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1. General

Please read these instructions carefully before taking the instrument into operation. Please inspect the transport packaging and the delivered goods immediately upon their receipt to determine their integrity and completeness. In case of returns, please use the original packaging. Electric limit switch contact assemblies are used for opening or closing connected electric circuits at the set limits. Measuring instruments with electric limit switch contact assemblies are marked with the CE-sign. This documents the compliance of the product with the correspondingly valid directives and their harmonised norms. The Declaration of Conformity is available upon request.

2. Safety Information



Please note that the currently valid national safety regulations must be observed (Germany: VDE 0100) during installation, starting up and operation.

All works must take place in a de-energised state. The connections should only be performed by trained personnel. When failing to follow the corresponding regulations, severe bodily injuries and/or damages of equipment can occur. The instruments are not of the pressure sustaining type with a safety function in the sense of DGRL 97/23/EC.

3. Description, Application

Electric limit switch contact assemblies are directly built into the gauge at factory. The built-in type of contact is indicated on the nameplate of the gauge where also the switching function and the terminal assignment are shown schematically. The set points can be adjusted to the specific application.

Example:
Circuit diagram for contact type M22



3.1 Electromechanical Limit Switch Contact Assemblies

Electromechanical limit switch contact assemblies are auxiliary switches in terms of EN60947-5-1 (IEC947-5-1). Contact makes when the contacts come into contact through the movement of the actual value pointer, depending on the pressure change.

Low-action contact: Type S

Magnetic contact: Type M

The switching function is indicated by key figures.

S1/M1= making contact (when the set point is exceeded in clockwise direction)

S2/M2= breaking contact (when the set point is exceeded in clockwise direction)

S3/M3= change-over (when the set point is exceeded in clockwise direction)

Standards compliance: EN 60947-1;
EN 60947 –5-1

3.2 Inductive Limit Switch Contact Assemblies

Inductive limit switch contact assemblies are equipped with contact-free operating electrical proximity switches. The switching function is effected by means of a control lug, which is moved by the actual value pointer within the area of an electromagnetic field of the slot-type initiator. When the set limits are exceeded, the electric circuits are opened or closed.



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Operating Instructions Electric Limit Switch Contact Assemblies in Pressure and Temperature Measuring Instruments

Type I1 = making contact (when the set point is exceeded in clockwise direction)
Type I2 = breaking contact (when the set point is exceeded in clockwise direction)

Standards compliance: EN 60947-5-6
EN 60947-5-2

3.3 Electronic Limit Switch Contact Assemblies

These inductive limit switch contact assemblies have switching signal amplifiers for direct selection of low-power electronic signal processing equipment, like PLCs. Here, the advantages of inductive contacts, such as reliable contact making, no wear owing to the contact-free contact making, as well as a very low degree of retroaction on the measurement system, are utilised.

The electronic contact has been implemented for 2- or 3-wire connections with PNP output. The operating voltage range amounts to 10...30 V DC, the maximum switching current is 100 mA.

Type E1 = making contact (when the set point is exceeded in clockwise direction the output is activated)
Type E2 = breaking contact (when the set point is exceeded in clockwise direction the output becomes inactive)

3.4 Reed Switches

Reed switches are indirect bistable special switches for switching lowest signals. They are hermetically sealed and are actuated contact-free by a sufficiently strong magnetic field on the actual value pointer (1). They are mounted turnable on a conductor plate behind the dial.

Reed Switch: Type R
The switching function is indicated by key figures.

R1 = making contact (when the set point is exceeded in clockwise direction)
R2 = breaking contact (when the set point is exceeded in clockwise direction)
R3 = change-over (when the set point is exceeded in clockwise direction)
R4 = making contact (when the set point is exceeded in counterclockwise direction)
R5 = breaking contact (when the set point is exceeded in counterclockwise direction)

Installation Requirements

Basically, the EN837-2 "Selection and Installation Recommendations for Pressure Gauges", shall be regarded.



Measuring instruments with reed switch must be protected against coarse contamination and high deviations in ambient temperatures.



Reed switches are sensitive components, which are dependent on a magnetic field. Therefore, heavy mechanical vibrations or shocks as well as magnetic fields close to them shall be avoided. Via flexible line, the measuring instrument may be mounted at an appropriate place.

However, if reed switches have the wrong switching status after the installation, this can be reversed by one-off pressurisation.

