

CESI

CESI
Centro Elettrotecnico
Sperimentale Italiano
Giacinto Motta SpA

Via R. Rubattino 54
20134 Milano - Italia
Telefono +39 022125.1
Fax +39 0221255440
www.cesi.it

Capitale sociale 8 550 000 €
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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

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Date 11 November 2002 - Translation issued the 11th November 2002

Prepared
Daniele Parazzoli

Verified
Mirko Balaz

Approved
Ulisse Colombo

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Business Unit Certificazione

Il Responsabile

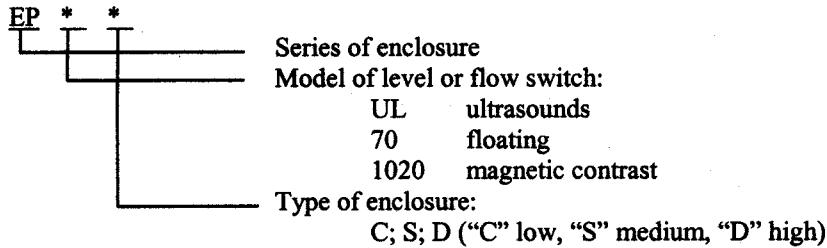
[13]

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**

[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_{amb} (-40°C ÷ +60°C)
 II 2 GD EEx d IIC (T5) T 100°C IP 66 T_{amb} (-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_{amb} (-50°C ÷ +60°C)
 II 2 GD EEx d IIC (T5) T 100°C IP 66 T_{amb} (-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 13th December 2004 translation issued on 13th December 2004

Prepared CERT – T. Cola

Verified CERT – M. Balaz

Approved CERT – U. Colombo

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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 2nd 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
Business Unit GENERAZIONE
Il Responsabile

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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

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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

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

Manufacturer: OFFICINE OROBICHE S.p.A.

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

Admitted variation

- Constructive modifications of the base for EP enclosure
- New version rotating enclosure type CG; SG and DG
- Exclusive use of silicone O-ring seals
- Upgrading ambient temperatures
- Updating to the standards EN60079-0:2012; EN60079-1:2007; EN60079-11:2012 EN60079-26:2007; EN60079-31:2009.
- Update marking and EPL

Marking

Level or flow switches series EP type C, CG, S, SG, D, DG shall be marked as follows:

- II 1/2 G Ex d IIC T6, T5 Ga/Gb (series 1020, ULC / ULS only)
- II 1/2 G Ex d/ib IIC T6, T5 Ga/Gb (all the switches except 1020, ULC / ULS)
- II 2 G Ex d IIC T6, T5 Gb (all the switches of EP series)
- II 1/2 D Ex ta/tb IIC T85°C, T100°C Da/Db (all the switches of EP series)

This extension and annexed descriptive documents must be annexed to the EC-Type Examination Certificate CESI 02ATEX126.

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Date 20/12/2013 - Translation issued the 20th.12.2013

Prepared
Guido Prazzoli

Verified
Miko Balaz

Approved
Fiorenzo Bregani

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

EXTENSION n. 03/13

to EC-Type Examination Certificate CESI 02ATEX126

Description of equipment

Level or flow switches **EP** series, are devices consisting of a flameproof metal enclosure, containing magnetically operated switches or ultrasound switches with their electronic circuit.

The **EP** series enclosures maintaining the same base but differ in the shape of the lid (low "C" medium "S" high "D").

The constructive modifications introduced by the Manufacturer are:

- new base of the **EP** enclosure which maintains unchanged all dimensions, except the O-ring groove between base and lid and the internal ground terminal block that is no longer aligned with the outer one, but rotated of 90°;
- exclusive use of silicone O-ring seals;
- new versions rotating enclosure called **CG** (*low lid*); **SG** (*medium lid*) and **DG** (*high lid*) realized by changing both the base and fitting assembly, ensuring unchanged the requirements of the protections Ex.

