IECEx Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION
IEC Certification Scheme for Explosive Atmospheres

for rules and details of the IECEx Scheme visit www.iecex.com

Certificate No.:	IECEx BVS 09.0054	issue No.:4	Certificate history: Issue No. 4 (2018-4-9) Issue No. 3 (2017-6-19) Issue No. 2 (2013-1-29) Issue No. 1 (2012-1-30) Issue No. 0 (2009-10-28)
Status:	**Current**		
Date of Issue:	**2018-04-09**	Page 1 of 4	

Applicant: **VEGA Grieshaber KG**
Am Hohenstein 113
77761 Schiltach
Germany

Equipment: **Microwave barrier type VEGAMIP MPR61(*).******R/T***, MPR62(*).******R/T*****& MPT61 (*).******T*****

Optional accessory:

Type of Protection: **Equipment dust ignition protection by enclosure "t"**

Marking:
Ex ta IIIC T $_{\text{see manual}}$ Da
Ex ta/tb IIIC T $_{\text{see manual}}$ Da/Db
Ex ta/tc IIIC T $_{\text{see manual}}$ Da/Dc
Ex tb IIIC T $_{\text{see manual}}$ Db

Approved for issue on behalf of the IECEx Certification Body: Jörg Koch

Position: Head of Certification Body

Signature:
(for printed version)

Date: 9.4.18

1. This certificate and schedule may only be reproduced in full.
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3. The Status and authenticity of this certificate may be verified by visiting the Official IECEx Website.

Certificate issued by:

DEKRA EXAM GmbH
Dinnendahlstrasse 9
44809 Bochum
Germany

DEKRA
On the safe side.

IECEx Certificate of Conformity

Certificate No.: IECEx BVS 09.0054

Date of Issue: **2018-04-09** Issue No.: **4**

Manufacturer: **VEGA Grieshaber KG**
Am Hohenstein 113
77761 Schiltach
Germany

Additional Manufacturing location(s):
VEGA Americas Inc
4241 Allendorf Drive,
Cincinnati, Ohio, 45209
United States of America

This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEx Quality system requirements. This certificate is granted subject to the conditions as set out in IECEx Scheme Rules, IECEx 02 and Operational Documents as amended.

STANDARDS:
The apparatus and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards:

IEC 60079-0 : 2011 Edition: 6.0	Explosive atmospheres - Part 0: General requirements
IEC 60079-31 : 2013 Edition: 2	Explosive atmospheres - Part 31: Equipment dust ignition protection by enclosure "t"

*This Certificate **does not** indicate compliance with electrical safety and performance requirements other than those expressly included in the Standards listed above.*

TEST & ASSESSMENT REPORTS:
A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in

Test Report:
DE/BVS/ExTR09.0053/04

Quality Assessment Report:

DE/TUN/QAR06.0002/08

IECEx Certificate of Conformity

Certificate No.: IECEx BVS 09.0054

Date of Issue: **2018-04-09**

Issue No.: **4**

Schedule

EQUIPMENT:
Equipment and systems covered by this certificate are as follows:

Subject and Type

See Annex

Description

The microwave barrier type VEGAMIP MP*6* is used to measure a level limit in areas with combustible dust. It is based on radar and uses microwaves in GHz range. It can be installed in any Zone or partition wall.
The VEGAMIP consists of a transmitting and a receiving unit which are mounted separately. Each unit is built of a housing with electronic insert and connected antenna, extensions and rinsing connections are possible.
The receiving unit VEGAMIP MPR62(*) consists of two mechanical and electrical separated components, connected via rated cable. Further there are different versions based on various antennas and electronic inserts.
The enclosure is separately certified (IECEx BVS 14.0077U).

Parameters

See Annex

SPECIFIC CONDITIONS OF USE: NO

IECEx Certificate of Conformity

Certificate No.: IECEx BVS 09.0054

Date of Issue: **2018-04-09**

Issue No.: **4**

DETAILS OF CERTIFICATE CHANGES (for issues 1 and above):

- Optional process connector
- Adjustment of model code

Annex: BVS_09_0054_VEGA_Annex_issue4.pdf

Certificate No.: **IECEx BVS 09.0054 issue No.: 4**
Annex
Page 1 of 5

General product information:

Microwave barrier type
VEGAMIP MPR61(*).** * ** * * * * * * (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
* - separately certifies cable glands and blind plugs (M20x1.5 or 1/2NPT)

Housing / protection
A - aluminium / IP66
V - stainless steel 316L / IP66
H - Al special color / IP66 / 68 0.2 bar

Electronics
R - power supply DC 20…72 V / 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
F - plastic horn antenna Ø80 mm / PP / -40 °C…+80 °C
X - for separate horn antenna

Approval
GX – IECEx Ex ta, ta/tb, ta/tc, tb IIIC T* Da, Da/Db, Da/Dc, Db IP66
DK – IECEx Ex ta, ta/tb, ta/tc, tb IIIC T* Da, Da/Db, Da/Dc, Db IP66 + IECEx Ex db IIC T6 Ga/Gb, Gb [1]

optional version differentiation,
without relevance for explosion protection

[1] The assessment for use in explosive gas atmospheres is **not** part of this certificate.

