



Product Alert for Yokogawa Process Analyzers Europe BV Inductive Conductivity Sensors

June 11th, 2024

Type of Notification: Performance/Safety Related Concern

FM Approvals has been made aware by Yokogawa Process Analyzers (YPA) Europe BV that they had identified a manufacturing defect resulting in a deviation from the Approved product design for the intrinsically safe ISC40S Inductive Conductivity Sensor that is FM Approved for the USA and Canada for use in Hazardous Locations (potentially explosive atmospheres).

Company Identity: Yokogawa Process Analyzers Europe BV
Address: Euroweg 2
Amersfoort, 3825 HD
Netherlands

Contact Information: YPA.marketing@yokogawa.com

Description: Inductive Conductive Sensor
Make/Model: ISC40S
FM Approval Status: FM Approved for Canada & USA for use in Hazardous Locations.
Canada: FM22CA0012X & United States: FM21US0083X

Number of Units Impacted: 664 units manufactured between 1st November 2022 and 24th April 2024.

Hazard Involved: The product in question contains a Pt1000 temperature element that is intended to be encapsulated to protect against the risk of ignition of a surrounding explosive atmosphere due to thermal effects. It was identified that this component was not encapsulated as intended during production, leading to the potential for a hot-spot in the event that the sensor host such as the FLXA202/21 and EXA202 enter a fault condition. Under these conditions there is the potential for an explosive atmosphere to come into contact with the element, causing an explosion.

If you suspect you are in possession of the ISC40S Inductive Conductivity Sensor bearing the FM Approvals certification mark, please follow the process indicated in the attached YPA Customer Letter.

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From:
Yokogawa organization name
Service department
Local address here
Contact email address:

Date: **xx-xx-xxx**

Subject: **Announcement of ISC40S nonconformity**

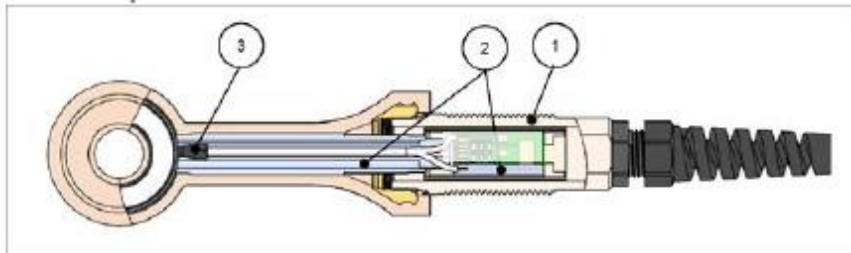
Dear valued customer,

We have found a possible safety issue that needs improvement. An investigation of the ISC40S conductivity sensor has revealed a deviation from the approved EX-product design requirements for this sensor model. The ISC40S conductivity sensor is classified for use in hazardous Zone 0 areas with temperature classes T4-T6. The Pt1000 temperature element is insufficiently encapsulated to meet thermal protection requirements on self-heating for Ex products.

Pos. 1: Stainless Steel screw part for process connection.

Pos. 2: Casting compound

Pos. 3: Temperature sensor



1. Applicable products

Conductivity sensor model: ISC40S, installed or planned for installation in hazardous areas with temperature classification T4-T6.

Period of the production : Between 1st November 2022 and 24th April 2024.

Note: Conductivity sensors ISC40S intended to be used in general purpose areas and sensors with suffix code -T3, the in-built temperature element 30k NTC thermistor, are not subjected to this non-conformity.

2. Impact

Insufficient encapsulation of the Pt1000 temperature element inside the ISC40S conductivity sensor shaft enables the temperature element to become a possible hot spot. This occurrence is possible when sensor hosts like FLXA202/21 and EXA202 enter fault conditions and exceed the following certification criteria (IECEX DEK 11.0028X Issue 1):

Voltage: $U_{out} \geq 14.4V$

Current: $I_{out} \geq 88mA$

3. Solution on customer request

There are four options:

1. Sensors not used and still in the original Yokogawa package shall be returned to “Local sales organization name”. After receipt of the sensor package, a replacement sensor will be shipped.
2. Sensors not used and still in the original Yokogawa package shall be returned to “Local sales organization name”. After receipt of the sensor package, a credit note will be issued.
3. Used/installed sensors shall be moved out of service and the cable should be cut off. As proof of moving out of service, a photo with visible cable cut-off and sensor serial number shall be shared. A replacement sensor will be sent after receipt of the photo.
4. Used/installed sensors shall be moved out of service and the cable should be cut off. As proof of moving out of service, a photo with visible cable cut-off and sensor serial number shall be shared. A credit note will be issued after receipt of the photo.

The minimum information required for each request:

- Customer name
- MS-Code
- Serial number

Your kind attention and understanding on this matter is highly appreciated.

Best regards,

Name of department manager

Service department Yokogawa organization name