度限值的部件型号列表 3144S List of 3144S 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	×	0	0	0	0	0
壳体组件 Housing Assembly	0	0	0	0	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 所规定的限量要
- 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 LCD 或带快速服务按组的 LCD LCD or LCD with Quick Start Buttons		
壳体组件 Housing Assembly	电子外壳 Electrical Housing		
传感器组件 Sensor Assembly	传感器组件 Sensor Assembly		

10 Rosemount X-well hardware (214XW) product certifications

10.1 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/global.

10.2 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).

10.3 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.

10.4 North America

10.4.1 E5 USA Explosion-proof

Certificate CSA15CA70044744X

Markings XP CL I, DIV 1, GP B, C, and D

T6 (-50 °C \leq T_a \leq +80 °C), T5 (-50 °C \leq T_a \leq +95 °C)

XP CL I, Zone 1, AEx db IIC T6...T1 Gb

T6...T1 (See <u>Table 10-3</u>)

Type 4x; Seal not required; install per Rosemount 00214-1030

V_{max} 35 Vdc, 750 mW_{max}

Special Conditions of Use (X):

1. Flameproof joints are not intended to be repaired.

- Non-standard paint options may cause risk from electrostatic discharge. Avoid installations that could 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.
- When provided on their own, adapter style sensors must be assembled to a suitable Ex db enclosure with a free internal volume no greater than 33.6 in.³ (550 cm³).
- 4. See instructions for relation between process temperature, ambient temperature, and temperature class/maximum surface temperature "T".

10.4.2 I5 USA Intrinsic Safety

Certificate CSA15CA70044744X

Markings IS CL I, DIV 1, GP A, B, C, and D

CL 1, Zone 0, AEx ia IIC T5/T6 Ga Type 4x: Install per *00214-1020*.

See <u>Table 10-1</u> and <u>Table 10-2</u> for entity parameters.

NI CL I, DIV 2, GP A, B, C, and D

T6 (-50 °C \leq T_a \leq +80 °C); T5 (-50 °C \leq T_a \leq +95 °C) Type 4x; Install per Rosemount *00214-1030*.

V_{max} 35 Vdc, 750 mW_{max}

Special Condition of Use (X):

 The equipment must be installed in an enclosure which affords it a degree of ingress protection of at least IP20.

10.4.3 E6 Canada Explosion-proof

Certificate CSA15CA70044744X

Markings XP CL I, DIV 1, GP B, C, and D

T6 (-50 °C \leq T_a \leq +80 °C), T5 (-50 °C \leq T_a \leq +95 °C)

XP Ex db IIC T6...T1 Gb T6...T1 (See <u>Table 10-3</u>)

Type 4x; Seal not required; install per Rosemount 00214-1030

V_{max} 35 Vdc, 750 mW_{max}

Special Conditions of Use (X):

- 1. Flameproof joints are not intended to be repaired.
- Non-standard paint options may cause risk from electrostatic discharge. Avoid installations that could 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.

- 3. When provided on their own, adapter style sensors must be assembled to a suitable Ex db enclosure with a free internal volume no greater than 33.6 in.³ (550 cm³).
- 4. See instructions for relation between process temperature, ambient temperature, and temperature class/maximum surface temperature "T".

10.4.4 I6 Canada Intrinsic Safety

Certificate CSA15CA70044744X

Markings IS CL I, DIV 1, GP A, B, C, and D

Ex ia IIC T5/T6 Ga

When installed per Rosemount 00214-1020

See Table 10-1 and Table 10-2 for entity parameters.

NI CL I, DIV 2, GP A, B, C, and D

T6 (-50 °C \leq T_a \leq +80 °C); T5 (-50 °C \leq T_a \leq +95 °C) Type 4x; Install per Rosemount 00214-1030.

V_{max} 35 Vdc, 750 mWmax

Special Condition of Use (X):

1. The equipment must be installed in an enclosure which affords it a degree of ingress protection of at least IP20.

10.5 Europe

10.5.1 E1 ATEX Flameproof

Certificate Dekra 19ATEX0076X

T6...T1 (see Table 10-3)

Special Conditions of Use (X):

- 1. Flameproof joints are not intended to be repaired.
- Non-standard paint options may cause risk from electrostatic discharge. Avoid installations that could 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.
- 3. When provided on their own, adapter style sensors must be assembled to a suitable Ex db enclosure with a free internal volume no greater than 39.7 in.³ (650 cm³).
- 4. See instructions for relation between process temperature, ambient temperature, and temperature class/maximum surface temperature "T".

10.5.2 I1 ATEX Intrinsic Safety

Certificate Baseefa 16ATEX0101X

See Table 10-1 and Table 10-2 for entity parameters.

Special Conditions of Use (X):

- 1. The equipment must be installed in an enclosure which affords it a degree of ingress protection of at least IP20.
- 2. The equipment has T_{amb} with special range mentioned in product description.

10.6 International

10.6.1 E7 IECEX Flameproof

Certificate IECEx Dek 19.0041X

Markings Ex db IIC T6...T1 Gb

T6...T1 (see <u>Table 10-3</u>)

Special Conditions of Use (X):

- 1. Flameproof joints are not intended to be repaired.
- Non-standard paint options may cause risk from electrostatic discharge. Avoid
 installations that could 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.
- 3. When provided on their own, the adapter style sensors must be assembled to a suitable Ex db enclosure with a free internal volume no greater than 39.7 in.³ (650 cm³).
- 4. See instructions for relation between process temperature, ambient temperature, and temperature class/maximum surface temperature "T".

