



(1) **EC-TYPE-EXAMINATION CERTIFICATE**
(Translation)

(2) Equipment and Protective Systems Intended for Use in Potentially Explosive Atmospheres - **Directive 94/9/EC**



(3) EC-type-examination Certificate Number:

PTB 99 ATEX 2061 X

(4) Equipment: Microwave-level meters, types BM70..EEx or BM700-EEx

(5) Manufacturer: Krohne Meßtechnik GmbH & Co KG

(6) Address: Ludwig-Krohne-Straße 5, D - 47058 Duisburg

(7) This equipment and any acceptable variation thereto are specified in the schedule to this certificate and the documents therein referred to.

(8) The Physikalisch-Technische Bundesanstalt, notified body No. 0102 in accordance with Article 9 of the Council Directive 94/9/EC of 23 March 1994, certifies that this equipment has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment and protective systems intended for use in potentially explosive atmospheres, given in Annex II to the Directive.

The examination and test results are recorded in the confidential report PTB Ex 99-28405.

(9) Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

EN 50014:1997 EN 50018:1994 EN 50019:1994 EN 50020:1994 EN 50284:1998

(10) If the sign "X" is placed after the certificate number, it indicates that the equipment is subject to special conditions for safe use specified in the schedule to this certificate.

(11) This EC-type-examination Certificate relates only to the design, examination and tests of the specified equipment in accordance to the Directive 94/9/EC. Further requirements of the Directive apply to the manufacturing process and supply of this equipment. These are not covered by this certificate.

(12) The marking of the equipment shall include the following:

II 1/2 G EEx de IIC T6 ... T1 or II 2 G EEx de IIC T6 ... T1 or
II 1/2 G EEx de [ia] IIC T6 ... T1 or II (1)2 G EEx de [ia] IIC T6 ... T1

Zertifizierungsstelle Explosionsschutz

Braunschweig, April 16, 1999

By order:

(signature)

Dr.-Ing. U. Johannsmeyer
Regierungsdirektor

8 pages, correct and complete as regards content.

By order:

Dr.-Ing. U. Gerlach
Oberregierungsrat

Braunschweig, June 24, 2009

sheet 1/8

(13)

SCHEDULE

(14)

EC-TYPE-EXAMINATION CERTIFICATE PTB 99 ATEX 2061 X

(15) Description of equipment

The microwave-level meters of types BM70.-EEx or BM700-EEx are used for the continuous level measurement in process and storage containers. Depending on the design of the equipment the interior space of the container can correspond to an area requiring equipment of category 1 or 2.

Technical data

The technical data of the complete equipment are comprized of those of assembly 1 (measuring transducer) and those of assembly 2 (microwave window).

Technical data, assembly 1 (measuring transducer)

BM 70..

Measuring range	0...100 m
Ambient temperature	-20 °C up to +55 °C
Degree of protection acc. to EN 60 529	minimum IP 54
Auxiliary power terminals 1, 2	24 V version $U_N = 24 \text{ VDC} + 30 \% / -25 \%$ $U_N = 24 \text{ VAC} + 10 \% / -25 \%$ max. 8 W / 20 VA internal fuse $I_N \leq 1.25 \text{ A}$ $U_m = 250 \text{ V}$ (only BM 70.i - EEx)
terminals L, N	115 / 230 V version $U_N = 115 \text{ VAC} +10 \% / -25 \%$ $U_N = 230 \text{ VAC} +10 \% / -25 \%$ max. 8 W / 20 VA internal fuse $I_N \leq 0.25 \text{ A}$ $U_m = 250 \text{ V}$ (only BM 70.i - EEx)

Signal circuits depending on the equipment variant

BM 70A and BM 70P

Signal- input and outputs

terminals 31,32 / 41,42 / 81,82 / A,B

non-intrinsically safe circuits

$U < 25 \text{ V AC} / 60 \text{ V DC}$

BM 70Ai und BM70Pi (max. 2 outputs)

