



Member of the FM Global Group

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# CERTIFICATE OF COMPLIANCE

## HAZARDOUS (CLASSIFIED) LOCATION ELECTRICAL EQUIPMENT

This certificate is issued for the following equipment:

### I. Special Protection

#### **FDU90-QNcAe. PROSONIC S Ultrasonic Level Sensor.**

S/I/1/ABCD/T5  $-40\text{ }^{\circ}\text{C} \leq T_a \leq +60\text{ }^{\circ}\text{C}$ ; Type 6P, IP68  
S/I/2/ABCD/T5  $-40\text{ }^{\circ}\text{C} \leq T_a \leq +60\text{ }^{\circ}\text{C}$ ; Type 6P, IP68  
S/II,III/1/EFG/T4A  $-40\text{ }^{\circ}\text{C} \leq T_a \leq +80\text{ }^{\circ}\text{C}$ ; Type 6P, IP68  
S/II,III/2/EFG/T4A  $-40\text{ }^{\circ}\text{C} \leq T_a \leq +80\text{ }^{\circ}\text{C}$ ; Type 6P, IP68

c = Cable length: any single letter or number representing the cable length.

e = Additional options: A (without option), Y (special cleaning and supplemental documents).

#### *Special Conditions of Use:*

1. Excluded from use in Ketone chemical family atmospheres.

#### **FDU90-QNcBe. PROSONIC S Ultrasonic Level Sensor.**

S/I/1/ABCD/T5  $-40\text{ }^{\circ}\text{C} \leq T_a \leq +60\text{ }^{\circ}\text{C}$ ; Type 6P, IP68  
S/I/2/ABCD/T5  $-40\text{ }^{\circ}\text{C} \leq T_a \leq +60\text{ }^{\circ}\text{C}$ ; Type 6P, IP68  
S/II,III/1/EFG/T4A  $-40\text{ }^{\circ}\text{C} \leq T_a \leq +80\text{ }^{\circ}\text{C}$ ; Type 6P, IP68  
S/II,III/2/EFG/T4A  $-40\text{ }^{\circ}\text{C} \leq T_a \leq +80\text{ }^{\circ}\text{C}$ ; Type 6P, IP68

c = Cable length: any single letter or number representing the cable length.

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#### *Special Conditions of Use:*

1. Excluded from use in Ketone chemical family atmospheres.

**FDU 91-QNcAe. PROSONIC S Ultrasonic Level Sensor.**

S/I/1/ABCD/T6  $-40\text{ }^{\circ}\text{C} \leq T_a \leq +60\text{ }^{\circ}\text{C}$ ; T5  $-40\text{ }^{\circ}\text{C} \leq T_a \leq +80\text{ }^{\circ}\text{C}$ ; Type 6P, IP68  
S/I/2/ABCD/T6  $-40\text{ }^{\circ}\text{C} \leq T_a \leq +60\text{ }^{\circ}\text{C}$ ; T5  $-40\text{ }^{\circ}\text{C} \leq T_a \leq +80\text{ }^{\circ}\text{C}$ ; Type 6P, IP68  
S/II,III/1/EFG/T4A  $-40\text{ }^{\circ}\text{C} \leq T_a \leq +80\text{ }^{\circ}\text{C}$ ; Type 6P, IP68  
S/II,III/2/EFG/T4A  $-40\text{ }^{\circ}\text{C} \leq T_a \leq +80\text{ }^{\circ}\text{C}$ ; Type 6P, IP68

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**FDU 91-QNcBe. PROSONIC S Ultrasonic Level Sensor.**

S/I/1/ABCD/T6  $-40\text{ }^{\circ}\text{C} \leq T_a \leq +60\text{ }^{\circ}\text{C}$ ; T5  $-40\text{ }^{\circ}\text{C} \leq T_a \leq +80\text{ }^{\circ}\text{C}$ ; Type 6P, IP68  
S/I/2/ABCD/T6  $-40\text{ }^{\circ}\text{C} \leq T_a \leq +60\text{ }^{\circ}\text{C}$ ; T5  $-40\text{ }^{\circ}\text{C} \leq T_a \leq +80\text{ }^{\circ}\text{C}$ ; Type 6P, IP68  
S/II,III/1/EFG/T4A  $-40\text{ }^{\circ}\text{C} \leq T_a \leq +80\text{ }^{\circ}\text{C}$ ; Type 6P, IP68  
S/II,III/2/EFG/T4A  $-40\text{ }^{\circ}\text{C} \leq T_a \leq +80\text{ }^{\circ}\text{C}$ ; Type 6P, IP68

c = Cable length: any single letter or number representing the cable length.

e = Additional options: A (without option), Y (special cleaning and supplemental documents).

