

[1] **EC-TYPE EXAMINATION CERTIFICATE**  
according to Directive 94/9/EC, Annex III



(Translation)

- [2] Equipment and Protective Systems intended for use in Potentially Explosive Atmospheres, Directive 94/9/EC
- [3] EC-Type Examination Certificate Number: **IBExU07ATEX1081**
- [4] Equipment: Flow transducer type OCM F, OCM FR, OCM FM  
NFP
- [5] Manufacturer: NIVUS GmbH
- [6] Address: Im Täle 2  
75031 Eppingen  
GERMANY
- [7] The design of this equipment mentioned under [4] and any acceptable variation thereto are specified in the schedule to this EC-Type Examination Certificate.
- [8] IBExU Institut für Sicherheitstechnik GmbH, NOTIFIED BODY number 0637 in accordance with article 9 of the Council Directive 94/9/EC of 23 March 1994, certifies that this equipment mentioned under [4] has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment intended for use in potentially explosive atmospheres given in Annex II to the Directive.  
The test results are recorded in the test report IB-07-3-145/1 of 3<sup>rd</sup> July 2007.
- [9] Compliance with the Essential Health and Safety Requirements has been assured by compliance with EN 60079-0:2004 and EN 60079-11:2007.
- [10] If the sign „X“ is placed after the Certificate number, it indicates that the equipment is subject to special conditions for safe use specified under [17] in the schedule to this EC-Type Examination Certificate.
- [11] This EC-Type Examination Certificate relates only to the design and construction of the specified equipment. If applicable, further requirements of this directive apply to the manufacture and supply of this equipment.
- [12] The marking of the equipment mentioned under [4] shall include the following

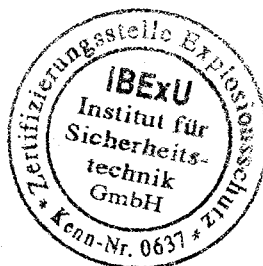
II (2)G [Ex ib] IIB

IBExU Institut für Sicherheitstechnik GmbH  
Fuchsmühlenweg 7 - 09599 Freiberg, Germany  
☎ +49 (0) 3731 3805-0 - ☎ +49 (0) 3731 23650

Authorised for certifications  
-Explosion protection-By order

By order

(Dr. Lösch)



- Seal -  
(ID no. 0637)

Freiberg, 4<sup>th</sup> July 2007

Certificates without signature and seal are not valid. Certificates may only be duplicated completely and unchanged. In case of dispute, the German text shall prevail.

**Schedule**

[13] **Schedule**

[14] **to the EC-TYPE EXAMINATION CERTIFICATE IBExU07ATEX1081**

[15] **Description of equipment**

The Flow transducer is an associated apparatus and is to install outside of hazard areas. It serves to the galvanic isolated supply and the signal transmission for 2- line sensors an flow rate sensors. The electronics components are on a circuit board inside a front board and wall form enclosure. The electrical connections are carried out with terminals. The equipment is fit out with LC-Display and foil keyboard and USB-connector for services.

Ambient temperature                      -20 °C up to +40 °C

**Electrical data**

Supply circuit:                              Terminal-No. 4[DC+], 5[DC-] and 3[PE]

U<sub>N</sub>      18 - 36 VDC

Terminal-No. 1[L1], 2[N] and 3[PE]

U<sub>N</sub>      85 - 264 VAC

Signal circuits:                              Terminal-No. 6 up to 45

U<sub>N</sub>      24 VDC resp. I<sub>N</sub> 0/4 -20 mA

U<sub>N</sub>      250 VAC (relay)

maximum r.s.m                              U<sub>m</sub>      250 VAC

Sensor current circuits:                      **type of protection Ex ib IIB**

2- wire sensors                              Terminal-No.46 - 49 and 55 - 58

per channel                                      U<sub>O</sub>      27.3 V

I<sub>O</sub>      91.8 mA

characteristic linear

C<sub>O</sub>      400 nF

L<sub>O</sub>      5 mH

Flow sensors                                      Terminal-No.50 - 54 and 59 -63

per channel                                      U<sub>O</sub>      9.9 V

I<sub>O</sub>      629 mA

characteristic rectangular

C<sub>O</sub>      5 µF

L<sub>O</sub>      0.15 mH

The maximum values are valid also for combined lumped capacitances/ inductances. Further details are specified in the test documents which are part of the test report.

[16] **Test report**

The test results are recorded in the test report IB-07-3-145/1.

**Summary of the test results:**

The NIVUS-Tranducer fulfils the requirements of explosion protection for associated apparatus of Equipment group II and Category (2) G in type of protection Intrinsic safety for explosive atmospheres of explosion group IIB.

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

none

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

Confirmed by compliance of standards (see [9]).

By order

Freiberg, 4<sup>th</sup> July 2007



(Dr. Lösch)



- [1] **1<sup>st</sup> Addition to**  
**EC-TYPE EXAMINATION CERTIFICATE IBExU07ATEX1081**  
according to Directive 94/9/EC, Annex III  
**- Translation -**

- [2] Equipment: **Flow transducer**  
type OCM F, OCM FR, OCM FM,  
NFP
- [3] Manufacturer: NIVUS GmbH
- [4] Address: Im Täle 2  
75031 Eppingen  
Germany

[5] **Addition / Alteration**

The Flow transducer mentioned in [2] can be produced according to the submitted documents with changed electrical data for the sensor circuits. The equipment mentioned under [2] fulfils the requirements of the current standards under [7].

**Electrical Data type NFP**

Sensor- Supply circuit:  
per channel

**type of protection Ex ib IIB**

Terminal-No. 50 - 52 and 59 - 61

$U_o$  9.9 V

$I_o$  629 mA

$P_o$  6.2 W

characteristic rectangular

$C_o$  4.8  $\mu$ F

$L_o$  0.15 mH

Sensor-Communication-Terminals  
per channel

**type of protection Ex ib IIB**

Terminal-No. 53 - 54 and 62 - 63

$U_o$  9.9 V  $U_i$  10.1 V

$I_o$  130,3 mA  $I_i$  136 mA

$P_o$  322 mW

characteristic linear

$C_o$  9.7  $\mu$ F

$L_o$  0.15 mH

The maximum values are valid also for combined lumped capacitances/ inductances.  
The types OCM F, OCM FR, OCM FM are unchanged.

[6] **Test Report**

The proof of the explosion protection of the equipment mentioned in [2] is explained in the Test Report IB-13-3-214 of 8 November 2013. The test documents are part of the test report.

[7] **Test result**

IBExU certifies that the equipment mentioned in [2] fulfils the in Annex II of the Directive 94/9/EC fixed Essential Health and Safety Requirements by accordance with EN 60079-0:2012 and EN 60079-11:2012.

The Flow transducer fulfils the requirements of explosion protection of Equipment for group II and Category 2G in type of protection Intrinsic safety for explosive atmospheres of explosion group IIB for an associated apparatus.

**IBExU Institut für Sicherheitstechnik GmbH**  
An-Institut der TU Bergakademie Freiberg

The marking of the equipment mentioned in [2] shall include the following:

 II (2)G [Ex ib Gb] IIB

This addition is only valid in combination with the EC-Type Examination Certificate IBExU07ATEX1081 of 4<sup>th</sup> July 2007.

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Authorized for certifications  
- Explosion protection -

By order



(Dr. Wagner)



(Identification No. 0637)

Freiberg, 08 November 2013

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