

# CESI

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Sezione Ordinaria  
N. R.E.A. 429222  
P.I. IT00793580150

Schema di certificazione  
**CESI-ATEX**  
**CESI**

Il CESI è stato autorizzato  
dal governo italiano ad  
operare quale organismo di  
certificazione di apparecchi  
e sistemi destinati a essere  
utilizzati in atmosfera  
potenzialmente esplosiva  
con D.M. 1/3/1983, D.M.  
19/6/1990, D.M. 20/7/1998  
e D.M. 27/9/2000

# 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:  
**CESI 02 ATEX 126**

[4] Equipment: Level or flow switches series EP type C, S, D

[5] Manufacturer: **OFFICINE OROBICHE S.p.A.**

[6] Address: Via Serena, 10 – 24010 Ponteranica (BG) - 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-A2/035653.

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

**EN 50014: 1997 + A1..A2      EN 50018: 2000 + A1**

[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:

**II 2 G EEx d IIC T6, T5**

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

Date 11 November 2002 - Translation issued the 11<sup>th</sup> November 2002

Prepared  
Daniele Parazzoli

Verified  
Mirko Balaz

Approved  
Ulisse Colombo

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**CENTRO ELETTROTECNICO SPERIMENTALE ITALIANO**  
Business Unit Certificazione

Il Responsabile

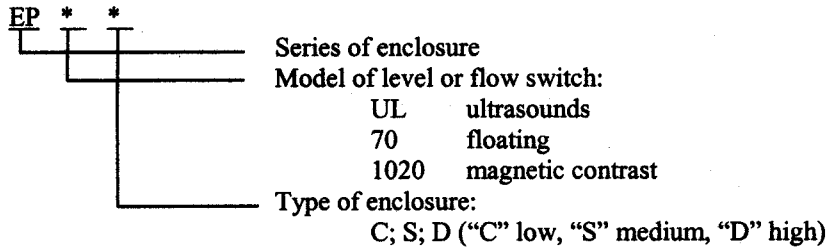
[13]

## Schedule

[14] **EC-TYPE EXAMINATION CERTIFICATE n. CESI 02 ATEX 126**

[15] **Description of equipment**

The level or flow switches, series EP, are identified by a code as follows:



The level or flow switches are made of a flameproof enclosure series EP type C, S, D, containing the magnetic functioning switches or ultrasound switches with their electronic circuit.

Types C, S and D, differ for the shape of the cover ("C" low, "S" medium, "D" high).

The accessories used for cable entries in the terminal box shall be certified according to EN 50014 and EN 50018 standards.

If cylindrical threads are used, the coupling between the cable entry and the enclosure shall be made according to the requirements indicated in the documents annexed to this certificate.

### Electrical characteristics

- Rated voltage: 250 V c.c. o a.c.
- Rated current: 15 A
- Rated frequency: 50/60 Hz
- Ambient temperature: -20 ÷ +60 °C for temperature class T6  
-20 ÷ +70 °C for temperature class T5

### Warning label

"Disconnect supply before opening"

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[13]

## Schedule

[14] **EC-TYPE EXAMINATION CERTIFICATE n. CESI 02 ATEX 126**

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[16] **Report n. EX-A2/035653**

### **Routine tests**

The manufacturer shall carry out the routine tests prescribed at clause 24 of the EN 50014 standard and at clause 16 of the EN 50018 standard.

The manufacturer is exempted from the overpressure test on the enclosures type C, S and D, since they have been submitted to an overpressure test at 37 bar, corresponding to 4 times the reference pressure.

The routine overpressure test shall be carried out on the welded parts with the static method at 14 bar (paragraph 15.1.3.1 of EN 50018 Standard).

The manufacturer shall carry out the overpressure test at 1.5 times the operating pressure of the plant on the parts submitted to the process fluid.

### **Verification of the degree of protection**

The enclosures for level or flow switches, series EP type C, S and D, with the sealing gasket as indicated on the documents annexed to this certificate, have been tested in accordance EN 60529 (1991) standard for the degree of protection IP 66.

The test results proved that the enclosures mentioned above comply with the EN 60529 specification for the degree of protection IP 66.