4. Use in Potentially Explosive Areas

4.1 General Information



For inductive limit switch assemblies, EC-type-examination certificates are available (available for download on our website):

Si...: KEMA 02 ATEX 1090 X
SJ...: PTB 99 ATEX 2219 X
PTB 99 ATEX 2049 X
ZELM 03 ATEX 0128 X

These types have been developed and approved for use in potentially explosive areas belonging to the intrinsic safety protection level in accordance with the following standards:

<u>ATEX</u>	<u>IECEX</u>
EN 60079-0:2009	IEC 60079-0:2007
EN 60079-11:2007	IEC 60079-11:2006
EN 61241-11:2006	IEC 60079-11:2005
EN 13463-1:2009	IEC n.a.
EN 13465-5:2003	IEC n.a.



When using these types in potentially explosive areas, reduced values must be considered!

The temperature ranges, depending on the temperature class and further information, can be taken from the type-examination certificates.

The connection should only be effected with suitable equipment (e.g. switch amplifiers), which also meet the requirements of intrinsic safety. Intrinsic safety must always be ensured for the entire electric circuit!



The information provided in the EC type-examination certificates as well as the relevant rules resp. directives for use or the intended application, must be considered.



The instrument must be protected against strong electromagnetic fields and mechanical damage.

Equipment, which is operated in potentially explosive areas, must not be modified.

Repairs on such equipment may only be conducted by the manufacturer!


4.2 Marking for the Potentially Explosive Area

Pressure gauges and thermometers with inductive limit switch contact assemblies are marked as follows:
Example: Bourdon Tube Pressure Gauge Type RCh100-3, manufacturer ARMATURENBAU




Turck Si2-K08-Y1 (standard NCS 63, NCS 100)

Manometerstraße 5 · D-46487 Wesel




Bourdon Tube Pressure Gauge Type RCh 100-3
 II 2G Ex ia IIC T6, T5, T4 Gb
 II 2D Ex ia IIIC T95°C, T135°C Db
DEKRA 11 ATEX 0197
IECEX DEK 11.0074
 Slot Initiator Type Si2-K08-Y1 (TURCK)
 $U_{\text{imax}}=20 \text{ VDC}$ $I_{\text{imax}}=60 \text{ mA}$ $P_{\text{imax}}=130 \text{ mW}$
 $C_i=250 \text{ nF}$ $L_i=350 \mu\text{H}$
 -25... +70 °C für T6
 -25... +85 °C für T5
 -25...+100 °C für T4
 -25... +70 °C für T95°C (dust)
 (content binding, partition-free)




P+F SJ 3,5 N (standard NCS 160)

Manometerstraße 5 · D-46487 Wesel




Bourdon Tube Pressure Gauge Type RCh 100-3
 II 2G Ex ia IIC T6, T5, T4 Gb
 II 2D Ex ia IIIC T95°C, T135°C Db
DEKRA 11 ATEX 0197
IECEX DEK 11.0074
 Slot Initiator Type SJ3,5N (P+F)
 $U_{\text{imax}}=16 \text{ VDC}$ $I_{\text{imax}}=76 \text{ mA}$ $P_{\text{imax}}=242 \text{ mW}$
 $C_i=50 \text{ nF}$ $L_i=250 \mu\text{H}$
 -25...+30 °C für T6
 -25...+45 °C für T5
 -25...+74 °C für T4
 -25...+74 °C für T135°C (dust)
 (content binding, partition-free)




P+F SJ...SN (S1N) (option all NCS)

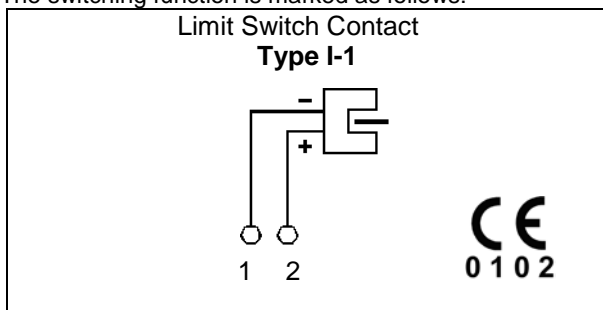
Manometerstraße 5 · D-46487 Wesel



Bourdon Tube Pressure Gauge Type RCh 100-3
 II 2G Ex ia IIC T6, T5, T4 Gb
 II 2D Ex ia IIIC T95°C, T135°C Db
DEKRA 11 ATEX 0197
IECEX DEK 11.0074
 Slot Initiator Type SJ...S(1)N (P+F)
 $U_{\text{imax}}=16 \text{ VDC}$ $I_{\text{imax}}=76 \text{ mA}$ $P_{\text{imax}}=242 \text{ mW}$
 $C_i=30 \text{ nF}$ $L_i=100 \mu\text{H}$
 -25...+30 °C für T6
 -25...+45 °C für T5
 -25...+57 °C für T4
 -25...+57 °C für T135°C (dust)
 (content binding, partition-free)



