

EX Instructions





Number of EC type examination certificate

TÜV 08 ATEX 554093 X

Amendment to operating instructions for these type series

<u>Type</u>	<u>Description</u>	<u>Instructions</u>
GA2611	Resistance thermometer clamp-on	BA_049
GA2651	Resistance thermometer for measuring surface temperature	BA_054
GA27xx	Resistance thermometer MiniTherm	BA_053
GA8101	Indoor and outdoor resistance thermometer	BA_069
GA8111	Resistance thermometer vibration proof	BA_071
GA9141	Pt100 temperature sensor	-
GA2151 GA2191	Measuring insert for resistance thermometer	<i>see operating instructions for complete device</i>

Marking

-  II 1 G Ex ia IIC T6/T5/T4
-  II 2 G Ex ib IIC T6/T5/T4
-  II 1 D Ex iaD 20 T89°C
-  II 2 D Ex ibD 21 T129°C

- 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 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 a certified intrinsically safe power circuit with safe galvanic isolation.

The following configurations apply to the power circuit depending on the category of Pt100 measuring insert required for the application:

Category of Pt100 measurement insert	Configuration of power circuit with intrinsically safe ignition protection type			
1G	Ex ia IIC	-	-	-
2G	Ex ia IIC	Ex ib IIC	-	-
1D	Ex ia IIC	-	Ex ia IIB	-
2D	Ex ia IIC	Ex ib IIC	Ex ia IIB	Ex ib IIB

Permissible maximum values:

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

$$P_i \leq 200 \text{ mW}$$

The inner capacity C_i and inductance L_i are negligible small.

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

<u>Type</u>	<u>Marking</u>	<u>Class</u>	<u>Media</u>	<u>Ambient</u>
all	II 1 G Ex ia IIC T6/T5/T4	T6	-20...35 °C	-20...35 °C
		T5	-20...60 °C	-20...60 °C
		T4	-20...60 °C	-20...60 °C
	II 2 G Ex ib IIC T6/T5/T4	T6	-20...51 °C	-20...51 °C
		T5	-20...95 °C	-20...95 °C
		T4	-20...130 °C	-20...130 °C
	II 1 D Ex iaD 20 T89 °C		-20...60 °C	-20...60 °C
	II 2 D Ex ibD 21 T129 °C		-20...100 °C	-20...100 °C

For temperature classes T1, T2 and T3 the temperature limits for T4 apply.

The permissible media and ambient temperatures depend on the device type and its configuration as documented in the data sheet as well as the ignition temperature of the explosive atmosphere. Consider both aspects! The permissible range lies between the lowest value of the upper limit and the highest value of the lower limit.

4 Additional Requirements

Avoid electrostatic charge on plastic surfaces, if present.

If category 1 requirements apply the Pt100 measuring insert must only be operated at atmospheric conditions (0.8 to 1.1 bar).

If category 1D or 2D Pt100 measuring inserts are required, ensure that the dust has a minimum smouldering temperature of 210 °C with a layer thickness of 5 mm.

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.



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.

EU-Konformitätserklärung EU Declaration of Conformity

KE_011

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

GA261x, GA27xx, GA81xx, GA265x, GA9141

Messeinsätze für Widerstandsthermometer der Typenreihen

Measuring inserts for resistance thermometers, type series

GA215x, GA219x

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:

2014/30/EU

EMV
EMC

EN 61326-1:2013

Für Messgeräte mit Messumformer
For gauges equipped with transmitter

2011/65/EU

RoHS

EN 50581:2012

2014/34/EU

ATEX

EN 60079-0:2012+
A11:2013
EN 60079-11:2012
EN 60079-26:2015

Für Typenreihen / *For type series* **GA2611, GA27x1, GA81x1, GA2651, GA9141, GA2151, GA2191**
mit ATEX-Zulassung / *with ATEX-approval*

Nr. der EG-Baumusterprüfbescheinigung
EC-type examination certificate

TÜV 08 ATEX 554093 X

Ausgestellt von / *issued by*
0044 TÜV NORD CERT

Hude, 09.02.2018

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

benannte Stellen für Auditierung des QS-Systems nach
notified bodies for auditing the QS-system according to

ATEX
Zertifikat / *certificate*

0044 TÜV NORD CERT
TÜV 00 ATEX 1582 Q