The minimum ambient temperatures, with the adoption of silicone O-ring seals, are exclusively those operational of the various types of used micro switches.

The marking of the switches, is updated in the follows types of protection and with EPL:

- for all the series (*except 1020, ULC / ULS*) **Ex d/ib**; equipment to be installed in areas that need EPL Ga/Gb or type of protection **Ex d** if installed in areas that need EPL Gb.

With this extension the level or flow switches **EP** series, has been re-assessed and marked on the basis of the standard: EN 60079-0:2012, EN60079-1:2007, EN 60079-11:2012, EN60079-26:2007, EN 60079-31:2009.

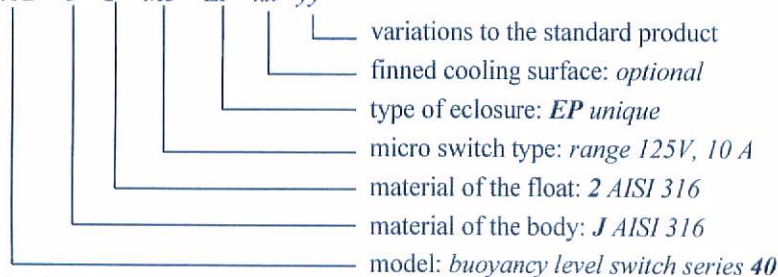
Identification of the level or flow switches **EP** series

The apparatus of **EP** series are divided into the following models

Model			
Level switches		Level switches	
series	operation	series	operation
1020	magnetic contrast	3070	float
20	float	4060	buoyancy
30	float	4070	buoyancy
40	buoyancy	5070	float
50	float	ULS / ULS	ultrasonic
60	float		
70	float		
80	float	Flow switches	
6000	buoyancy	series	azionamento
7000	buoyancy	PL	paddle
3060	float	CV	float
3070	float	TGO	paddle
		PLD	paddle

Level or flow switches **EP** series, are characterized by the following code

Eg. 41D-J-2-M3-EP-xx-yy



The details of the code is reported in the Manufacturer descriptive documents

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EXTENSION n. 04/13

to EC-Type Examination Certificate CESI 02ATEX126

Electrical characteristics

Rated Voltage: 230 / 115 Vac o 24 Vdc/ac
 Rated Frequency: 50/60 Hz
 Rated Current: based on micro switch used max 10 A

All series of EP level switches, *except the 1020 and ULC / ULS*, shall be interfaced with intrinsically safe apparatus Ex ib or higher certified barriers, according to EN 60079-0, EN 60079-11 with the following characteristics:

U_i = ≤ 30 V C_i = ≤ 50pF
 I_i = ≤ 100 mA L_i = ≤ 10μH
 P_i = ≤ 0.75 W

Ambient Temperature

The maximum surface temperature of the equipment is a function of ambient temperature:

- Tamb. max = + 60°C for temperature Class T6 or T85°C
- Tamb. max = + 70°C for temperature Class T5 or T100°C

The minimum ambient temperature is a function of the characteristics of micro switches used, which are summarized in the following table:

Micro switch code	Tamb. min
M4; M12	-15°C
M2; M3; M6; M19; M20; M22	-20°C
M6; M20	-23°C
M2; M3	-25°C
M9; M10; M11; M14; M21; M23; VD	-50°C

For model ULC / ULS level switch, the minimum ambient temperature is -40°C

Degree of protection for all EP enclosures IP66

Warning label

“DISCONNECT SULLPY BEFORE OPENING”

Installation conditions

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; EN 60079-1; EN 60079-31 and they shall guarantee a minimum degree of protection IP 66 according to EN 60529 Standard.

Report n. EX-B3030471

Routine tests

The Manufacturer shall carry out the overpressure routine test with static method, at the pressure of 22 bar, in conformity to the par. 15.1.3.1 of the EN 60079-1 Standard

The Manufacturer is exempted from the overpressure routine test on the enclosures, since they have been submitted to the overpressure test (static method) at a pressure of 58 bar, corresponding to 4 (four) time the reference pressure.