The switching function is marked as follows:



5. Technical Data

Ambient Conditions

Limit switch contact assemblies can be used in the range from -20...+70 °C (-4...+158 °F), provided the temperatures specified for the basic instrument do not restrict this range. In such cases, the restricted values apply.

The protection category in accordance with EN 60529 depends on the case type of the basic instrument as you can read in its respective data sheet.

5.1 Performance Data for Electromechanical Limit Switch Contact Assemblies

Rated operating voltage: 250 V max.

Breaking capacity: 10 W/18 VA (low-action contact circuit)
 30 W/50 VA (magnetic contact circuit)
 20 W/20 VA (for oil-filled cases and magnetic contact circuit)

Contact material: Silver nickel 10µ gold plated
 (Ag80 Ni20 Au10µ)

Permitted contact ratings, see page 5

5.2 Performance Data for Inductive Limit Switch Contact Assemblies

Ambient temperature: -25...70 °C (-13...+158 °F)¹⁾
 Standards: EN 60947-5-6 (NAMUR)
 EN 60947-5-2 (EMV)
 IEC 61508 (SIL 2)

Type TURCK Si2-K08-Y1 (standard NCS 63-100)

Slot width: 2 mm
 Nominal voltage U_0 : 8.2 VDC
 Current consumption:
 Oscillator, none-dampened $\geq 2.1 \text{ mA}$
 Oscillator, dampened $\leq 1.2 \text{ mA}$
 Switching frequency: 1.5 kHz

Data for potentially explosive areas

Marking: II1G EEx ia IIC T6
 II1D Ex ia D20 T95 °C

U_i : 20 VDC²⁾
 L_i : 60 mA²⁾
 P_i : 130 mW²⁾
 C_i : 250 nF
 L_i : 350 µH

Type P+F SJ 3,5 N (standard NCS 160)

Slot width: 3.5 mm
 Nominal voltage U_0 : 8 VDC
 Current consumption:
 Oscillator, none-dampened $\geq 3 \text{ mA}$
 Oscillator, dampened $\leq 1 \text{ mA}$
 Switching frequency: 3 kHz

¹⁾ Note: reduced values for potentially explosive applications!

²⁾ Maximum values from EC-type-examination certificates



Data for potentially explosive areas

Marking:	II1G EEx ia IIC T6 II1D Ex ia D20 T... °C
Ui:	16 VDC ²⁾
Li:	76 mA ²⁾
Pi:	242 mW ²⁾
Ci:	50 nF ³⁾
Li:	250 µH

Type P+F SJ2 (3.5) SN / S1N (option all NCS)

Slot width:	2 (3.5) mm
Nominal voltage U ₀ :	8 VDC
Current consumption:	
Oscillator, none-dampened	≥3 mA
Oscillator, dampened	≤1 mA
Switching frequency:	5 (3) kHz

Data for potentially explosive areas

Marking:	II1G EEx ia IIC T6 II1D Ex ia D20 T... °C
Ui:	16 VDC ²⁾
Li:	76 mA ²⁾
Pi:	242 mW ²⁾
Ci:	30 nF ³⁾
Li:	100 µH

²⁾ Maximum values from EC-type-examination certificates

³⁾ For one sensor circuit; 10 m long cable was taken into account

5.3 Performance Data for Electronic Limit Switch Contact Assemblies

Operating voltage range:	10...30 VDC
Reverse polarity protection:	yes
EMC in accordance with:	EN 60947-5-2
Output type:	PNP
Switching action:	Make contact
Switching current:	100 mA max.
Residual current:	100µA max.
Ambient temperature:	-25...+70 °C

5.4 Performance Data for Reed Switches

Operating voltage range:	max. 75 VDC, 50 VA
Breaking capacity	max. 10 W/10 VA

Electromagnetic Compatibility

Gauges with inductive or electronic limit switch contact assemblies basically bear the **CE-mark** for electromagnetic compatibility.