### **Descriptive documents (prot. EX-A2/035657)**

- Document n° SEG-7374-ATEX-INDEX	dated	07.11.2002
- Drawing n° SEG-7374-ATEX-01 Rev. 1	dated	27.09.2002
- Drawing n° SEG-7374-ATEX-02 Rev. 2	dated	07.11.2002
- Drawing n° SEG-7374-ATEX-03 Rev. 1	dated	27.09.2002
- Drawing n° SEG-7374-ATEX-04 Rev. 2	dated	07.11.2002
- Drawing n° SEG-7374-ATEX-05 Rev. 1	dated	27.09.2002
- Drawing n° SEG-7374-ATEX-06A Rev. 1	dated	27.09.2002
- Drawing n° SEG-7374-ATEX-06B Rev. 0	dated	27.09.2002
- Drawing n° SEG-7374-ATEX-07 Rev. 1	dated	27.09.2002
- Drawing n° SEG-7374-ATEX-08 Rev. 1	dated	27.09.2002
- Drawing n° SEG-7374-ATEX-09 Rev. 1	dated	27.09.2002
- Drawing n° SEG-7374-ATEX-10 Rev. 1	dated	27.09.2002
- Drawing n° SEG-7374-ATEX-11 Rev. 1	dated	27.09.2002
- Drawing n° SEG-7374-ATEX-12 Rev. 1	dated	27.09.2002
- Drawing n° SEG-7374-ATEX-13 Rev. 2	dated	07.11.2002
- Drawing n° SEG-7374-ATEX-14 Rev. 1	dated	07.11.2002
- Instructions manual n° IST/149 (4 pg.)	dated	11.2002
- Drawing n° SEG-7335.1/R	dated	23.10.1996
- EC Declaration of conformity	dated	07.11.2002

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.

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

## EXTENSION n. 01/04

to EC-Type Examination Certificate CESI 02 ATEX 126



Equipment: **Level or flow switches series EP type C, S, D**

Manufacturer: **OFFICINE OROBICHE S.p.A.**

Address: **Via Serena, 10 – 24010 Ponteranica - BG**

### Admitted variation

- Exclusive usage of sylicon gaskets to guarantee IP66 protection;
- Sylicon gaskets, to guarantee IP66 protection, between enclosure and wave guide for models ULS, types C, S, D.
- The certificate is extended for the use in areas potentially explosive because of combustibile dust (category 2GD)
- Ambient temperatures Interval extended as follows:

Ultrasound level switches (model ULS):

-40°C ÷ +60°C temperature class (T6) T 85°C

-40°C ÷ +70°C temperature class (T5) T 100°C

the other models:


-50°C ÷ +60°C temperature class (T6) T 85°C


-50°C ÷ +70°C temperature class (T5) T 100°C

The results of verifications and tests are reported in the confidential report EX-A4522299.


### Identification and description of the equipment


The level switches having an ultrasound sensor (model ULS) shall be marked as follows:

 **II 2 GD EEx d IIC (T6) T 85°C IP 66 T<sub>amb</sub> (-40°C ÷ +60°C)**

 **II 2 GD EEx d IIC (T5) T 100°C IP 66 T<sub>amb</sub> (-40°C ÷ +70°C)**

The other switches shall be marked as follows:

 **II 2 GD EEx d IIC (T6) T 85°C IP 66 T<sub>amb</sub> (-50°C ÷ +60°C)**

 **II 2 GD EEx d IIC (T5) T 100°C IP 66 T<sub>amb</sub> (-50°C ÷ +70°C)**

This extension and annexed descriptive documents must be annexed to the EC-Type Examination Certificate CESI 02 ATEX 126.

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Date 13<sup>th</sup> December 2004 translation issued on 13<sup>th</sup> December 2004

Prepared CERT – T. Cola

Verified CERT – M. Balaz

Approved CERT – U. Colombo

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page 1/2

## EXTENSION n. 01/04

to EC-Type Examination Certificate CESI 02 ATEX 126

### *Cable entries*

The accessories used for cable entries and to close unused apertures on the units shall be certified according to the standards EN 50014, EN 50018 ed EN 50281-1-1 and guarantee the protection IP66.