Passive current output

terminals I, I_⊥

and / or

Passive status / frequency output

terminals B, B_⊥

per output

type of protection Intrinsic Safety

EEx ia IIC or EEx ib IIC

Only for connection to certified intrinsically safe circuits

Maximum values:

$U_i \leq 30 \text{ V}$

$I_i \leq 250 \text{ mA}$

$P_i \leq 1 \text{ W}$

$C_i = 5 \text{ nF}$

L_i negligibly low

and / or

Profibus-PA / Fieldbus – FF

terminals D, D_⊥

type of protection Intrinsic Safety

EEx ia IIC or EEx ib IIC or EEx ib IIB

Only for connection to certified intrinsically safe circuits

Maximum values:

$U_i \leq 30 \text{ V}$

$I_i \leq 300 \text{ mA}$

$P_i \leq 4.2 \text{ W}$

$C_i = 5 \text{ nF}$

L_i negligibly low

Suitable for connection to intrinsically safe fieldbus systems according to the FISCO-model

BM 700

Measuring range	0 ... 20 m
Ambient temperature	-20 °C up to +55 °C
Degree of protection acc. to EN 60 529	minimum IP 54
Auxiliary power terminals 1, 2	24 V version
	$U_N = 24 \text{ VDC} \pm 20 \%$
	$U_N = 24 \text{ VAC} +10 \% / -15 \%$
	max. 6 W / 10 VA
	internal fuse $I_N \leq 1.25 \text{ A}$

Signal circuits

BM700

Signal output (terminals 31, 32)	non-intrinsically safe circuit $U < 25 \text{ VAC} / 60 \text{ VDC}$
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Technical data assembly 2 (microwave window)

V96

Application as category-1 equipment	Gas group IIC
Operating overpressure	- 0.2 ... 0.1 bar 0.8 ... 1.1 bar (absolute)
Flange/Medium temperature	-20 ... +60 °C
Application as category-2 equipment	Gas group IIC
Operating overpressure PB (standard) (optional)	-1 (Vakuum) up to 120 bar > 120 bar as special version

Permissible flange temperatures depending on microwave window, made of

- Stainless steel, Titanium, Tantalum (standard) -30 °C up to +130 °C (high temperature) -30 °C up to +250 °C*
- Hastelloy (standard) -60 °C up to +130 °C (high temperature) -60 °C up to +250 °C*

* depending on sealing material used

Permissible operating temperatures of sealing materials:

- FFKM -60 °C up to +250 °C
- K 2035 -60 °C up to +210 °C
- FPM -60 °C up to +200 °C
- FEP -60 °C up to +200 °C

Wavestick, category 1 and category 2

Operating conditions:

• Standard

Wavestick		Permissible operating conditions			
material	version, rod	category	gas group	flange temperature / medium temperature [°C]	container overpressure [bar]
LPTFE	1A	1	IIC	- 20 ... + 60 ⁴	- 0.2 ... 0.1 0.8 ... 1.1 ⁴ (abs)
LPTFE	1A	2	IIC	- 40 ... + 130	- 1 ... 16 ²
PTFE	1C	1 ³	IIC ³	- 20 ... + 60 ⁴	- 0.2 ... 0.1 0.8 ... 1.1 ⁴ (abs)
PTFE	1C	2	IIC ¹ / IIB	- 40 ... + 130	- 1 ... 16 ²
PTFE	1B	2	IIC ¹ / IIB	- 40 ... + 130	- 1 ... 16 ²
PTFE	2A	2	IIC ¹ / IIB	- 20 ... + 130	- 1 ... 2
PP	2B	2	IIC ¹ / IIB	- 20 ... + 100	- 1 ... 2