Gauges with electromechanical limit switch contact assemblies and reed switches also bear the CE-mark, but with the restriction that no more than five switching cycles per minute may be performed.

6. Installation / Operation

6.1 Storage and Transport

- Permissible storage temperature: -40...+70 °C
- Instruments with limit switch contact assemblies have to be protected against mechanical damage during transport and storage. They should be kept in their original packaging until installation.
- Before use, allow adaptation to the prevailing temperature.
- The packaging material can be disposed of as wastepaper. For further transport or returns, the instruments must be sufficiently protected against damages.

6.2 Installation

First, check whether you have the right instrument for your specific application. The connection is mechanical as well as electrical.

The instruments must be mounted free of vibrations to avoid bouncing of closed switches.

In case of unstable measurement locations, the instrument can be mounted with a gauge holder (possibly in connection with a flexible line).

If vibrations cannot be avoided through suitable installation measures, instruments with a liquid filling must be used.



Select the installation location so that coarse contamination, highly deviating ambient temperatures and vibrations are avoided.

6.3 Mechanical Connection

- According to the general engineering rules for pressure and temperature measuring instruments, e.g. EN 837-2 resp. EN 13190.
- Apply forces with a suitable tool at the wrench flats.
- Do **not** apply the necessary force via the case or the terminal box.
- With safety pressure gauges (symbol S on the dial) keep a free space at the rear of at least 15 mm for blow-out back.

6.4 Electrical Connection

- Installation and electrical connection by qualified personnel only.
- Release plug connectors resp. terminal box by removing the centrally arranged mounting screw M3.
- Connect the cables using the screw terminals.
- After completion of connection tighten the fixing screw hand-tight.

The assignment of the connections and the switching functions are indicated on the nameplate. Connection terminals and ground terminal are marked accordingly.



The cable cross sections must be construed for the maximum current consumption. The cable diameters must correspond to the nominal width of the sealing inserts.

The instruments do not contain any overcurrent protection devices (for recommendations, see table on page 6).



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6.5 Adjusting the Limit Setting Pointers

6.5.1 Electromechanical, Inductive and Electronic Limit Switch Contact Assemblies



The set points are adjusted from the outside via an adjusting lock in the window.

With a separate or permanently fitted key (included with delivery), the limit setting pointers of the contact assemblies are set to the value at which the switching operation is to take place.

By pushing and simultaneously turning the adjusting key (1) into the adjusting lock (3), the limit setting pointers (2) can be set over the entire range of the dial.

For reasons of switching accuracy, switching reliability and service life of the measuring instrument, they should be set between 10 and 90% of the respective measurement range.

The adjusting lock on instruments with a liquid filling must never be opened! The instruments could leak.



Should an adjustment of the limit setting pointers only be possible manually with detached window (special version) and without adjustable lock, it may only take place in deenergised condition.

6.5.2 Reed Switches



For the adjustment of a switching point, the device must be deenergised.

The adjustment of the set points is done manually from the inside after removing the bayonet ring, resp. via removable key from the outside for the case versions "Fr" and "rFr".

By moving the stationary pointer (2) on the outer rim of the dial manually or with the removable key (see 6.5.1) the respective switch can be adjusted to the required set point. The adjustment range of the contacts is 10 % to 90 % of the full scale value.

7. Maintenance, Repairs

The instruments are maintenance-free.

To ensure measurement accuracy and reliability of the switching action, we recommend regularly checking the instruments (once or twice a year). For this, the instrument must be separated from the process and checked by using a pressure or temperature test device.

The instruments can be cleaned with a moist cloth. Before cleaning the interior of connector or cable box, they must be deenergised.

Before switching the instrument on again, please make sure that all parts have properly dried.



Any repairs may only be conducted by the manufacturer.

The instruments must never be opened!

8. Decommissioning

For decommissioning, remove the instrument completely from its application area.



The instrument may only be deinstalled after the line is depressurised.

9. Disposal



Please help us protect our environment and dispose of or recycle the used materials according to the respective and valid regulations.

Technical changes excepted.