*Special Conditions of Use:*

1. Excluded from use in Ketone chemical family atmospheres.

**FDU 91F-Qbcd. PROSONIC S Ultrasonic Level Sensor.**

S/I/1/ABCD/T6  $-40\text{ }^{\circ}\text{C} \leq T_a \leq +60\text{ }^{\circ}\text{C}$ ; T5  $-40\text{ }^{\circ}\text{C} \leq T_a \leq +80\text{ }^{\circ}\text{C}$ ; Type 6P, IP68  
S/I/2/ABCD/T6  $-40\text{ }^{\circ}\text{C} \leq T_a \leq +60\text{ }^{\circ}\text{C}$ ; T5  $-40\text{ }^{\circ}\text{C} \leq T_a \leq +80\text{ }^{\circ}\text{C}$ ; Type 6P, IP68  
S/II,III/1/EFG/T4A  $-40\text{ }^{\circ}\text{C} \leq T_a \leq +80\text{ }^{\circ}\text{C}$ ; Type 6P, IP68  
S/II,III/2/EFG/T4A  $-40\text{ }^{\circ}\text{C} \leq T_a \leq +80\text{ }^{\circ}\text{C}$ ; Type 6P, IP68

b = Process connection: F (prepared for flush mounting (FAU 80), stainless steel), N (ANSI 1" NPT thread, stainless steel), S (clamp ISO 2852 DN101 (4"), stainless steel), T (clamp ISO 2852 DN80 (3 1/2"), stainless steel).

c = Cable length: any single letter or number representing the cable length.

d = Additional options: A (without option), Y (special cleaning and supplemental documents).

**FDU 92-QNcd. PROSONIC S Ultrasonic Level Sensor.**

S/I/1/ABCD/T6  $-40\text{ }^{\circ}\text{C} \leq T_a \leq +60\text{ }^{\circ}\text{C}$ ; T5  $-40\text{ }^{\circ}\text{C} \leq T_a \leq +80\text{ }^{\circ}\text{C}$ ; Type 6P, IP68  
S/I/2/ABCD/T6  $-40\text{ }^{\circ}\text{C} \leq T_a \leq +60\text{ }^{\circ}\text{C}$ ; T5  $-40\text{ }^{\circ}\text{C} \leq T_a \leq +80\text{ }^{\circ}\text{C}$ ; Type 6P, IP68  
S/II,III/1/EFG/T4A  $-40\text{ }^{\circ}\text{C} \leq T_a \leq +80\text{ }^{\circ}\text{C}$ ; Type 6P, IP68  
S/II,III/2/EFG/T4A  $-40\text{ }^{\circ}\text{C} \leq T_a \leq +80\text{ }^{\circ}\text{C}$ ; Type 6P, IP68

c = Cable length: any single letter or number representing the cable length.

d = Additional options: A (without option), Y (special cleaning and supplemental documents).

*Special Conditions of Use:*

1. Excluded from use in Ketone chemical family atmospheres.

## II. Dust-Ignitionproof

### **FDU 93-PNcd. PROSONIC S Ultrasonic Level Sensor.**

DIP/II,III/1/EFG/T4A  $-40\text{ °C} \leq T_a \leq +80\text{ °C}$ ; Type 6P, IP68

NI/I/2/ABCD/T5  $-40\text{ °C} \leq T_a \leq +80\text{ °C}$ ; Type 6P, IP68

S/II,III/2/EFG/T4A  $-40\text{ °C} \leq T_a \leq +80\text{ °C}$ ; Type 6P, IP68

c = Cable length: any single letter or number representing the cable length.

d = Additional options: A (without option), Y (special cleaning and supplemental documents).

### **FDU 95-P1Nde. PROSONIC S Ultrasonic Level Sensor.**

DIP/II,III/1/EFG/T4A  $-40\text{ °C} \leq T_a \leq +80\text{ °C}$ ; Type 6P, IP68

NI/I/2/ABCD/T5  $-40\text{ °C} \leq T_a \leq +80\text{ °C}$ ; Type 6P, IP68

S/II,III/2/EFG/T4A  $-40\text{ °C} \leq T_a \leq +80\text{ °C}$ ; Type 6P, IP68

d = Cable length: any single letter or number representing the cable length.

e = Additional options: A (without option), Y (special cleaning and supplemental documents).

### **FDU 95-P2Nde. PROSONIC S Ultrasonic Level Sensor.**

DIP/II,III/1/EFG/T3A  $-40\text{ °C} \leq T_a \leq +130\text{ °C}$ ; Type 6P, IP68

NI/I/2/ABCD/T5  $-40\text{ °C} \leq T_a \leq +80\text{ °C}$ ; Type 6P, IP68

S/II,III/2/EFG/T3A  $-40\text{ °C} \leq T_a \leq +130\text{ °C}$ ; Type 6P, IP68

d = Cable length: any single letter or number representing the cable length.

e = Additional options: A (without option), Y (special cleaning and supplemental documents).

