[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:

CESI 01 ATEX 036

[4] Equipment: Command, control and signalling units series CCA…, GUB…, CCAI…

[5] Manufacturer: **COR.TEM S.p.A.**

[6] Address: Via Aquileia 6, 34070 Villesse, Gorizia (Italy)

[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] CESI, notified body n. 0722 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. EX-A1/015465.

[9] Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

EN 50014: 1997 + A1…A2 EN 50018: 2000 EN 50281-1-1:1999

[10] If the sign "X" is placed after the certificate number, it 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, 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 protective system shall include the following:

Ex II 2 GD EEx d IIC T6 or T5 IP 66 T85 or T100 °C

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

date November 9th, 2001 - translation issued on November 15th, 2001

prepared CERT – M. Balaz

approved CERT – U. Colombo

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[13] **Schedule**

[14] **EC-TYPE EXAMINATION CERTIFICATE N. CESI 01 ATEX 036**

[15] **Description of equipment**

Command, control and signalling units series CCA…, GUB…, CCAI…
The enclosures of these units are made in aluminium or in stainless steel (see technical note A4-4116 annexed to this certificate).
The CCA… and GUB… series are identical in every detail. The code CCA or GUB refers only to the firm which puts the product into the market.
The various items of the code show the size of the enclosure (volumes from 0.5 to 32 dm^3), constructional modifications, the type of material used, the presence of glass windows.
The complete codes of all the units subject of this certificate are reported in the drawings A1-4115 and A1-4123 annexed to the certificate.
The enclosures of the command, control and signalling units are subject of the certificate of component CESI 01 ATEX 034 U. All the constructional details of the enclosures are reported in the drawings annexed to this certificate of component.
The types of electrical and electronic components installed inside the command, control and signalling units are reported in the technical note A4-4116 together with their electrical characteristics.
On the enclosures subject of this certificate, type M-0…command and signalling operators as indicated in the certificate of component CESI 01 ATEX 025 U can be installed.

Electrical characteristics

Rated voltage	24 ÷ 1000 V a.c.	12 ÷ 250 d.c.
Rated frequency	50 ÷ 60 Hz	----
Max. current in fuses and contacts [1]	400 A	400 A
Ambient temperature	- 20 ÷ + 40 °C - 20 ÷ + 55 °C	
Maximum lamp power	5 W for ambient temperature – 20 ÷ + 40 °C 3 W for ambient temperature – 20 ÷ + 55 °C	

Temperature class for category 2G. units:
T6 or T5 as a function of the enclosure dimension, ambient temperature and power dissipated inside the enclosure

Maximum surface temperature for category 2.D units:
T85 °C or T100°C as a function of the enclosure dimension, ambient temperature and power dissipated inside the enclosure

Degree of protection IP 66 (EN 60529 – 1991)

Prot. A1/015471 P: 4
Keywords 13010R 27030T 48010M 54250O 66540E

[13] **Schedule**

[14] **EC-TYPE EXAMINATION CERTIFICATE N. CESI 01 ATEX 036**

Maximum values of the power which can be dissipated inside the enclosure CCA04 having a volume of 31 dm^3:

Ambient temperature	+ 40 °C		+55 °C	
Temperature class	T6	T5	T6	T5
Max. surface temperature [°C]	T85	T100	T85	T100
Dissipated power [W]	112	197	84	150

The maximum power which can be dissipated inside the enclosure and the maximum current on contacts and fuses are a function of enclosure size, of the temperature class and of the ambient temperature as specified in details in the documentation annexed to this certificate.

The accessories used for cable entry and for closing unused apertures shall guarantee a degree of protection IP 66 and shall be certified according to the standards EN 50014, EN 50018 and EN 50281-1-1.

The service temperature of windows and of signal and control operators type M-0… shall not exceed 100 °C.

Warning label

"Use screws of quality A2-70 according UNI 7323 with ultimate tensile strength of at least 700 N/mm^2".