Table 1

• High temperature

Wavestick		Permissible operating conditions			
material	version, rod	category	gas group	flange temperature / medium temperature [°C]	container overpressure [bar]
LPTFE	1A	1	IIC	- 20 ... + 60 ⁴	- 0.2 ... 0.1 0.8 ... 1.1 ⁴ (abs)
LPTFE	1A	2	IIC	- 40 ... + 150	- 1 ... 16 ²
PTFE	1C	1 ³	IIC ³	- 20 ... + 60 ⁴	- 0.2 ... 0.1 0.8 ... 1.1 ⁴ (abs)
PTFE	1C	2	IIC ¹ / IIB	- 40 ... + 150	- 1 ... 16 ²
PTFE	1B	2	IIC ¹ / IIB	- 40 ... + 150	- 1 ... 16 ²
PTFE	2A	2	IIC ¹ / IIB	- 20 ... + 150	- 1 ... 2 ²
PP	2B	2	IIC ¹ / IIB	- 20 ... + 100	- 1 ... 2

Table 2

- 1) If an electrostatic charge of the aerals cannot be prevented these shall be installed in gas group IIB
- 2) For flange and medium temperatures > 100 °C the container overpressure has to be reduced. (cf. specifications given under "Flange systems / Categories / Assignment " in the operating instructions).
- 3) If hazard due to electrostatic charge of the aerals cannot be excluded these shall only be installed in areas requiring category-2 equipment / gasgroup IIB
- 4) For operating conditions without explosive mixtures reference is made to the operating instructions

Ambient temperature

The maximum permissible ambient temperature for all equipment variants is $T_a = +55$ °C.

Temperature classes

For relationship between temperature class and maximum permissible flange temperature, reference is made to the following tables.

Considering the limiting values of the temperature classes the medium temperature may reach higher values than the flange temperature. For waviestick, category 2 the medium temperature shall not exceed the maximum values according to tables 1 and 2.

Temperature class	Maximum value of the flange temperature [°C]
T6	85
T5	100
T4 ...T1	130 ^{*)}

Table 3 All equipment variants without HT-extension

Temperature class	Maximum value of the flange temperature [°C]
T6	85
T5	100
T4	135
T3	200
T2, T1	250 ^{*)}

Table 4 Equipment variant BM70..-EEx / V96 with HT-extension

*) heat-resistant cable required (min. 80 °C)

Temperature class	Maximum value of the flange temperature [°C]
T6	85
T5	100
T4	135
T3 ... T1	150

Table 5 Equipment variant BM70..-EEx / WS with HT-extension

The maximum values given above can be restricted due to lower limiting values of the materials and sealings used for the flange system.

Furthermore, the maximum values of the flange system apply under the following conditions:

- The level measuring meter is operated in its intended position.
- The level measuring meter is not exposed to heat radiation (e.g. solar radiation, adjoining hot parts of equipment).
- Insulation parts do not impede the free ventilation of the measuring transducer enclosure.

(16) Test report PTB Ex 99-28405

PTB Ex 99-28405 consisting of description (47 sheets), drawings (81 sheets), additional mounting and operating instructions (31 sheets), test reports (PTB and TÜV)

(17) Special conditions for safe use

1. The microwave-level meters of types BM70..-EEx or BM700-EEx with terminal compartment designed to type of protection "Flameproof Enclosure" shall be connected by means of suitable cable glands or conduit systems which comply with the requirements of EN 50 018 clauses 13.1 and 13.2 and for which a separate examination certificate is available.
2. Cable glands (screwed conduit entries) as well as sealing plugs of simple design shall not be used for the variant with terminal compartment designed to type of protection "Flameproof Enclosure". When the microwave-level meters of types BM70..-EEx or BM700-EEx are connected by means of a conduit entry approved for this purpose, the associated sealing facility shall be arranged directly on the enclosure.
3. Non-used openings shall be sealed according to EN 50018 clause 11.9.
4. The microwave-level meters provided with flangesystem wavestick and aerial version 1C comprise surfaces which can charge electrostatically. When these aerials are applied in areas requiring category-1 equipment a warning label shall point to this danger.