**Report: EX-A4522299**

### **Descriptive documents (prot. EX-A4522297)**

- List of the documents annexed for extension 01/04		Dated	15.07.2004
- full documents index	SEG-7374-ATEX-INDEX rev. 1 (2 sheets)	Dated	15.07.2004
- EC declaration of conformity		Dated	15.07.2004
- Instruction manual	IST/149 (5 Sheets)	Dated	July 2004
- technical note	SEG-7374-ATEX-11	Dated	15.07.2004
- technical note	SEG-7374-ATEX-20	Dated	15.07.2004
- Technical drawing	SEG-7374-ATEX-01	Dated	15.07.2004
- Technical drawing	SEG-7374-ATEX-02	Dated	15.07.2004
- Technical drawing	SEG-7374-ATEX-04	Dated	15.07.2004
- Technical drawing	SEG-7374-ATEX-07	Dated	15.07.2004
- Technical drawing	SEG-7374-ATEX-14	Dated	15.07.2004
- Technical drawing	SEG-7374-ATEX-15	Dated	15.07.2004
- Technical drawing	SEG-7374-ATEX-16	Dated	15.07.2004
- Technical drawing	SEG-7374-ATEX-17	Dated	15.07.2004
- Technical drawing	SEG-7374-ATEX-18A	Dated	15.07.2004
- Technical drawing	SEG-7374-ATEX-18B	Dated	15.07.2004
- Technical drawing	SEG-7374-ATEX-19	Dated	15.07.2004
- Technical drawing	SEG-7374-ATEX-21	Dated	15.07.2004
- Technical drawing	SEG-7374-ATEX-22	Dated	15.07.2004
- Data sheet of sylicon used for the gaskets			
- Data sheet of Loctite 270 (3 sheets)			

One copy of the above mentioned documents is kept in CESI files.

### **Routine tests**

The manufacturer shall carry out the routine tests prescribed at clause 24 of the EN 50014 standard and at paragraph 16 of the EN 50018 standard.

The manufacturer is exempted from the overpressure test on the enclosures type C, S, D since they overcame the type test carried out at a pressure of 58 bar, equal to 4 times the reference pressure.

The routine overpressure test shall be carried out on the welded parts at 22 bar with the static method (par. 15.1.3.1 of the standard EN 50018).

### **Essential Health and Safety Requirements**

Compliance with the Health and Safety Requirements has been assured by compliance with the following standards:

**EN 50014 - 1997 + A1..A2** - General requirements

**EN 50018 - 2000 + A1** - Flameproof enclosures "d"

**EN 50281-1-1 - 1998 + A1** – Electrical apparatus for use in the presence of combustible dust.

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## EXTENSION n. 02/06

to EC-Type Examination Certificate CESI 02 ATEX 126



Equipment: Level or flow switches series EP type C, S, D

Manufacturer: **OFFICINE OROBICHE S.p.A.**

Address: Via Serena, 10 – 24010 Ponteranica – (Bergamo) - Italy

### Admitted variation

New safety level for category **1/2 GD** according to the standards listed in the certificate 02ATEX016 an to the EN50284-1999.

The constructional modification are specified in the descriptive documents annexed.  
The results of verifications and tests are reported in the confidential report EX-A6021308.

The level switches having an ultrasound sensor (model ULS) shall be marked as follows:

**II 1/2 GD EEx d IIC T6 IP66 T 85°C Tamb. -40°C ÷ +60°C**

**II 1/2 GD EEx d IIC T5 IP66 T 100°C Tamb. -40°C ÷ +70°C**

The other switches shall be marked as follows:

**II 1/2 GD EEx d IIC T6 IP66 T 85°C Tamb. -50°C ÷ +60°C**

**II 1/2 GD EEx d IIC T5 IP66 T 100°C Tamb. -50°C ÷ +70°C**

The level switches series “EP” corresponding to the drawings SEG 7374 ATEX –24 and SEG 7374 ATEX –29 shall be connected to intrinsically safe apparatus Ex-ib or Ex-ia, according to EN60079-25 Standard.

This extension and annexed descriptive documents must be annexed to the EC-Type Examination Certificate CESI 02 ATEX 126.