Additional warnings

In case of enclosures including capacitors:
"After de-energizing, wait 10 minutes before opening"

In case of enclosures of temperature class T5:
"Use cables suitable for a temperature of 100 °C"

[16] **Report n. EX-A1/015465**

Routine tests

The manufacturer shall carry out the routine tests prescribed at clause 24 of the EN 50014 standard.
The routine overpressure test shall be carried out with the static method (clause 15.1.3.1 of EN 50018 standard) at the pressure of 13.5 bar.

[13] **Schedule**

[14] **EC-TYPE EXAMINATION CERTIFICATE N. CESI 01 ATEX 036**

Descriptive documents (prot. EX-A1/015467)

- n. A4-4116 Rev. 0 (3 p.)	dated 28.08.2000
- n. A1-4115 Rev. 1	dated 04.08.2000
- n. A1-4123 Rev. 1	dated 18.09.2000
- n. A4-4129	dated 26.06.2000
- Safety instructions mod. F-257 Rev. 0 (5 p.)	dated 28.08.2000
- EC declaration of conformity CE/0021	dated 28.08.2000

One copy of all documents is kept in CESI files.

[17] **Special conditions for safe use**

None.

[18] **Essential Health and Safety Requirements**

Covered by standards.

CESI

EXTENSION n. 01/03

to EC-Type Examination Certificate CESI 01 ATEX 036

Equipment: Command, control and signalling units series CCA..., GUB..., CCAI...

Manufacturer: **COR.TEM S.p.A.**

Address: Via Aquileia 10, Villesse , Gorizia (Italy)

Admitted variations

a) Installation of surge arresters in the enclosures
b) Installation of ignition transformers in the enclosures

Electrical characteristics

a) Surge arresters

- Rated spark-over voltage	90 ÷ 600 Vdc
- Max. impulse discharge current	20 kA

b) Ignition transformers

- Primary voltage	110 / 230 V
- Max. secondary voltage	10 kV
- Secondary current	15 mA

Temperature class for category 2G units: T6 or T5 as a function of the enclosure dimension, ambient temperature and power dissipated inside the enclosure (see documents annexed to the certificate CESI 01 ATEX 036).
Maximum surface temperature for category 2D units: T85 °C or T100°C as a function of the enclosure dimension, ambient temperature and power dissipated inside the enclosure (see documents annexed to the certificate CESI 01 ATEX 036).

Report n. EX-A3/000966

Descriptive documents (prot. EX-A3/000972)
- n. A1-4301 Rev. 0 (2 sheets) dated 15.07.2002
One copy of all documents is kept in CESI files.

This extension and annexed descriptive documents must be annexed to the EC-Type Examination Certificate CESI 01 ATEX 036.

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date 14th January 2003 - translation issued on 14th January 2003

prepared CERT – M. Balaz

approved CERT – U. Colombo

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Prot. A3/000981 P: 1
Keywords 13010R 24080T 48010M 54250O 66540E

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EXTENSION n. 02/07

to EC-Type Examination Certificate CESI 01ATEX 036

Equipment: Command, control and signalling units series CCA..., GUB..., CCAI...

Manufacturer: **COR.TEM S.p.A.**

Address: Via Aquileia 10, Villesse (GO)

Admitted variation

- Updating to new standards EN 60079-0 (2006), EN 60079-1 (2004), EN 61241-0 (2006), EN 61241-1 (2004) Standards
- Updating of nameplate
- New electrical characteristics of ignition transformers
- Boxes with glass windows type CCA-04H and CCA-04EH

Equipment identification

The equipment shall include the following markings:

II 2GD **Ex d IIC T6 ; Ex tD A21 IP66 T 85 °C**

or

II 2GD **Ex d IIC T5 ; Ex tD A21 IP66 T 100 °C**

This extension and annexed descriptive documents must be annexed to the EC-Type Examination Certificate CESI 01ATEX036.