5. For application as category-1 equipment the microwave-level meters with flangesystem V96 in titanium design shall be installed as such, that friction and impact processes between titanium and any other hard material is excluded.
6. For application as category-1 equipment the microwave-level meters with flangesystem V96 and purging facility shall be operated as such, that the purging facility is kept closed during operation or operated with a flame arrester element.
7. For application as category-1 equipment the microwave-level meters with flangesystem V96 and horn-type aerial with heating shall be operated as such, that the temperature of the heating medium used, does not exceed 80 % of the ignition temperature of the medium inside the tank.

These notes shall be enclosed with each equipment in suitable form.

(18) Essential health and safety requirements

met by compliance with the standards mentioned above

Zertifizierungsstelle Explosionsschutz
By order:

Braunschweig, April 16, 1999

(signature)

Dr.-Ing. U. Johannsmeyer
Regierungsdirektor

1. SUPPLEMENT

according to Directive 94/9/EC Annex III.6

to EC-TYPE-EXAMINATION CERTIFICATE PTB 99 ATEX 2061 X

(Translation)

Equipment: Microwave-level meters, types BM70..-EEx or BM700-EEx

Marking:  II 1/2 G EEx de IIC T6 or II 2 G EEx de IIC T6 or
II 1/2 G EEx de [ia] IIC T6 or II (1) 2 G EEx de [ia] IIC T6 or
II 1/2 G EEx ia IIC T6

Manufacturer: KROHNE Meßtechnik GmbH & Co. KG

Address: Ludwig-Krohne Straße 5, D-47058 Duisburg

Description of supplements and modifications

In the future the microwave-level meters of types BM70..-EEx or BM700-EEx may also be manufactured according to the test documents listed in the test report. The measuring transducers are extended by the intrinsically safe type BM702i-EEx. The aeriels are modified and the type series wavestick WS is extended by the rod, type 3. The type series enamelled aerial EA is newly introduced.

Electrical data

The electrical data of the complete equipment are comprized of those of assembly 1 (measuring transducer) and those of assembly 2 (microwave window).

Electrical data, assembly 1 (measuring transducer)

BM...

Ambient temperature -20 °C up to +55 °C (Standard design)
-40 °C up to +55 °C (Special design "S")

BM 702i-EEx

Passive current output terminals 1,2 type of protection Intrinsic safety EEx ia IIC or EEx ib IIC
Only for connection to certified intrinsically safe circuits

Maximum values:

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

$$I_i = 100 \text{ mA}$$

$$P_i = 1 \text{ W}$$

$$C_i = 11 \text{ nF}$$

$$L_i \text{ negligibly low}$$

1. SUPPLEMENT TO EC-TYPE-EXAMINATION CERTIFICATE PTB 99 ATEX 2061 X

Temperature classes und maximum permissible ambient temperatures

For relationship between temperature class and maximum permissible flange and ambient temperature, reference is made to the following tables.

Temperature class	Maximum value of the flange temperature	Maximum permissible ambient temperature
T6	50 °C	40 °C
T5	90 °C	40 °C
T4 ... T1	130 °C *)	55 °C

Table 6: Equipment variant BM702i-EEx without HT-extension

Temperature class	Maximum value of the flange temperature	Maximum permissible ambient temperature
T6	75 °C	40 °C
T5	100 °C	40 °C
T4	135 °C	55 °C
T3	200 °C	55 °C
T2, T1	250 °C *)	55 °C

Table 7: Equipment variant BM702i-EEx /V96 with HT-extension

Temperature class	Maximum value of the flange temperature	Maximum permissible ambient temperature
T6	75 °C	40 °C
T5	100 °C	40 °C
T4	135 °C	55 °C
T3 ... T1	150 °C	55 °C

Table 8: Equipment variant BM702i-EEx /WS with HT-extension

*) heat-resistant cable required (min. 80 °C)

For operating conditions requiring category-2 equipment the medium temperature may reach higher values than the flange temperature considering the limiting values of the temperature classes. For equipment designs with flange system WS...-2G, the medium temperature shall not exceed the maximum values according to tables 1 and 2.

