



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

[2] Equipment or protective systems
intended for use in potentially explosive atmospheres, Directive 2014/34/EU

[3] EU-type examination certificate number **IBExU07ATEX1081** | Issue 1

[4] Product: **Permanent flow measurement transmitter**
Types: OCM F, OCM FR, OCM FM, NFP und NivuLevel 350

[5] Manufacturer: NIVUS GmbH

[6] Address: Im Täle 2
75031 Eppingen
GERMANY

[7] This product and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.

[8] IBExU Institut für Sicherheitstechnik GmbH, notified body number 0637 in accordance with Article 17 of Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014, certifies that this product has been found to comply with the essential health and safety requirements relating to the design and construction of products intended for use in potentially explosive atmospheres given in Annex II to the Directive.

The examination and test results are recorded in the confidential test report IB-17-3-0089 of Oct, 16th 2017.

[9] Compliance with the essential health and safety requirements has been assured by compliance with:
EN 60079-0:2012+A11:2013 EN 60079-11:2012
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 product is subject to the specific conditions of use specified in the schedule to this certificate.

[11] This EU-type examination certificate relates only to the design and construction of the specified product. Further requirements of the Directive apply to the manufacturing process and supply of this product. These are not covered by this certificate.

[12] The marking of the product shall include the following:

II(2)G [Ex ib Gb] IIB

IBExU Institut für Sicherheitstechnik GmbH
Fuchsmühlenweg 7
09599 Freiberg, GERMANY

By order

Dipl.-Ing. [FH] Henker



- Seal -
(notified body number 0637)

Tel: + 49 (0) 37 31 / 38 05 0
Fax: + 49 (0) 37 31 / 38 05 10

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.

Freiberg, 2017-11-14

[13] **Schedule**

[14] **Certificate number IBExU07ATEX1081 | Issue 1**

[15] **Description of product**

The OCM F, OCM FR, OCM FM, NFP und NivuLevel 350 systems are different versions of stationary measuring systems for flow measurement and flow control. These devices are designed for use in the range of low to heavily polluted water-based liquids of different mixtures.

The permanent flow measurement transmitter is used as associated equipment in non-hazardous areas. It is used for galvanically isolated supply and signal transmission for 2-wire and flow sensors. The electronic components are located on a printed circuit board within a wall-/DIN-rail housing. The electrical connection is made using screw terminals and plug connectors. The device is equipped with LC display and membrane keyboard as well as USB-A interface for service purposes and data exchange.

technical data

operating temperature range:	-20 °C to +40 °C
Enclosure protection class:	IP65 (≥ IP54)
zone classification:	[Ex ib Gb]
gas explosion class:	IIB

electrical data

power supply circuits:	Terminal no. 4[DC+], 5[DC-] and 3[PE] U _N 20 - 28 VDC Terminal no. 1[L1], 2[N] and 3[PE] U _N 85 - 264 VAC P _N 18 W
signal circuits:	Terminal no. 6 to 45 U _N 24 VDC resp. IN 0/4 -20 mA U _N 250 VAC (relay)
rated voltage:	U _M 264 VAC
sensor circuits OCF	ignition protection type Ex ib IIB
2-wire sensors per channel	Terminal no. 46 - 49 and 55 - 58 U _O 26.1 V I _O 87.9 mA P _O 574 mW (linear characteristic) C _O 400 nF L _O 5 mH
Flow rate sensors (not for NivuLevel 350)	Terminal no. 50 - 54 and 59 - 63 U _O 9.9 V I _O 629 mA P _O 6.2 W (rectangular characteristic) C _O 5 µF L _O 0.15 mH
data circuits RS485 (not for NivuLevel 350)	galvanically connected to sensor circuit U _s 5 V
sensor circuits NFP	
Flow rate sensors POA V2 oder ähnlich	Terminal no. 50 - 52 and 59 - 61 U _O 9.9 V I _O 629 mA P _O 6.2 W (rectangular characteristic)

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

	C _o 5 µF L _o 0.15 mH
Sensor communication interface with type of protection Ex ib IIB	Terminal no. 53 - 54 and 62 – 63 U _o 9.9 V I _o 130.3 mA P _o 322 mW ((linear characteristic) C _o 9.7 µF L _o 0.15 mH U _i 10.1 V I _i 136 mA The maximum values also apply to concentrated capacitance/inductors that can be switched on.

Variations compared to issue x of this certificate:

Variation 1

The two voltage limiting Z-diodes 1N5361D (D11, D12) were replaced by three SMD Z-diodes BZG05C8V2 each. The third Z-diode 1N5361D (D13) is no longer in use because it is not required for protection level "ib".

Variation 2

The CNY65 optocouplers (current interface) and the QEE122/QSE158 optocouplers (data interface) have been replaced by HCWN136 optocouplers. The circuit part for automatic data direction switching has been omitted.

Variation 3

The fuse F2 (63 mA) is replaced by a 50 mA type.

Variation 4

A partition wall area in the area of the connection terminals between Ex- and non-Ex-area has been inserted.

Variation 5

The type designation has been specified.

nomenclature: AAA-BB W0 vv E xxx	
AAA	3-digit product code OCF, NFP or N35
BB	Product variant (software and/or hardware): 02 - Standard R2 - Controller M2 - Alternative type designation 2s - Standard version with Specification of the instrument measuring range 2c – Device basic configuration Interfaces (variant specific full or partial assembly)
W0	wall-/DIN-rail housing
vv	AC or DC version
E	Ex - design
xxx	Not Ex-relevant, customer-specific versions, e.g. software adaptations

An article number with a 3-digit device key is used for identification on the nameplate:

Device type	Part number
OCM F	OCF-02 W0 vv E xxx
OCM FR	OCF-R2 W0 vv E xxx
OCM FM	OCF-M2 W0 vv E xxx
NFP	NFP-2s W0 vv E xxx
NivuLevel 350	N35-2c W0 vv E xxx

The associated equipment meets the requirements of the current standards.

[16] **Test report**

The test results are recorded in the confidential test report IB-17-3-0089 dated October, 16th 2017.

The test documents are part of the test report and they are listed there.

Summary of the test results

The permanent flow measurement transmitter meet all explosion protection requirements for a corresponding electrical equipment of device group II in device category 2G in ignition protection class "ib" intrinsically safe equipment of explosion group IIB.

[17] **Specific conditions of use**

None

[18] **Essential health and safety requirements**

In addition to the essential health and safety requirements (EHSRs) covered by the standards listed at item [9], the following are considered relevant to this product, and conformity is demonstrated in the test report: none

[19] **Drawings and Documents**

The documents are listed in the test report.

IBExU Institut für Sicherheitstechnik GmbH
Fuchsmühlenweg 7
09599 Freiberg, GERMANY

By order



Dipl.-Ing. [FH] Henker

Freiberg, 2017-11-14