

CERTIFICATE OF CONFORMITY



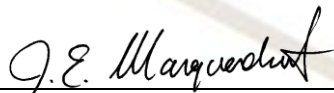
1. **HAZARDOUS LOCATION ELECTRICAL EQUIPMENT PER CANADIAN REQUIREMENTS**
2. **Certificate No:** FM20CA0034X
3. **Equipment:** Echotel 910 Ultrasonic Level Switch
(Type Reference and Name)
4. **Name of Listing Company:** Magnetrol International Inc.
5. **Address of Listing Company:** 705 Enterprise Street
Aurora, IL 60504
United States of America
6. The examination and test results are recorded in confidential report number:

PR454942 dated 17th November 2020
7. FM Approvals LLC, certifies that the equipment described has been found to comply with the following Approval standards and other documents:

CSA-C22.2 No. 0.4:R2017, CSA-C22.2 No. 0.5:R2016, CSA-22.2 No. 25:R2014, CSA-C22.2 No. 30:R2020, CSA-C22.2 No. 94:R2011, CAN/CSA-C22.2 No. 60079-0:2019, CAN/CSA-C22.2 No. 60079-1:2016, CSA-C22.2 No. 60529:2005
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.
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:**

Explosionproof for Class I, Division 1, Groups B, C and D T6; Dust-ignitionproof for Class II Division 1, Groups E,F,G; Flameproof for Class I, Zone 1, Ex db IIC T6 Gb; Ta = -40°C to +70°C hazardous locations.
11. The marking of the equipment shall include:

Certificate issued by:



J.E. Marquedant
VP, Manager - Electrical Systems

17 November 2020

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

FM Approvals LLC. 1151 Boston-Providence Turnpike, Norwood, MA 02062 USA
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SCHEDULE



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Class I Division 1, Groups B, C, D; T6 *Ta = $-40^{\circ}\text{C} \leq \text{Ta} \leq 70^{\circ}\text{C}$; Type 4X, IP66

Class II, Division 1, Groups E, F, G; T6 *Ta = $-40^{\circ}\text{C} \leq \text{Ta} \leq 70^{\circ}$; Type 4X, IP66

Class III, Division 1; T6 *Ta = $-40^{\circ}\text{C} \leq \text{Ta} \leq 70^{\circ}$; Type 4X, IP66

Class I, Zone 1, Ex db IIC T6 Gb; *Ta = $-40^{\circ}\text{C} \leq \text{Ta} \leq 70^{\circ}\text{C}$; Type 4X, IP66

*Probes > 60 inches Ta = $-20^{\circ}\text{C} \leq \text{Ta} \leq 70^{\circ}\text{C}$

12. Description of Equipment:

General - Echotel Model 910 Level Switches utilize ultrasonic contact technology for measuring level in clean liquid applications. The dual conduit electronics houses an 8-amp DPDT gold flash relay that is field selectable for high or low level fail-safe applications. There are no moving parts that come in contact with the medium. The Echotel Model 910 is an integrally mounted system, comprised of surface mount electronics and a 316 stainless steel transducer.

The Model 910 Level Switch uses ultrasonic energy to detect the presence or absence of liquid in a 316 stainless steel tip sensitive transducer gap. The basic principle behind ultrasonic contact technology is that high-frequency sound waves are easily transmitted across a transducer gap in the presence of a liquid medium, but are severely attenuated when the gap is dry. The Model 910 uses an ultrasonic frequency of 3 MHz to perform this liquid level measurement in a wide variety of process media and application conditions. The transducer uses a pair of piezoelectric crystals that are encapsulated in epoxy at the tip of the transducer. The crystals are made of a ceramic material, such as lead zirconate. The transmit crystal converts an electrical signal from the Model 910 electronics into an ultrasonic signal. When liquid is present in the gap, the receive crystal is able to sense the ultrasonic signal from the transmit crystal and convert it back to an electrical signal. This signal is sent to the electronics to indicate the presence of liquid in the transducer gap. When there is no liquid present, the ultrasonic signal is attenuated, and the receive crystal is not able to sense the sound waves from the transmit crystal.

Construction - This apparatus consists of:

- One single or dual entry aluminum alloy or 316 stainless-steel housing containing the electrical and electronic devices complying with the kind of protection "db".
- One probe / transducer assembly with a welded-on adapter fitting containing potting which is screwed directly to the housing. The probe extension tube connects between the adapter fitting and transducer end and can vary in length for a max over all probe length of 100 inches. The probe / transducer assembly complies with the kinds of protection "db". The interface between the probe adapter, extension tube and transducer end are all welded and made of 316 stainless steel

Model Code Structure:

Current model code for Canada listing

910-abcd-e. ECHOTEL Ultrasonic Level Control.

a = Housing A, V, Y, P or 5.

b = Type unit 1 or M.

c = Process connection material A, C, D, E, F, G, H, J, K, L, M, N, P, Q, R, S, T, U, V, W, X, Y, Z, 1, 2, 3, 4, 5, 6, 7, 8 or 9.

d = Input power H, J, K, 0, 1 or 2.

e = Actuation length 001 through 254

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13. Specific Conditions of Use:

1. The Echotel 910 Level Transmitter is only for use with the Echotel 910 Probe.
2. To maintain the T6 temperature code care shall be taken to ensure the "Enclosure Temperature" does not exceed 70°C.
3. The risk of electrostatic discharge shall be minimized at installation, following the direction given in the Instruction.
4. For Installation with ambient temperature of 70°C, refer to the manufacturer's instructions for guidance on proper selection of conductors.
5. The flamepaths of the equipment are not intended to be repaired. Consult the manufacturer if repair of the flamepath joints is necessary.

14. Test and Assessment Procedure and Conditions:

This Certificate has been issued in accordance with FM Approvals Canadian Certification Scheme.

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
17 th November 2020	Original Issue.

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