

# 1 EU-TYPE EXAMINATION CERTIFICATE



2 **Equipment or Protective systems intended for use in Potentially  
Explosive Atmospheres - Directive 2014/34/EU**

3 **EU-Type Examination Certificate No:** FM19ATEX0197X

4 **Equipment or protective system:  
(Type Reference and Name)** Eclipse Model 700  
Guided Wave Radar

5 **Name of Applicant:** Magnetrol International Inc

6 **Address of Applicant:** 705 Enterprise St  
Aurora IL 60504  
United States of America

7 This equipment or protective system and any acceptable variation thereto is specified in the schedule to this certificate and documents therein referred to.

8 FM Approvals Europe Ltd, notified body number 2809 in accordance with Article 17 of Directive 2014/34/EU of 26<sup>th</sup> February 2014, certifies that this equipment has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment intended for use in potentially explosive atmospheres given in Annex II to the Directive.

The examination and test results are recorded in confidential report number:

PR452949 dated 27<sup>th</sup> February 2020

9 Compliance with the Essential Health and Safety Requirements, with the exception of those identified in item 15 of the schedule to this certificate, has been assessed by compliance with the following documents:

EN 60079-0:2018, EN 60079-11:2012 and EN 60529:1991+A1:2000+A2:2013

10 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.

11 This EU-Type Examination certificate relates only to the design, examination and tests of the specified equipment or protective system in accordance to the directive 2014/34/EU. Further requirements of the Directive apply to the manufacturing process and supply of this equipment or protective system. These are not covered by this certificate.

12 The marking of the equipment or protective system shall include:



II 1 G Ex ia IIC T4 Ga  
Ta = -40°C to +70°C

**Damien Mc Ardle**  
Certification Manager, FM Approvals Europe Ltd.

Issue date: 28<sup>th</sup> February 2020

**THIS CERTIFICATE MAY ONLY BE REPRODUCED IN ITS ENTIRETY AND WITHOUT CHANGE**

FM Approvals Europe Limited, One Georges Quay Plaza, Dublin, Ireland. D02 E440  
T: +353 (0) 1761 4200 E-mail: [atex@fmaprovals.com](mailto:atex@fmaprovals.com) [www.fmaprovals.com](http://www.fmaprovals.com)

# SCHEDULE



Member of the FM Global Group

to EU-Type Examination Certificate No. FM19ATEX0197X

## 13 Description of Equipment or Protective System:

**General** - The Eclipse Model 700 Guided Wave Radar (MODEL 700 GWR) is a continuous level transmitter, for liquid level control, utilizing guided wave radar (GWR) technology. All signal outputs provides an analog 4-20mA signal with HART digital communication.

**Construction** - The Eclipse Model 700 Guided Wave Radar (MODEL 700 GWR) is housed in a single compartment (die-cast aluminum) enclosure. Power wiring and electronics are all in the same compartment.

**Ratings** - The Eclipse Model 700 Guided Wave Radar (MODEL 700 GWR) operates at 28.6Vdc with a maximum output of 22.5mA. The transmitters are rated for use in an ambient temperature range of -40°C to +70°C.

**700-51ab-c5d / 7ef-ghjk-lmn-pq-r,**

**Eclipse Guided Wave Radar (GWR) Level Transmitter / Eclipse Level Probe**

$U_i < 28.6\text{Vdc}$ ,  $I_i < 140\text{mA}$ ,  $P_i < 1\text{W}$ ,  $L_i = 2.7\mu\text{H}$ ,  $C_i \leq 4.4\text{nF}$

a = Safety Level; 1 or 2

b = Accessories / Mounting; 0 or A

c = Classification = 1 or A

d = Conduit; 0 or 1

e = Measurement; B or D

f = Probe configuration / Style; 1, F, P or T

g = Process Connection Size; 1, 2, 3, 4, 5, 6, B, C, D, E or F

h = Process Connection Type; 1, 2, 3, 4, 5, 6, 7, 8, A, B, C, D, E, F, G, H, J, K, L, M or N

j = Construction Codes; 0, K, L, M or N

k = Flange Option; 0, 1, 2 or 3

l = Material of Construction; A, B, C, F, P, R, S or T

m = Spacer Material; 0, 1 or 5

n = O-Ring / Seal Material; 0, 1, 2, 3, 4, 5, 6, 7, 8, A or N

p = Probe size/Type/Flushing; 0, 1, 2 or 3

q = Special option; 0 or 1

r = Probe Length (3 digits max) in:

- Inches (Measurement System c = B, Configuration / Style d = F, P or T).
- Feet (Measurement System c = B, Configuration / Style d = 1).
- Centimeters (Measurement System c = D, Configuration / Style d = F, P or T).
- Meters (Measurement System c = D, Configuration / Style d = 1).

