

EX Instructions

Number of EC type examination certificate

TÜV 13 ATEX 120264 X

Number of IECEx-Certificate

IECEx TUN 13.0018X

Number of UKEX-Certificate

CML 21UKEX21179X

Amendment to operating instructions for these type series

<u>Type</u>	<u>Description</u>	<u>Instructions</u>
CI4xxx - Option S62	Pressure transmitter PASCAL Ci4	BA_072, BA_078
CI4xxx - Option S87		
CI4xxx - Option S77		

ATEX-Marking – Option S62 and UKEX-Marking – Option S87 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 – Option S77**

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 érti 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 šių 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 vyžiadať 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.

Since the intrinsically safe signal circuit is connected with earth potential for safety reasons, potential equalisation has to exist in the complete course of the erection 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:

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

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

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

Type series

CI4xx0

$$L_i \leq 32 \text{ } \mu\text{H}$$

$$C_i \leq 9,6 \text{ nF}$$

CI4xx3

$$L_i \leq 32 \text{ } \mu\text{H}$$

$$C_i \leq 16 \text{ nF}$$

Effective internal inductance:

Effective internal capacity:

The operator is permitted to connect a passive or other suitably certified test device to the test terminals of the pressure transmitter. Ensure that the U_0 , I_0 and P_0 values of the supply and signal power circuit and the test power circuit are added together and that the above U_i , I_i and P_i values may not be exceeded. Alternatively, you must ensure that at the time of testing, there is no explosive atmosphere. Take into account the C_i and L_i values of the test device's power circuit when calculating the overall safety levels.

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

EPL	gas temperature class	permissible media temperature		permissible ambient temperature
		standard	with ATC technology	
Ga/Gb	T1	-20...60 °C	-20...60 °C	-40...85 °C
	T2	-20...60 °C	-20...60 °C	-40...85 °C
	T3	-20...60 °C	-20...60 °C	-40...85 °C
	T4	-20...60 °C	-20...60 °C	-40...85 °C
	T5	-20...49 °C	-20...49 °C	-40...61 °C
	T6	-20...37 °C	-20...37 °C	-40...46 °C
Gb	T1	-40...400 °C	-40...200 °C	-40...85 °C
	T2	-40...268 °C	-40...200 °C	-40...85 °C
	T3	-40...168 °C	-40...168 °C	-40...85 °C
	T4	-40...103 °C	-40...103 °C	-40...85 °C
	T5	-40...68 °C	-40...68 °C	-40...61 °C
	T6	-40...53 °C	-40...53 °C	-40...46 °C

EPL	max. surface temperature	permissible media temperature		permissible ambient temperature
		standard	with ATC technology	
Da/Db Db	450 °C	-40...400 °C	-40...200 °C	-40...85 °C
	300 °C	-40...273 °C	-40...200 °C	-40...85 °C
	200 °C	-40...173 °C	-40...173 °C	-40...85 °C
	135 °C	-40...108 °C	-40...108 °C	-40...85 °C
	100 °C	-40...73 °C	-40...73 °C	-40...66 °C
	85 °C	-40...58 °C	-40...58 °C	-40...51 °C

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 above 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.

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.

For pressure transmitters with cable connector avoid electrostatic charging of the cable connector due to friction. If you cannot prevent friction processes, the use of the pressure transmitter is limited to the gas group IIB.

5 General information

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

The installation and operation of the remote display and control unit (option MC1140) is fully permitted in hazardous areas 1 and 21. The length of the connecting cable for the remote display and control unit must not exceed 20 m.

Measuring devices with Ex 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 Ex 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
CI4xxx

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 in all versions	RoHS 2011/65/EU 2015/863/EU	EN IEC 63000:2018
in allen Ausführungen in all versions	EMV EMC 2014/30/EU	EN 61326-1:2013
mit PS > 200 bar (druckhaltendes Ausrüstungsteil) oder mit Rohrdruckmittler > DN 25 with PS > 200 bar (pressure accessory) or with inline diaphragm seal > DN 25	DGRL PED 2014/68/EU Modul A bzw. H module A resp. H	AD 2000
mit EU-Baumusterprüfbescheinigung with EU-type examination certificate TÜV 13 ATEX 120264 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

Zertifikat / certificate

DGRL / PED

Zertifikat / certificate

0044 TÜV NORD CERT

TÜV 00 ATEX 1582 Q

0045 TÜV NORD Systems & Co. KG

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