

EX-instructions

Number of EC type examination certificate

TÜV 20 ATEX 265286 X

Number of IECEx-Certificate

IECEx TUN 20.0015X

Number of UKEX-Certificate

CML 21UKEX21177X

Amendment to operating instructions for these type series

<u>Type</u>	<u>Description</u>	<u>Instructions</u>
CV4xxx	Pressure transmitter PASCAL CV4	BA_080

ATEX-Marking and UKEX-Marking II 1/2G, II 2G Ex ia IIC TX Ga/Gb, Gb II 1/2D, II 2D Ex ia IIIC Txx °C Da/Db, Db**IECEx-Marking**

Ex ia IIC TX Ga/Gb, Gb

Ex ia IIIC Txx °C Da/Db, Db

- BG: Ако не разбирате указанията за безопасност, можете да изискате превод на вашия език.
- CZ: Pokud těmto bezpečnostním pokynům nerozumíte, můžete si vyžádat jejich překlad do vašeho jazyka.
- DA: Hvis du ikke forstår sikkerhedshenvisningerne, kan du forespørge en oversættelse i dit sprog.
- DE: Wenn Sie diese Sicherheitshinweise nicht verstehen, können Sie eine Übersetzung in Ihrer Landessprache anfordern.
- EL: Εάν δεν καταλαβαίνετε αυτές τις υποδείξεις ασφαλείας, μπορείτε να ζητήσετε μια μετάφραση στη μητρική σας γλώσσα
- ES: Si no entiende estas indicaciones de seguridad, puede solicitar una traducción en su idioma.
- ET: Kui need ohutusnõuded ei ole teile arusaadavad, võite tellida meilt tõlke oma keelde.
- FI: Jos et ymmärrä näitä turvaohjeita, voi pyytää ne lähetettäväksi omalle kielellesi käännettynä.
- FR: Si vous ne comprenez pas les consignes de sécurité, vous pouvez faire la demande d'une traduction dans votre langue.
- HU: Amennyiben nem érte ezeket a biztonsági utasításokat, akkor kérheti ezeknek az Ön nyelvére lefordított változatát.
- IT: Nel caso non capite queste avvertenze di sicurezza, ne potete richiedere una traduzione nella vs. lingua.
- LT: Jei nesuprantate šiu saugos reikalavimų, galite užsisakyti jų vertimą į Jūsų kalbą.
- LV: Ja jūs nesaprotāt šos drošības norādījumus, jūs varat pieprasīt tulkojumu jūsu valodā.
- NL: Indien u deze veiligheidsinstructies niet begrijpt, kunt u een vertaling in uw eigen taal aanvragen.
- PL: Jeżeli niniejsze przepisy bezpieczeństwa są niezrozumiałe, można poprosić o tłumaczenie we własnym języku.
- PT: Se não compreender os avisos de segurança, pode solicitar uma tradução no seu idioma.
- RO: Dacă nu înțelegeți aceste instrucțiuni de siguranță puteți cere traducerea acestora în limba dvs.
- SK: Ak ste nepochopili bezpečnostné pokyny, môžete si vyžádať preklad do svojho jazyka.
- SL: Če teh navodil ne razumete, lahko zahtevate prevod v Vaš jezik.
- SV: Om du inte förstår den här säkerhetsanvisningen kan du begära att få en översättning till ditt språk.

1 General safety notes

The installation, set up, service or disassembly of this device must only be done by trained, qualified personnel using suitable equipment and authorized to do so.



Warning

Media can escape if unsuitable devices are used or if the installation is not correct.

Danger of severe injury or damage

- Ensure that the device is suitable for the process and undamaged.

Measuring devices in explosive environments must be installed and commissioned by competent personnel that are familiar with the specialties of explosion protection. Modifications or damage of devices or electrical connections might negatively influence the operating safety or the ex-proofing.

Observe the regulations and standards for erection and operation of electrical installations in explosive atmospheres as well as the installation and safety notes in the corresponding operation instructions.

2 Requirements for intrinsically safe supply

Connect the pressure transmitter to a certified intrinsically safe power circuit.

From an Ex point of view, the intrinsically safe circuit in the device is connected to the housing. Therefore, equipotential bonding must exist in the entire area of the construction of the intrinsically safe circuit.

The following requirements apply to the intrinsically safe power circuit, depending on the device safety level required for the application:

EPL of pressure transmitter	Permissible configurations of power circuit with intrinsically safe ignition protection type			
Ga/Gb	Ex ia IIC	-	-	-
Gb	Ex ia IIC	Ex ib IIC	-	-
Da/Db	Ex ia IIIC	-	Ex ia IIIB	-
Db	Ex ia IIIC	Ex ib IIIC	Ex ia IIIB	Ex ib IIIB

The overall safety level changes to Ex ib when the measuring device is connected to an intrinsically safe Ex ib power circuit.

Permissible maximum values:

$$U_i \leq 30 \text{ V}$$

$$I_i \leq 150 \text{ mA}$$

$$P_i \leq 1000 \text{ mW}$$

Effective internal inductance:

$$L_i \leq 4 \text{ } \mu\text{H}$$

Effective internal capacity:

$$C_i \leq 15,4 \text{ nF}$$

The connection cable is not part of the EU type examination certificate and must be considered separately per EN 60079-14:2014 section 16.2.2.2. According to that standard you can assume the following values:

$$C_c \leq 200 \text{ pF/m}$$

$$L_c \leq 1 \text{ } \mu\text{H/m}$$

3 Permissible media and ambient temperatures

3.1 General

The maximum permissible media and ambient temperatures for the specific application depend on the device type and its configuration as documented in the data sheet, as well as on the temperature limits specified and, if applicable, supplementary information in our order confirmation. Please pay attention to all mentioned aspects. The permissible range lies between the lowest value of the upper limit and the highest value of the lower limit.

