

[1] **EU-TYPE EXAMINATION CERTIFICATE**



[2] **Equipment or Protective System intended for use  
in Potentially Explosive Atmospheres  
Directive 2014/34/EU**

[3] EU-Type Examination Certificate Number: CNEX 16 ATEX 0013X Issue 0

[4] Equipment or Protective System: Single & Dual Gamma Sensor models FS-1000/1,  
FS-1000/2, FS-2000/1 and FS-2000/2

[5] Manufacturer: Haimo Technologies Group Corp.

[6] Address: No. 593, Zhangsutun, Lanzhou, Gansu, 730010,  
P.R. China

[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] CNEX-Global B.V., Notified Body number 2614, in accordance with Directive 2014/34/EU of the European Parliament and of the Council, dated 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 No. P16026.

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

**EN 60079-0:2012 + A11:2013      EN 60079-1:2014**

except in respect of those requirements listed at item 18 of the Schedule.

[10] If the sign "X" is placed after the certificate number, it indicates that the equipment or protective system is subject to specific conditions for use specified in the schedule to this certificate.

[11] This EU – Type examination certificate relates only to the design and construction of the specified equipment or protective system. 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      Ex db IIB T6 Gb**

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Certification officer: Wu Jianguo

Signature:

Date of issue: 2017-01-04

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Certification Body: CNEX-Global B.V., Utrechtseweg 310, 6812 AR, Arnhem, the Netherlands

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**SCHEDULE**  
**EU-TYPE EXAMINATION CERTIFICATE No.**  
**CNEX 16 ATEX 0013X Issue 0**  
**Report: 16026**

[15] Description of equipment:

Explosion-proof gamma ray sensors models FS-1000/1 and FS-1000/2 (Single gamma sensor) and FS-2000/1 and FS-2000/2 (Dual gamma sensor). They are constructed in type of explosion protection enclosure 'd'. The enclosure is made of stainless steel and is equipped with two cable entries. The enclosure contains a gamma radiation source.

Nomenclature: for model FS-aaaa/b-c-ddd

- FS - Gamma sensor with radioactive source
- aaaa - Single or Dual energy:
  - aaaa = 1000 for Single gamma energy
  - aaaa = 2000 for Dual gamma energy
- b - Type:
  - b = 1 for 24 Vdc detector thermostat type of sensor
  - b = 2 for 48 Vdc detector thermostat type of sensor
- c - Pressure rating
- ddd - Nominal sensor dimension (mm)

Ambient temperature range

The ambient temperature range is limited to -20 °C ...+60 °C.

Electrical Data:

Input voltage ..... : 24 Vdc or 48 Vac

Operating current ..... : 2 A max.

Power ..... : 50 W max.

Mounting Instructions:

See User Manual.

Installation Instructions:

Only suitable certified flameproof cable glands, stopping plugs and breathing devices are to be used, suitable for the conditions of use, minimum IP66 rated and correctly installed.

If needed, repairs of flameproof joints must only be made in compliance with the structural specifications supplied by the manufacturer.

Routine Tests:

Each flameproof enclosure of the model FS-1000/1, FS-1000/2, FS-2000/1 and FS-2000/2 gamma sensors shall be tested with an overpressure test according to EN/IEC 60079-1 Clause 16.1, with an overpressure of at least 500 kPa for minimum 10 seconds.

[16] Descriptive Documents:

Detailed in the Test Report Cover document. (ref. CQST/ExTR1603G002)

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**SCHEDULE**  
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[17] Specific Conditions for Use:

The enclosure of the gamma ray sensors may only be opened when the product is de-energized and only by personnel that has been trained and qualified by Haimo for working with these gamma ray sensors.

If supplied with cable, the free end of the cable shall be terminated in a suitable enclosure which is Ex-certified per clause 1 of EN/IEC 60079-0, or in the non-hazardous area, and be fixed installed.

The flameproof joints are not intended to be repaired.

[18] Essential Health and Safety Requirements:

Concerning ESR this Schedule verifies compliance with the Annex III of 2014/34/EU directive only. The manufacturer's Declaration of Conformity declares compliance with other relevant requirements and Directives.

The manufacturer shall inform the notified body concerning all modifications to the technical documentation as described in ANNEX III to Directive 2014/34/EU of the European Parliament and the Council of 26 February 2014.

Additional Information:

The flameproof enclosure of the explosion-proof gamma ray sensors models FS-1000/1 and FS-1000/2 (Single gamma sensor) and FS-2000/1 and FS-2000/2 (Dual gamma sensor) successfully passed Ingress Protection level IP66 to EN/IEC 60529.

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