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"

CESI

ISMES

IPH
BERLIN

FGH

CESI S.p.A.
Via Rubattino 54
I-20134 Milano - Italy
Tel: +39 02 21251
Fax: +39 02 2125440
e-mail: info@cesi.it
www.cesi.it

Schema di certificazione

CESI-ATEX

CERTIFICATE



[1] SUPPLEMENTARY EU-TYPE EXAMINATION CERTIFICATE

[2] **Equipment or Protective System intended for use
in potentially explosive atmospheres
Directive 2014/34/EU**

[3] Supplementary EU-Type Examination Certificate number:

CESI 02 ATEX 126 /05

[4] **Product:** 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 supplementary certificate extends EC-Type Examination Certificate CESI 02 ATEX 126 to apply to products designed and constructed in accordance with the specification set out in the Schedule of the said certificate but having any variations specified in the Schedule attached to this certificate and the documents therein referred to..

[8] CESI, notified body n. 0722 in accordance with Article 17 of the Directive 2014/34/EU of the Parliament and Council of 26 February 2014, 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-B8010411.

[9] In accordance with Article 41 of Directive 2014/34/EU, EC-Type Examination Certificates referring to 94/9/EC that were in existence prior to the date of application of 2014/34/EU (20 April 2016) may be referenced as if they were issued in accordance with Directive 2014/34/EU. Supplementary certificates to such EC-Type Examination Certificates, and new issues of such certificates, may continue to bear the original certificate number issued prior to 20 April 2016

[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 EU-TYPE EXAMINATION CERTIFICATE relates only to the design, examination and tests of the specified equipment or protective system in accordance to the Directive 2014/34/EU. 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 1/2 G Ex db IIC T6, T5 Ga/Gb

II 1/2 G Ex db/ib IIC T6, T5 Ga/Gb

II 2 G Ex db IIC T6, T5 Gb

II 1/2 D Ex ta/tb IIC T85°C, T100°C Da/Db

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

Date 4.6.2018 - Translation issued the 4th 06.2018

Prepared
Guido Prazzoli

Verified
Mirko Balaz

Approved
Roberto Piccin

CESI S.p.A.

Testing & Certification Division
Business Area Certification
Il Responsabile

(Roberto Piccin)



[13]

Schedule

[14] SUPPLEMENTARY EU-TYPE EXAMINATION CERTIFICATE n. CESI 02 ATEX 126 /05

[15] **Description of the variation to the product**

Variation 5.1: standard and marking update

Variation 5.2: descriptive documents updated for Directive 2014/34/UE

Description of equipment...

Level or Flow switches **EP** series, are devices consisting of a flameproof metal enclosure, containing magnetically operated switches or ultrasound switches with their electronic circuit.

The **EP** series enclosures maintaining the same base but differ in the shape of the lid (*low "C", medium "S", high "D"*).

Level or Flow switches **EP** series, have been, previously, assessed and marked in compliance with the standards: EN 60079-0:2012, EN60079-1:2007, EN 60079-11:2012, EN 60079-26:2007 and EN60079-31:2009.

With this Supplement the products have been evaluated according to the standards: EN 60079-0:2012/A11:2013, EN60079-1:2014, EN 60079-11:2012, EN 60079-26:2015 and EN60079-31:2014.