Certificate No.: **IECEx BVS 09.0054 issue No.: 4**
Annex
Page 2 of 5

Microwave barrier type
VEGAMIP MPR62(*).** * ** * * * * * * *(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
* separately certifies cable glands and blind plugs (M20x1.5 or 1/2NPT)

Sensor housing / protection
A - aluminium / IP66
V - stainless steel 316L / IP66
H – Al special color / IP66/68 0.2 bar

Connection cable length/ material / plug connection
* Customer-specific / PUR / without

Housing / protection
A - aluminium / IP66
V - stainless steel 316L / IP66
H - Al special color / IP66/68 0.2 bar

Electronics
R - power supply DC 20…72 V / 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
F - plastic horn antenna Ø80 mm / PP -40 °C…+80 °C
X - for separate horn antenna

Approval
GX – IECEx Ex ta, ta/tb, ta/tc, tb IIIC T* Da, Da/Db, Da/Dc, Db IP66

optional version differentiation,
without relevance for explosion protection

Certificate No.: **IECEx BVS 09.0054 issue No.: 4**
Annex
Page 3 of 5

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

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
* - separately certifies cable glands and blind plugs (M20x1.5 or 1/2NPT)

Housing / protection
A - aluminium / IP66
V - stainless steel 316L / IP66
H - Al special color / IP66 / 68 0.2 bar

Electronics
T - power supply DC 20…72 V / AC 20…253 V

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
F - plastic horn antenna Ø80 mm / PP -40 °C…+80 °C
X - for separate horn antenna

Approval
GX – IECEx Ex ta, ta/tb, ta/tc, tb IIIC T* Da, Da/Db, Da/Dc, Db IP66
DK – IECEx Ex ta, ta/tb, ta/tc, tb IIIC T* Da, Da/Db, Da/Dc, Db IP66 + IECEx Ex db IIC T6 Ga/Gb, Gb [1]

optional version differentiation,
without relevance for explosion protection

[1] The assessment for use in explosive gas atmospheres is not part of this certificate.

Certificate No.: **IECEx BVS 09.0054 issue No.: 4**
Annex
Page 4 of 5

Parameters

Electrical data

VEGAMIP MPT61(*).GX/DK****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(*).GX/DK****R***
VEGAMIP MPR62(*).GX****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

VEGAMIP MPR61(*).GX/DK*****T***
VEGAMIP MPR62(*).GX*****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} ≤		400	mA

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

Certificate No.: **IECEx BVS 09.0054 issue No.: 4**
Annex
Page 5 of 5

Thermal data

Permitted ambient temperature range

At the sensor (in Zone 20 or 21)

VEGAMIP MPR/T6*(*).GX/DK****R/T***	-40 °C...+130 °C
VEGAMIP MPR/T6*(*).GX/DKA/F***R/T***	-40 °C...+ 80 °C
high temperature version VEGAMIP MPR/T6*(*).GX/DK****R/T***	-60 °C...+250 °C
ceramics version VEGAMIP MPR/T6*(*).GX/DK****R/T***	-170 °C...+450 °C

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

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

max. surface temperature T

The max. surface temperature is the higher one of the following:

-	At the sensor (in Zone 20 or 21)	process temperature + 3 K
-	At the electronics enclosure (in Zone 20, 21 or 22)	limited by thermo fuse to 102 °C

Degrees of protection according to EN 60529, IP66

IECEx Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION
IEC Certification Scheme for Explosive Atmospheres

for rules and details of the IECEx Scheme visit www.iecex.com

Certificate No.:	IECEx BVS 09.0054 issue No.:3	Certificate history: Issue No. 3 (2017-6-19) Issue No. 2 (2013-1-29) Issue No. 1 (2012-1-30) Issue No. 0 (2009-10-28)
Status:	**Current**	
Date of Issue:	**2017-06-19**	Page 1 of 4
Applicant:	**VEGA Grieshaber KG** Am Hohenstein 113 77761 Schiltach **Germany**	
Equipment: *Optional accessory:*	**Microwave barrier type VEGAMIP MPR61(*).******R/T***, MPR62(*).******R/T*****& MPT61 (*).******T***	
Type of Protection:	**Equipment dust ignition protection by enclosure "t"**	
Marking:	Ex ta IIIC T $_{\text{see manual}}$ Da Ex ta/tb IIIC T $_{\text{see manual}}$ Da/Db Ex ta/tc IIIC T $_{\text{see manual}}$ Da/Dc Ex tb IIIC T $_{\text{see manual}}$ Db	

Approved for issue on behalf of the IECEx Certification Body: Jörg Koch

Position: Head of Certification Body

Signature:
(for printed version)

Date: 19.6.17

1. This certificate and schedule may only be reproduced in full.
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3. The Status and authenticity of this certificate may be verified by visiting the Official IECEx Website.

