

Certificate of Compliance

Certificate: 1694784 (LR 53988-34C)

Master Contract: 151079

Project: 2456090

Date Issued: September 21, 2011

Issued to: Endress + Hauser GmbH + Co. KG
Hauptstrasse 1
Maulburg, Baden-Wurttemberg 79690
Germany
Attention: Steve Czaniecki

The products listed below are eligible to bear the CSA Mark shown



Edward Foo

Issued by: Edward Foo, C.E.T.

PRODUCTS

CLASS 2258 02 - PROCESS CONTROL EQUIPMENT - For Hazardous Locations

Class I, Div. 1, Groups A, B, C and D:

Class II, Div. 1, Groups E, F and G; Class III, Div. 1; Type 6P:

- Prosonic Ultrasonic Sensors, Models FDU 80, FDU 80 F, FDU 81, FDU 81 F and FDU 82 rated 55V rms, 20-70 kHz, 2W max.

Class I, Div. 1, Groups A, B, C & D; Class II, Div. 1, Groups E, F & G; Class III, Div. 1;

Class I, Div. 2, Groups A, B, C & D; Type 6P; Type 4X:

- Prosonic Ultrasonic Sensor, Model FDU 90-SNcAe (without heating) rated 55V rms, 90 kHz, 0.9W max. Temperature Code T5 @ Ta ≤ +60°C, T4 @ Ta ≤ +80°C. A seal shall be installed within 50mm of the enclosure for Class I Division 1 installations.

- Prosonic Ultrasonic Sensor, Model FDU 90-SNcBe (with heating) input rated 55V rms, 90 kHz, 0.9W max., heater circuit rated 24V, 7W. Temperature Code T5 @ Ta ≤ +60°C, T4 @ Ta ≤ +80°C. A seal shall be installed within 50mm of the enclosure for Class I Division 1 installations.



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- Prosonic Ultrasonic Sensor, Model FDU 91-SNcAe (without heating) rated 55V rms, 43 kHz, 0.4W max. Temperature Code T6 @ Ta ≤ +60°C, T5 @ Ta ≤ +80°C. A seal shall be installed within 50mm of the enclosure for Class I Division 1 installations.
 - Prosonic Ultrasonic Sensor, Model FDU 91-SNcBe (with heating) input rated 55V rms, 43 kHz, 0.4W max., heater circuit rated 24V, 7W. Temperature Code T6 @ Ta ≤ +40°C, T5 @ Ta ≤ +60°C. A seal shall be installed within 50mm of the enclosure for Class I Division 1 installations.
 - Prosonic Ultrasonic Sensor, Model FDU 91F-Sbcd rated 55V rms, 42 kHz, 0.9W max. Temperature Code T6, Ta ≤ +60°C; T5, Ta ≤ +80°C. A seal shall be installed within 50mm of the enclosure for Class I Division 1 installations.
 - Prosonic Ultrasonic Sensor, Model FDU 92-SNcd rated 55V rms, 30.5 kHz, 0.9W max. Temperature Code T6 @ Ta ≤ +60°C, T5 @ Ta ≤ +80°C. A seal shall be installed within 50mm of the enclosure for Class I Division 1 installations.
 - Prosonic Ultrasonic Sensor, Model FDU 93-SNcd rated 55V rms, 27.3 kHz, 0.7W max. Temperature Code T6 @ Ta ≤ +60°C, T5 @ Ta ≤ +80°C. A seal shall be installed within 50mm of the enclosure for Class I Division 1 installations.
 - Prosonic Ultrasonic Sensor, Model FDU 95-S1Nde rated 55V rms, 17.1 kHz, 0.7W max. Temperature Code T6 @ Ta ≤ +60°C, T5 @ Ta ≤ +80°C. A seal shall be installed within 50mm of the enclosure for Class I Division 1 installations.

Class II, Div 1, Groups E, F and G; Class III, Div 1;

Class I, Div 2, Groups A, B, C and D; Type 6P; Type 4X:

- Prosonic Ultrasonic Sensor, Model FDU 93-TNcd rated 55V rms, 27.3 kHz, 0.7W max. Temperature Code T5 @ Ta ≤ +80°C.
- Prosonic Ultrasonic Sensor, Model FDU 95-T1Nde rated 55V rms, 17.1 kHz, 0.7W max. Temperature Code T5 @ Ta ≤ +80°C.
- Prosonic Ultrasonic Sensor, Model FDU 95-T2Nde rated 55V rms, 18.1 kHz, 0.7W max. Temperature Code T5 @ Ta ≤ +80°C, T3C @ Ta ≤ +130°C.
- Prosonic Ultrasonic Sensor, Model FDU 96-LNcd rated 55V rms, 10.9 kHz, 0.7W max. Temperature Code T5 @ Ta ≤ +80°C.
- Prosonic Ultrasonic Sensor, Model FDU 96-TNcd rated 55V rms, 10.9 kHz, 0.7W max. Temperature Code T5 @ Ta ≤ +80°C, T3C @ Ta ≤ +140°C.

APPLICABLE REQUIREMENTS



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CAN/CSA C22.2 No. 0-M91 (R2001) - General Requirements - Canadian Electrical Code, Part II

CSA-C22.2 No. 25-M1966 - Enclosures for Use in Class II, Group E, F and G Hazardous Locations

CSA-C22.2 No. 30-M1986 - Explosion-Proof Enclosures for Use in Class I Hazardous Locations

CAN/CSA-C22.2 No. 94-M91 - Special Purpose Enclosures

CSA Std C22.2 No. 142-M1987 - Process Control Equipment

CSA-C22.2 No. 213-M1987 - Non Incendive Electrical Equipment for Use in Class I, Division 2 Hazardous Locations

CAN/CSA-C22.2 No. 61010-01-04 - Safety Requirements for Electrical Equipment for Measurement, Control, and Laboratory Use, Part 1: General Requirements



Supplement to Certificate of Compliance

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The products listed, including the latest revision described below, are eligible to be marked in accordance with the referenced Certificate.

Product Certification History

Project	Date	Description
2456090	September 21, 2011	Update to cover alternative Prosonic Ultrasonic Sensors for Class I, Div. 1 and 2 Hazardous locations.
2014444	April 9, 2008	Update report to include similar model FDU 91-SNcBe
1848131	November 14, 2006	Update report to include ultrasonic sensor model FDU 91F-Sbcd
1772534	April 25, 2006	Update report to include FDU 91, 92, 93, 95 and 96 models.
1694784	August 24, 2005	Update report to cover revised construction.

History

- 114C June 22/98 Addition of FDU 80 F and FDU 81 F models.
- 65C Nov. 6/95 To revise documentation.
- 58C Aug.4/95 Revised drawings
- 34C June 18/95 Original Certification