3.2 Applications in explosive gas atmospheres

	EPL Gb and EPL Ga/Gb	EPL Gb	EPL Ga/Gb
Temperature class	permissible ambient temperature	permissible media temperature	permissible media temperature
T1	-40...80 °C	-40...410 °C	-20...60 °C
T2	-40...80 °C	-40...260 °C	-20...60 °C
T3	-40...80 °C	-40...165 °C	-20...60 °C
T4	-40...80 °C	-40...100 °C	-20...60 °C
T5	-40...45 °C	-40...65 °C	-20...52 °C
T6	-40...30 °C	-40...50 °C	-20...40 °C

3.3 Applications in explosive dust atmospheres

	EPL Db and EPL Da/Db	
Surface temperature	permissible ambient temperature	permissible media temperature
T450 °C	-40...80 °C	-40...420 °C
T300 °C	-40...80 °C	-40...270 °C
T200 °C	-40...80 °C	-40...170 °C
T135 °C	-40...80 °C	-40...105 °C
T100 °C	-40...50 °C	-40...70 °C
T85 °C	-40...35 °C	-40...55 °C

4 Additional requirements

If category 1 requirements apply the pressure transmitter measuring insert must only be operated at atmospheric conditions (temperature from -20 °C to 60 °C, pressure from 0,8 bar to 1,1 bar).

Devices with EPL Da/Db or Db (Ex for dust) must not be operated continuously while the case is open. During installation and operation it must be ensured that no dust is entering the case.

When using the pressure transmitter with EPL Ga/Gb, ensure that all wetted parts are compatible with the media, taking all process conditions into account.

The process connection of measuring instruments in the Ga/Gb version must be sufficiently tight. This is fulfilled, for example, if the installation ensures a protection class of at least IP 66.

The maximum surface temperatures with regard to dust explosion protection were determined without dust cover. If dust layers are present on the measuring device, an additional safety factor must be taken into account depending on the thickness of the dust layer. For further information, please refer to EN 60079-14:2014 / IEC 60079-14:2013 section 5.6.3.3.

Diaphragm seals made of titanium are to be protected against sparking.

To avoid electrostatic charges, the housing must be connected to the equipotential bonding of the system. According to EN 60079-14:2014 / IEC 60079-14:2013 section 6.4.1, metallic housings that have firm and secure metallic contact with structural parts or pipelines that are connected to the equipotential bonding system do not have to be separately connected to the equipotential bonding system.

5 General information

Connecting and disconnecting of the display and control unit is fully permitted in hazardous areas.

Measuring devices with Equipment protection level Ga/Gb are suitable for connection to Zone 0. This means that the process connection may be located within Zone 0. The process connection meets the EPL Ga requirements. The case of the transmitter is suitable for operation in Zone 1. It meets the EPL Gb requirements.

Measuring devices with Equipment protection level Da/Db are suitable for connection to Zone 20. This means that the process connection may be located within Zone 20. The process connection meets the EPL Da requirements. The case of the transmitter is suitable for operation in Zone 21. It meets the EPL Db requirements.

EU-Konformitätserklärung EU Declaration of Conformity

Hersteller
Manufacturer **LABOM Mess- und Regeltechnik GmbH**
Im Gewerbepark 13, 27798 Hude, Germany

Die alleinige Verantwortung für die Ausstellung dieser Konformitätserklärung trägt der Hersteller.
This declaration of conformity is issued under the sole responsibility of the manufacturer.

Gegenstand der
Erklärung
Object of the
declaration Typenreihen
type series
CV4xxx

Der oben beschriebene Gegenstand der Erklärung erfüllt die einschlägigen Harmonisierungsrechtsvorschriften der Europäischen Union:
The object of the declaration described above is in conformity with the relevant Union harmonisation legislation:

für Messgeräte... for devices ...	EU-Richtlinie EU directive	Harmonisierte Norm harmonised standard
in allen Ausführungen <i>in all versions</i>	RoHS 2011/65/EU 2015/863/EU	EN IEC 63000:2018
in allen Ausführungen <i>in all versions</i>	EMV EMC 2014/30/EU	EN 61326-1:2013
mit PS > 200 bar (druckhaltendes Ausrüstungsteil) oder mit Rohrdruckmittler > DN 25 <i>with PS > 200 bar (pressure accessory) or with inline diaphragm seal > DN 25</i>	DGRL PED 2014/68/EU Modul A bzw. H <i>module A resp. H</i>	AD 2000
mit EU-Baumusterprüfbescheinigung <i>with EU-type examination certificate</i> TÜV 20 ATEX 265286 X ausgestellt von / issued by 0044 TÜV NORD CERT	ATEX 2014/34/EU	EN IEC 60079-0:2018 EN 60079-11:2012 EN 60079-26:2015

LABOM Mess- und Regeltechnik GmbH
Hude, 08.03.2022



ppa. Dr. T. Köster
Leiter Bereich Entwicklung / R & D Director

notifizierte Stellen für Auditierung des QS-Systems nach
notified bodies for auditing the QS-system according to
ATEX **0044 TÜV NORD CERT**
Zertifikat / certificate **TÜV 00 ATEX 1582 Q**
DGRL / PED **0045 TÜV NORD Systems & Co. KG**
Große Bahnstr. 31
D-22525 Hamburg
Zertifikat / certificate **0045/202/1201/Z/00497/21/D/001(00)**