INERIS
INSTITUT NATIONAL DE L'ENVIRONNEMENT
INDUSTRIEL ET DES RISQUES

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(2) **Equipment and protection 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 02ATEX0024 X**

(4) Protection apparatus or system:

SOLENOIDS TYPE 800700-...
(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 protection 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 23rd March 1994, certifies that this protection system or equipment fulfils the Essential of Health and Safety Requirements relating to the design and construction of equipment and protection 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 30590/02.

(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

- 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:

Ex **II 2 GD**	**EEx d or de IIB + H2 T6 or T5 or T4 IP66 T85°C or T100°C or T135°C**
Ex **I M2**	**EEx d or de I**

Verneuil-en-Halatte, the 2002 03 29

X.LEFEBVRE

Engineer at the Laboratory of Certification of Materials ATEX

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

ATMOSPHERES EXPLOSIVES
ORGANISME NOTIFIÉ
INERIS
NOTIFIED BODY
EXPLOSIVE ATMOSPHERES

(13) # ANNEX

(14) **EC TYPE EXAMINATION CERTIFICATE N°INERIS 02ATEX0024 X**

(15) **DESCRIPTION OF THE EQUIPMENT OR THE PROTECTION SYSTEM**

The enclosure, realized 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 cap 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 and 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

- 800700-...
- INERIS 02ATEX0024 X
- (serial number)
- (year of construction)
- Ex **II2GD EEx d** or **de IIB + H2 T(1) IP66 T(2)**
  (see table hereafter for the classifications in temperature according to ambient temperatures of use)
- Ex **IM2 EEx d** or **de I**
- T°amb.: from -25 to +40°C or from -25 to +50°C
- T°cable : 73°C at T°amb.= 40°C or 83°C at T°amb.= 50°C
- 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 : le 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 85°C	T 100°C
2930	200	220	T6	T5	T 85°C	T 100°C
873	110	/	T6	T5	T 85°C	T 100°C
680	96	110	T6	T5	T 85°C	T 100°C
174	48	/	T6	T5	T 85°C	T 100°C
35	24	/	T5	T4	T 100°C	T 135°C
42	24	/	T6	T5	T 85°C	T 100°C
35	22	24	T6	T5	T 85°C	T 100°C
11	12	/	T6	T5	T 85°C	T 100°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 9 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-050-320/03-02(5 pages) dated on March 2002
- Descriptive notice NOD/F-050-320/03-02(7 pages) dated on March 2002
- Drawing N° 800700 ind.C dated on March 2002

These documents are signed on 2002.03.27

(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/mm2.

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.

This equipment mustn't be use in an explosive atmosphere containing acetylene.

(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 02ATEX0024 X / 01

SOLENOIDS TYPE 800700-...

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 successfullly a static overpressure test to four times reference pressure at 24 bar, the apparatus is exempt of individual test.

In accordance with 16.1 of the EN 50 018 standard, the soldered unit (marks 3,4 and 5 of the drawing N°800700 of the basic certificate) must have undergone successfully prior to delivery, and, a static overpressure test of 9 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, 2002 06 10

X. LEFEBVRE

Engineer at the Laboratory of Certification of Materials ATEX

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

ATMOSPHERES EXPLOSIVES ORGANISME NOTIFIE INERIS NOTIFIED BODY EXPLOSIVE ATMOSPHERES

ADDITION

(3) INERIS 02ATEX0024X/02

(4) SOLENOIDS Type 800700-...

(5) Made by A.C.E

(15) PURPOSE OF THE ADDITION

using until a possible ambiant temperature of +60°C

PARAMETERS RELATING TO THE SAFETY

The parameters relating to the safety mentionned in the basic certificate are unchanged.

MARKING

The marking defined in the basic certificate is modified as follows:

- Ex II2GD EEx d or de IIB + H2 T(1) IP66 T(2)
- Ex IM2 EEx d or de I
- T°amb.: from -25 of +60°C
- T°cable : 93°C for T°amb.= 60°C

Table of classification in température

SOLENOIDE TYPE	Direct Voltage (V)	Alternative Voltage (V)	(1) for T amb =60°C	(2) for T amb =60°C
3600	220	/	T5	T 100°C
2930	200	220	T5	T 100°C
873	110	/	T5	T 100°C
680	96	110	T4	T 135°C
174	48	/	T5	T 100°C
35	24	/	T4(3)	T 135°C(3)
42	24	/	T5	T 100°C
35	22	24	T5	T 100°C
11	12	/	T5	T 100°C

(3) only use in (IM2 ou II2GD) EEx d version.

ROUTINE EXAMINATIONS AND TESTS

The routine examinations and tests stipulated by the basic certificate are unchanged.

(16) DESCRIPTIVE DOCUMENTS

The descriptive documents quoted hereafter constitute the technical documentation describing the modification of the equipment, subject of this present addition.

- Descriptive note NOD/F-050-320/04-06 (7 pages) dated and signed on 2006.04.05

(17) SPECIAL CONDITIONS FOR SAFE USE

The special conditions defined in the basic certificate are modified as follows:

For using in ambiant temperature until +60°C

- The apparatus should be only fitted with nitril gasket type NBR,
- The solenoid type 800700-35 supplied with 24Vdc voltage will be only made in EEx d version.

(18) ESSENTIAL SAFETY AND HEALTH REQUIREMENTS

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

Verneuil-en-Halatte, 2006 05 31

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C. PETITFRERE

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