## 14 Specific Conditions of Use:

1. The enclosure contains aluminum and is considered to present a potential risk of ignition by impact or friction. Care must be taken during installation and use to prevent impact or friction.
2. The risk of electrostatic discharge shall be minimized at installation, following the direction given in the instruction.
3. To maintain the T4 temperature code care shall be taken to ensure the enclosure temperature does not exceed 70°C.

## 15 Essential Health and Safety Requirements:

The relevant EHSRs that have not been addressed by the standards listed in this certificate have been identified and assessed in the confidential report identified in item 8.

**THIS CERTIFICATE MAY ONLY BE REPRODUCED IN ITS ENTIRETY AND WITHOUT CHANGE**

FM Approvals Europe Limited, One Georges Quay Plaza, Dublin, Ireland. D02 E440  
T: +353 (0) 1761 4200 E-mail: [atex@fmaprovals.com](mailto:atex@fmaprovals.com) [www.fmaprovals.com](http://www.fmaprovals.com)

# SCHEDULE



Member of the FM Global Group

to EU-Type Examination Certificate No. FM19ATEX0197X

**16 Test and Assessment Procedure and Conditions:**

This EU-Type Examination Certificate is the result of testing of a sample of the product submitted, in accordance with the provisions of the relevant specific standard(s), and assessment of supporting documentation. It does not imply an assessment of the whole production.

Whilst this certificate may be used in support of a manufacturer's claim for CE Marking, FM Approvals Europe Ltd accepts no responsibility for the compliance of the equipment against all applicable Directives in all applications.

This Certificate has been issued in accordance with FM Approvals Europe Ltd's ATEX Certification Scheme.

**17 Schedule Drawings**

A list of the significant parts of the technical documentation is annexed to this certificate and a copy has been kept by the Notified Body.

**18 Certificate History**

Details of the supplements to this certificate are described below:

Date	Description
27 <sup>th</sup> February 2020	Original Issue.

**THIS CERTIFICATE MAY ONLY BE REPRODUCED IN ITS ENTIRETY AND WITHOUT CHANGE**

FM Approvals Europe Limited, One Georges Quay Plaza, Dublin. Ireland. D02 E440  
T: +353 (0) 1761 4200 E-mail: [atex@fmaprovals.com](mailto:atex@fmaprovals.com) [www.fmaprovals.com](http://www.fmaprovals.com)

# Blueprint Report

**Magnetrol International Inc (1000000020)**

**Class No 3610**

**Original Project I.D. 452949**

**Certificate I.D. FM19ATEX0197X**

<u>Drawing No.</u>	<u>Revision Level</u>	<u>Drawing Title</u>	<u>Last Report</u>
005-8083-001	A	Eclipse, Model 700 Intrinsically Safe	PR452949
005-8083-101	A	Eclipse, Model 700 Intrinsically Safe (NV)	PR452949
005-8083-201	A	Eclipse, Model 700 Intrinsically Safe (Orion)	PR452949
009-9803	B	CGWR, SIGNAL FABRICATION BOARD	PR452949
009-9804	A	CGWR, DISPLAY FABRICATION BOARD	PR452949
009-9806	B	CGWR, POWER FABRICATION	PR452949
009-9807	A	CGWR, SHIELD FABRICATION BOARD	PR452949
094-5544	B	SCHEMATIC COMMERCIAL G.W.R. POWER PC BOARD	PR452949
094-5545	B	SCHEMATIC COMMERCIAL G.W.R. SIGNAL PC BOARD	PR452949
094-5546	A	SCHEMATIC COMMERCIAL G.W.R. DISPLAY PC BOARD	PR452949
099-5079	B	SYSTEM DRAWING MODEL 700 TRANSMITTER	PR452949
0996575	B	MODEL 700, CGWR	PR452949