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date 08/06/2007 - translation issued the 08/06/2007

prepared Sergio Mezzetti

verified Mirko Balaz

approved Fiorenzo Bregani

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EXTENSION n. 02/07

to EC-Type Examination Certificate CESI 01ATEX 036

Electrical characteristics for ignition transformers

- primary voltage 1000 V
- secondary voltage 20kV max. (max. impulse 25 kV for 3 micro seconds)
- secondary current 50 mA

Unchanged the other characteristics

Report n. EX-A7015965

Routine tests

The manufacturer shall carry out the routine tests prescribed at par. 27 of the EN 60079-0 (2006) and at par. 24 of the EN 61241-0 (2006) Standards.
The routine overpressure test shall be carried out, with the static method (par. 15.1.3.1 of EN 60079-1 Standard), at the pressure of 13.5 bar

Descriptive documents (prot. EX-A7015967)

- Technical Note A4-4977 (2 pg.)	Rev. 00	dated	02/04/2007
- Drawing n°. A4-4951	Rev. 00	dated	02/04/2007
- Drawing n°. A4-4952	Rev. 00	dated	02/04/2007
- Drawing n°. A1-4469	Rev. 00	dated	22/03/2007
- EC Declaration of Conformity		dated	22/03/2007
- Safety Instruction mod. F-.257 (13 pg.)	Rev. 01	dated	22/03/2007

One copy of all documents is kept in CESI files.

Essential Health and Safety Requirements

The Health and Safety Requirements are assured by compliance with the following Standards:

- EN 60079-0 : 2006 — Electrical apparatus for explosive gas atmospheres. General requirements
- EN 60079-1 : 2004 — Flamoproof enclosures "d".
- EN 61241-0 : 2006 — Electrical apparatus for use in the presence of combustible dust. General requirements
- EN 61241-1 : 2004 — Protection by enclosures “tD”

EXTENSION n. 03/10

to EC-Type Examination Certificate CESI 01ATEX036

Equipment: Command, control and signaling units series CCA…, GUB…

Manufacturer: **COR.TEM S.p.A.**

Address: Via Aquileia 10, Villesse (GO)

Admitted variation

- Updating to new standard editions EN 60079-0 (2006), EN 60079-1 (2007)
- New minimum ambient temperature Ta = - 50 °C
- New boxes types GUB-05manufactured in aluminium
- Installation of batteries inside the boxes
- Installation of surge protective devices inside the boxes
- Maximum current on contacts 650A
- Use of sealed cable glands for fiber optic cables
- Installation of radio frequency sources inside the boxes
- New traffic light units CCA-02E/S and GUB-03/S
- Execution IM2 Ex d I (for stainless steel enclosure only)

Equipment identification and description

The equipment shall include the following markings:

II 2GD Ex d IIC T6/T5 ; Ex tD A21 IP66 T 85 /100°C

II 2GD Ex d IIC T.. ; Ex tD A21 IP66 T…°C
(for traffic light CCA-02E/S e GUB-03/S)

I M2 Ex d I (for stainless steel CCA I… boxes only)

This extension and annexed descriptive documents must be annexed to the EC-Type Examination Certificate CESI 01ATEX036

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date	26/04/2010
prepared	Sergio Mezzetti
verified	Mirko Balaz
approved	Fiorenzo Bregani

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-I01

EXTENSION n. 03/10

to EC-Type Examination Certificate CESI 01ATEX036

Equipment identification and description (follows)

The accessories used for cable entries and for closing unused apertures shall be separately certified:
- For **II 2GD** units the accessories must be certified in compliance with the EN 60079-0, EN 60079-1, EN 61241-0, EN 61241-1 and the degree of protection IP66 must be ensured in compliance with the EN 60529 standard
- For **II 2G** and **I M2** units the accessories must be certified in compliance with the EN 60079-0 and EN 60079-1, standards.

