

[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: **DEMKO 07 ATEX 0654417X Rev. 2**

[4]

Equipment or Protective System: **Gas Sensor Type IDS 01xx**

[5]

Manufacturer: **Dräger Safety AG & Co. KGaA**

[6]

Address: **Revalstrasse 1, 23560 Lübeck, Germany**

[7]

This equipment or protective system and any acceptable variation thereto are specified in the schedule to this certificate and the documents therein referred to.

[8]

UL International Demko A/S, notified body number 0539 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 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. **12NK08168**

[9]

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

EN 60079-0:2009

EN 60079-1:2007

[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 the certificate.

[12]

The marking of the equipment or protective system shall include the following:

 **II 2G Ex d IIC T6/T4 Gb**

Certification Manager

Jan-Erik Storgaard

Date of issue: 2007-10-04

Re-issued: 2012-11-30

Notified Body

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[14]

Schedule
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Report: 12NK08168

[15]

Description of Equipment or protective system

The Type IDS 01xx stationary infrared gas sensor is intended for continuous detection of combustible or non-combustible gases and vapors. The sensor is not for use in oxygen-enriched atmospheres. The gas sensor provides a 4 to 20 mA analog output signal that is proportional to the measured gas concentration and an additional digital output. The sensor assembly consists of a stainless steel enclosure cover and body (cuvette) that houses the main PCB, filter PCB, and other various electronic components. A sapphire window is located at the base of the body (cuvette), centered between two heated arms. The cover of the sensor enclosure is provided with a 3/4" NPT or M25 threaded hub for permanent attachment to a certified terminal box. The integrity of the flameproof enclosure is maintained in the sensor cover by a glass feed-through disc welded to the cover and in the body (cuvette) by flameproof joints.

Performance testing:

The measuring function of the Type IDS 01xx gas sensor for explosion protection, according to Annex II clause 1.5.5, 1.5.6 and 1.5.7 of the Directive 94/9/EC, is not covered in this certificate.

Nomenclature for type IDS 01xx:

IDS 01	0	x
I	II	III

I - Denotes basic gas sensor designation

IDS 01

II - Denotes threaded hub size located on the cover of the sensor

0 – 3/4" - 14 NPT hub

1 – M25 x 1.5 hub

III - Denotes variants with different measurement wavelengths

x – any combination of numbers or letters

Temperature range

The relation between ambient temperature and the assigned temperature class is as follows:

Ambient temperature range

-40 °C < Tamb < +40 °C

-40 °C < Tamb < +80 °C

Temperature class

T6

T4

Electrical data

Rated voltage..... 9 – 30 Vdc

Rated current..... 4 – 20 mA (analog output)

Rated power..... 9 W max. (2 W per heater, 5 W for electronics)

Installation instructions

The gas sensor shall be directly attached to a suitable certified terminal box in type of explosion protection Increased Safety 'e' or Flameproof Enclosure 'd'.

The M25 version (IDS011x) is intended to be mounted into a threaded opening with M25 x 1.5 threading or a plain hole with diameter 25 to 26 mm of an Ex e terminal box. The attachment of the gas sensor enclosure shall be secured by a nut inside the terminal box.

The 3/4" NPT version (IDS010x) is intended to be mounted into a threaded opening with 3/4" - 14 NPT threading of an Ex d terminal box.

The terminal box shall be suitable for the place of installation and application.

The terminal box shall have connection for at least three wires and earth. When using the serial interface communication, the terminal box shall have connection for at least four wires and earth.

The wall/post fixing for the terminal box and the gas sensor shall be made in a way such that the terminal box is not subjected to mechanical stress at the location of the connection.

Routine tests

Routine tests according to EN 60079-1 cl. 16 are required. They are to be performed by the manufacturer per the testing parameters stated in drawings SE20448 and SE20507.



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[16] **Report No.**
Project Report No.: 12NK08168 (Hazardous Location Testing)

Documents:

Description:

IDS 010x Assembly Drawing
IDS 011x Assembly Drawing
Label Marking
Body (Cuvette) (IDS 01xx)
Cover NPT (IDS 010x)
Cover M25 (IDS 011x)
Glass Feed-Through (IDS 01xx)
Sapphire Window (IDS 01xx)
Retainer Ring (IDS 01xx)
Splash Guard and Plate
Assembly PCB Main (2 pages)
PCB Main (7 pages)
Schematic PCB Main (13 pages)
Assembly PCB Filter (2 pages)
PCB Filter (5 pages)
Schematic PCB Filter (2 pages)
Extract from Instructions for Use (2 pages)

Drawing No.:

SE20448
SE20507
SE20509
SE20510
SE20511
SE20512
SE20513
SE20514
SE20518
SE20519
SE20523
SE20524
SE20525
SE20531
SE20532
SE20533
SE20575

Rev. Level:

5
4
6
2
4
2
1
1
1
1
1
1
1
1
1
1
6

Date:

2007-09-27
2007-09-27
2011-05-17
2007-10-18
2007-10-30
2007-09-27
2007-09-27
2006-09-29
2007-09-27
2012-06-11
2007-04-12
2007-04-11
2007-04-12
2007-04-12
2007-04-12
2007-04-12
2007-04-11
2011-07-07

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

The ambient temperature range is limited to :

- for T6 : $-40\text{ °C} \leq T_{amb} \leq +40\text{ °C}$
- for T4 : $-40\text{ °C} \leq T_{amb} \leq +80\text{ °C}$

- o The flameproof enclosure is not to be opened by the user.
- o The electrical equipment may not be modified.
- o The use of defective or incomplete parts is not permissible.

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

Concerning ESR this Schedule verifies compliance with the Annex III of ATEX directive only. The manufacturer's Declaration of Conformity declares compliance with other relevant Directives.

Additional information

The manufacturer shall inform the notified body concerning all modifications to the technical documentation as described in ANNEX III to Directive 94/9/EC of the European Parliament and the Council of 23 March 1994.