10. Annex

Contact Load Electromagnetic Limit Switch Contact Assemblies

Contact load limits for ohmic loads (according to EN 60947-5-1:1991):

	Low-action contact	Magnetic contact	
		gas filled instruments	liquid filled instruments
Rated insulation voltage	$60 < U_i < 250 \text{ V}$	$60 < U_i < 250 \text{ V}$	$60 < U_i < 250 \text{ V}$
Rated operating voltage U_{eff}	250 V max.	250 V max.	250 V max.
Nominal operational current:			
Switch-on current	0.7 A	1.0 A	1.0 A
Breaking current	0.7 A	1.0 A	1.0 A
Continuous current	0.6 A	0.6 A	0.6 A
Breaking capacity	10 W 18 VA	30 W 50 VA	20 W 20 VA

For contacts with slight spirals, the nominal operational currents must be halved due to the low cross-section of the spring (this applies to custom-made versions, which are not listed in the data sheets).

None of the limit values for voltage, current and power must be exceeded.

Recommended contact load for ohmic and inductive load

Voltage acc. to DIN IEC 38	Low-action contact			Magnetic contact					
				gas filled instruments			liquid filled instruments		
	ohmic load		inductive load	ohmic load		inductive load	ohmic load		inductive load
DC voltage/ AC voltage	DC	AC	AC $\cos \varphi > 0.7$	DC	AC	AC $\cos \varphi > 0.7$	DC	AC	AC $\cos \varphi > 0.7$
V	mA	mA	mA	mA	mA	mA	mA	mA	mA
230	40	45	25	100	120	65	65	90	40
110	80	90	45	200	240	130	130	180	85
48	120	170	70	300	450	200	190	330	130
24	200	350	100	400	600	250	250	150	150

Recommended values for overcurrent protection devices (according to EN 60947-5-1)¹⁾

Voltage	Magnetic contact			Low-action contact		
	Instrument nominal size			Instrument nominal size		
V	63	100	160	63	100	160
24	1A	2A	2A	0.63A	1A	1A
250	0.63A	1A	1A	0.125A	0.315A	0.315A

For contacts with slight spirals, these values must be halved (this applies to custom-made versions, which are not listed in the data sheets).

¹⁾ The values refer to semi-time lag fuses and a maximum short-circuit current of 100A.

Impulse-controlled Multifunctional Relays, Type MSR

Multifunctional relays serve the purpose of increasing the breaking capacity, as the control circuit is of the low voltage type.

Very frequently, the breaking capacity of electromechanical limit switch contact assemblies is exceeded, resulting in rapid wear of the contact pins and thus leading to hazardous functional impairments.

When using limit switch contact assemblies in oil (this relates only to magnetic contacts), difficulties regarding switching reliability, service life of the contacts and oil contamination can occur.

In oil-filled contact pressure gauges or thermometers, the oil combusts with the occurring switching spark, which, on the one hand results in the oil turning turbid and, on the other hand in the charring of the contacts. By using our impulse-controlled multifunctional relays, these problems can be avoided. The service life of the limit switch contact assemblies is considerably increased, as the opening and closing of the contacts is effected to 99 % in a deenergised condition. Moreover, flutter effects are almost entirely prevented due to the time behaviour of the relay.



EU-Konformitätserklärung EC-Declaration of Conformity

nach DIN EN ISO / IEC 17 050-1
according to DIN EN ISO / IEC 17 050-1



Für die nachfolgend bezeichneten Erzeugnisse
We hereby declare for the following named goods

MANOMETER NG 63 MIT REEDKONTAKT PRESSURE GAUGES NOM. SIZE 63 MM WITH REED SWITCH

wird hiermit bestätigt, dass sie den wesentlichen Schutzanforderungen entsprechen, die in der Richtlinie des Rates zur Angleichung der Rechtsvorschriften der Mitgliedstaaten über die elektromagnetische Verträglichkeit (2014/30/EU) festgelegt sind. Sie fallen nicht unter die Niederspannungsrichtlinie (2014/35/EU), da sie nur mit Spannungen unter 50 V AC bzw. 75 V DC betrieben werden dürfen.

that they meet the essential protective requirements which have been fixed in the general instructions about the Electromagnetic Compatibility (2014/30/EC). The Low Voltage Guide Line (2014/35/EC) does not fit for these gauges, since the gauges may be used with low voltages below 50 V AC resp. 75 V DC only.

Diese Erklärung gilt für alle Exemplare, die nach den anhängenden Datenblättern 1219.4 und 1619.4 – welche Bestandteil dieser Erklärung sind – hergestellt werden.

This declaration includes all specimen which have been manufactured according to the attached data sheets 1219.4 and 1619.4 which are part of this declaration.

