



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 21.0004X** Page 1 of 4 [Certificate history:](#)
Issue 0 (2021-10-14)

Status: **Current** Issue No: 1

Date of Issue: 2022-06-09

Applicant: **AMETEK Magnetrol USA, LLC**
705 Enterprise Street
Aurora, IL 60504
United States of America

Equipment: **Genesis Model ED1, ED2 High Performance Emulsion Detector Transmitter**

Optional accessory:

Type of Protection: **Flameproof 'db', Increased Safety 'ec', Intrinsic Safety 'ia'**

Marking: **Transmitter**
Ex db [ia IIB Ga] IIB +H2 T4 Gb Ta = -40°C to +70°C
Ex ec [ia IIB Ga] IIC T4 Gc Ta = -15°C to +70°C

Probe
Ex ia IIB T6...T1 Ga Ta = -40°C to +70°C

Approved for issue on behalf of the IECEx
Certification Body:

J. E. Marquedant

Position:

VP, Manager - Electrical Systems

Signature:
(for printed version)

Date:
(for printed version)

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: **AMETEK Magnetrol USA, LLC**
705 Enterprise Street
Aurora, IL 60504
United States of America

Manufacturing locations: **AMETEK Magnetrol USA, LLC**
705 Enterprise Street
Aurora, IL 60504
United States of America

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

[IEC 60079-11:2011](#) Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
Edition:6.0

[IEC 60079-7:2017](#) Explosive atmospheres - Part 7: Equipment protection by increased safety "e"
Edition:5.1

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 Reports:

[US/FMG/ExTR21.0004/00](#)

[US/FMG/ExTR21.0004/01](#)

Quality Assessment Reports:

[CA/CSA/QAR06.0004/13](#)

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



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EQUIPMENT:

Equipment and systems covered by this Certificate are as follows:

Refer to the Annex for details.

SPECIFIC CONDITIONS OF USE: YES as shown below:

Transmitter

1. The flamepaths of the equipment are not intended to be repaired. Consult the manufacturer if repair of the flamepath joints is necessary.
2. Refer to the manufacturer's instructions to reduce the potential of an electrostatic charging hazard on the equipment enclosure.
3. The transmitter shall be connected to a safety extra low-voltage circuit (SELV) with $U_m \leq 30V$

Probe

1. Refer to the manufacturer's instructions to reduce the potential of an electrostatic charging hazard on the equipment enclosure.



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DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)

- (1) Addition of option ED2, which is a minor firmware change not affecting safety.
- (2) Company name change.

Annex:

[Annex to certificate IECEx FMG 21.0004X.pdf](#)

Annex to certificate # IECEx FMG 21.0004X

EQUIPMENT:

Equipment and systems covered by this certificate are as follows:

The Genesis Model ED1 and ED2 Emulsion Detectors are advanced transmitters that effectively measure 3 phases of liquids. These three phases are defined as the total level, top of emulsion and bottom of emulsion. Additional measurement of foam level and sand accumulation can also be made.

The Genesis Model ED1 and ED2 are comprised of three parts: main electronics, remote cable, and probe assembly. The probe assembly includes integrated electronics tied directly to a probe.

The Genesis Model ED1 and ED2 are advanced transmitters with separate outputs. It uses a nominal input voltage of 24 VDC and provides four analog 4-20mA loops outputs with one of the loops providing HART digital communication.

The Genesis Model ED1 and ED2 main electronics are housed in a dual compartment enclosure. Power wiring and electronics are contained in separate compartments.. The main electronics connection to the remote electronics, will be an explosion proof connector that holds 4 wires. The 4 wires will be intrinsically safe outputs from the main electronics and consist of a 5V power supply (power/ground) and 2 wire RS485 communication lines.

The Genesis Model ED1 and ED2 remote cable consists of 4 wires being housed in flexible conduit with custom connectors to the main housing and probe assembly. The standard remote cable lengths will be 25', 50', and 100' with the design supporting a maximum of 150'.

The Genesis Model ED1 and ED2 probe assembly consists of a probe electronics housing integrally mounted on probe. The probe electronics consist of two separate boards, one that is responsible for digital communication/power and the second for TDR measurements. Two probe configurations are being used, which include a 5-conductor probe and a coaxial probe.

Ratings –

T6...T1 temperature code are defined by the following table:

<i>Process Temperature</i>	<i>Temperature Code</i>
≤ 75°C	T6
75°C to 90°C	T5
90°C to 120°C	T4
125°C to 185°C	T3
185°C to 285°C	T2
285°C to 435°C	T1

The Genesis Model ED1 and ED2 are rated for an ingress protection of IP67.

Electrical data:

The transmitter is powered by a safety extra-low voltage (SELV) supply
 $U_m \leq 30Vdc$, $V_{nom} = 24Vdc$, $I_{Nom} = 133.6mA$

ED1-210a-b1c Eclipse Guided Wave Radar (GWR) Level Transmitter,
ED2-210a-b1c Eclipse Guided Wave Radar (GWR) Level Transmitter

a = Accessories = A, B, C or D

b = Classification = 3 or C

c = Conduit Connection = 0 or 1

Pab-cde0-A0f-gh-ijk Probe Model Number

a = Units of Measure= E or M

b = Configuration = F or C

c = Flange Size = (when Digit 5 = 3, 4, 5, 6, K or L): 5, 6 or 7

(when Digit 5 = A, B, C, D, E or F): E, F or G

d = Flange Type = (when Digit 4 = 5, 6 or 7): 3, 4 or 5;

(when Digit 4 = 7):K

(when Digit 4 = E, F or G): A, B, D, E or F

e = Construction codes = 0, K, L, M or N

f = O-Ring material = 0, 2, 8 or A

g = Probe Type = 0 or 1

h = remote housing material = 1 or 2

ijk = Insertion length = Available when digit 2 = A: One inch increments 020 thru 120;

Available when digit 2 = C: One centimeter increments 050 thru 610