



Translation

EC-Type Examination Certificate

- Directive 94/9/EC -

Equipment and protective systems intended for use
in potentially explosive atmospheres

BVS 09 ATEX E 132

- (4) **Equipment:** Microwave barrier type VEGAMIP MPR61(*).G*****R*** and VEGAMIP MPT61(*).GX*****T***
- (5) **Manufacturer:** VEGA Grieshaber KG
- (6) **Address:** 77757 Schiltach, Germany
- (7) The design and construction of this equipment and any acceptable variation thereto are specified in the appendix to this type examination certificate.
- (8) The certification body of DEKRA EXAM GmbH, notified body no. 0158 in accordance with Article 9 of the Directive 94/9/EC of the European Parliament and the Council 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 test and assessment report BVS PP 09.2161 EG.
- (9) The Essential Health and Safety Requirements are assured by compliance with:
- EN 60079-0:2009 General requirements
IEC 60079-31:2008 Protection by enclosures
- (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 appendix to this certificate.
- (11) This EC-Type Examination Certificate relates only to the design, examination and tests of the specified equipment in accordance to 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 1D Ex t IIC T see manual **Da**
II 1/2D Ex t IIC T see manual **Da/Db**
 **II 1/3D Ex t IIC T** see manual **Da/Dc**
II 2D Ex t IIC T see manual **Db**
IP66

DEKRA EXAM GmbH

Bochum, dated 13. October 2009

Signed: Simanski

Certification body

Signed: Schumann

Special services unit

(13)

Appendix to

(14)

EC-Type Examination Certificate

BVS 09 ATEX E 132

(15) 15.1 Subject and type

Microwave barrier type

VEGAMIP MPR61(*)G * * * * R * * * (Receiver)

additional equipment

X – without

* - antenna extension, air purge connection etc.

cable entry/cable gland

M – M20x1.5/with

N – 1/2 NPT/without

housing / protection

A - aluminium / IP66

D - aluminium- double chamber / IP66

V – stainless steel 316L / IP66

W – stainless steel double chamber / IP66

electronics

R – power supply DC 20...72V/AC 20...253V

seal process fitting

* – FKM, FFKM, ...

process fitting see manual

version / material

A – standard antenna system/aluminium/-40...+80°C

B – horn antenna Ø40 mm / 316L

C - horn antenna Ø48 mm / 316L

D - horn antenna Ø75 mm / 316L

J - horn antenna Ø95 mm / 1.4848

E – horn antenna Ø95 mm / 316L

K – parabolic antenna Ø245 mm / 316L

F – plastic horn antenna Ø80 mm /PP/-40...+80°C

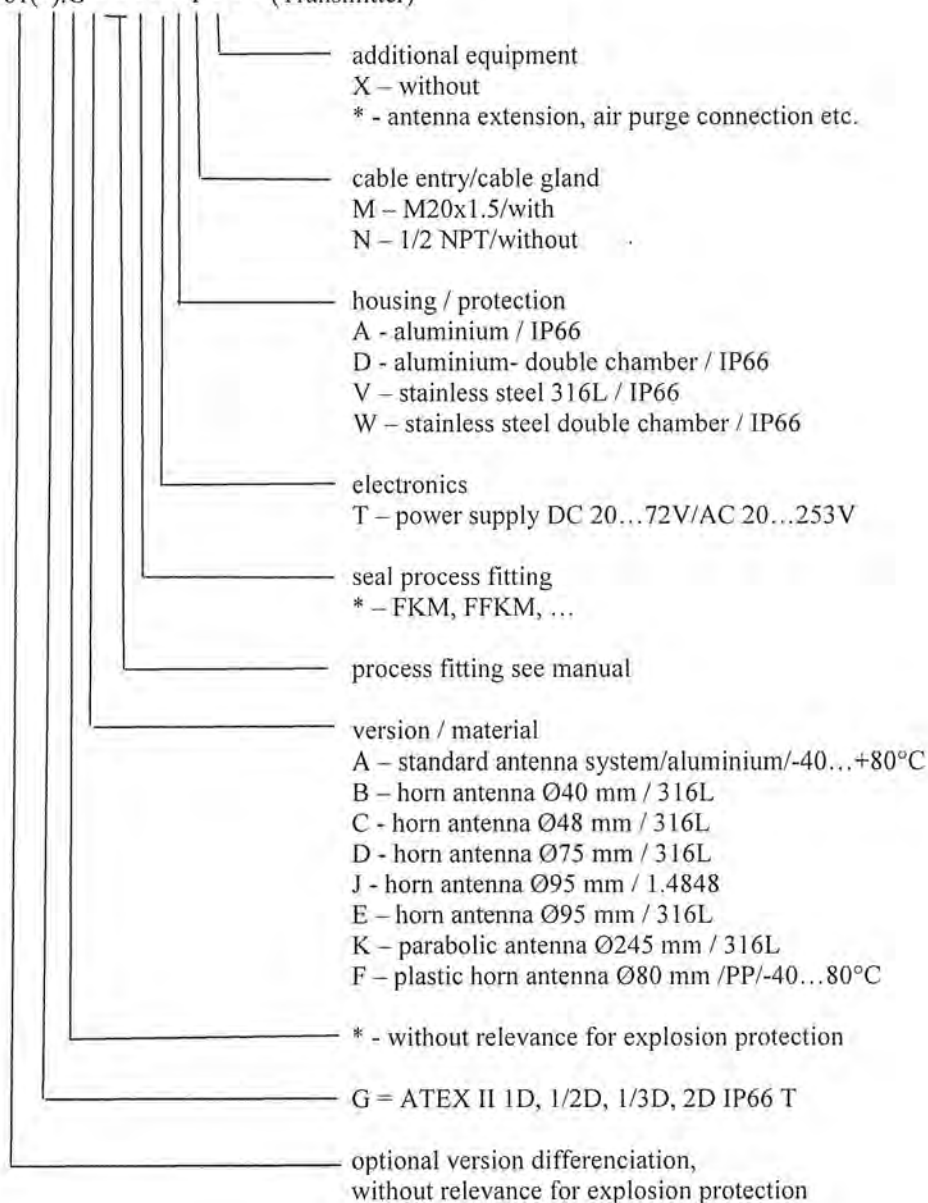
* - without relevance for explosion protection

