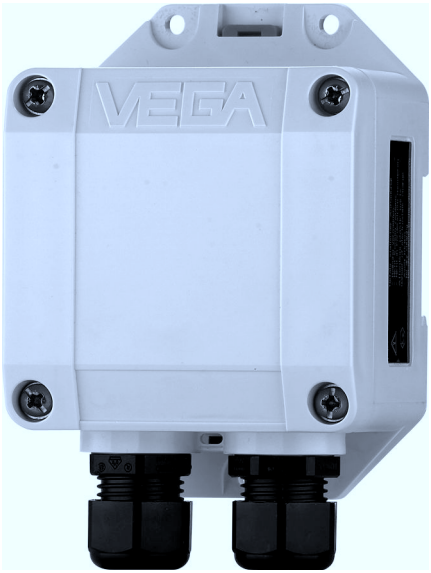
Safety instructions

VEGABOX 02 BOX02.C_***

TÜV 07 ATEX 553685 X

II 1G, 2G Ex ia IIC T6 … T1 Ga, Gb



0044

40600

Contents

Please note:

These safety instructions are part of the following documentation:

- 40601 - EC type approval certificate TÜV 07 ATEX 553685 X
- 32798 - VEGABOX 02

40600-EN-110804

DE	Sicherheitshinweise für den Einsatz in explosionsgefährdeten Bereichen, verfügbar in den Sprachen deutsch, englisch, französisch und spanisch.
EN	Safety instructions for the use in hazardous areas are available in German, English, French and Spanish language.
FR	Consignes de sécurité pour l'utilisation en atmosphère explosible, disponibles dans les langues allemande, anglaise, française et espagnole.
ES	Instrucciones de seguridad para el empleo en áreas con riesgo de explosión, disponible en los siguientes idiomas alemán, ingles, francés y español.
CZ	Pokud nastanou potíže při čtení bezpečnostních upozornění v otištěných jazycích, poskytneme. Vám na základě žádosti k dispozici kopii v jazyce Vaší země.
DA	Hvis De har svært ved at forstå sikkerhedsforskrifterne på de trykte sprog, kan. De få en kopi på Deres sprog, hvis De ønsker det.
EL	Εάν δυσκολεύεστε να διαβάσετε τις υποδείξεις ασφαλείας στις γλώσσες που ήδη έχουν τυπωθεί, τότε σε περίπτωση ζήτησης μπορούμε να θέσουμε στη διάθεσή σας ένα αντίγραφο αυτών στη γλώσσα της χώρας σας.
ET	Kui teil on raskusi trükitud keeltes ohutusnõuete lugemisega, siis saadame me teie järelepärimise peale nende koopia teie riigi keeles.
FI	Laitteen mukana on erikielisiä turvallisuusohjeita. Voit tilata meiltä äidinkieliset turvallisuusohjeet, jos et selviä mukana olevilla kielillä.
HU	Ha a biztonági előírásokat a kinyomtatott nyelveken nem tudja megfelelően elolvasni, akkor lépjen velünk kapcsolatba: azonnal a rendelkezésére bocsátunk egy példányt az Ön országában használt nyelven.
IT	Se le Normative di sicurezza sono stampate in una lingua di difficile comprensione, potete richiederne una copia nella lingua del vostro paese.
LT	Jei Jums sunku suprasti saugos nuorodų tekstą pateiktomis kalbomis, kreipkitės į mus ir mes Jums duosime kopiją Jūsų šalies kalba.
LV	Ja Jums ir problēmas drošības noteikumus lasīt nodrukātajās valodās, tad mēs Jums sniegsim pēc pieprasījuma kopiju Jūsu valsts valodā.
MT	F'kaz li jkollok xi diffikulta` biex tifhem listruzzjonijiet ta' sigurta`kif ipprovduti, infurmana u ahna nibghatulek kopja billingwa tieghek.
NL	Als u moeilijkheden mocht hebben met het lezen van de veiligheidsinstructies in de afgedrukte talen, sturen wij u op aanvraag graag een kopie toe in uw eigen taal.
PL	W przypadku trudności odczytania przepisów bezpieczeństwa pracy w wydrukowanych językach, chętnie udostępnimy Państwu kopię w języku obowiązującym w danym kraju.
PT	Caso tenha dificuldade de ler as instruções de segurança no idioma, no elas foram impressas, poderá solicitar junto a nós uma cópia em seu idioma.
SK	Pokiaľ nastanú problémy pri čítaní bezpečnostných pokynov vo vydaných jazykoch, poskytneme Vám na základe žiadosti k dispozícii kópiu v jazyku Vašej krajiny.
SL	Kadar se pojavijo težave pri branju varnostnih navodil v izdanih jezikih, vam bomo na osnovi zahtevka dali na razpolago kopijo v jeziku vaše države.
SV	Om du har problem att läsa säkerhetsanvisningarna på de här tryckta språken, ställer vi gärna på begäran en kopia på ditt språk till förfogande.