The maximum values given above can be restricted due to lower limiting values of the materials and sealings used for the flange system.

The maximum values of the flange system apply under the following conditions:

- The level measuring meter is operated in its intended position.
- The level measuring meter is not exposed to heat radiation (e.g. solar radiation, adjoining hot parts of equipment).
- Insulation parts do not impede the free ventilation of the measuring transducer enclosure.

1. SUPPLEMENT TO EC-TYPE-EXAMINATION CERTIFICATE PTB 99 ATEX 2061 X

Electrical data, assembly 2 (microwave window)

V96

The electrical data apply without changes

Wavestick, category 1 and category 2

Operating conditions:

- **Standard**

Wavestick		Microwave window		Permissible operating conditions			
Material	Version rod..	Material		Category	Gas-group	Flange temperature / medium temperature [°C]	Container overpressure [bar]
LPTFE	1A	SS	H	1	IIC	- 20 ... + 60 ⁴	- 0.2 ... 0.1 0.8 ... 1.1 ⁴ (abs)
		SS		2		- 30 ... + 130	- 1 ... 16 ²
			H			- 40 ... + 130	- 1 ... 16 ²
PTFE	1C 3A	SS	H	1 ³	IIC ³	- 20 ... + 60 ⁴	- 0.2 ... 0.1 0.8 ... 1.1 ⁴ (abs)
		SS		2	IIC ¹ / IIB	- 30 ... + 130	- 1 ... 16 ²
			H			- 40 ... + 130	- 1 ... 16 ²
PTFE	1B	--	--	2	IIC ¹ / IIB	- 40 ... + 130	- 1 ... 16 ²
PTFE	2A	--	--	2	IIC ¹ / IIB	- 20 ... + 130	- 1 ... 2
PP	2B	--	--	2	IIC ¹ / IIB	- 20 ... + 100	- 1 ... 2
PP	3B	SS	H	1 ³	IIC ³	- 20 ... + 60 ⁴	- 0.2 ... 0.1 0.8 ... 1.1 ⁴ (abs)
		SS		2	IIC ¹ / IIB	- 30 ... + 100	- 1 ... 16 ²
			H			- 40 ... + 100	- 1 ... 16 ²

Table 1

1. SUPPLEMENT TO EC-TYPE-EXAMINATION CERTIFICATE PTB 99 ATEX 2061 X

- High temperature

Wavestick		Microwave window		Permissible operating conditions				
Material	Version rod..	Material		Category	Gas-group	Flange temperature / medium temperature [°C]	Container overpressure [bar]	
LPTFE	1A	SS	H	1	IIC	- 20 ... + 60 ⁴	- 0.2 ... 0.1 0.8 ... 1.1 ⁴ (abs)	
		SS		2		- 30 ... + 150	- 1 ... 16 ²	
			H			- 40 ... + 150	- 1 ... 16 ²	
PTFE	1C 3A	SS	H	1 ³	IIC ³	- 20 ... + 60 ⁴	- 0.2 ... 0.1 0.8 ... 1.1 ⁴ (abs)	
		SS		2		IIC ¹ / IIB	- 30 ... + 150	- 1 ... 16 ²
			H				- 40 ... + 150	- 1 ... 16 ²
PTFE	1B	--	--	2	IIC ¹ / IIB	- 40 ... + 150	- 1 ... 16 ²	
PTFE	2A	--	--	2	IIC ¹ / IIB	- 20 ... + 150	- 1 ... 2	

Table 2

Enamelled aerial EA, category 1 and category 2

Operating conditions:

- Standard

EA			Permissible operating conditions			
Material		Microwave window	Category	Gas-group	Flange temperature / medium temperature [°C]	Container overpressure [bar]
Impedance converter						
PTFE PP	SS	H	1	IIC ¹ / IIB	- 20 ... + 60 ⁴	- 0.2 ... 0.1 0.8 ... 1.1 ⁴ (abs)
			2			
PTFE	SS		2	IIC ¹ / IIB	- 30 ... + 130	- 1 ... 16 ²
		H	2			
PP	SS		2	IIC ¹ / IIB	- 30 ... + 100	- 1 ... 16 ²
		H	2			

Table 3

1. SUPPLEMENT TO EC-TYPE-EXAMINATION CERTIFICATE PTB 99 ATEX 2061 X

• High temperature

EA			Permissible operating conditions			
Material			Cate- gory	Gas- group	Flange temperature / medium temperature [°C]	Container overpressure [bar]
Impedance converter	Microwave window					
PTFE PP	SS	H	1	IIC ¹ / IIB	- 20 ... + 60 ⁴	- 0.2 ... 0.1 0.8 ... 1.1 ⁴ (abs)
	SS		2	IIC ¹ / IIB	- 30 ... + 150	- 1 ... 16 ²
PTFE		H	2	IIC ¹ / IIB	- 60 ... + 150	- 1 ... 16 ²

Table 4

- 1) If an electrostatic charge of the aerials cannot be prevented these shall be installed in gas group IIB
- 2) For flange and medium temperatures > 100 °C the container overpressure has to be reduced. (cf. specifications given under "Flange systems / Categories / Assignment " in the operating instructions).
- 3) If hazard due to electrostatic charge of the aerials cannot be excluded these shall only be installed in areas requiring category-2 equipment / gasgroup IIB
- 4) For operating conditions without explosive mixtures reference is made to the operating instructions

Special conditions

Clause 4. of the "Special Conditions" is changed as follows:

4. The microwave-level meters provided with flangesystem wavestick and aerial versions 1B, 1C, 2 and 3 as well as the flange system EA comprise non-conductive surfaces which can charge electrostatically. When these flange systems are applied a warning label shall point to this danger.

All further special conditions apply without changes also to this 1. supplement.

These notes shall be enclosed with each equipment in suitable form.

Test report: PTB Ex 00-20240

Consisting of description (27 sheets), 37 drawings, additional mounting and operating instructions (32 sheets), test reports (PTB and TÜV)


Zertifizierungssektor Explosionsschutz

By order:

(signature)

Dr.-Ing. U. Johannsmeyer
Regierungsdirektor

Braunschweig, December 01, 2000

5 pages, correct and complete as regards content.
By order:

Dr.-Ing. U. Gerlach
Oberregierungsrat
Braunschweig, June 24, 2009

Sheet 5/5


2. SUPPLEMENT

according to Directive 94/9/EC Annex III.6

to EC-TYPE-EXAMINATION CERTIFICATE PTB 99 ATEX 2061 X

(Translation)

Equipment: Microwave-level meters, types BM70..-EEx or BM700-EEx

Marking:  II 1/2 G EEx de IIC T6 or II 2 G EEx de IIC T6 or
II 1/2 G EEx de [ia] IIC T6 or II (1) 2 G EEx de [ia] IIC T6 or
II 1/2 G EEx ia IIC T6

Manufacturer: KROHNE Meßtechnik GmbH & Co. KG

Address: Ludwig-Krohne-Str. 5, 47058 Duisburg

Description of supplements and modifications

In the future the microwave-level meters of types BM70..-EEx or BM700-EEx may also be manufactured according to the test documents listed in the test report. The modifications concern the electronic system and a part of the "Electrical data", the design of the enclosure cover, the introduction of a new cable gland and an additional adaptor for the direct connection of conduit systems as well as the modification of the aerial systems V96 and WS and the marking of the container's mounting connector.

