



(1) **EC TYPE EXAMINATION CERTIFICATE**

(2) **Equipment or protective system intended for use  
in potentially explosive atmospheres  
Directive 94/9/EC**

(3) EC type examination certificate number: **ISSeP00ATEX006**

(4) Equipment or protective system:  
Level/flow interface unit type THERMATEL, model TGX-12XD-XAX.

(5) Applicant – ~~Manufacturer~~ – ~~Authorized representative in the Community:~~

(6) Address: **MAGNETROL INTERNATIONAL N.V.**  
Heikensstraat 6  
B- 9240 Zele

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

(8) ISSeP, notified body n° 492 in accordance with article 9 of the Council Directive 94/9/EC of 23 March 1994, certifies that this equipment or protective system has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment and protective systems intended for use in potentially explosive atmospheres given in annex II to the Directive.


The examination and test results are recorded in confidential report n° 99142.

(9) Compliance with the Essential Health and Safety Requirements has been assured by compliance with:  
EN 50014, 3 rd. ed. 1997 + amendments 1 and 2 1999  
EN 50020, 2 nd. ed. 1994  
EN 50284, 1999

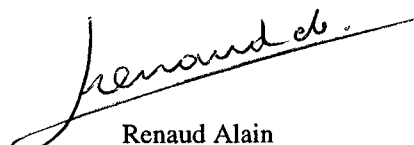
(10) The symbol "X" placed after the certificate number indicates that the equipment or protective system is subject to special conditions for safe use specified in the schedule to this certificate.

(11) This EC TYPE EXAMINATION CERTIFICATE relates only to the design and construction of the specified equipment or protective system. If necessary, other requirements of this directive may apply to the manufacture and supply of this equipment or protective system.

(12) The marking of the equipment or protective system shall include the following indications:

 II 1 G [EEEx ia] IIB

Colfontaine, the 25.04.2000

  
Renaud Alain  
Manager of Colfontaine division

INSTITUT SCIENTIFIQUE DE SERVICE PUBLIC  
Rue Grande, 60 - B7340 Colfontaine  
Tél: ++ 32 65 610811 - Fax: ++ 32 65 610808

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(13)

**SCHEDULE**

(14)

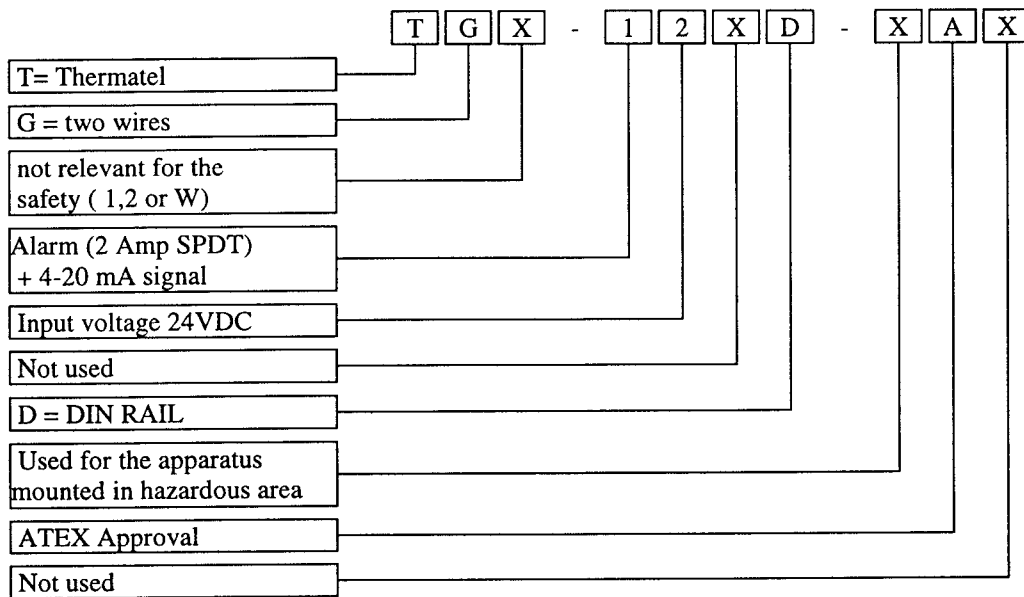
**EC TYPE EXAMINATION CERTIFICATE N<sup>R</sup> ISSeP00ATEX006**

(15)

Description of the equipment or protective system :

The level/flow interface unit type THERMATEL, model TGX-12XD-XAX consists of an electronic mounted inside DIN RAIL plastic enclosure.