Electrical characteristics

Rated Voltage	24 ÷ 1000Vac	12 ÷ 250Vdc
Max. current on the contacts	650 A	
Rated frequency	50/60 Hz	
Max. power on the lamps	5W (per Ta + 40 °C 3W (per Ta + 55 °C)	
Ambient Temperature range	- 20°C ÷ + 40 °C - 20°C ÷ + 55 °C - 50°C ÷ + 40 °C - 50°C ÷ + 55 °C	
Temperature class	T6, T5, depending on boxes size, ambient temperature and dissipated power (as well as reported in the documentation annexed to this extension)	

Temperature class admitted for the new boxes GUB-05

For Ta max. + 40 °C	T6 with max. dissipated power	= 165 W
	T5 with max. dissipated power	= 290 W
For Ta max. + 55 °C.	T6 with max. dissipated power	= 125 W
	T5 with max. dissipated power	= 220 W

Description of the admitted variations

Ambient temperature
The constructions of group II can be realized for minimum ambient temperature of – 50 °C.
All the components and the equipment used inside the Ex-d enclosures shall be suitable for the minimum service temperature..
In particolar:

- Installation of batteries inside the boxes	Ta min. = - 30 °C
- Installation of surge protective devices inside the boxes	Ta min. = - 25 °C
- Use of sealed cable glands for fiber optic cables	Ta min. = - 50 °C
- Installation of radio frequency sources inside the boxes	Ta min. = - 50 °C
- Traffic light CCA-02E/S and GUB-03/S	Ta min. = - 40 °C

The electrical characteristics of the components installable on the boxes are reported in details in the Annexed documentation.

EXTENSION n. 03/10

to EC-Type Examination Certificate CESI 01ATEX036

Equipment identification and description (follows)

Boxes with batteries

On boxes series CCA..., GUB...,CCAI... can be installed batteries having 1.5 Ah or less for supply memory restore of electronics devices.
The use of batteries type G-0309 4 o 7 Ah and related inverter is admitted for supply the emergency fluorescent lamps.
In any case the minimum distance of 20 mm between the installed components and the internal enclosure walls must be respected.

Boxes with surge protective devices

On boxes can be installed surge protective devices type PRD or similar, up to 65kA of max. protection, in any case, the minimum distance of 20 mm between the installed surge protective device and the internal enclosure walls must be respected

Boxes with fiber optic cables

The boxes are suitable for the installation of special sealed cable glands for incoming and outcoming of multi-fiber optical cable. The sealed cable glands must be ATEX certified.
Single optical fiber cables are forbidden.
The limits of optical power and irradiance admitted for the optical cables are:

- 35 mW and 5 mW/m^2 for class temperature T4
- 15 mW and 5 mW/m^2 for class temperature T6

Boxes with radiofrequency sources

Boxes are suitable for installation of radio frequency sources for continuous and pulses signal transmission in the range of frequencies from 9kHz and 60GHz.
The antennas can be installed inside or outside of the boxes.
For the outside installation, the antennas must be:
realized in compliance with one of the protection mode indicated in the EN 60079-0 standard
or
Installed outside the dangerous zone

The operating limits of radiofrequency sources are reported in the annexed documentation to this extension.

Traffic light units

The units GUB-03/S are suitable for the installation of incandescent lights or LED and then for realizing traffic light units. The traffic light units can be realized by one box only or two or three boxes connected by ATEX certified sealed bushings.
The units CCA-02EH are suitable for the installation of LED only. The traffic light units can be realized by one box only or two or three boxes connected by ATEX certified sealed bushings.

EXTENSION n. 03/10

to EC-Type Examination Certificate CESI 01ATEX036

Traffic light units (follows)

The traffic ligth units are identified as follows:

--- --- --- ---

Serial code
GUB-03/ or **CCA-02E/**

N° of signals
S1 for 1 segnal
S2 for 2 segnals
S3 for 3 segnals

Color of signals
1 for 1 green light
2 for 1 yellow light
3 for 1 red light
4 for 1 red light + 1 green light
5 for 1 yellow light + 1 green light
6 for 1 red light + 1 yellow light
7 for 1 red light + 1 yellow light + 1 green light

LD for LED light only

Electrical characteristics

model	**GUB-03S/...**	**CCA-02/S...LD**
Supply voltage (V)	24 ÷ 240 V	12 ÷ 240 V
Frequency (Hz)	50 – 60Hz	50 – 60Hz
Source of light	Incandescent lamp or LED	LED
Ambient- Temperature (°C)	- 20 ÷ + 40 - 20 ÷ + 55 - 40 ÷ + 40 - 40 ÷ + 55	