G = ATEX II 1D, 1/2D, 1/3D, 2D IP66 T

optional version differentiation,
without relevance for explosion protection

microwave barrier type

VEGAMIP MPT61(*).G * * * * T * * * (Transmitter)



15.2 Description

The microwave barrier type VEGAMIP MP*61(*).G***** is used to measure a level limit in areas with combustible dust. It is based on radar and uses microwaves in GHz range.

It consists of a transmitting and a receiving unit which are mounted separately.

The electronics enclosure is separately tested and meets the requirements of the standards IEC 60079-0:2007 and IEC 60079-31:2008 (see BVS PP 02.2113 EG with 1st to 3rd Supplement).

15.3 Parameters

15.3.1 Electrical data

15.3.1.1 VEGAMIP MPT61(*).G*****T***

input

supply voltage (terminals 1, 2 in the terminal compartment)

AC	20...	253	V, 50/60 Hz
DC	20...	72	V

power consumption

AC	1...	8	VA
DC	ca.	1.3	W

15.3.1.2 VEGAMIP MPR61(*).G*****R***

input

supply voltage (terminals 1, 2 in the terminal compartment)

AC	20...	253	V, 50/60 Hz
DC	20...	72	V

power consumption

AC	1...	8	VA
DC	ca.	1.6	W

relay circuit (maximal data)

contact set 1 (terminals 3, 4, 5)

AC		253	V, 5 A
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contact set 2 (terminals 6, 7, 8)

DC		30	V, 4 A
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DC		125	V, 0.2 A
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15.3.1.3 High frequency parameters

transmitting-/emitting frequency K-Band

output radiating power (normal operation)

P _{EIRP}	0.1	W
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output radiating power (2 faults)

P _{EIRP}	2.7	W
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15.3.2 Thermal data

15.3.2.1 Permitted ambient temperature range

15.3.2.1.1 At the sensor (in zone 20 or 21)

VEGAMIP MPR/T61(*).G*****R/T*** -40°C...+ 130 °C

VEGAMIP MPR/T61(*).G*A/F***R/T*** -40°C...+ 80 °C

high temperature version

VEGAMIP MPR/T61(*).G*****R/T*** -60°C...+ 250 °C

ceramics version

VEGAMIP MPR/T61(*).G*****R/T*** -170°C...+ 450 °C

15.3.2.1.2 At the electronics enclosure (in zone 20, 21 or 22)

VEGAMIP MPR/T61(*).G*****R/T*** -40°C...+ 60 °C

15.3.2.2 Max. surface temperature T

15.3.2.2.1 At the sensor (in zone 20 or 21) process temperature + 3 K

15.3.2.2.2 At the electronics enclosure (in zone 20, 21 or 22)

VEGAMIP MPR/T61(*).G*****R/T*** with thermo fuse limited to 102 °C

15.3.3 Degrees of protection according to EN 60529 IP66

(16) Test and assessment report

BVS PP 09.2161 EG as of 13.10.2009

(17) Special conditions for safe use

None

We confirm the correctness of the translation from the German original.
In the case of arbitration only the German wording shall be valid and binding.

44809 Bochum, 13. October 2009

BVS-Hk/Her A 20090575

DEKRA EXAM GmbH



Certification body



Special services unit



1st Supplement

(Supplement in accordance with Directive 94/9/EC Annex III number 6)

to the EC-Type Examination Certificate BVS 09 ATEX E 132

Equipment: Microwave barrier type VEGAMIP MPR61(*).G*****R***
and VEGAMIP MPT61(*).G*****T***

