



IECEX Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification System for Explosive Atmospheres

for rules and details of the IECEx Scheme visit www.iecex.com

Certificate No.: **IECEX FMG 20.0004X** Page 1 of 3 [Certificate history:](#)
Status: **Current** Issue No: 0
Date of Issue: 2020-11-17
Applicant: **Magnetrol International Inc**
705 Enterprise Street
Aurora, IL 60504
United States of America
Equipment: **Echotel 910 Ultrasonic Level Switch**
Optional accessory:
Type of Protection: **Type "db"**
Marking: Ex db IIC T6 Gb

Approved for issue on behalf of the IECEx
Certification Body:

J. E. Marquedant

Position:

VP, Manager - Electrical Systems

Signature:
(for printed version)

Date:

1. This certificate and schedule may only be reproduced in full.
2. This certificate is not transferable and remains the property of the issuing body.
3. The Status and authenticity of this certificate may be verified by visiting www.iecex.com or use of this QR Code.



Certificate issued by:

FM Approvals LLC
1151 Boston-Providence Turnpike
Norwood, MA 02062
United States of America





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Manufacturer: **Magnetrol International Inc**
705 Enterprise Street
Aurora, IL 60504
United States of America

Additional manufacturing locations: **Magnetrol International Inc.**
705 Enterprise Street, Aurora IL 60504, USA
Magnetrol International N.V.
Heilensstraat 6,
Zele 9240
Belgium

This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEx Quality system requirements. This certificate is granted subject to the conditions as set out in IECEx Scheme Rules, IECEx 02 and Operational Documents as amended

STANDARDS :

The equipment and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards

IEC 60079-0:2017 Explosive atmospheres - Part 0: Equipment - General requirements
Edition:7.0

IEC 60079-1:2014-06 Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"
Edition:7.0

This Certificate **does not** indicate compliance with safety and performance requirements other than those expressly included in the Standards listed above.

TEST & ASSESSMENT REPORTS:

A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in:

Test Report:

[US/FMG/ExTR20.0003/00](#)

Quality Assessment Reports:

[CA/CSA/QAR06.0004/11](#)

[NL/DEK/QAR11.0031/06](#)



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EQUIPMENT:

Equipment and systems covered by this Certificate are as follows:

Echotel Model 910 Level Switches utilize ultrasonic contact technology for measuring level in clean liquid applications. The dual conduit electronics houses a 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 is 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.

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.

910-abcd-e

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

SPECIFIC CONDITIONS OF USE: YES as shown below:

1. The flameproof joints of the equipment are not intended to be repaired. Consult the manufacturer if repair of the flameproof joints is necessary.
2. Consult the manufacturer for replacing all fasteners securing the flame path.