EG-Konformitätserklärung
EC declaration of conformity
Déclaration CE de conformité

VEGA Grieshaber KG
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Deutschland

erklärt in alleiniger Verantwortung, dass das Produkt
declare under our sole responsibility that our product
déclare sous sa seule responsabilité que le produit

VEGABOX 02 BOX02.C_***

auf das sich diese Erklärung bezieht, mit den folgenden Normen übereinstimmt
to which this declaration relates is in conformity with the following standards
auquel se réfère cette déclaration est conforme aux normes

EN 60079-0: 2009
EN 60079-11: 2007
EN 60079-26: 2007
EN 61326: 1997/A1: 1998 Emission: Class B, Imission
EN 61010-1: 2001

gemäß den Bestimmungen der Richtlinien
following the provision of Directives
conformément aux dispositions des Directives

94/9/EG
2006/95/EG
2004/108/EG

EG Baumusterprüfbescheinigung Nummer EC-Type Examiniation Certificate Number Numéro du certificat d'examen CE de type	**PTB 07 ATEX 553685 X** **1. supplement**
Benannte Stelle/Kennnummer Notified Body/Itdentification number Organisme notifié/Numéro d'identification	TÜV Nord Cert./0044

Schiltach, 31.05.11

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40600-EN-110804

1 Area of applicability

These safety instructions apply to the breather housing VEGABOX 02 series BOX02.C_*** according to EG type approval certificate TÜV 07 ATEX 553685 X with the 1st supplement (certificate number on the type label) and for all instruments with the number of the safety instruction (40600) on the type label.

2 General information

The VEGABOX 02 is preferably used for field mounting for separated connection of sensor circuits and as breather housing. The VEGABOX 02 of type series BOX02.C_*** with optionally integrated connection terminals or integrated connection terminals and a temperature transmitter are preferably used for pressure compensation of the pressure measuring cell and as terminal box in conjunction with pressure transmitters of Messrs. VEGA in the cable version with capillary cable.

The VEGABOX 02 can optionally be provided only with connection blocks as type BOX02.C_A** for connection of intrinsically safe circuits or connecting terminals and additionally a certified intrinsically safe temperature transmitter as type BOX02.C_C** to implement a PT100 four-wire measurement into a 4 … 20 mA measuring signal with superimposed HART signal. The connection block is preferably used for connection of an intrinsically safe circuit of VEGA pressure transmitters in the version with connection cable with an appropriate power supply unit or signal conditioning instrument.

The BOX02.C_*** is an intrinsically safe electrical instrument for installation in hazardous areas with combustible gases, mist or vapour, requiring instruments of category 1G or 2G or for installation outside of hazardous areas. The BOX02.C_*** is an intrinsically safe instrument for installation in hazardous areas of all combustible materials of explosion group IIA, IIB and IIC.

If the BOX02.C_*** is installed and operated in hazardous areas, the general Ex mounting instructions EN 60079-14 and these safety instructions must be observed.

The operating instructions as well as the corresponding valid Ex installation regulations or standards for electrical equipment must be observed.

The installation of explosion-endangered systems must always be carried out by qualified personnel.

2.1 Category 1G instruments

The BOX02.C_*** is installed in hazardous areas requiring instruments of category 1G.

2.2 Category 2G instruments

The BOX02.C_*** is installed in hazardous areas requiring instruments of category 2G.

3 Electrical data

In the version VEGABOX02.C_C with integrated temperature transmitter type T32.1S.OIS**

Power supply and signal circuit: (terminals 8[-], 9[+] on the temperature transmitter)	In ignition protection type intrinsic safety Ex ia IIC/IIB For connection to an intrinsically safe circuit. Maximum values: Ui = 30 V Ii = 130 mA Pi = 800 mW Ci = 7.8 nF Li = 100 µH When using the supplied connection cable, the following cable inductances Li' and cable capacitances Ci' have to be taken into account in addition to the above mentioned Ci and Li values: Li = 0.6 µH/m $C_{i\ wire/wire}$ = 133 pF/m $C_{i\ wire/screen}$ = 215 pF/m
Temperature circuit: (terminals 1 … 4 on the temperature transmitter)	In ignition protection type intrinsic safety Ex ia IIC/IIB For connection to an intrinsically safe circuit. Maximum values: Uo = 6.5 V Io = 9.3 mA Po = 15.2 mW Lo = 365 mH für Gruppe IIC Lo = 1644 mH für Gruppe IIB Co = 24 µF for group IIC Co = 570 µF for group IIB When using the supplied connection cable, the following cable inductances L_i' and cable capacitances C_i' have to be taken into account: Li = 0,6 µH/m Ci wire/wire = 188 pF/m Ci wire/screen = 555 pF/m
Supply and signal circuit to the pressure transmitter: (terminal 1, 2)	In ignition protection type intrinsic safety Ex ia IIC/IIB For connection to intrinsically safe pressure transmitter circuits. Maximum values: Ui = 30 V Ii = 150 mA Pi = 1000 mW Ci = 0 Li = 0

When using the supplied connection cable, the following cable inductances L_i' and cable capacitances C_i' have to be taken into account:
Li = 0.6 µH/m
$C_{i\ wire/wire}$ = 133 pF/m
$C_{i\ wire/screen}$ = 215 pF/m

The intrinsically safe circuits are electrically isolated from each other and from parts which can be grounded.