Class of Temperature and Max. Surface Temperature

Model	**lamp**	**Class of temperature**		**Max. surface temperature (°C)**	
		Ta + 40 °C	**Ta + 55 °C**	**Ta + 40 °C**	**Ta + 55 °C**
GUB-03/S...	Incandescent 60 W- 70 W	T5	T4	93	108
	Incandescent 100 W	T4	T4	110	125
	LED 10 W	T6	T6	56	71
CCA-02E/S...	LED 6 W	T6	T6	51	66
	LED 12 W	T6	T6	56	71

EXTENSION n. 03/10

to EC-Type Examination Certificate CESI 01ATEX036

Warning label

For boxes with temperature class T4
" Use cables suitable for a temperature of 100 °C"

For boxes with temperature class T5
" Use cables suitable for a temperature of 90 °C"

For boxes with batteries or cells
"Warning – Do not open when an explosive gas atmosphere is present"

Report n° EX- B0011476

Routine tests
The manufacturer shall carry out the routine tests prescribed at par. 27 of the EN 60079-0 and at par. 24 of the EN 61241-0 Standards.

Overpressure tests
Ta ≥ -20 °C
The manufacturer shall carry out the overpressure routine tests, with the static method (par. 15.1.3.1 of EN 60079-1 Standard), at the pressure values: 13.5 bar
Ta ≥ - 50 °C
On the all "Ex-d" boxes of group II, the manufacturer shall carry out the overpressure routine tests, with the static method (par. 15.1.3.1 of EN 60079-1 Standard), at the pressure value of 16.5 bar:

Descriptive documents (prot. EX- B0011477)

- Technical Note A4-5263 (9 pg.)	Rev. 00	dated	10/02/2009
- Drawing n° A1-5261	Rev. 00	dated	10/02/2009
- Drawing n° A2-5179	Rev. 00	dated	10/02/2009
- Drawing n° A1-5262	Rev. 00	dated	10/02/2009
- Drawing n° A3-5362 (5 sheets)	Rev. 00	dated	10/02/2009
- Safety Instruction F-257 (13 pg.)	Rev. 02	dated	10/02/2009
- Safety Instruction F-325 (1+7pg.)	Rev. 00	dated	10/02/2009
- Declaration of Conformity n° 0070 (CCA-02E/S... GUB...-03/S)		dated	10/02/2009
- Declaration of Conformity n° 0021 (CCA... GUB...)		dated	10/02/2009

One copy of all documents is kept in CESI files.

Essential Health and Safety Requirements

The Health and Safety Requirements are assured by compliance with the following Standards:
- EN 60079-0 : 2006 Electrical apparatus for explosive gas atmospheres. General requirements
- EN 60079-1 : 2007 Flameproof enclosures "d".
- EN 61241-0 : 2006 Electrical apparatus for use in the presence of combustible dust. General requirements
- EN 61241-1 : 2004 Protection by enclosures "tD"

EXTENSION n. 04/12

to EC-Type Examination Certificate CESI 01 ATEX 036

Equipment: Command, control and signaling units series **CCA-..** and **GUB-..** and **CCAI-..**

Manufacturer: **COR.TEM S.p.A.**

Address: Via Aquileia, 10 – 34070 Villesse (GO) – Italy.

Admitted variation
- Update to new edition of EN60079-0: 2009, EN 60079-1: 2007, EN 60079-31: 2009 standards.

Conformity to new edition of the harmonized European standard
The equipment subject of the certificate CESI 01 ATEX 036 and annexed extension are conform to the standards:

EN 60079-0: 2009 EN 60079-1: 2007 EN 60079-31: 2009

The equipment shall be marked as follows:

Ex	**II2GD**	**Ex d IIC T6, T5 Gb** **Ex tb IIIC T85°C, T100°C Db** **IP66**	
Ex	**I M2**	**Ex d I Mb**	*(for stainless steel boxes only)*
Ex	**II2GD**	**Ex d IIC T.. Gb** **Ex tb IIIC T...°C Db** **IP66**	*(for traffic light CCA-02E/S and GUB-03/S)*

This extension and annexed descriptive documents must be annexed to the EC-Type Examination Certificate CESI 01 ATEX 036.

