

EX Instructions

Amendment to operating instructions for these type series

<u>Type</u>	<u>Description</u>	<u>Instructions</u>
GA25xx	Resistance Thermometer	BA_015

Marking

 II 3G Ex nA IIC T1...T6 Gc X

- 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 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 ezeket 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 Installation

Please note the torque of 1 Nm for the cable connection on the terminal block. Cables with the following diameters can be connected

max. cable diameter: 2,5 mm

min. cable diameter: 0,22 mm

Always use a thermowell.

The explosion protection rating of the measuring device depends on the IP protection class (min. IP54) of the measuring system:

- If necessary, use a torque wrench and follow the below mentioned tightening torques:

Tightening torque connection head - neck tube / thermowell

Screw thread	Tightening torque in Nm
M24 x 1,5	30

Tightening torque neck tube - thermowell

Screw thread	Tightening torque in Nm
M14 x 1,5	30
M18 x 1,5	35
G1/2	40

- Make sure that the housing is properly closed again after it has been opened for installation or maintenance purposes. Pay particular attention to the correct seating of the seals after the housing has been opened and closed.
- Make sure that the housing is properly closed again after it has been opened for installation or maintenance purposes. A minimum torque of 5 Nm is necessary. Use flexible cables only. Pay particular attention to the correct seating of the seals after the housing has been opened and closed.

3 Requirements for intrinsically safe supply

For safety reasons, the following Pt100 measuring inserts need to be connected to the system's potential equalisation system along the entire power circuit.

- Ø of measuring insert < 3 mm
- Ø of measuring insert = 3 mm and more than 4 cable conductors
- Ø of measuring insert > 3 mm and more than 6 cable conductors

The measuring device housing must be connected to the system's potential equalisation system. In accordance with EN 60079-14, Section 6.4.1, metallic housings, which have a permanent and secured metallic contact with construction components or pipes, which in turn are connected to the potential equalisation system, do not need to be separately connected to the potential equalisation system.

4 Permissible media and ambient temperatures

The permissible media temperatures per temperature class depend on the voltage applied to the Pt100 and/or the electrical power fed to the Pt100.

- the following applies when using a voltage-limited supply to the Pt100:

Temperature class	Permissible media temperature (T_m in °C) depending on the power supply of the Pt100							T_u in °C
	3,50 V	3,00 V	2,50 V	2,00 V	1,50 V	1,00 V	0,50 V	
T1	318	351	378	400	417	430	437	- 20...60
T2	168	201	228	250	267	280	287	
T3	73	106	133	155	172	185	192	
T4	-	41	68	90	107	120	127	
T5	-	-	33	55	72	85	92	
T6	-	-	-	40	57	70	77	

- the following applies when using a power-limited supply to the Pt100:

Temperature class	Permissible media temperature (T_m in °C) depending on the applied electrical power of the Pt100							T_u in °C
	700 mW	500 mW	300 mW	200 mW	100 mW	50 mW	20 mW	
T1	311	348	385	403	421	430	436	- 20...60
T2	161	198	235	253	271	280	286	
T3	66	103	140	158	176	185	191	
T4	-	38	75	93	111	120	126	
T5	-	-	40	58	76	85	91	
T6	-	-	25	43	61	70	76	

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.

5 Safety hints

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

6 Resistance thermometer with transmitter

Combining a transmitter and a digital indicator 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_005

Hersteller /Manufacturer

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

Die CE-Kennzeichnung der *The CE symbol on the devices*
Widerstandsthermometer der Typenreihen *Resistance thermometer, type series*

GA25xx, GA260x, GA221x

Messeinsätze für Widerstandsthermometer der *Measuring inserts for resistance thermometers,*
 Typenreihen *type series*

GA213x, GA214x, GA310x

weist auf die Übereinstimmung mit den relevanten *indicates their compliance with the relevant*
 Richtlinien hin. *directives.*

Folgende Richtlinien werden angewandt: *The following directives are applied:*

2014/30/EU	EMV EMC	EN 61326-1:2013	Für Messgeräte mit Messumformer For devices equipped with transmitter
2011/65/EU	RoHS	EN 50581:2012	
2014/34/EU	ATEX	EN 60079-0:2012/A11:2013 EN 60079-11:2012	Nr. der EG-Baumusterprüfbescheinigung / EC-type examination certificate BVS 04 ATEX E 144 X Messeinsatz Typen / Measuring insert types: WMX-O**-, WMX-R**-* Ausgestellt von / issued by 0158 EXAM BBG Prüf- und Zertifizier GmbH Für Typenreihen / For type series GA25x1, GA2601, GFxxx1, GA2211, GA2131, GA2141
		EN 60079-0:2012/A11:2013 EN 60079-11:2012	Nr. der EG-Baumusterprüfbescheinigung / EC-type examination certificate IBExU 13 ATEX 1017 X Ausgestellt von / issued by 0647 Institut für Sicherheitstechnik GmbH Für Typenreihen / For type series GA25x1, GA3101
		EN 60079-0:2012/A11:2013 EN 60079-15:2010	Für Messgeräte mit der Ex-Kennzeichnung: For devices marked: Ex II 3G Ex nA IIC T1...T6 Gc X

Hude, 07.08.2018

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 **0044 TÜV NORD CERT**
 Zertifikat / certificate **TÜV 00 ATEX 1582 Q**