Identification of the level or flow switches **EP** series

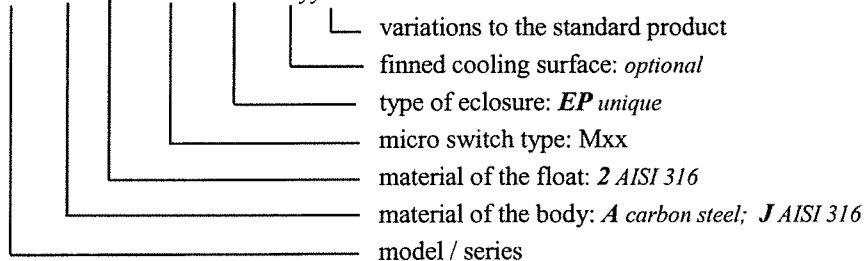
Model					
Level switches			Level switches		
Series	Operation	Marking	Series	Operation	Marking
1020	<i>magnetic contrast</i>	(A) (C) (D)	3070	<i>float</i>	(B) (C) (D)
20	<i>float</i>	(B) (C) (D)	4060	<i>buoyancy</i>	(B) (C) (D)
30	<i>float</i>	(B) (C) (D)	4070	<i>buoyancy</i>	(B) (C) (D)
40	<i>float</i>	(B) (C) (D)	5070	<i>float</i>	(B) (C) (D)
50	<i>float</i>	(B) (C) (D)	ULC / ULS	<i>ultrasonic</i>	(A) (C) (D)
60	<i>float</i>	(B) (C) (D)			
70	<i>float</i>	(B) (C) (D)			
80	<i>float</i>	(B) (C) (D)	Flow switches		
6000	<i>buoyancy</i>	(B) (C) (D)	Serie	Azionamento	Marcatura
7000	<i>buoyancy</i>	(B) (C) (D)	PL	<i>paddle</i>	(B) (C) (D)
3060	<i>float</i>	(B) (C) (D)	CV	<i>float</i>	(B) (C) (D)
3070	<i>float</i>	(B) (C) (D)	TGO	<i>paddle</i>	(B) (C) (D)
			PLD	<i>a tegolo mobile</i>	(B) (C) (D)

Products marking

- (A) II 1/2 G Ex db IIC T6, T5 Ga/Gb (*series 1020, ULC / ULS only*)
- (B) II 1/2 G Ex db/ib IIC T6, T5 Ga/Gb (*all the switches except 1020, ULC / ULS*)
- (C) II 2 G Ex db IIC T6, T5 Gb (*all the switches of EP series*)
- (D) II 1/2 D Ex ta/tb IIIC T85°C, T100°C Da/Db (*all the switches of EP series*)

Level or Flow switches **EP** series, are characterized by the following code:

Eg. xxxx - x - 2 - Mxx - EP - xx - yy



The details of the code is reported in the Manufacturer descriptive documents

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

[13]

Schedule

[14] SUPPLEMENTARY EU-TYPE EXAMINATION CERTIFICATE n. CESI 02 ATEX 126 /05

Electrical characteristics

Rated Voltage: 230 / 115 Vac or 24 Vdc/ac
 Rated Frequency: 50/60 Hz
 Rated Current: based on micro switch used max 10 A

All series of EP level switches, except the 1020 and ULC / ULS, shall be interfaced with intrinsically safe apparatus Ex ib or higher certified barriers, according to EN 60079-0, EN 60079-11 with the following characteristics:

$U_i = \leq 30 \text{ V}$ $C_i = \leq 50 \text{ pF}$
 $I_i = \leq 100 \text{ mA}$ $L_i = \leq 10 \text{ }\mu\text{H}$
 $P_i = \leq 0.75 \text{ W}$

Ambient Temperature

The maximum surface temperature of the equipment is a function of ambient temperature:

- Tamb. max = +60 °C for temperature Class T6 or T85 °C
- Tamb. max = +70 °C for temperature Class T5 or T100 °C

The minimum ambient temperature is a function of the characteristics of micro switches used, which are summarized in the following table:

Micro switch code	Tamb. min
M4; M12	-15 °C
M2; M3; M6; M19; M20; M22	-20 °C
M6; M20	-23 °C
M2; M3	-25 °C
M9; M10; M11; M14; M21; M23; VD	-50 °C

For model ULC / ULS Level switch, the minimum ambient temperature is -40 °C

Degree of protection for all EP enclosures IP66: IP66

Warning label

“DISCONNECT SUPPLY BEFORE OPENING”

Installation conditions

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; EN 60079-1; EN 60079-31 and they shall guarantee a minimum degree of protection IP 66 according to EN 60529 Standard.