Manufacturer: VEGA Grieshaber KG

Address: 77757 Schiltach, Germany

Description

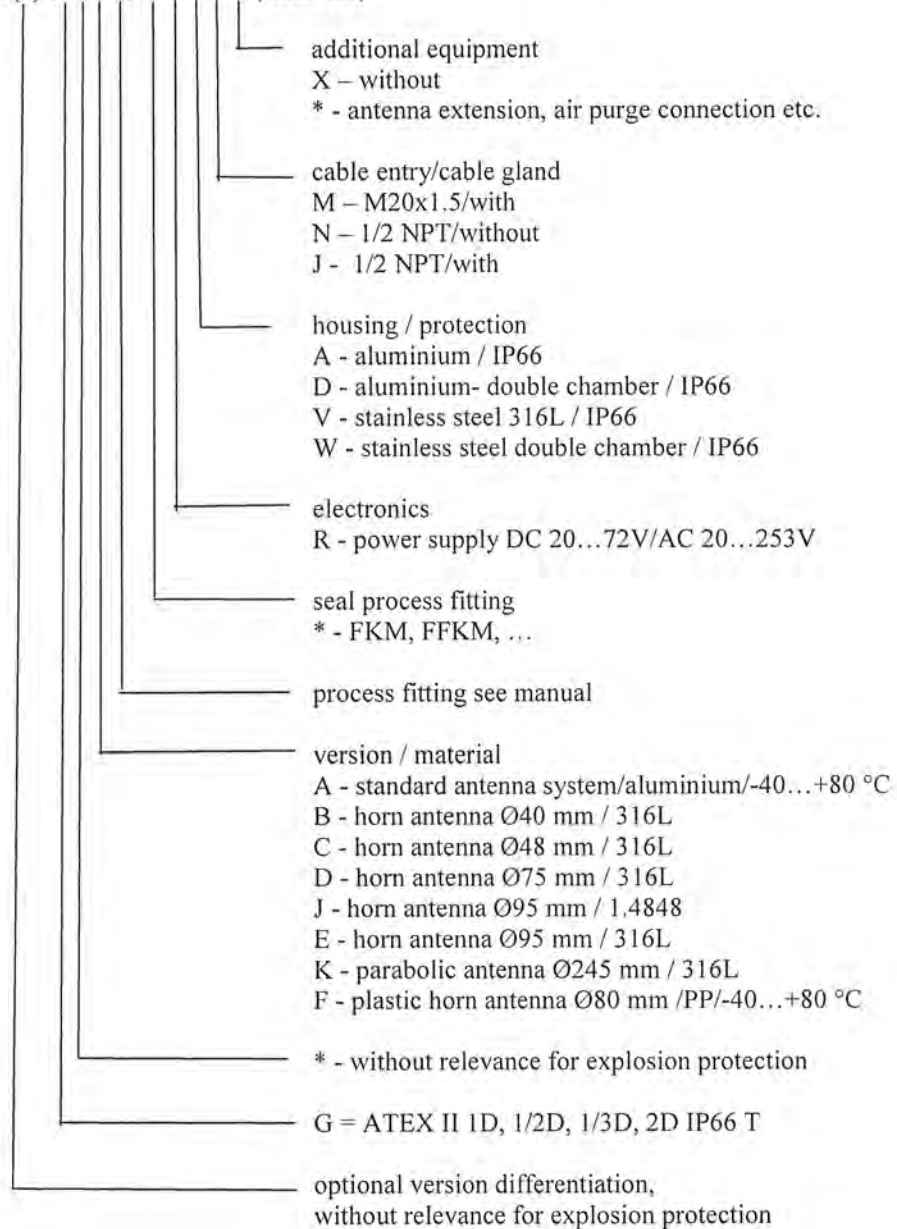
The Microwave barrier type VEGAMIP MPR61(*).G*****R*** and VEGAMIP MPT61(*).G*****T*** can also be modified according to the documents as mentioned in the pertinent test and assessment report. Parameters and type code remain unchanged.

The Essential Health and Safety Requirements of the modified equipment are assured by compliance with:

EN 60079-0:2009	General requirements
IEC 60079-31:2008	Protection by enclosures „t“

