# IECEx Certificate of Conformity

## INTERNATIONAL ELECTROTECHNICAL COMMISSION
### IEC Certification System for Explosive Atmospheres

for rules and details of the IECEx Scheme visit www.iecex.com

| | | | |
|---|---|---|---|
| Certificate No.: | **IECEx ULD 19.0013X** | Page 1 of 4 | Certificate history: |
| Status: | **Current** | Issue No: 2 | Issue 1 (2021-11-24)<br>Issue 0 (2019-12-10) |
| Date of Issue: | 2023-10-19 | | |

Applicant: **VEGA Grieshaber KG**
Am Hohenstein 113
Schiltach, 77761
**Germany**

Equipment: **Pressure Transmitters, VEGABAR 28 (*), VEGABAR 29 (*), VEGABAR 38 (*), VEGABAR 39 (*)**

Optional accessory:

Type of Protection: **Intrinsic Safety "ia", Dust Ignition Protection by Enclosure "ta", "tb"**

Marking: Ex ia IIC T4 Ga
Ex ia IIC T4 Ga/ Gb
Ex ia IIC T4 Gb

Only for VEGABAR 28/29 with two-wire 4-20 mA current output in dust applications
Ex ia ta IIIC $T_{200}$ XX°C Da
Ex ia/tb IIIC $T_{200}$ XX°C Da/Db
Ex ia tb IIIC $T_{200}$ XX°C Db
max surface temperature $T_{200}$ 100°C

-40 °C ≤ Ta ≤ +70 °C

Approved for issue on behalf of the IECEx Certification Body: **Katy A. Holdredge**

Position: **Senior Staff Engineer**

Signature:
(for printed version)

Date:
(for printed version)

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Certificate issued by:

**UL Solutions (Demko)**
**Borupvang 5A**
**p DK-2750**
**rk**

# IECEx Certificate of Conformity



Certificate No.: **IECEx ULD 19.0013X**

Date of issue: 2023-10-19

Issue No: 2

Manufacturer:
**VEGA Grieshaber KG**
Am Hohenstein 113
Schiltach, 77761
**Germany**

Manufacturing locations:

**VEGA Grieshaber KG**
Am Hohenstein 113
Schiltach, 77761
**Germany**

**VEGA Americas, Inc.**
3877 Mason Research Parkway
Mason, OH 45036
**United States of America**

**India VEGA India Level and Pressure Measurement Pvt. Ltd.**
Plot No. 1, Gat No. 181
Village - Phulgaon, Tal. Haveli
Pune 412216
**India**

This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEx Quality system requirements.This certificate is granted subject to the conditions as set out in IECEx Scheme Rules, IECEx 02 and Operational Documents as amended

**STANDARDS** :
The equipment and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards

| | |
|---|---|
| IEC 60079-0:2017 Edition:7.0 | Explosive atmospheres - Part 0: Equipment - General requirements |
| IEC 60079-11:2011 Edition:6.0 | Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i" |
| IEC 60079-26:2014 Edition:3.0 | Explosive atmospheres – Part 26: Equipment with Equipment Protection Level (EPL) Ga |
| IEC 60079-31:2013 Edition:2 | Explosive atmospheres - Part 31: Equipment dust ignition protection by enclosure "t" |

This Certificate **does not** indicate compliance with safety and performance requirements other than those expressly included in the Standards listed above.

**TEST & ASSESSMENT REPORTS:**
A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in:

Test Reports:

DK/ULD/ExTR19.0013/00 DK/ULD/ExTR19.0013/01 DK/ULD/ExTR19.0013/02

Quality Assessment Report:

DE/TUN/QAR06.0002/12

# IECEx Certificate of Conformity



**EQUIPMENT:**
Equipment and systems covered by this Certificate are as follows:

The VEGABAR 28 (*)/ 29 (*)/ 38 (*)/ 39 (*) pressure transmitters with ceramic or metallic measuring sensor cell. Measured products are gases, vapors and liquids. The equipment must be connected to an external intrinsic safety barrier with consider to the electrical ratings. The output is performing as a 4-20 mA two-wire current output. The enclosures are manufactured of stainless-steel type AISI316. Sensors can be mounted on reservoirs, pipelines and other units, at any position indoors and outdoors in wide range of environmental conditions. The sensors have no moving parts.