### **FDU 96-KNcd. PROSONIC S Ultrasonic Level Sensor.**

DIP/II,III/1/EFG/T5  $-40\text{ °C} \leq T_a \leq +85\text{ °C}$ ; Type 6P, IP68

NI/I/2/ABCD/T5  $-40\text{ °C} \leq T_a \leq +85\text{ °C}$ ; Type 6P, IP68

S/II,III/2/EFG/T5  $-40\text{ °C} \leq T_a \leq +85\text{ °C}$ ; Type 6P, IP68

c = Cable length: any single letter or number representing the cable length (max. length of 300 m).

d = Additional options: A (without option), Y (special cleaning and supplemental documents).

### **FDU 96-PNcd. PROSONIC S Ultrasonic Level Sensor.**

DIP/II,III/1/EFG/T3C  $-40\text{ °C} \leq T_a \leq +140\text{ °C}$ ; Type 6P, IP68

NI/I/2/ABCD/T5  $-40\text{ °C} \leq T_a \leq +85\text{ °C}$ ; Type 6P, IP68

S/II,III/2/EFG/T3C  $-40\text{ °C} \leq T_a \leq +140\text{ °C}$ ; Type 6P, IP68

c = Cable length: any single letter or number representing the cable length (max. length of 300 m).

d = Additional options: A (without option), Y (special cleaning and supplemental documents).

**FDU 93-QNcd. PROSONIC S Ultrasonic Level Sensor.**S/I/1/ABCD/T6  $-40\text{ °C} \leq T_a \leq +60\text{ °C}$ ; T5  $-40\text{ °C} \leq T_a \leq +80\text{ °C}$ ; Type 6P, IP68S/I/2/ABCD/T6  $-40\text{ °C} \leq T_a \leq +60\text{ °C}$ ; T5  $-40\text{ °C} \leq T_a \leq +80\text{ °C}$ ; Type 6P, IP68S/II,III/1/EFG/T4A  $-40\text{ °C} \leq T_a \leq +80\text{ °C}$ ; Type 6P, IP68S/II,III/2/EFG/T4A  $-40\text{ °C} \leq T_a \leq +80\text{ °C}$ ; Type 6P, IP68

c = Cable length: any single letter or number representing the cable length.

d = Additional options: A (without option), Y (special cleaning and supplemental documents).

**FDU 95-Q1Nde. PROSONIC S Ultrasonic Level Sensor.**S/I/1/ABCD/T6  $-40\text{ °C} \leq T_a \leq +60\text{ °C}$ ; T5  $-40\text{ °C} \leq T_a \leq +80\text{ °C}$ ; Type 6P, IP68S/I/2/ABCD/T6  $-40\text{ °C} \leq T_a \leq +60\text{ °C}$ ; T5  $-40\text{ °C} \leq T_a \leq +80\text{ °C}$ ; Type 6P, IP68S/II,III/1/EFG/T4A  $-40\text{ °C} \leq T_a \leq +80\text{ °C}$ ; Type 6P, IP68S/II,III/2/EFG/T4A  $-40\text{ °C} \leq T_a \leq +80\text{ °C}$ ; Type 6P, IP68

d = Cable length: any single letter or number representing the cable length.

e = Additional options: A (without option), Y (special cleaning and supplemental documents).

**Equipment Ratings:**

- I. Special Protection for use in Class I, II & III, Division 1, Groups A, B, C, D, E, F & G; Special Protection for use in Class I, II & III, Division 2, Groups E, F & G Hazardous (Classified) indoor/outdoor (Type 6P & IP68) Locations
- II. Dust-Ignitionproof for use in Class II & III, Division 1, Groups E, F & G; Nonincendive for use in Class I, Division 2, Groups A, B, C & D; and Special Protection for use in Class II & III, Division 2, Groups E, F & G Hazardous (Classified) indoor/outdoor (Type 6P & IP68) Locations

**FM Approved for:**Endress+Hauser GmbH+Co. KG  
Maulburg, GERMANY

This certifies that the equipment described has been found to comply with the following Approval Standards and other documents:

Class 3600	1998
Class 3611	2004
Class 3616	Draft
Class 3810	2005
ANSI/IEC 60529	2004
ANSI/ISA 12.23.01	2002
ANSI NEMA 250	1991

Original Project ID: 3023671

Approval Granted: January 24, 2006

Subsequent Revision Reports / Date Approval Amended

Report Number	Date	Report Number	Date
3028368	June 26, 2007		
3033384	November 26, 2008		
080130	December 5, 2008		
3044633	May 18, 2012		

FM Approvals LLC



J.E. Marquedant  
Group Manager, Electrical

18 May 2012

Date