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**date** 2 August 2006 - translation issued the 2<sup>nd</sup> August 2006

**prepared** GEN – Pierluigi Molinari

**verified** GEN – Damiano Cavanna

**approved** GEN – Fiorenzo Bregani

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Centro Elettrotecnico Sperimentale Italiano  
Giacinto Motta SpA  
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Il Responsabile

page 1/2

## EXTENSION n. 02/06

to EC-Type Examination Certificate CESI 02 ATEX 126

### *Cable entries*

The accessories used for cable entries and to close unused apertures on the units shall be certified according to EN50014, EN50018 and EN50281-1-1 Standards and guarantee a degree of protection IP65.

Report n. CESI EX- A6021308

### Descriptive documents (prot. EX-A6/021264)

- List of the documents annexed to the extension 02/06 dated 28/07/2006
- Full documents index SEG-7374-ATEX-INDEX rev.2 (3 pg.) dated 28/07/2006
- EC declaration of conformity dated 18/07/2006
- Instruction manual IST/149 (5 pg.) dated July 2006
- Technical note SEG-7374-ATEX-11 dated 07/07/2006
- Technical note SEG-7374-ATEX-20 dated 07/07/2006
- Technical drawing SEG-7374-ATEX-23 dated 07/07/2006
- Technical drawing SEG-7374-ATEX-24 dated 07/07/2006
- Technical drawing SEG-7374-ATEX-25A dated 07/07/2006
- Technical drawing SEG-7374-ATEX-25B dated 07/07/2006
- Technical drawing SEG-7374-ATEX-26 dated 07/07/2006
- Technical drawing SEG-7374-ATEX-27 dated 07/07/2006
- Technical drawing SEG-7374-ATEX-28 dated 07/07/2006
- Technical drawing SEG-7374-ATEX-29 dated 07/07/2006
- Technical drawing SEG-7374-ATEX-30A dated 07/07/2006
- Technical drawing SEG-7374-ATEX-30B dated 07/07/2006
- Technical drawing SEG-7374-ATEX-31 dated 07/07/2006
- Technical drawing SEG-7374-ATEX-32 dated 07/07/2006
- Technical drawing SEG-7374-ATEX-33 dated 07/07/2006

One copy of all documents is kept in CESI files.

### Routine tests

As specified in the extension 01/04 to the certificate CESI 02ATEX126.

### Essential Health and Safety Requirements

Assured by compliance to the Standards.

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## EXTENSION n. 03/07

to EC-Type Examination Certificate CESI 02 ATEX 126



Equipment: Level or flow switches series EP Type C, S, D

Manufacturer: **OFFICINE OROBICHE S. p. A.**

Address: Via Serena, 10 – Ponteranica (BG)

### Admitted variation

- Conformity to EN 60079-0 (2006), EN 60079-1 (2004), EN 61241-0 (2006), EN 60079-26 (2004), EN 61241-1 (2004) Standards
- Upgrade of nameplate

### Equipment identification and description

According to the temperature class, the level switches having the ultrasound sensor (model USL) shall include the following markings:

	II 1/2GD	Ex d IIC T6; Ex tD A21 IP66 T85 °C	Tamb. - 40 °C ÷ + 60 °C
		Ex d IIC T5; Ex tD A21 IP66 T 100 °C	Tamb. - 40 °C ÷ + 70 °C

The other switches shall include the following markings:

	II 2GD	Ex d IIC T6; Ex tD A21 IP66 T85 °C	Tamb. - 50 °C ÷ + 60 °C
		Ex d IIC T5; Ex tD A21 IP66 T 135 °C	Tamb. - 50 °C ÷ + 70 °C

This extension and annexed descriptive documents must be annexed to the EC-Type Examination Certificate CESI 02 ATEX 126.

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date 03/05/2007 - translation issued the 03/05/2007

prepared Nicoletta Penati

verified Mirko Balaz

approved Fiorenzo Bregani

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Giacinto Motta SpA

page 1/2



## EXTENSION n. 03/07

to EC-Type Examination Certificate CESI 02 ATEX 126

### Cable entries

The accessories used for cable entries and for unused holes shall be subject of separate certification in compliance to the following standards: EN 60079-0 (2006); EN 60079-1 (2004); EN 61241-0 (2006); EN 61241-1 (2004) and they shall guarantee a minimum degree of protection IP 66 according to EN 60529 (1991) Standard.