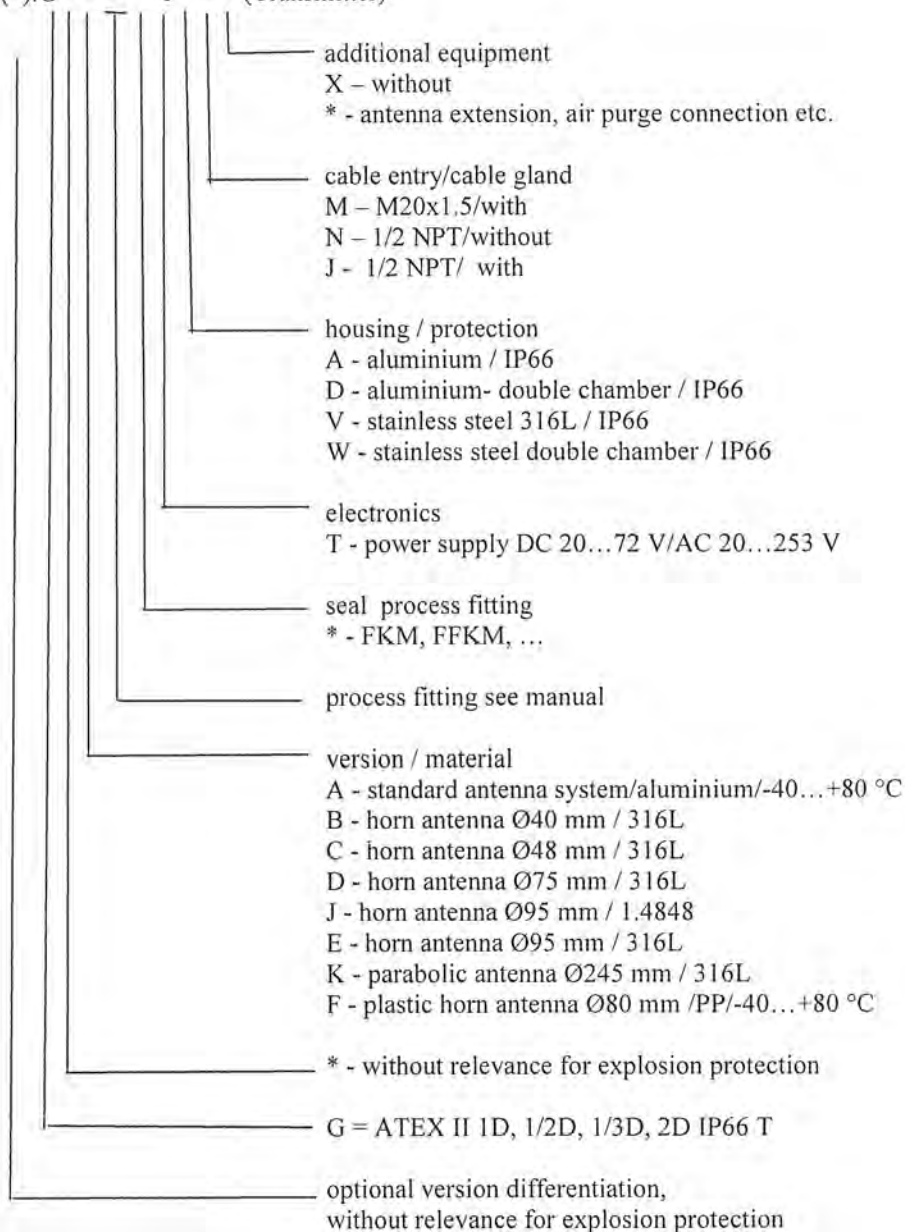
Microwave barrier type

VEGAMIP MPR61(*).G * * * * R * * * (Receiver)



Microwave barrier type

VEGAMIP MPT61(*).G * * * * T * * * (Transmitter)



Parameters

Electrical data

VEGAMIP MPT61(*).G*****T***

input

supply voltage

(terminals 1, 2 in the terminal compartment)

AC	20...	253	V, 50/60 Hz
DC	20...	72	V

power consumption

AC	1...	8	VA
DC	ca.	1.3	W

VEGAMIP MPR61(*).G*****R***

input

supply voltage

(terminals 1, 2 in the terminal compartment)

AC	20...	253	V, 50/60 Hz
DC	20...	72	V

power consumption

AC	1...	8	VA
DC	ca.	1.6	W

relay circuit (maximal data)

contact set 1 (terminals 3, 4, 5)

AC		253	V, 5	A
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contact set 2 (terminals 6, 7, 8)

DC		30	V, 4	A
DC		125	V, 0.2	A

High frequency parameters

transmitting-/emitting frequency K-Band

transmitting frequency

ca. 24 MHz

emitting frequency

ca. 24 MHz

output radiating power (normal operation)

P_{EIRP} 0.1 W

output radiating power (2 faults)

P_{EIRP} 2.7 W

Thermal data

permitted ambient temperature range

at the sensor (in zone 20 or 21)

VEGAMIP MPR/T61(*).G*****R/T***

-40 °C...+130 °C

VEGAMIP MPR/T61(*).G*A/F***R/T***

-40 °C...+80 °C

high temperature version

VEGAMIP MPR/T61(*).G*****R/T***

-60 °C...+250 °C

ceramics version

VEGAMIP MPR/T61(*).G*****R/T***

-170 °C...+450 °C

at the electronics enclosure (in zone 20, 21 or 22)

VEGAMIP MPR/T61(*).G*****R/T***

-40 °C...+60 °C

max. surface temperature T

at the sensor (in zone 20 or 21)

process temperature + 3 K

at the electronics enclosure (in zone 20, 21 or 22)

with thermo fuse limited to 102 °C

Degrees of protection according to EN 60529

IP66

The marking of the equipment shall include the following:



II 1D Ex t IIIC T see manual **Da**

II 1/2D Ex t IIIC T see manual **Da/Db**

II 1/3D Ex t IIIC T see manual **Da/Dc**

II 2D Ex t IIIC T see manual **Db**

IP66

Special conditions for safe use

None

Test and assessment report

BVS PP 09.2161 EG as of 21.06.2010

DEKRA EXAM GmbH

Bochum, dated 21 June 2010

Signed: Hans Christian Simanski

Signed: Dr. Franz Eickhoff

Certification body

Special services unit

We confirm the correctness of the translation from the German original.
In the case of arbitration only the German wording shall be valid and binding.