The materiel is coded as follows :



Electrical parameters:

- Power supply and 4-20mA output:  $U_m = 28 \text{ V}$
- Relay contact: 250VAC, 2A / 100VA
- Intrinsic safety output (not linear)  
 $U_o = 17.3 \text{ V}$  ;  $I_o = 299 \text{ mA}$  ;  $P_o = 2.1 \text{ W}$   
 $C_o = 0.65 \text{ } \mu\text{F}$  ;  $L_o = 1.5 \text{ mH}$  ;  $L_o/R_o = 68 \text{ } \mu\text{H}/\text{ohm}$

Eventual prescriptions : none.

(16)

Report n° 99142 dated on 11/04/2000

Composed in total of 29 sheets, completed by the following descriptive documents:

- Installation instructions, ref. BE 54-604.0 of October 1999 (8 pages)

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- Drawings :

Reference	Date	Sheet(s)	Title
99-7162	07-03-2000	2	THERMATEL 2 WIRE EX i SWITCH
30-9112	15-03-2000	1	THERMATEL Exi LOGIC P.C BOARD ASSEMBLY
30-9113	10-04-2000	1	THERMATEL Exi BARRIER P.C BOARD ASSEMBLY
94-6018	15-03-2000	1	THERMATEL I.S LOGIC BOARD SCHEMATIC
09-9052-001, rév. D	07-03-2000	4	TOP LEGEND, TOP SIDE, BOTTOM LEGEND, BOTTOM SIDE
94-6019	10-04-2000	1	THERMATEL I.S BARRIER BOARD SCHEMATIC
09-9053-001, rév. C	10-01-2000	3	TOP LEGEND, TOP SIDE, BOTTOM SIDE
91-1326	10-01-2000	1	CONFORMAL COATING
99-7171	15-03-2000	1	RELAY THERMATEL DIN RAIL
99-7172	10-04-2000	1/2	ATEX nameplate Thermatel DIN RAIL

(17) Special conditions for safe use: None.

(18) Essential Health and Safety Requirements: None.

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## VARIATION

### EC TYPE EXAMINATION CERTIFICATE N° ISSeP00ATEX006/1

(14) Equipment or protective system :

Level/flow interface unit type THERMATEL, model TGX-12XD-XAX.

(15) Object of the variation :

The circuits are modified and include a galvanic insulation.  
The codification 052-7207\*\*1 is admissible.

Electrical parameters :

- power supply and 4-20 mA output :  $U_m = 28 \text{ V}$
- relay contacts 250 VAC, 2A/100 VA
- intrinsically safe output :
  - $U_o = 17.22 \text{ V}$
  - $I_o = 404 \text{ mA}$
  - $P_o = 2.4 \text{ W}$
  - $C_o = 0.80 \mu\text{F}$
  - $L_o = 500 \mu\text{H}$
  - $L_o/R_o = 39 \mu\text{H}/\Omega$

Eventual Prescriptions :  $T_a : -40^\circ\text{C}$  to  $+70^\circ\text{C}$

(16) Report n° 03103 of 07.01.2004

Composed in total of 19 pages, completed with the following documents :

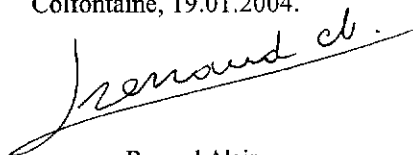
The drawings :

Number	Rev.	Date	Pages	Description
91-1326	N	10.1999		Conformal Coating
99-7172	D	05.2003		ATEX Nameplate Thermatel DIN Rail
094-6019	C	02.2003		Thermatel I.S. Barrier Board Schematic
030-9113	G	08.2003		Thermatel Exi Barrier P.C. Board Assembly
09-9053-001	G	04.06.2003	3	
094-6018	D	02.2003	2	Thermatel I.S. Logic Board Schematic
030-9112	L	02.2003		Thermatel Exi Logic P.C. BD. Assembly
09-9052-001	H	04.06.2003	4	
009-6265	A	01.2003		Transformer

(17) Special conditions for safe use : None.

(18) Essential Health and Safety Requirements : covered by the Standards listed in (9)

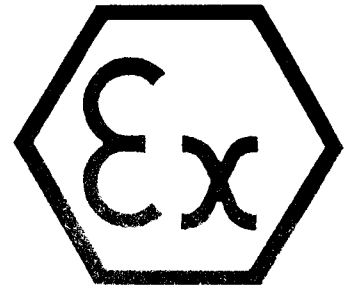
Colfontaine, 19.01.2004.



Renaud Alain,  
Directeur du site de Colfontaine.