Zur Beurteilung der Erzeugnisse hinsichtlich der o. a. Richtlinien wurden folgende Normen herangezogen:

The following directives have been used to assess the goods regarding their conformity to the above mentioned instructions:

DIN EN 60947-1:2015-09

DIN EN 60947-5-1:2010-04

DIN EN 61010-1:2011-07

Die Geräte werden nach geltender guter Ingenieurpraxis ausgelegt und gefertigt. Desweiteren fallen Manometer mit einem Messbereichsendwert > 0,5 bar als „druckhaltende Ausrüstungsteile“ unter die

The Gauges will be designed and produced according to sound engineering practice. Moreover pressure gauges with upper ranges values > 0,5 bar come as pressure equipment parts under the

Druckgeräterichtlinie (2014/68/EU) Pressure Equipment Directive (2014/68/EC)

Soweit zutreffend erstreckt sich die CE-Kennzeichnung dann auch auf diese Richtlinie. Die Konformität wird in gesonderten Erklärungen bestätigt.

As far as they are concerned the CE-marking also apply to this directive. This conformity is certified in separate declarations.

Diese Erklärung wird verantwortlich für die Hersteller

This declaration will be given responsible for the manufacturers

**ARMATURENBAU GmbH
MANOTHERM Beierfeld GmbH**

abgegeben durch / by

Bernd Vetter

Geschäftsführer / Managing Director

WESEL

(Ort / Location)

2017-05-30

(Datum / Date)

(rechtsgültige Unterschrift / Legal signature)

EU-Konformitätserklärung

EC Declaration of Conformity

nach DIN EN ISO / IEC 17 050-1

according to DIN EN ISO / IEC 17 050-1



Für die nachfolgend bezeichneten Erzeugnisse

We hereby declare for the following named goods

Manometer und Thermometer mit elektromechanischen (M, S), induktiven (I) oder elektronischen (E) Grenzsinalgebern

Pressure Gauges and Thermometers with electro-mechanical (M, S), inductive (I) or electronic (E) limit switch contacts

wird hiermit erklärt, dass sie den wesentlichen Schutzanforderungen entsprechen, die in der nachfolgend bezeichneten Richtlinie festgelegt sind:

that they meet the essential protective requirements which are fixed in the following directive:

RICHTLINIE 2014/30/EU DES EUROPÄISCHEN PARLAMENTS UND DES RATES vom 26. Februar 2014 zur Angleichung der Rechtsvorschriften der Mitgliedstaaten über die elektromagnetische Verträglichkeit – kurz: EMV-Richtlinie Die Geräte werden nach geltender guter Ingenieurpraxis ausgelegt und gefertigt. (nicht M, S)	<i>DIRECTIVE 2014/30/EC OF THE EUROPEAN PARLIAMENT AND THE COUNCIL from 26. February 2014 about the electromagnetic compatibility – short: EMC Directive</i> <i>The gauges will be designed and produced according to sound engineering practice. (not M, S)</i>
RICHTLINIE 2014/35/EU DES EUROPÄISCHEN PARLAMENTS UND DES RATES vom 26. Februar 2014 über elektrische Betriebsmittel zur Verwendung innerhalb bestimmter Spannungsgrenzen (nicht I, E) – kurz: Niederspannungsrichtlinie	<i>DIRECTIVE 2014/35/EC OF THE EUROPEAN PARLIAMENT AND THE COUNCIL from 26. February 2014 about electrical equipment designed for use within certain voltage limits (not I, E) – short: Low Voltage Directive</i>
RICHTLINIE 2011/65/EG DES EUROPÄISCHEN PARLAMENTS UND DES RATES vom 08. Juni 2011 zur Beschränkung der Verwendung bestimmter gefährlicher Stoffe in Elektro- und Elektronikgeräten – kurz: RoHS-Richtlinie	<i>DIRECTIVE 2011/65/EC OF THE EUROPEAN PARLIAMENT AND THE COUNCIL from 08. June 2011 on the restriction of the use of certain hazardous substances in electrical and electronic equipment – short: RoHS-Directive</i>
Des Weiteren fallen Manometer mit Messbereichsendwerten >200 bar oder Flanschanschlüssen >DN 25 und Messbereichsendwerten >0,5 bar als „Druckhaltende Ausrüstungsteile“ unter die RICHTLINIE 2014/68/EU DES EUROPÄISCHEN PARLAMENTS UND DES RATES vom 15. Mai 2014 über Druckgeräte – kurz: Druckgeräte-Richtlinie Soweit zutreffend erstreckt sich die CE-Kennzeichnung dann auch auf diese Richtlinie. Die Konformität wird in gesonderten Erklärungen bestätigt.	<i>Moreover pressure gauges with upper range values >200 bar or flange connection >DN 25 and upper range values >0,5 bar come as pressure equipment parts under the DIRECTIVE 2014/68/EC OF THE EUROPEAN PARLIAMENT AND THE COUNCIL from 15. May 2014 concerning pressure equipment – short: PED-Directive</i> <i>As far as they are concerned the CE-marking also apply to this directive. This conformity is certified in separate declarations.</i>

