

## EX Safety Instructions

### Number of EC type examination certificate

IBExU 13 ATEX 1017 X

### Amendment to operating instructions for these type series

<u>Type</u>	<u>Description</u>	<u>Instructions</u>
GA25x1	Resistance Thermometer	BA_015
GA3101	Measuring Insert for In-process calibration	<i>See operating instructions for complete devices</i>

### Marking

 II 2 G Ex ia IIC T6-T1 Gb

- 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 sikkerhedshensvisningerne, 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 entiendes 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 nesaprotat 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 Pt100 measuring insert to an intrinsically safe power circuit.

Permissible maximum values:

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

$$P_i \leq 750 \text{ mW}$$

Effective internal inductance:

$$C_i \leq 500 \text{ pF/m}$$

Effective internal capacity:

$$L_i \leq 10 \text{ }\mu\text{H/m}$$

Potentially equal connections of Pt100 measuring inserts in 3-wire and 4-wire systems are indicated by a common shrink tube cover. Two different circuits are coded in different colours. Securely isolate the free wires (500 VAC), which are not needed.

The connection cable is not part of the EC 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

Temperature class	Permissible media temperature ( $T_m$ ) depending on the supply power $P_i$ in the event of failure				$T_u$ in °C
	50 mW	250 mW	500 mW	750 mW	
T1	435 °C	426 °C	403 °C	385 °C	-40...100 °C
T2	285 °C	271 °C	253 °C	235 °C	
T3	190 °C	176 °C	158 °C	140 °C	
T4	125 °C	111 °C	93 °C	75 °C	
T5	90 °C	76 °C	58 °C	40 °C	
T6	75 °C	61 °C	43 °C	25 °C	

### 4 Additional Requirements

Avoid electrostatic charge on plastic surfaces, if present.

Ensure that the measuring point and the connection head are thermally decoupled by the choice of a sufficiently long neck tube.

Devices with an aluminum housing need to be secured against strikes to avoid sparking.

### 5 Resistance thermometer with transmitter

Combining a transmitter with a resistance thermometer is an installation per ATEX-guideline. Adhere to the limits and safety instructions of the transmitter when using this combination in an explosion protected environment.

### 6 In-process test

Type GA3101 measuring inserts incorporate a test channel into which a test sensor can be inserted for control measurements. The test is performed using intrinsically safe display devices and the test sensor, connected by a plug-in connector, which also has to be configured as an intrinsically safe ignition protection type. Alternatively ensure that an explosive atmosphere does not prevail at the time of testing.

When performing a test, you fit temperature sensors with different approvals at the measuring point. The maximum values of dielectric strength between the measuring sensor and the test sensor can differ by up to 300 V AC (measuring sensor 500 V AC, test sensor max. 300 V AC due to the small diameter), depending on the test sensor used. Take this into account when setting up the system and designing the test procedure.

With in-process testing, ensure that the formation of an explosive atmosphere is prevented as far as possible. To do so, remove as much flammable material as possible or prevent it from entering the test area.

If it is impossible to securely prevent the development of an explosive atmosphere, take appropriate measures in explosion hazardous areas to avoid sources of ignition.

With in-process testing, ensure that you prevent electrostatic charges to people (e.g. by the use of conductive footwear), equipment, personal protective equipment (e.g. by the choice of suitable protective clothing) and fixtures and fittings. It is the duty of the system operator to prevent sparks caused by electrical potential differences (for example, by metallic conductive bridging of joints upstream of system component or pipework joints).

There should be no electrical charge on the surface of the test sensor when it is inserted. Ensure this by first wiping the sensor with a damp cloth or by earthing the metallic sensor component.



Lösungen nach Maß für industrielle Druck- und Temperaturmessungen in den Bereichen Food, Pharma, Biotechnik, Chemie, Petrochemie, Energie, Umweltschutz und Seeschifffahrt.  
"Made to Measure" Process Instrumentation for Pressure and Temperature Measurement in the Food, Pharmaceutical, Bio-Technology, Chemical, Petro-Chemical, Power, Environmental and Maritime Industries.

## EG-Konformitätserklärung EC Declaration of Conformity

KE\_005

Hersteller /Manufacturer

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

Die CE-Kennzeichnung der Geräte

*The CE symbol on the devices*

**Widerstandsthermometer** der Typenreihen

*Resistance thermometer, type series*

**GA25xx, GA260x, GFxxxx, GA2201**

**Messeinsätze für Widerstandsthermometer** der Typenreihe

*Measuring inserts for resistance thermometers, type series*

**GA2131**

weist auf die Übereinstimmung mit den relevanten Richtlinien hin.

*indicates their compliance with the relevant directives.*

Folgende Richtlinien werden angewandt:

*The following directives are applied:*

2004/108/EG / 2004/108/EC  
(gültig bis/valid until 19 Apr 2016)

EMV  
EMC

EN 61326-1:2013

Für Messgeräte mit Messumformer  
*For gauges equipped with transmitter*

2014/30/EU  
(gültig ab/valid from 20 Apr 2016)

94/9/EG / 94/9/EC  
(gültig bis/valid until 19 Apr 2016)

ATEX

EN 60079-0:2009  
EN 60079-11:2012

Nr. der EG-Baumusterprüfbescheinigung /  
*EC-type examination certificate*

2014/34/EU  
(gültig ab/valid from 20 Apr 2016)

**BVS 04 ATEX E 144 X**

Messeinsatz Typen / *Measuring insert types: WMX-O\*\*.\*, WMX-R\*\*.\**

Für Typenreihen / *For type series*  
**GA25x1, GA2601, GFxxx1, GA2131, GA2201**

EN 60079-0:2012  
EN 60079-11:2012

Nr. der EG-Baumusterprüfbescheinigung /  
*EC-type examination certificate*

**IBExU 13 ATEX 1017 X**

Für Typenreihen / *For type series*  
**GA25x1, GA3101**

Hude, 07.12.2015

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

benannte Stelle für Auditierung des QS-Systems nach  
*notified body for auditing the QS-system according to*

ATEX  
Zertifikat / *certificate*

**0044 TÜV NORD CERT**  
**TÜV 00 ATEX 1582 Q**