In the version VEGABOX02.C_A with integrated terminal blocks**

Power supply and signal circuit: (terminals 1, 2)	In ignition protection type intrinsic safety Ex ia IIC/IIB For connection to an intrinsically safe circuit. Maximum values: Ui = 30 V Ii = 150 mA Pi = 1000 mW Ci = 0 Li = 0 When using the supplied connection cable, the following cable inductances L_i' and cable capacitances C_i' have to be taken into account: Li = 0.6 µH/m $C_{i\ wire/wire}$ = 133 pF/m $C_{i\ wire/screen}$ = 215 pF/m
Temperature circuit: (terminals 3 … 6)	In ignition protection type intrinsic safety Ex ia IIC/IIB For connection to an intrinsically safe circuit. Maximum values: Ui = 30 V Ii = 100 mA Pi = 500 mW Ci = 0 Li = 0 When using the supplied connection cable, the following cable inductances L_i' and cable capacitances C_i' have to be taken into account: Li = 0.6 µH/m $C_{i\ wire/wire}$ = 188 pF/m $C_{i\ wire/screen}$ = 555 pF/m

The intrinsically safe circuits are electrically isolated from each other and from parts which can be grounded.

4 Application conditions

4.1 In the version BOX02.C_A** with terminal blocks

Permissible ambient temperatures depending on temperature class

For use as category 1G instrument

Temperature class	T6 … T1
Permissible ambient temperature	-20 … +60 °C

The connection housing must only be operated in a hazardous area requiring instruments of category 1 if there are atmospheric conditions (pressure of 0.8 bar to 1.1 bar). If there is no explosive atmosphere, then the permissible operating temperatures and pressures must be taken from the manufacturer specifications.

For use as category 2G instrument

Temperature class	T6 … T1
Permissible ambient temperature	-50 … +85 °C

The permissible operating temperatures without explosion-endangered atmosphere are mentioned in the respective manufacturer instructions, e.g. operating instructions manuals.

4.2 In the version BOX02.C_C** with integrated temperature transmitter

Permissible ambient temperatures depending on temperature class

For use as category 1G instrument

Temperature class	Zulässige Umgebungstemperatur
T6	-20 … +44 °C
T5	-20 … +56 °C
T4 … T1	-20 … +60 °C

The connection housing must only be operated in a hazardous area requiring instruments of category 1 if there are atmospheric conditions (pressure of 0.8 bar to 1.1 bar). If there is no explosive atmosphere, then the permissible operating temperatures and pressures must be taken from the manufacturer specifications.

For the max. permissible ambient temperatures, EN 1127-1: 2008, section 6.4.2 was taken into consideration.

For use as category 2G instrument

Temperature class	Zulässige Umgebungstemperatur
T6	-50 … +60 °C
T5	-50 … +75 °C
T4 … T1	-50 … +85 °C

The permissible operating temperatures without explosion-endangered atmosphere are mentioned in the respective manufacturer instructions, e.g. operating instructions manuals.

Permissible operating pressure

For use as category 1G instrument: 0.8 … 1.1 bar

The permissible operating pressures without explosion-endangered atmosphere are mentioned in the appropriate manufacturer instructions, as e.g. the operating instructions manuals.

5 Protection against static electricity

The BOX02.C_*** housing has a warning label referring to the safety instructions that must be followed in case there is a danger of electrostatic charging during operation in explosion-endangered areas.

Caution: Plastic parts! Danger of static charge!

- Avoid friction
- No dry cleaning
- Do not mount in areas with flowing, non-conductive products

6 Installation

If a cable other than the VEGA connection cable is used as interconnection for signal and power supply circuit and the temperature circuit (PT100-measuring circuit), please make sure that the insulation voltage of at least 500 V AC according to EN 50020 sect. 6.4.12 is maintained and the insulation thickness of the wire insulation is at least 0.25 mm.

7 Grounding

The external earth terminal of BOX02.C_**** must be grounded. When using a screened connection cable between BOX02.C_*** and the signal conditioning instrument, the cable screen is only connected to the intended earth terminal in the BOX02.C_***. If another grounding of the cable screen is necessary, it should be carried out according to EN 60079-14 sect. 12.2.2.3

8 Material resistance

The instrument should only be used in media against which the wetted parts are sufficiently resistant.

9 IP-protection class

The IP protection class IP 54 according to EN 60529 is maintained after the housing lid is screwed down tightly.

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