[16] Report n. EX-B8010411

Routine tests

The Manufacturer shall carry out the overpressure routine test with static method, at the pressure of 22 bar, in conformity to the clause 15.2.3.2 of the EN 60079-1 Standard.

The Manufacturer is exempted from the overpressure routine test on the enclosures, since they have been submitted to the overpressure test (*static method*) at a pressure of 58 bar, corresponding to 4 (*four*) time the reference pressure.

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

[13]

Schedule

[14] **SUPPLEMENTARY EU-TYPE EXAMINATION CERTIFICATE n. CESI 02 ATEX 126 /05**

[17] **Special conditions for safe use (X)**

None.

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

Compliance with the Essential Health and Safety Requirements is not affected by these variations and are assured by compliance to the following standards:

- EN 60079-0:2012/A11:2013 – Explosive atmospheres – Part 0: Equipment – General requirements.
- EN 60079-1: 2014 - 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: 2015 - 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"

In addition, the following EHSRs (*ref. ANNEX II of the Directive*) are considered relevant for this product:

Clause	Subject	Compliance
1.2.7.	Protection against other hazards	Manufacturer responsibility
1.2.8	Overloading of equipment	User/Installer responsibility
1.4.	Hazards arising from external effects	User/Installer responsibility

[19] **Descriptive documents (prot. EX-B8010415)**

TECHNICAL NOTE Adaptation to Directive 2014/34/EU, pg.6	dated May 2018
INSTRUCTION MANUAL n.IST/149, pg.6	dated May 2018
DOC. ANNEXED for adaptation to 2014/34/UE, pg.2	dated May 2018
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
Drawing n.SEG-7374-ATEX-08; rev.2, pg.1	dated 06/11/2013
Drawing n.SEG-7374-ATEX-09; rev.1, pg.1	dated 27/09/2002
Drawing n.SEG-7374-ATEX-10; rev.1, pg.1	dated 27/09/2002
Drawing n.SEG-7374-ATEX-11; rev.4, pg.1	dated 17/05/2018
Drawing n.SEG-7374-ATEX-12; rev.2, pg.1	dated 06/11/2013
Drawing n.SEG-7374-ATEX-13; rev.3, pg.1	dated 06/11/2013
Drawing n.SEG-7374-ATEX-14; rev.4, pg.1	dated 16/05/2018
Drawing n.SEG-7374-ATEX-33; rev.0, pg.1	dated 06/11/2013
Drawing n.SEG-7374-ATEX-34; rev.0, pg.1	dated 06/11/2013

[13]

Schedule

[14] SUPPLEMENTARY EU-TYPE EXAMINATION CERTIFICATE n. CESI 02 ATEX 126 /05

Descriptive documents *continue:*

Drawing n.SEG-7374-ATEX-35; rev.0, pg.1	dated 06/11/2013
Drawing n.SEG-7374-ATEX-36; rev.0, pg.1	dated 06/11/2013
Drawing n.SEG-7374-ATEX-37; rev.0, pg.1	dated 06/11/2013
Drawing n.SEG-7374-ATEX-38; rev.0, pg.1	dated 06/11/2013
Painting specification n.STC/044; rev.4, pg.1	dated 20/11/2007
Fac-Simile EU DECLARATION OF CONFORMITY, pg.1	

One copy of all documents is kept in CESI files.

Certificate history

Issue N°	Issue Date	Summary description of variation
05	04/06/2018	Standard update and documentation to comply with Directive 2014/34/EU
04	20/12/2013	Constructional modifications; upgrading ambient temperatures; standard and marking update
03	03/05/2006	Standard and marking update
02	02/08/2006	Constructional modifications; new protection level for Category 1/2 GD
01	13/12/2004	Constructional modifications; added Dust type of protection; extended ambient temperature ranges
00	11/11/2002	First Issue of the Certificate