44809 Bochum, 21.06.2010
BVS-Hk/Her A 200100077

DEKRA EXAM GmbH



Certification body



Special services unit

Translation

(1) 2. Supplement to the EC-Type Examination Certificate

- (2) Equipment and protective systems intended for use in potentially explosive atmospheres - Directive 94/9/EC Supplement accordant with Annex III number 6
- (3) No. of EC-Type Examination Certificate: **BVS 09 ATEX E 132**
- (4) Equipment: **Microwave barrier type VEGAMIP MPR61(*).*****R/T*** and VEGAMIP MPT61(*).*****T*****
- (5) Manufacturer: **VEGA Grieshaber KG**
- (6) Address: **77761 Schiltach, Germany**
- (7) The design and construction of this equipment and any acceptable variation thereto are specified in the appendix to this supplement.
- (8) The certification body of DEKRA EXAM GmbH, notified body no. 0158 in accordance with Article 9 of the Directive 94/9/EC of the European Parliament and the Council 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 test and assessment report BVS PP 09.2161 EG.
- (9) The Essential Health and Safety Requirements are assured by compliance with:

**IEC 60079-0:2009
EN 60079-31:2009**

**General requirements
Protection by enclosures**

- (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 appendix to this certificate.
- (11) This supplement to the EC-Type Examination Certificate relates only to the design, examination and tests of the specified equipment in accordance to 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:

VEGAMIP MP*61(*).GX****T***



II 1D Ex t IIC T * Da
II 1/2D Ex t IIC T * Da/Db
II 1/3D Ex t IIC T * Da/Dc
II 2D Ex t IIC T * Db
IP66

* max. surface temperature see manual

VEGAMIP MP*61(*).DK****T***



II 1/2 G Ex d IIC T1...T6 Ga/Gb
II 2 G Ex d IIC T1...T6 Gb
II 1D Ex t IIC T * Da
II 1/2D Ex t IIC T * Da/Db
II 1/3D Ex t IIC T * Da/Dc
II 2D Ex t IIC T * Db
IP66

DEKRA EXAM GmbH
Bochum, dated 17.01.2012

Signed: Dr. Franz Eickhoff

Certification body

Signed: Ralf Leiendecker

Special services unit

(13) Appendix to

(14) **2. Supplement to the EC-Type Examination Certificate**
BVS 09 ATEX E 132

(15) 15.1 Subject and type

Microwave barrier type

VEGAMIP MPR61(*)** ** ** ** (Receiver)

additional equipment

X – without

* - antenna extension, air purge connection etc.

cable entry/cable gland

M – M20x1.5/with

N – 1/2 NPT/without

J - 1/2 NPT/with

housing / protection

A - aluminium / IP66

D - aluminium- double chamber / IP66

V - stainless steel 316L / IP66

W - stainless steel double chamber / IP66

electronics

R - power supply DC 20...72V/AC 20...253 V

T - power supply DC 20...55 V

load DC 20...55 V, 400 mA

seal process fitting

* - FKM, FFKM, ...

process fitting see manual

version / material

A - standard antenna system/aluminium/-40...+80 °C

B - horn antenna Ø40 mm / 316L

C - horn antenna Ø48 mm / 316L

D - horn antenna Ø75 mm / 316L

J - horn antenna Ø95 mm / 1.4848

E - horn antenna Ø95 mm / 316L

K - parabolic antenna Ø245 mm / 316L

F - plastic horn antenna Ø80 mm / PP/-40...+80 °C

GX = ATEX II 1D, 1/2D, 1/3D, 2D IP66 T

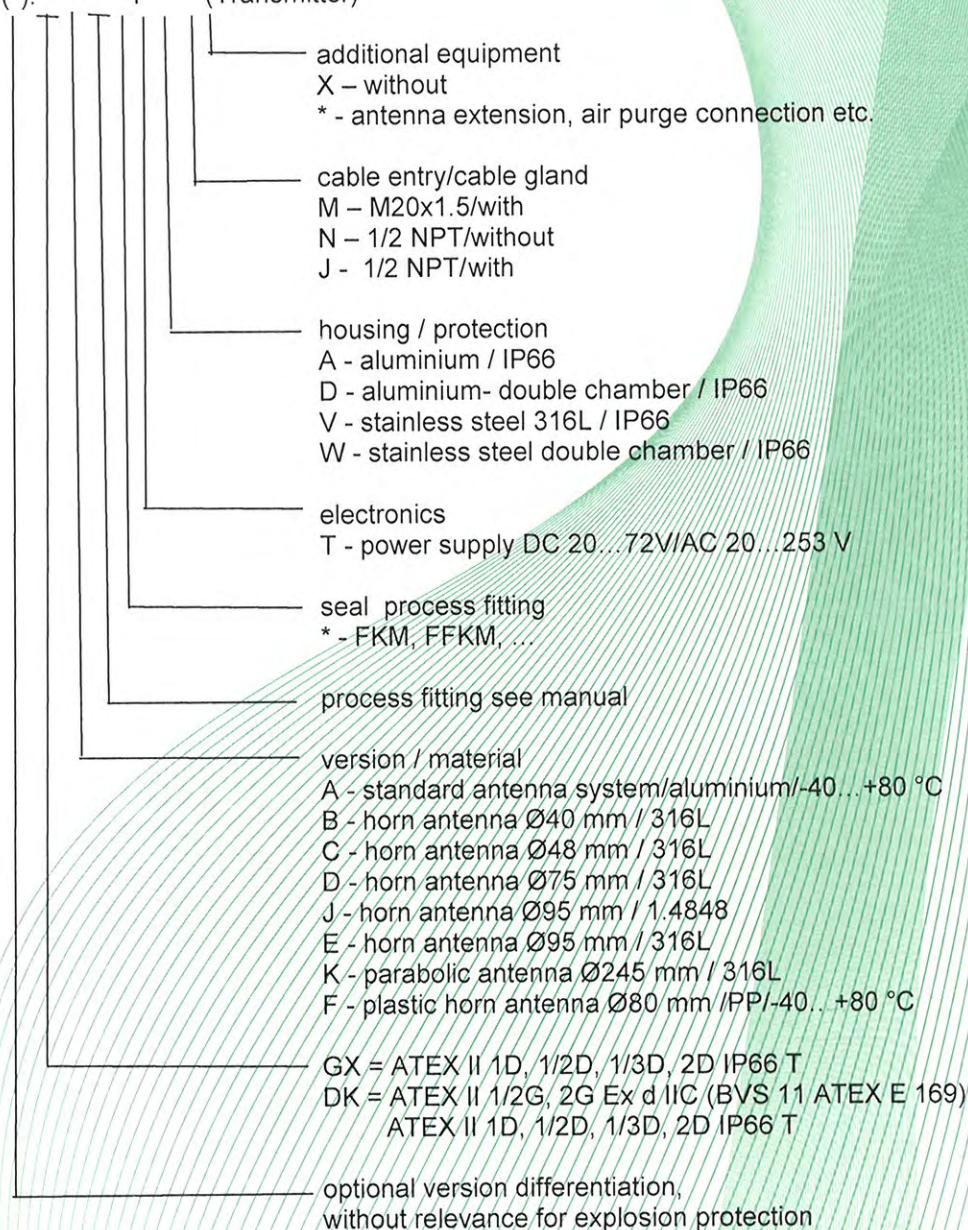
DK = ATEX II 1/2G, 2G Exd IIC (BVS 11 ATEX E 169)