INSTITUT SCIENTIFIQUE DE SERVICE PUBLIC  
Zoning A. Schweitzer - B 7340 Colfontaine (Wasmes)  
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This document may not be used without the original certificate



(1) **EC TYPE EXAMINATION CERTIFICATE**

(2) **Equipment or protective system intended for use  
in potentially explosive atmospheres  
Directive 94/9/EC**

(3) EC type examination certificate number: **ISSeP00ATEX007X**

(4) Equipment or protective system : THERMATEL ® amplifier with level and flow sensor

(5) Applicant – ~~Manufacturer~~ – ~~Authorized representative in the Community:~~

(6) Address: **MAGNETROL INTERNATIONAL N.V.**  
Heikensstraat 6  
B- 9240 Zele

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

(8) ISSeP, notified body n° 492 in accordance with article 9 of the Council Directive 94/9/EC of 23 March 1994, certifies that this equipment or protective system has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment and protective systems intended for use in potentially explosive atmospheres given in annex II to the Directive.


The examination and test results are recorded in confidential report n° 99195.

(9) Compliance with the Essential Health and Safety Requirements has been assured by compliance with:  
EN 50014, 3<sup>rd</sup> ed. 1997 + amendments 1 and 2 1999  
EN 50020, 2<sup>nd</sup> ed. 1994  
EN 50284, 1999

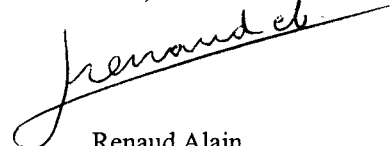
(10) The symbol "X" placed after the certificate number indicates that the equipment or protective system is subject to special conditions for safe use specified in the schedule to this certificate.

(11) This EC TYPE EXAMINATION CERTIFICATE relates only to the design and construction of the specified equipment or protective system. If necessary, other requirements of this directive may apply to the manufacture and supply of this equipment or protective system.

(12) The marking of the equipment or protective system shall include the following indications:

 II 1 G EEx ia IIB T5

Colfontaine, the 04.05.2000



Renaud Alain  
Manager of Colfontaine division

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(13)

**SCHEDULE**

(14)

**EC TYPE EXAMINATION CERTIFICATE N<sup>R</sup> ISSeP00ATEX007X**

(15)

Description of the equipment or protective system :

THERMATEL ® amplifier type TGx-12xD-xAx equipped with a sensor type T ## - #### - ###  
 having a length less or equal to 6.1 m.  
 The assembly permits to measure level and/or flow.

Possible and admissible variations for the amplifier

	<u>T</u>	<u>G</u>	<u>x</u>	<u>-</u>	<u>1</u>	<u>2</u>	<u>x</u>	<u>D</u>	<u>-</u>	<u>x</u>	<u>A</u>	<u>x</u>
T : Thermatel	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____
G : two wires	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____
Not relevant for safety (1,2 or W)	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____
Used for the associated apparatus	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____
Enclosure :	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____
T : Aluminium, M20x1.5 cable entry												
M : Aluminium, PG 13.5 cable entry												
Z : Aluminium, PG 16 cable entry												
2 : Aluminium, 3/4 " NPT cable entry												
6 : Acier inox, 3/4 " NPT cable entry												
ATEX approbation	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____
not used	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____

Possible and admissible variations for the sensor

	<u>T</u>	<u>#</u>	<u>#</u>	<u>-</u>	<u>#</u>	<u>#</u>	<u>#</u>	<u>#</u>	<u>-</u>	<u>###</u>
Model THERMATEL	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____
Probe length units :	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____
E = inches										
M = Metric										
Type of the measurements device	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____
Material :	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____
SST										
Hasteloy										
Monel										
316Ti										
Process connection size	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____
Process connection type	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____
Options	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____
Probe length	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____
Max. 6.1 m										

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## SCHEDULE

### EC TYPE EXAMINATION CERTIFICATE N<sup>R</sup> ISSeP00ATEX007X

Electrical parameters:

$U_i = 17.3 \text{ V}$   
 $I_i = 299 \text{ mA}$   
 $P_i = 2.1 \text{ W}$   
 $L_i = 3\mu\text{H}$   
 $C_i = 50 \text{ nF}$

Eventual prescriptions :  
 $T_{amb} : - 40^\circ\text{C to } + 70^\circ\text{C}.$

- (16) Report n° 99195 of 18.04.2000  
 Composed in total of 28 pages, completed by the following documents

« THERMATEL® Model TG1/TG2 installations and Operating Manual » (8 sheets)

The drawings :

Reference	Rev	Date	sheet(s)	description
99-7162	A	11.08.1999	2	Thermatel 2 Wires Ex i Switch
99-7163	A	01.10.1999	9	Thermal Transducer
30-9114	B	09.1999	1	Thermatel Ex i Remote P C Board Assembly
94-6020	A	09.09.1999	1	Thermatel I S Remote Board Schematic
09-9054-001	C	01.03.2000	4	
99-7172	A	07.03.2000	1	Atex Nameplate

- (17) Special conditions for safe use:

Symbol X

During the installation, the user and the installer shall ensure the internal temperatures of the enclosure containing the amplifier don't exceed + 70 °C under the worst unfavourable conditions.