Zur Beurteilung des Erzeugnisses hinsichtlich der Richtlinien wurden folgende Normen herangezogen

The following standards have been used to assess the good regarding the directives:

Norm Standard	Richtlinienbezug Reference to directive
DIN EN 60947-1:2015-09, DIN EN 60947-5-1:2010-04	2014/35/EU
DIN EN 60947-5-2:2014-01, DIN EN 60947-5-6:2000-12	2014/30/EU
DIN EN 837-1:1997-02, DIN EN 837-3:1997-02	2014/68/EU

Diese Erklärung wird verantwortlich für die Hersteller:

This declaration is responsibly for the manufacturers:

**ARMATURENBAU GmbH
MANOTHERM Beierfeld GmbH**

abgegeben durch / by

Bernd Vetter

Geschäftsführer / Managing Director

WESEL

(Ort / Location)

2017-05-30

(Datum / Date)

(rechtsgültige Unterschrift / Legal signature)

EU-Konformitätserklärung

EC Declaration of Conformity

nach DIN EN ISO / IEC 17 050-1

according to DIN EN ISO / IEC 17 050-1



Für die nachfolgend bezeichneten Erzeugnisse

We hereby declare for the following named goods

Manometer

Typen RCh..., RSCh..., RQ..., PCh..., PSCh..., DiRZCh...

Pressure Gauges

Models RCh..., RSCh..., RQ..., PCh..., PSCh..., DiRZCh...

Thermometer

Typen TSCh..., TGeCh..., TF..., TRCh...

Thermometers

Models TSCh..., TGeCh..., TF..., TRCh...

mit induktiven Grenzsingalgebern

with Limit Switch Contact Assemblies with Inductive Contacts

wird hiermit erklärt, dass sie den wesentlichen Schutzanforderungen entsprechen, die in der nachfolgend bezeichneten Richtlinie festgelegt sind:

that they meet the essential protective requirements which are fixed in the following directive:

RICHTLINIE 2014/34/EU DES EUROPÄISCHEN PARLAMENTS UND DES RATES vom 26. Februar 2014 für Geräte und Schutzsysteme zur bestimmungsgemäßen Verwendung in explosionsgefährdeten Bereichen – kurz:

DIRECTIVE 2014/34/EC OF THE EUROPEAN PARLIAMENT AND THE COUNCIL from 26. Februar 2014 on equipment and protective systems intended for use in potentially explosive atmospheres – short:

ATEX-Richtlinie

ATEX-Directive



Zur Beurteilung der Erzeugnisse hinsichtlich der Richtlinie wurden folgende Normen herangezogen:

The following standards have been used to assess the goods regarding the directive:



DIN EN 60079-0:2014-06
DIN EN 60079-11:2012-06

DIN EN 60079-0:2014-06
DIN EN 60079-11:2012-06

Kennzeichnung:

  II 2G Ex ia IIC T4...T6 Gb
II 2D Ex ia IIIC T135 °C...+85 °C Db

Marking:

  II 2G Ex ia IIC T4...T6 Gb
II 2D Ex ia IIIC T135 °C...85 °C Db

Name & Anschrift der verantwortlichen Stelle, die unser Qualitätssicherungssystem überwacht: DEKRA Certification 6825 MJ Arnhem Kennnummer: 0344	Name & address of notified body that controls our quality assurance system: DEKRA Certification 6825 MJ Arnhem Identification number: 0344
Diese Erklärung wird verantwortlich für die Hersteller	This declaration is responsibly given for the manufacturers

ARMATURENBAU GmbH
MANOTHERM Beierfeld GmbH

abgegeben durch / by

Bernd Vetter

Geschäftsführer / Managing Director

WESEL 2017-02-02
(Ort / Location) (Datum / Date)

(rechtsgültige Unterschrift / Legal signature)