ATEX II 1D, 1/2D, 1/3D, 2D IP66 T

optional version differentiation,

without relevance for explosion protection

Microwave barrier type
VEGAMIP MPT61(*).*****T*** (Transmitter)



15.2 Description

To the existing receiver variant VEGAMIP MPR61(*).*****R*** with integrated relay to evaluate the signal variant VEGAMIP MPR61(*).*****R*** with transistor output is added.
Variant VEGAMIP MP*61(*).DK***** is added. Basis for this variant is EC-Type Test Certificate BVS 11 ATEX E 169.

15.3.2 Thermal data

15.3.2.1 Permitted ambient temperature range

15.3.2.1.1 At the sensor (in zone 20 or 21)

VEGAMIP MPR/T61(*).G****R/T*** -40 °C...+130 °C

VEGAMIP MPR/T61(*).G*A/F****R/T*** -40 °C... +80 °C

high temperature version

VEGAMIP MPR/T61(*).G****R/T*** -60 °C...+250 °C

ceramics version

VEGAMIP MPR/T61(*) .G****R/T*** -170 °C...+450 °C

15.3.2.1.2 At the electronics enclosure (in zone 20, 21 or 22)

VEGAMIP MPR/T61(*).G****R/T*** -40 °C... +60 °C

15.3.2.2 Max. surface temperature T

15.3.2.2.1 At the sensor (in zone 20 or 21) process temperature + 3 K

15.3.2.2.2 At the electronics enclosure (in zone 20, 21 or 22)

VEGAMIP MPR/T61(*).G****R/T*** with thermo fuse limited to 102 °C

15.3.3 Degrees of protection according to EN 60529, IP66

(16) Test and Assessment Report

BVS PP 09.2161 EG as of 17.01.2012

(17) Special conditions for safe use

none

We confirm the correctness of the translation from the German original.
In the case of arbitration only the German wording shall be valid and binding.

DEKRA EXAM GmbH
44809 Bochum, 17.01.2012
BVS-Hk/Sch A 20110902



Certification body



Special services unit

Translation

(1) 3. Supplement to the EC-Type Examination Certificate

- (2) Equipment and protective systems intended for use in potentially explosive atmospheres - Directive 94/9/EC Supplement accordant with Annex III number 6
- (3) No. of EC-Type Examination Certificate: **BVS 09 ATEX E 132**
- (4) Equipment: **Microwave barrier type VEGAMIP MPR6(*).*****R/T*** and VEGAMIP MPT61(*).*****T*****
- (5) Manufacturer: **VEGA Grieshaber KG**
- (6) Address: **Am Hohenstein 113, 77761 Schiltach**
- (7) The design and construction of this equipment and any acceptable variation thereto are specified in the appendix to this supplement.
- (8) The certification body of DEKRA EXAM GmbH, notified body no. 0158 in accordance with Article 9 of the Directive 94/9/EC of the European Parliament and the Council 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 test and assessment report BVS PP 09.2161 EG.
- (9) The Essential Health and Safety Requirements are assured by compliance with:
- EN 60079-0:2012 General requirements**
EN 60079-31:2009 Protection by enclosures
- (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 appendix to this certificate.
- (11) This supplement to the EC-Type Examination Certificate relates only to the design, examination and tests of the specified equipment in accordance to 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:

VEGAMIP MP*6(*).GX****T***

 II 1D Ex t IIIC T see manual **Da**
 II 1/2D Ex t IIIC T see manual **Da/Db**
 II 1/3D Ex t IIIC T see manual **Da/Dc**
 II 2D Ex t IIIC T see manual **Db**
IP66

VEGAMIP MP*61(*).DK****T***

 II 1/2 G Ex d IIC T1...T6 Ga/Gb
 II 2 G Ex d IIC T1...T6 Gb
 II 1D Ex t IIIC T see manual **Da**
 II 1/2D Ex t IIIC T see manual **Da/Db**
 II 1/3D Ex t IIIC T see manual **Da/Dc**
 II 2D Ex t IIIC T see manual **Db**
IP66

DEKRA EXAM GmbH
 Bochum, dated 10th January 2013

Signed: Hans-Christian Simanski

Certification body

Signed: Dr. Franz Eickhoff

Special services unit

(13) Appendix to

(14) **3. Supplement to the EC-Type Examination Certificate**
BVS 09 ATEX E 132

(15) 15.1 Subject and type

Microwave barrier type
VEGAMIP MPR6*(*)** ** * * * * * (Receiver)

additional equipment

X – without

* - antenna extension, air purge connection etc.

cable entry / cable gland

M – M20 x 1.5 / with

N – 1/2 NPT / without

J – 1/2 NPT / with

housing / protection

A - aluminium / IP66

D - aluminium double chamber / IP66

V - stainless steel 316L / IP66

W - stainless steel double chamber / IP66

electronics

R - power supply DC 20...72V / AC 20...253 V

T - power supply DC 20...55 V

load DC 20...55 V, 400 mA

seal process fitting

* - FKM, FFKM, ...

process fitting see manual

version / material

A - standard antenna system / aluminium / -40 °C...+80 °C

B - horn antenna Ø40 mm / 316L

C - horn antenna Ø48 mm / 316L

D - horn antenna Ø75 mm / 316L

J - horn antenna Ø95 mm / 1.4848

E - horn antenna Ø95 mm / 316L

K - parabolic antenna Ø245 mm / 316L

F - plastic horn antenna Ø80 mm / PP / -40 °C...+80 °C

GX = ATEX II 1D, 1/2D, 1/3D, 2D IP66 T

DK = ATEX II 1/2G, 2G Ex d IIC (BVS 11 ATEX 169)