**Please see Annex for additional information.**

**SPECIFIC CONDITIONS OF USE: YES as shown below:**

- Effective earthing of the equipment shall be secured through the mounting on the process equipment.
- The equipment should not be mounted on process equipment, in which pressure can exceed the range of 0.8 – 1.1 bar.
- For installation and operation of the equipment, the specifications given to the process media temperatures in the operating instructions shall be complied with.

Only for models VEGABAR B28.VR*******Z*; B29.VR******Z*

- Ambient temperature and Temperature Class – see instructions.

# IECEx Certificate of Conformity



**DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)**
Issue 1: Addition of alternate enclosure and update to drawings & pcbs.

Issue 2: For models VEGABAR B28.VR*******Z*; B29.VR******Z* add dust evaluation in conformity to standard: IEC 60079-11, Edition 6 and - IEC 60079-31, Edition 2.

**Annex:**

Annex to IECEx ULD 19.0013X Issue 2.pdf

## TYPE DESIGNATION AND PARAMETERS RELATING TO THE SAFETY

Safety relevant model coding of VEGABAR series:

The placeholder within brackets VEGABAR 28 (*)/ 29 (*)/ 38 (*)/ 39 (*) is reserved and considered as not safety relevant.

| VEGABAR | *a* | *b* | *(*)* |
|---|---|---|---|
| | 2 | Housing with M12- or ISO4400- Connector or Cable outlet wire. | |
| | 3 | Housing with Display Unit and M12- or ISO4400- Connector. | |
| | | 8 | Pressure transmitter with ceramic measuring cell |
| | | 9 | Pressure transmitter with metallic measuring cell |

| Ambient temperature range | Temperature class |
|---|---|
| -40 °C to +70 °C | T4 |

Only for dust for VEGABAR 28 (*)/ 29 (*)/

| Ambient temperature range | Temperature class |
|---|---|
| -40 °C to +70 °C | $T_{200}$ XX°C<br>max surface temperature: $T_{200}$ 100°C |

VEGABAR 28 (*)/ 29 (*)/ 38 (*)/ 39 (*) are pressure transmitters evaluated under the entity concept.

Electrical data:

VEGABAR 28/ 29/ 38/ 39

Transmitter M12 (Pin 1, 3)- or ISO4400 (Pin 1, 2)- Plug or cable outlet wire:

4-20 mA two-wire superposed current output.

Ui : 30 V
Ii : 131 mA
Pi : 0.983 W
Li : 5 µH
Ci : 0

Ci and Li do not include the capacitance/ inductance of cables to and from VEGABAR 28 (*)/ 29 (*)/ 38 (*)/ 39 (*)

Maximum cable length must be considered based on cable parameters:

Li' = 0.55 µH/m,
Ci'wire/wire = 58 pF/m,
Ci'wires/shield = 270 pF/m

Only for models VEGABAR B28.VR******M/E/VZ*; B29.VR*****M/E/VZ*

Pressure sensor VEGABAR 28/29 for explosive dust atmospheres::

- BAR 28 = measuring cell of ceramic
- BAR 29 = measuring cell of metal with chemical seal or piezo resistive

The following electronic versions are available:

- Z = two-wire 4…20mA

The following housing versions are available:

- M = M12 plastic with protective cover
- E = M12 stainless steel with protective cover
- V = with direct cable outlet of stainless steel

The pressure sensor series VEGABAR B28.VR*******Z*; B29.VR******Z*are for use in explosive dust atmospheres.

They are used for pressure and hydrostatic level measuring.

**Product Nomenclatures:**

**VEGABAR 28**

## VEGABAR 28

**Explosion protection**
**VR** ATEX/ IEC; Gas, intrinsic safety, Zone 0, 0/1, 1, 2 (Class I Division 1, 2) + Dust, protection by enclosure, Zone 20, 20/21, 21, 22 (Class II, III Division 1, 2)
**Ship approval**
**Foodstuff/Pharmaceutical certificate**
**Process fitting / Material**
**Measuring cell seal / Process temperature**
**Measuring range**
**Electrical connection / Protection**
**M** M12x1 plastic/ IP66/IP67/IP69
**E** M12x1 stainless steel / IP66/IP67/IP69
**V** with direct cable outlet of stainless steel / IP66/68 (0.5bar)
Metre/Millimetre
Foot/Inch
**Electronics**
**Z** Two-wire 4 ... 20 mA
**Sensor setting via smartphone and VEGA Tools app**

