



**INERIS**

INSTITUT NATIONAL DE L'ENVIRONNEMENT  
INDUSTRIEL ET DES RISQUES

Parc Technologique ALATA  
B.P. N° 2 - 60550 Verneuil-en-Halatte - France  
Tél. : (33) 03 44 55 66 77 - Fax : (33) 03 44 55 67 04  
E-mail : ineris@ineris.fr

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

(1) **EC-TYPE EXAMINATION CERTIFICATE**

(3) Number of the EC type examination certificate: **INERIS 03ATEX0044 X**

(4) Protective system or equipment:

**SOLENOIDS TYPE 800800-...**

( Points are replaced by the indication of the nominal resistance at 20°C )

(5) Manufacturer: **A.C.E. (Automatismes du Centre-Est)**

(6) Address: **2 bis, rue des Frères Montgolfier  
BP 128  
F- 21303 CHENOVE Cedex**

(7) This protective system or equipment and any other acceptable alternative of this one are described in the appendix of this certificate and the descriptive documents quoted in this appendix.

(8) The INERIS, notified body and identified under number 0080, in accordance with article 9 of Council Directive 94/9/EC of the 23<sup>rd</sup> March 1994, certifies that this protective system or equipment fulfils the Essential of Health and Safety Requirements relating to the design and construction of equipment and protective systems intended for use in potentially explosive atmospheres, described in appendix II of the Directive.

The examinations and the tests are consigned in official report No P48776/03.

(9) The respect of the Essential Health and Safety Requirements is ensured by:


- conformity with:

EN 50 014 of June 1997 + Amendments 1 and 2  
EN 50 018 of November 2000  
EN 50 019 of July 2000  
EN 50 281-1-1 of September 1998 + Amendment 1

- specific solutions adopted by the manufacturer to meet the Essential Health and Safety Requirements described in the descriptive documents.

(10) Sign X, when it is placed following the Number of the EC type examination certificate, indicates that this equipment and protection system is subjected to the special conditions for safe use, mentioned in the annex of this certificate.

- (11) This EC type examination certificate relates only to the design, examination and tests of the specified equipment or protective system in accordance to the directive 94/9/EC. 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 the protection system will have to contain:

 II 2 GD

EEx d or de IIC T6 to T4 IP66 T67°C to T99°C

 I M2

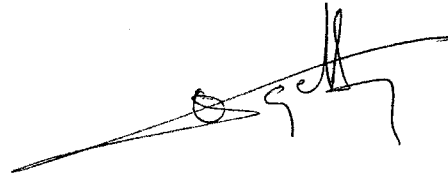
EEx d or de I

Verneuil-en-Halatte, the 2003 04 18



C. PETITFRERE

Engineer at the Laboratory of Certification of  
Materials ATEX



Director of the Certifying Body,  
By delegation  
B. PIQUETTE  
Deputy manager of Certification



(13)

## ANNEX

(14)

EC TYPE EXAMINATION CERTIFICATE N° INERIS 03ATEX0044 X

(15)

### DESCRIPTION OF THE EQUIPMENT OR THE PROTECTION SYSTEM

The enclosure, made in steel, is constituted by a housing including an electrical coil shrouded in resin and by a junction box protected either by flameproof enclosure or increased safety.

In increased safety version, the electrical terminal is a certified type which have the certificate of component N° PTB 99ATEX3117U.

The junction box can be replaced by threaded flange, fixed by screws, to adapt a certified type conduit entry.

Solenoid may contain certified type closing caps and different adapters, either in flameproof enclosure or in increased safety according to the protection mode of the junction box.

Connection with the external electric circuits is ensured by the intermediary of certified type cable entries, adapted to the protection mode of the junction box.



### PARAMETERS RELATING TO THE SAFETY

#### Electrical characteristics:

|                                         |                            |
|-----------------------------------------|----------------------------|
| Nominal voltages in direct current      | : from 12 to 220 Volts,    |
| Nominal voltages in alternative current | : 24, 110, 120, 220 Volts, |
| Maximum Powers                          | : from 13,2 to 16,4 Watts. |

**MARKING**

Marking must be readable and indelible; it must comprise the following indications:

- A.C.E.
- 2 bis, rue des Frères Montgolfier  
BP 128  
F- 21303 CHENOVE Cedex
- 800800-...
- INERIS 03ATEX0044 X
- (serial number)
- (year of construction)
-  II2GD EEx d or de IIC T<sup>(1)</sup> IP66 T<sup>(2)</sup>  
(see table hereafter for the classifications in temperature according to ambient temperatures of use)
-  IM2 EEx d or de I
- T°amb.: from -25 to +40°C, +50°C or +60°C
- ΔT cable : 32 K
- DO NOT OPEN WHEN ENERGIZED

When the junction box is protected by increased safety:

- On the box : the sign "e"  
(nominal voltages and currents)
- On the solenoid : the sign "d"