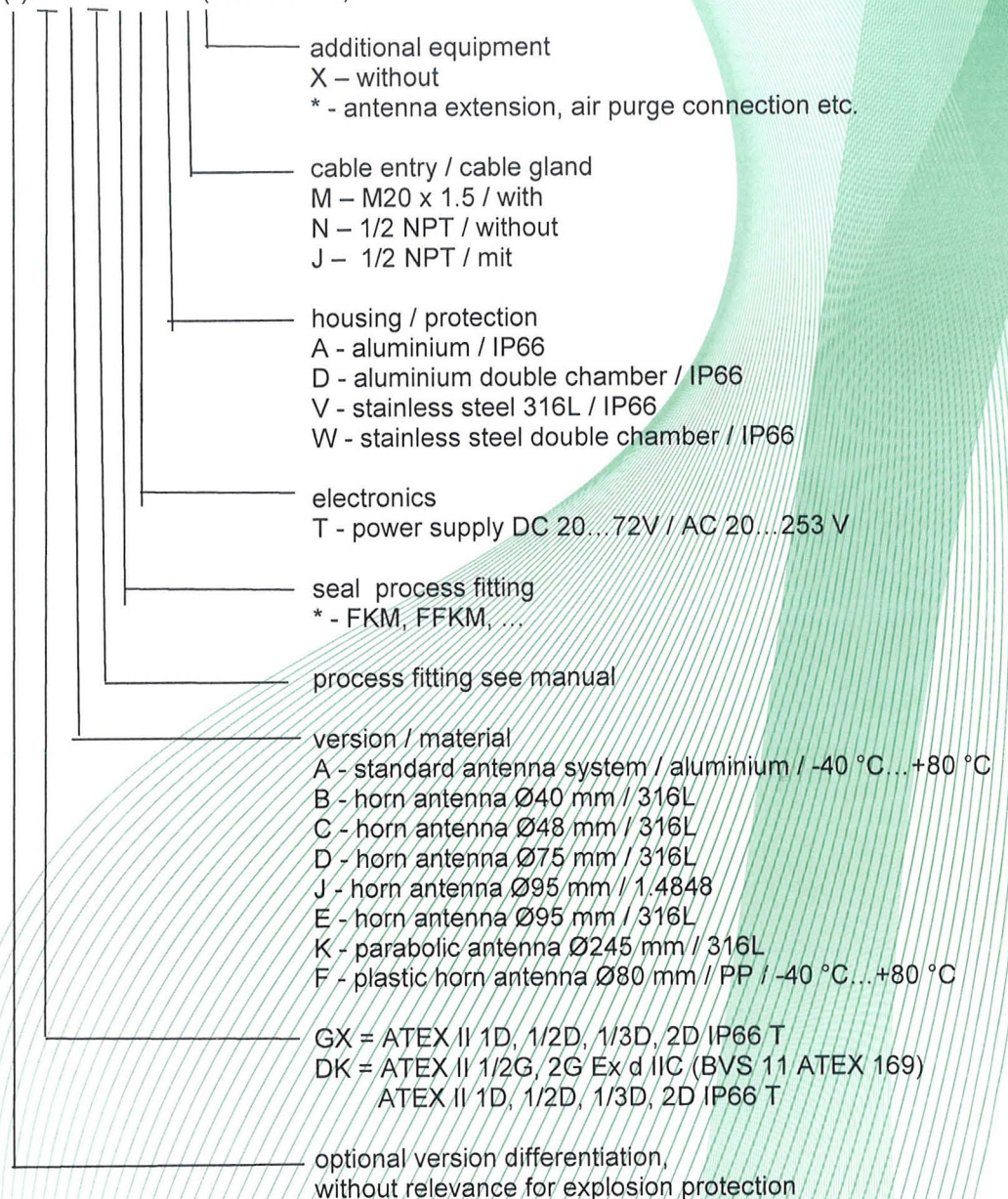
ATEX II 1D, 1/2D, 1/3D, 2D IP66 T

optional version differentiation,
without relevance for explosion protection

1 – compact version

2 – separate version

Microwave barrier type
VEGAMIP MPT61(*).***T*** (Transmitter)



15.2 Description

A new variant with mechanically and electrically separated evaluation unit is added to the receiver type VEGAMIP MPR61(*).GX***T***.

This variant has got the type designation VEGAMIP MPR62(*).GX***R/T***.

Sensor unit and evaluation unit are located in two separate enclosures made of aluminium or stainless steel and are connected via cable (PUR, max. length 25 m).

The enclosure of the evaluation unit is fixed on a twistable base.

15.3 Parameters

Parameters for type VEGAMIP MP*61(*).DK*****T*** according to EC-Type Test Certificate BVS 11 ATEX E 169

15.3.1	Electrical data				
15.3.1.1	VEGAMIP MPT6(*).G*****T***				
	input				
	supply voltage				
	(terminals 1, 2 in the terminal compartment)				
		AC	20... 253	V, 50/60 Hz	
		DC	20... 72	V	
	power consumption	AC		1.8	VA
		DC	ca.	1.3	W
15.3.1.2	VEGAMIP MPR61/62(*).G*****				
15.3.1.2.1	VEGAMIP MPR61/62(*).G*****R***				
	input				
	supply voltage				
	(terminals 1, 2 in the terminal compartment)				
		AC	20... 253	V, 50/60 Hz	
		DC	20... 72	V	
	power consumption	AC		1.8	VA
		DC	ca.	1.6	W
	relay circuit (maximal data)				
	contact set 1 (terminals 3, 4, 5)	AC	253	V, 5 A	
	contact set 2 (terminals 6, 7, 8)	DC	30	V, 4 A	
		DC	125	V, 0.2 A	
15.3.1.2.2	VEGAMIP MPR61/62(*).G*****T***				
	input				
	supply voltage				
	(terminals 1, 2 in the terminal compartment)				
		DC	20... 55	V	
	power consumption		<	1	W
	signal circuit (maximal data)				
	(terminals 4, 5 in the terminal compartment)				
			$U_{Load} = DC\ 20...55\ V$		
			$I_{Load} \leq 400\ mA$		
15.3.1.3	High frequency parameters				
	transmitting-/emitting frequency K-Band ca. 24 GHz				
	output radiating power (normal operation)			P_{EIRP}	0.1 W
	max. output radiating power (2 faults)			P_{EIRP}	0.2 W
15.3.2	Thermal data				
15.3.2.1	Permitted ambient temperature range				

15.3.2.1.1 At the sensor (in zone 20 or 21)

VEGAMIP MPR/T6*(*) .G*****R/T*** -40 °C...+130 °C

VEGAMIP MPR/T6*(*) .G*A/F***R/T*** -40 °C...+ 80 °C

high temperature version

VEGAMIP MPR/T6*(*) .G*****R/T*** -60 °C...+250 °C

ceramics version

VEGAMIP MPR/T6*(*) .G*****R/T*** -170 °C...+450 °C

15.3.2.1.2 At the electronics enclosure (in zone 20, 21 or 22)

VEGAMIP MPR/T6*(*) .G*****R/T*** -40 °C...+ 60 °C

15.3.2.2 Max. surface temperature T

15.3.2.2.1 At the sensor (in zone 20 or 21) process temperature + 3 K

15.3.2.2.2 At the electronics enclosure (in zone 20, 21 or 22)

VEGAMIP MPR/T6*(*) .G*****R/T*** with thermo fuse limited to 102 °C

15.3.3 Degrees of protection according to EN 60529 IP66

(16) Test and assessment report

BVS PP 09.2161 EG as of 10.01.2013

(17) Special conditions for safe use

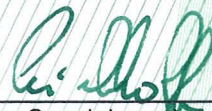
none

We confirm the correctness of the translation from the German original.
In the case of arbitration only the German wording shall be valid and binding.

DEKRA EXAM GmbH
44809 Bochum, 10th January 2013
BVS-Hk/Mu A 20120924



Certification body



Special services unit