CERTIFICATE OF CONFORMITY

1. **HAZARDOUS (CLASSIFIED) LOCATION ELECTRICAL EQUIPMENT PER US REQUIREMENTS**
2. **Certificate No:** **FM21US0083X**
3. **Equipment:** **ISC40S-ab-cd-ef/g**
   (Type Reference and Name) **Inductive Conductivity Sensor**
4. **Name of Listing Company:** **YPA Europe BV**
5. **Address of Listing Company:** **Euroweg 2**
   Amersfoort
   3825 HD
   Netherlands
6. The examination and test results are recorded in confidential report number:

   3046320 dated 12th October 2012

7. FM Approvals LLC, certifies that the equipment described has been found to comply with the following Approval standards and other documents:

   FM Class 3600:2018, FM Class 3610:2021, FM Class 3810:2021
   ANSI/UL 60079-0:2021, ANSI/UL 60079-11:2014, ANSI/ISA 61010-1:2015

8. If the sign 'X' is placed after the certificate number, it indicates that the equipment is subject to specific conditions of use specified in the schedule to this certificate.

Certificate issued by:

J.E. Marquedant
VP, Manager - Electrical Systems

28 March 2022
Date

To verify the availability of the Approved product, please refer to www.approvalguide.com

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

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SCHEDULE

US Certificate Of Conformity No: FM21US0083X

9. This certificate relates to the design, examination and testing of the products specified herein. The FM Approvals surveillance audit program has further determined that the manufacturing processes and quality control procedures in place are satisfactory to manufacture the product as examined, tested and Approved.

10. Equipment Ratings:

    Intrinsically Safe for use in Class I, Division 1, Groups A, B, C, and D, Entity, in accordance with FF1-K1244QX, and Intrinsically Safe for use in and Class I, Zone 0, AEx ia, IIC, Entity, in accordance with FF1-K1244QX, hazardous (classified) locations.

11. The marking of the equipment shall include:

    IS, CL I, DIV 1, GP ABCD; T4/T5/T6

    CL I, ZN 0, AEx ia IIC T4/T5/T6 Ga

    Ta = -30°C to 85°C/85°C/40°C

12. **Description of Equipment:**

    General
    Inductive Conductivity Sensor Model ISC40S series for connection to a certified associated Inductive Conductivity Transmitter which converts a measurement signal into an analogue or digital output signal.

    Ambient and process temperature range:
    -30°C to +85°C for temperature class T4, T5
    -30°C to +40°C for temperature class T6

    ISC40S-ab-cd-ef/g Inductive Conductivity Sensor
    ab = Sensor type and sensor body material: GG (General Model, glass filled PEEK), GR (Retractable model, glass filled PEEK), GS (Shaft model, glass filled PEEK), TG (General model, PFA), TR (Retractable model, PFA), TS (Shaft model, PFA)
    cd = Temperature sensor: T1 (PT1000)
    ef = Connection type: XX (Permanent cable, length in meters (any number 01-99), VP (Variopin Connector)
    g = Option specification not affecting intrinsic safety: Up to ten alphanumeric characters A to Z, 0 to 9 or a hyphen

    Note: When T4 and Ta = 85°C, Process Temperature = 130°C maximum.
    When T5 and Ta = 85°C, Process Temperature = 95°C maximum.

    Electrical data
    Sensor output circuits:
    Entity parameters: U_i = 14.4V; I_i = 88mA; P_i = 0.32W and:
    C_i = 150nF; L_i = 0.1mH (for permanently connected cable type),
    C_i = 0nF; L_i = 0mH (for connector type),

    or for connection to the certified intrinsically safe Yokogawa Inductive Conductivity Transmitter Model FLXA21 series, Model FLXA202 series or Model ISC202S series.

SCHEDULE

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13. **Specific Conditions of Use:**

    1. The Sensor shall be installed and used so that dangers of ignition due to hazardous electrostatic charges cannot occur, especially in the case that the process medium is non-conductive.

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

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

15. **Schedule Drawings**

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

16. **Certificate History**

    Details of the supplements to this certificate are described below:

Date	Description
12th October 2012	Original Issue.
27th September 2021	Supplement 3: Report Reference: – RR229504 dated 27th September 2021. Description of the Change: 1. Standards updates: FM3600 is updated to 2018. FM3610 and FM3810 are updated to 2021. ANSI/ISA 60079-0:2021, ANSI/UL 60079-11:2014 and ANSI/ISA 61010-1:2015 are added. 2. Model code changes: Delete Plastic and adaption code GT (Glass filled PEEK, fast temperature response). Delete Temperature Element T3 (30k thermistor (Not applicable for GT)); Change description Cable length into Connection type Change/add explanation belonging to Connection type: XX: permanent cable, length in meters (any number between 01 and 99); VP: VarioPin Connector. Delete Yokogawa transmitter model IC200S and its parameters; Add Yokogawa transmitter model FLXA202 and its parameters. Change entity parameters of ISC40S to: 14.4V, 88mA, 0.32W, 150nF (for permanently connected cable) / 0nF (for connector type), 0.1mH (for Permanent cable) / 0mH (for Connector type).
25th October 2021	Supplement 4: Report Reference: – RR230107 dated 25th October 2021. Description of the Change: Added equivalent Zone ratings and markings.
28th March 2022	Supplement 5: Report Reference: – PR461853 dated 28th March 2022. Description of the Change: Added maximum process temperature note in the Description of Equipment section.