| B28. | * | * | ** | * | * | | | * |
|---|---|---|---|---|---|---|---|---|

**VEGABAR 29**

**VEGABAR 29**

**Explosion protection**
**VR** ATEX/ IEC; Gas, intrinsic safety, Zone 0, 0/1, 1, 2 (Class I Division 1, 2) + Dust, protection by enclosure, Zone 20, 20/21, 21, 22 (Class II, III Division 1, 2)
**Ship approval**
**Foodstuff/Pharmaceutical certificate**
**Process fitting / Material**
**Measuring range**
**Electrical connection / Protection**
**M** M12x1 / IP66/IP67/IP69
**E** M12x1 stainless steel / IP66/IP67/IP69
**V** with direct cable outlet of stainless steel / IP66/68 (0.5bar)
**Electronics**
**Z** Two-wire 4 ... 20 mA
**Sensor setting via smartphone and VEGA Tools app**

| B29. | * | * | ** | * | | | * |
|---|---|---|---|---|---|---|---|

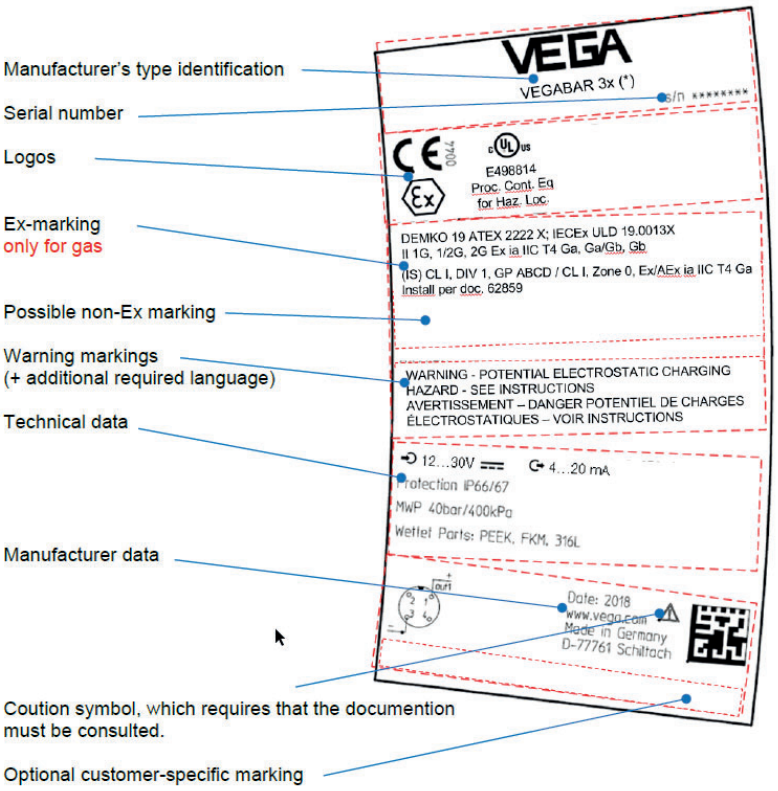
**Electrical Ratings:**
**B28.VR*******Z* or B29.VR******Z***

| Supply and signal circuit | |
|---|---|
| M12 plug connector: Pin 1[+], Pin 3[-]<br>Direct cable outlet with wire colour brown [+], blue [-] | In type of protection intrinsic safety Ex ia IIC |
| | For connection to a certified, intrinsically safe circuit.<br><br>Ui ≤ 30 V DC<br>I i ≤ 131 mA<br>Pi ≤ 983 mW |
| | The effective internal capacitance Ci is negligibly small.<br>The effective internal inductance Li is ≤ 5 µH. |
| | In the version with fix mounted connection cable, the following values must be taken into consideration:<br><br>Li = 0,55 µH/m<br>Ci wire/wire = 58 pF/m<br>Ci wire/screen = 270 pF/m |

## MARKING

Marking has to be readable and indelible; it has to include the following indications:

Minimum marking of VEGABAR 38, 39 devices



Minimum marking of VEGABAR 28, 29 devices