**Table of classifications in temperature**

| SOLENOID TYPE | Direct voltage (V) | alternative voltage (V) | (1) at T amb =40°C | (1) at T amb =50°C | (2) at T amb =40°C | (2) at T amb =50°C |
|---------------|--------------------|-------------------------|--------------------|--------------------|--------------------|--------------------|
| 3600          | 220                | /                       | T6                 | T5                 | T 76°C             | T 86°C             |
| 2930          | 200                | 220                     | T6                 | T5                 | T 72°C             | T 82°C             |
| 873           | 110                | 120                     | T6                 | T5                 | T 73°C             | T 83°C             |
| 680           | 96                 | 110                     | T6                 | T6                 | T 68°C             | T 78°C             |
| 174           | 48                 | /                       | T6                 | T5                 | T 74°C             | T 84°C             |
| 35            | 24                 | /                       | T5                 | T4                 | T 89°C             | T 99°C             |
| 42            | 24                 | /                       | T6                 | T5                 | T 71°C             | T 81°C             |
| 35            | 22                 | 24                      | T6                 | T5                 | T 75°C             | T 85°C             |
| 11            | 12                 | /                       | T6                 | T6                 | T 67°C             | T 77°C             |

| SOLENOID TYPE | Direct voltage (V) | alternative voltage (V) | (1) at T amb =60°C | (2) at T amb =60°C |
|---------------|--------------------|-------------------------|--------------------|--------------------|
| 3600          | 220                | /                       | T4                 | T 96°C             |
| 2930          | 200                | 220                     | T5                 | T 92°C             |
| 873           | 110                | /                       | T5                 | T 93°C             |
| 680           | 96                 | 110                     | T5                 | T 88°C             |
| 174           | 48                 | /                       | T5                 | T 94°C             |
| 35            | 24                 | /                       | /                  | /                  |
| 42            | 24                 | /                       | T5                 | T 91°C             |
| 35            | 22                 | 24                      | T5                 | T 95°C             |
| 11            | 12                 | /                       | T5                 | T 87°C             |

The whole of marking can be carried out in the language of the country of use.

The protection apparatus or system must also carry the marking normally envisaged by the standards of construction which relate to it.

**ROUTINE EXAMINATIONS AND TESTS**

Each exemplar of the equipment defined above, must have undergone successfully prior to delivery, and in accordance with 16.1 of the EN 50 018 standard, a static overpressure test of 8,5 bar during a time between 10 and 60 seconds.

In conformity with 5.1 of the EN 50 019 standard, the junction box in increased safety version must undergo a dielectric strength test, carried out in accordance with the supply voltage and as defined in the appropriate standards.

**(16) DESCRIPTIVE DOCUMENTS**

The report is composed of the documents quoted hereafter, constituting the descriptive file of the apparatus, object of this certificate.

- Instructions N° INS/F-50-420/04-03(5 pages)                      dated on April 2003
- Descriptive notice NOD/F-50-420/03-02(10 pages)              dated on April 2003
- Drawing N° 800800                                                              dated on 2000.12.30

These documents are signed on 2003.04.11

**(17) SPECIAL CONDITIONS FOR SAFE USE**

In order to guarantee the tensile strength of the screws of the flameproof junction box, the quality of the screws must be at least equal to 780N/mm<sup>2</sup>.

The use of conduit entry is forbidden in group I. When use in group II, the cable extremity must be connected in a certified enclosure and adapted to the concerned protection mode.

**(18) ESSENTIAL REQUIREMENTS OF SAFETY AND HEALTH**

The respect of the Essential Health and Safety Requirements is ensured by:

- conformity to the European standards EN 50014, EN 50018, EN 50 019 and EN 50 281-1-1.
- the whole of the provisions adopted by the manufacturer and described in the descriptive documents.

## ADDITION

INERIS 03ATEX0044X/01

SOLENOIDS TYPE 800800-...

Manufactured by A.C.E

(15) - PURPOSE OF THE ADDITION

Exemption of the routine test.

PARAMETERS RELATING TO THE SAFETY

The parameters relating to the safety stipulated by the basic certificate are unchanged.

MARKING

The marking defined in the basic certificate is unchanged.

ROUTINE EXAMINATIONS AND TESTS

In accordance with 16.2 of the EN 50 018 standard, the body of the solenoid and the junction box in flameproof version having undergone successfully a static overpressure test to four times reference pressure at 24 bar, they are exempted of individual test.

In accordance with 16.1 of the EN 50 018 standard, the soldered unit (mark 4 of the drawing N°800800 of the basic certificate) must have undergone successfully prior to delivery, and, a static overpressure test of 8,5 bar during a time between 10 and 60 seconds.

The dielectric strength test of the junction box in increased safety version, defined in the basic certificate is unchanged.

(16) - DESCRIPTIVE DOCUMENTS

None.

(17) - SPECIAL CONDITIONS FOR SAFE USE

The special conditions for safe use defined in the basic certificate are unchanged.

(18) - ESSENTIAL REQUIREMENTS OF SAFETY AND HEALTH

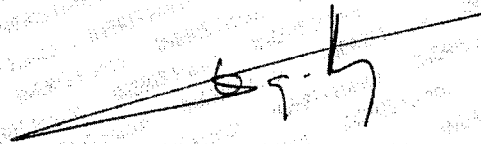
The respect of the Essential Health and Safety Requirements defined in the basic certificate is unchanged.

Verneuil-en-Halatte, 2004-10-25



C. PETITFRERE

Engineer at the Laboratory of Certification of  
Materials ATEX



Director of the Certifying Body,  
By delegation  
B. PIQUETTE  
Deputy manager of Certification