Electrical data:

Passive current output
Profibus-PA / Fieldbus-FF
terminals D, D_⊥

type of protection Intrinsic Safety Ex ia IIC or Ex ib IIC
only for connection to certified intrinsically safe circuits

Maximum values:

$U_i = 30 \text{ V}$
 $I_i = 380 \text{ mA}$
 $P_i = 5.32 \text{ W}$
 $C_i = 5 \text{ nF}$
 L_i negligibly low

Suitable for connection to intrinsically safe
fieldbus systems according to the FISCO-model

2. SUPPLEMENT TO EC-TYPE-EXAMINATION CERTIFICATE PTB 99 ATEX 2061 X

All further "Electrical Data" and specifications as well as the "Special Conditions" given in the EC-type examination certificate including the 1st supplement apply without changes also to this 2nd supplement.

Test report: PTB Ex 03-23376

Zertifizierungssektor Explosionsschutz

Braunschweig, November 11, 2003

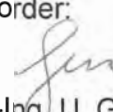
By order:

(signature)

Dr.-Ing. U. Johannsmeyer
Regierungsdirektor

2 pages, correct and complete as regards content.

By order:


Dr.-Ing. U. Gerlach
Oberregierungsrat

Braunschweig, June 24, 2009




3. SUPPLEMENT

according to Directive 94/9/EC Annex III.6

to EC-TYPE-EXAMINATION CERTIFICATE PTB 99 ATEX 2061 X

(Translation)

Equipment: Microwave-level meters, types BM70..-EEx or BM700-EEx

Marking:  II 1/2 G EEx de IIC T6 or II 2 G EEx de IIC T6 or
II 1/2 G EEx de [ia] IIC T6 or II (1) 2 G EEx de [ia] IIC T6 or
II 1/2 G EEx ia IIC T6


Manufacturer: KROHNE Meßtechnik GmbH & Co. KG

Address: Ludwig-Krohne-Str. 5, 47058 Duisburg, Germany

Description of supplements and modifications

In the future the microwave-level meters of types BM70..-EEx or BM700-EEx may also be manufactured and operated according to the test documents listed in the test report. The modifications concern the introduction of the new variant, type BM 702 A – Ex which is provided with a completely revised electronic unit, as well as the adaption of all variants to the current state of the standard series EN 60079-et seq. and, therefore, the marking of the equipment.

In accordance with the respective variant this will read in future:

 II 1/2 G Ex de IIC T6...T1 or II 2 G Ex de IIC T6...T1 or
II 1/2 G Ex de [ia] IIC T6...T1 or II (1) 2 G Ex de [ia] IIC T6...T1 or
II 1/2 G Ex ia IIC T6...T1

Furthermore, the type designation of all variants is changed correspondingly.

Microwave-level meter, type BM 702 A – Ex:

The range of the permissible ambient temperature is -40 °C bis +55 °C taking into consideration the restrictions for temperature classes T5 and T6 as given in the operating instructions.

Electrical data:

Passive current output
terminals I, I_L

type of protection Intrinsic Safety Ex ia IIC or Ex ib IIC
only for connection to certified intrinsically safe circuits

Maximum values:

U_i = 30 V
I_i = 100 mA
P_i = 1 W
C_i = 11 nF
L_i negligibly low

Sheet 1/2

Braunschweig und Berlin

3. SUPPLEMENT TO EC-TYPE-EXAMINATION CERTIFICATE PTB 99 ATEX 2061 X

All further "Electrical Data" and specifications as well as the "Special Conditions" given in the EC-type examination certificate including the 1st and the 2nd supplement apply without changes also to this 3rd supplement.

Applied standards

EN 60079-0:2006

EN 60079-1:2007

EN 60079-7:2007

EN 60079-11:2007

Assessment and test report: PTB Ex 09-29067

Zertifizierungssektor Explosionsschutz
By order:

Braunschweig, June 24, 2009


Dr.-Ing. U. Gerlach
Oberregierungsrat