This document may only be reproduced in its entirety and without any change.

Date 16th April 2012 - translation issued the 16th April 2012

Prepared
Mirko Balaz

Approved
Fiorenzo Bregani

CESI S.p.A.
Testing & Certification Division
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Il Responsabile
Fiorenzo Bregani

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EXTENSION n. 04/12

to EC-Type Examination Certificate CESI 01 ATEX 036

Description of equipment
The CCA-.. and GUB-.. and CCAI-.. flameproof enclosures series employed as command, control and signaling units, are subject of the component certificate CESI 01 ATEX 034U. The certificate annexed documents contains all constructional details of enclosures.
The CCA-.. and GUB-.. and CCAI-.. command, control and signaling units series have unchanged characteristics respect to those indicated into CESI 01 ATEX 036 certificate and relatives extensions.

Admitted constructional modifications
All types of enclosures are supplied with red Silicon gasket with service temperature range of -60°C ÷ +200°C.

Electrical characteristics
Unchanged.

Ambient temperature
- 20 ÷ + 40°C.
- 20 ÷ + 55°C.
- 50 ÷ + 40°C.
- 50 ÷ + 55°C.
- 40°C min. T_{AMB} for enclosures with traffic lights series CCA-02E/S and GUB-03/S.

Cable entries
The accessories used for cable entries and plugs for not used holes shall be subject of separate certification, suitable for type of enclosure execution, according to the applicable standards.

Temperature class
For category 2G apparatus: T6 or T5 is a function of the enclosure dimension, ambient temperature and power dissipated inside the enclosure.

Maximum surface temperature
For category 2D apparatus: T85 °C or T100°C is a function of the enclosure dimension, ambient temperature and power dissipated inside the enclosure.

Warning label
"Use screws of quality A2-70 according UNI 7323 with ultimate tensile strength of at least 700 N/mm^2".

- For enclosures with capacitors:
"After de-energizing. Wait 10 minutes before opening".

- For enclosures with temperature class T4:
"Use cables suitable for temperatures of 100°C".

- For enclosures with temperature class T5:
"Use cables suitable for temperatures of 90°C".

- For enclosures with batteries or cells:
"Warning – Do not open when an explosive atmosphere is present".

EXTENSION n. 04/12

to EC-Type Examination Certificate CESI 01 ATEX 036

Report n. EX-B2012954

Routine tests
The manufacturer shall carry out the routine tests prescribed at paragraph 27 of EN 60079-0 standard, at paragraph 16 of the EN 60079-1 standard and paragraph 6 of EN 60079-31 standard.
The routine overpressure test shall be carried out on empty enclosure with the static method (paragraph 15.1.3.1 of EN 60079-1 standard), at:

- 13.5 bar for minimum ambient temperature until –20 °C;
- 16.5 bar for minimum ambient temperature until –50 °C.

Descriptive documents (prot. EX- B2012964)

- Technical note A4-5652 (pg. 4)	rev.0	dated	03.04.2012
- Safety Instruction F-257 (pg. 14)	rev.3	dated	03.04.2012
- Safety Instruction F-325 (pg. 8)	rev.1	dated	03.04.2012
- EC Declaration of Conformity no. 0021 (pg. 1)	rev.0	dated	30.03.2012

One copy of all documents is kept in CESI files.

Special conditions for safe use (X)
None.

Essential Health and Safety Requirements
The Essential Health and Safety Requirements are assured by compliance to the following standards:

EN 60079-0: 2009	Explosive atmospheres – Part 0: Equipment - General requirements;
EN 60079-1: 2007	Explosive atmospheres – Part 1: Equipment protection by flameproof enclosure "d";
EN 60079-31: 2009	Explosive atmospheres – Part 31: Equipment dust ignition protection by enclosure "t".