The worst unfavourable conditions are present with an external ambient temperature of + 70°C and a maximum heating transmission by the installation.

If one of these temperature exceeds + 70°C, either the high temperature version, or the standard one with enclosure extension shall be used.

When the material is equipped with an aluminium enclosure, all precautions shall be taken in order to avoid all impacts or frictions which can cause ignition of the potentially explosive atmosphere.

Generally speaking, the power supply shall be galvanically insulated.

- (18) Essential Health and Safety Requirements : None.

This certificate may only be reproduced in its entirety and without any change, schedule included

## VARIATION

### EC TYPE EXAMINATION CERTIFICATE N<sup>R</sup> ISSeP00ATEX007X/1

(14) Equipment or protective system:  
Amplifier type Thermatel constructed by Magnetrol International N.V.

(15) Object of the variation:

Modification of the circuit in order the material is conform to the clause 6.4.12 (voltage test) of the standard EN 50020.

Therefore, the special condition for a safe use about the material power supply is not needed.

Electrical parameters: Unchanged

Eventual prescriptions: None

(16) Report n<sup>o</sup> 00104 of 04.09.2000

Composed in total of 9 pages, completed with the following documents:

<u>Number</u>	<u>Revision</u>	<u>Date</u>	<u>Description</u>
09-9054-001	D	07.07.2000	
30-9114	C	07.2000	Thermatel Ex i remote P.C. board assembly
94-6020	B	07.2000	Thermatel I.S. remote board schematic

(17) Special conditions for safe use:

The conditions imposed by the original certification are modified as follow:

Symbol X

- During the installation, the user and the installer shall ensure the internal temperatures of the enclosure containing the amplifier don't exceed + 70 °C under the worst unfavourable conditions.

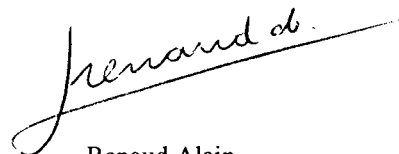
The worst unfavourable conditions are present with an external ambient temperature of + 70°C and a maximum heating transmission by the installation.

If one of these temperature exceeds + 70°C, either the high temperature version, or the standard one with enclosure extension shall be used.

- When the material is equipped with an aluminium enclosure, all precautions shall be taken in order to avoid all impacts or frictions which can cause ignition of the potentially explosive atmosphere.

(18) Essential Health and Safety Requirements: None

Colfontaine, 13.09.2000



Renaud Alain  
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VARIATION

EC TYPE EXAMINATION CERTIFICATE N° ISSeP00ATEX007X/2

(14) Equipment or protective system :

THERMATEL® amplifier type TGx – 12xD – xAx equipped with a sensor type T## - ##### - ### having a length less or equal to 6.1 m

(15) Object of the variation :

- The electrical parameters are modified.
- Minor modification at the sensor level.
- Additional possible and admissible codification : 052-7207-\*\*1.
- The flanges can be in steel.

Electrical parameters :

$U_i = 17.22 \text{ V}$   
 $I_i = 404 \text{ mA}$   
 $P_i = 2.4 \text{ W}$   
 $L_i = 3 \mu\text{H}$   
 $C_i = 50 \text{ nF}$

Eventual Prescriptions : unchanged.

(16) Report n° 03104 of 13.01.2004

Composed in total of 7 pages, completed with the following documents :

The drawings :

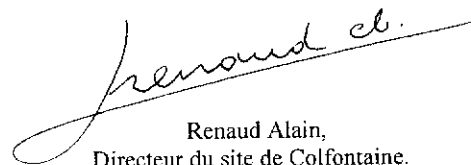
Reference	Rev	Date	Page(s)	Description
99-7172	D	05.2003	2 de 2	ATEX Nameplate Thermatel DIN Rail
99-7163	B	05.2003	9	Thermatel Transducer
030-9114	K	21.08.2003		Thermatel Exi Remote P.C. Board Assembly

(17) Special conditions for safe use :

The conditions imposed by the original certification are modified as follow : see variation 1.

(18) Essential Health and Safety Requirements : covered by the Standards listed in (9)

Colfontaine, 26.01.2004.



Renaud Alain,  
Directeur du site de Colfontaine.

INSTITUT SCIENTIFIQUE DE SERVICE PUBLIC  
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