### Electrical characteristics

Unchanged

### Constructive characteristics

Unchanged

Report n. EX-A7012098

### **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 manufacturer is exempted from the overpressure routine test on the enclosures type C, S, since they have been submitted, with good outcome, to the overpressure test (static method) at a pressure of 58 bar, corresponding to 4 ( four) time the reference pressure:

The overpressure routine test shall be carried out on the welded parts, with static method, at the pressure of 22 bar, in conformity to the par. 15.1.3.1 of the EN 60079-1 Standard

### **Descriptive documents (prot. EX-A7012100)**

- Technical Note No 53 (1 pg.)	dated	April 2007
- Drawing No SEG 7400	dated	24 April 2007
- EC Declaration of Conformity	dated	24 April 2007
- Safety Instruction	dated	April 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 60079-26 :2004 Construction, test and marking of group II zone 0 electrical apparatus
- EN 61241-0 : 2006 Electrical apparatus for use in the presence of combustible dust.  
General requirements
- EN 61241-1 : 2004 Protection by enclosures "tD"

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## EXTENSION n. 04/13

to EC-Type Examination Certificate CESI 02ATEX126

### Descriptive documents (prot. EX-B3030481)

TECHNICAL NOTE Extension 4	pg.4	dated	november 2013
INSTRUCTION MANUAL n.IST/149	pg.6	dated	november 2013
Drawing n.SEG-7374-ATEX-01 rev.3	pg.1	dated	06/11/2013
Drawing n.SEG-7374-ATEX-02 rev.4	pg.1	dated	06/11/2013
Drawing n.SEG-7374-ATEX-03 rev.2	pg.1	dated	06/11/2013
Drawing n.SEG-7374-ATEX-04 rev.4	pg.1	dated	06/11/2013
Drawing n.SEG-7374-ATEX-05 rev.2	pg.1	dated	06/11/2013
Drawing n.SEG-7374-ATEX-06A rev.2	pg.1	dated	06/11/2013
Drawing n.SEG-7374-ATEX-06B rev.2	pg.1	dated	06/11/2013
Drawing n.SEG-7374-ATEX-07 rev.3	pg.1	dated	06/11/2013
Disegno n.SEG-7374-ATEX-08 rev.2	pg.1	dated	06/11/2013
Disegno n.SEG-7374-ATEX-09 rev.1	pg.1	dated	27/09/2002
Disegno n.SEG-7374-ATEX-10 rev.1	pg.1	dated	27/09/2002
Disegno n.SEG-7374-ATEX-11 rev.3	pg.1	dated	06/11/2013
Disegno n.SEG-7374-ATEX-12 rev.2	pg.1	dated	06/11/2013
Disegno n.SEG-7374-ATEX-13 rev.3	pg.1	dated	06/11/2013
Disegno n.SEG-7374-ATEX-14 rev.3	pg.1	dated	06/11/2013
Disegno n.SEG-7374-ATEX-33 rev.0	pg.1	dated	06/11/2013
Disegno n.SEG-7374-ATEX-34 rev.0	pg.1	dated	06/11/2013
Disegno n.SEG-7374-ATEX-35 rev.0	pg.1	dated	06/11/2013
Disegno n.SEG-7374-ATEX-36 rev.0	pg.1	dated	06/11/2013
Disegno n.SEG-7374-ATEX-37 rev.0	pg.1	dated	06/11/2013
Disegno n.SEG-7374-ATEX-38 rev.0	pg.1	dated	06/11/2013
EC declaration of conformity	pg.1		

One copy of all documents is kept in CESI files.

### Essential Health and Safety Requirements

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

- EN 60079-0: 2012 – Explosive atmospheres – Part 0: Equipment – General requirements.
- EN 60079-1: 2007 – Explosive atmospheres – Part 1: Equipment protection by flameproof enclosures "d"
- EN 60079-11: 2012 – Explosive atmospheres – Part 11: Equipment protection by intrinsic safety "i"
- EN 60079-26: 2007 – Explosive atmospheres – Part 26: Equipment with equipment protection level (EPL) Ga.
- EN 60079-31: 2009 – Explosive atmospheres – Part 31: Equipment dust ignition protection by enclosure "t"