10.6.2 I7 IECEx Intrinsic Safety

Certificate IECEx BAS 16.0077X

Markings Ex ia IIC T5/T6 Ga

See <u>Table 10-1</u> and <u>Table 10-2</u> for entity parameters.

Special Condition of Use (X):

1. The equipment must be installed in an enclosure which affords it a degree of ingress protection of at least IP20.

Table 10-1: Specifications

Ui	60 V
Ii	100 mA
Pi	See <u>Table 10-2</u> .
Ci	75 pF
Li	600 nH
Uo	100 mV (thermocouple [T/C])
Io	50 mW (T/C)
Ро	25 mW (T/C)

Table 10-2: Temperature Ranges

Thermocouples; Pi = 500 mW	T6 (-60 °C ≤ Ta ≤ +70 °C)
RTDs; Pi - 192 mW	T6 (-60 °C ≤ Ta ≤ +70 °C)
RTDs; Pi = 290 mW	T6 (-60 °C ≤ Ta ≤ +60 °C) T5 (-60 °C ≤ Ta ≤ +70 °C)

Table 10-3: Temperature Class

Process temperature range (°C)	Ambient temperature range (°C)	Temperature class
-60 °C to +80 °C	-60 °C to +80 °C	Т6
-60 °C to +95 °C	-60 °C to +80 °C	T5
-60 °C to +130 °C	-60 °C to +80 °C	T4
-60 °C to +195 °C	-60 °C to +80 °C	T3
-60 °C to +290 °C	-60 °C to +80 °C	T2
-60 °C to +440 °C	-60 °C to +80 °C	T1

10.7 Additional codes

K5 Combination of E5 and I5
 K6 Combination of E6 and I6
 K1 Combination of E1 and I1
 K7 Combination of E7 and I7

10.8 Declaration of Conformity



EU DECLARATION OF CONFORMITY



This declaration of conformity, issued under the sole responsibility of

Rosemount Inc.

6021 Innovation Blvd Shakopee, MN 55379

states that the

RosemountTM Model 85, 214C, and 214XW Temperature Sensors

complies with the provisions of the European Union Directives, including the latest amendments, valid at the time this declaration was signed.

Oct 24, 2025 Mark Lee | Vice President, Quality | Boulder, CO, USA (name) (function) (place of issue)

Authorized Representative in Europe: Emerson S.R.L., company No. J12/88/2006 Emerson 4 street, Parcul Industrial Tetarom II, Cluj-Napoca 400638, Romania

Regulatory Compliance Shared Services Department

Email: europeproductcompliance@emerson.com Phone: +40 374 132 035

 ${\bf ATEX\ Notified\ Bodies\ for\ EU\ Type\ Examination\ Certificates:} \\ {\bf DEKRA\ Certification\ B.V.\ [Notified\ Body\ Number:\ 0344]}$

Meander 1051, P.O. Box 5185, 6825 MJ ARNHEM Retherlands Petherlands Petherlands

SGS Fimko Oy [Notified Body Number: 0598]

Takomotie 8 FI-00380 Helsinki Finland

ATEX Notified Body for Quality Assurance: SGS Fimko Oy [Notified Body Number: 0598]

Takomotie 8 FI-00380 Helsinki Finland



EU DECLARATION OF CONFORMITY



EMC Directive (2014/30/EU)

Harmonized Standards: EN 61326-1:2013 EN 61326-2-3:2013

RoHS Directive (2011/65/EU)

Harmonized Standards: EN IEC 63000:2018

ATEX Directive (2014/34/EU)

EU-Type Examination Certificate: Baseefal6ATEX0101X

Equipment protection by intrinsic safety "i" Equipment Group II Category 1 G

Ex ia IIC T5/T6 Ga

Harmonized Standards:

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

EU-Type Examination Certificate: DEKRA 19ATEX0076X Equipment protection by flameproof enclosure "d"

Equipment Group II Category 2 G Ex db IIC T6...T1 Gb

Equipment dust ignition protection by enclosure "t" Equipment Group II Category 2 D

Ex tb IIIC T130°C Db

Harmonized Standards:

EN IEC 60079-0: 2018

EN 60079-1: 2014

EN 60079-31: 2014

Ex tb markings do not apply to Models 85 and 214XW

Type Examination Certificate: BAS00ATEX3145

Equipment protection by type of protection "n"

Equipment Group II, Category 3 G Ex nA IIC T5 Gc

Equipment protection by increased safety "e"

Equipment Group II Category 3 G

Ex ec IIC T5 Gc

Harmonized Standards: EN IEC 60079-0:2018

EN IEC 60079-7:2015+A1:2018

EN 60079-15:2010

Ex nA and Ex ec markings do not apply to Models 85 and

214XW

10.9 China RoHS

含有China RoHS 管控物质超过最大浓度限值的部件型号列表 214XW Rosemount X-well™ Technology Spare Parts List of 214XW Rosemount X-well™ Technology Spare 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)
壳体组件 Housing Assembly	x	0	0	0	0	0
传感器组件 Sensor Assembly	0	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.

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	组装备件说明
Part Name	Spare Parts Descriptions for Assemblies
壳体组件 Housing Assembly	电子外壳 Electrical Housing

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所规定的限量要求.



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