Certificate issued by:

DEKRA EXAM GmbH
Dinnendahlstrasse 9
44809 Bochum
Germany

DEKRA
On the safe side.

IECEx Certificate of Conformity

Certificate No.: IECEx BVS 09.0054

Date of Issue: **2017-06-19**

Issue No.: **3**

Manufacturer:

VEGA Grieshaber KG
Am Hohenstein 113
77761 Schiltach
Germany

Additional Manufacturing location(s):

VEGA Americas Inc
4241 Allendorf Drive,
Cincinnati, Ohio, 45209
United States of America

This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEx Quality system requirements. This certificate is granted subject to the conditions as set out in IECEx Scheme Rules, IECEx 02 and Operational Documents as amended.

STANDARDS:
The electrical apparatus and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards:

IEC 60079-0 : 2011 Edition: 6.0	Explosive atmospheres - Part 0: General requirements
IEC 60079-31 : 2013 Edition: 2	Explosive atmospheres - Part 31: Equipment dust ignition protection by enclosure "t"

*This Certificate **does not** indicate compliance with electrical safety and performance requirements other than those expressly included in the Standards listed above.*

TEST & ASSESSMENT REPORTS:
A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in

Test Report:
DE/BVS/ExTR09.0053/03

Quality Assessment Report:

DE/TUN/QAR06.0002/07

IECEx Certificate of Conformity

Certificate No.: IECEx BVS 09.0054

Date of Issue: **2017-06-19**

Issue No.: **3**

Schedule

EQUIPMENT:
Equipment and systems covered by this certificate are as follows:

Subject and Type

See Annex

Description

The microwave barrier type VEGAMIP MP*6* is used to measure a level limit in areas with combustible dust. It is based on radar and uses microwaves in GHz range. It can be installed in any zone or partition wall. The VEGAMIP consists of a transmitting and a receiving unit which are mounted separately. Each unit is built of a housing with electronic insert and connected antenna, extensions and rinsing connections are possible. The receiving unit VEGAMIP MPR62(*) consists of two mechanical and electrical separated components, connected via rated cable. Further there are different versions based on various antennas and electronic inserts.

Parameters

See Annex

SPECIFIC CONDITIONS OF USE: NO

IECEx Certificate of Conformity

Certificate No.: IECEx BVS 09.0054

Date of Issue: **2017-06-19**

Issue No.: **3**

DETAILS OF CERTIFICATE CHANGES (for issues 1 and above):

New Versions with Parabol antenna, additional equipment and a special color Al-housing are added.
Adjustment of model code

Annex: BVS_09_0054_VEGA_Annex_issue3.pdf

IECEx Certificate of Conformity

Certificate No.: **IECEx BVS 09.0054 issue 3**
Annex

Subject and Type

Microwave barrier type
VEGAMIP MPR61(*).** * ** * * * * * (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
* - separately certifies cable glands and blind plugs (M20x1.5 or 1/2NPT)

housing / protection
A - aluminium / IP66
V - stainless steel 316L / IP66
H – Al special color / IP66/68 0.2 bar

electronics
R - power supply DC 20…72 V/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
F - plastic horn antenna Ø80 mm / PP / -40 °C…+80 °C
X – for separate horn antenna

Approval
GX – IECEx ta, ta/tb, ta/tc, tb T* Da, Da/Db, Da/Dc, Db IP66
more markings are possible in case the version is separately certified according to an additional certificate.
The detailed encoding of the type code is part of the safety instructions.

optional version differentiation,
without relevance for explosion protection

Certificate No.: **IECEx BVS 09.0054 issue 3**
Annex
Page 2 of 5

Microwave barrier type
VEGAMIP MPR62(*).** * ** * * * * * * * *(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
* separately certifies cable glands and blind plugs (M20x1.5 or 1/2NPT)

Sensor housing / protection
A - aluminium / IP66
V - stainless steel 316L / IP66
H – Al special color / IP66/68 0.2 bar

Connection cable length/ material / plug connection
* Customer-specific / PUR / without

housing / protection
A - aluminium / IP66
V - stainless steel 316L / IP66
H – Al special color / IP66/68 0.2 bar

electronics
R - power supply DC 20…72 V/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
F - plastic horn antenna Ø80 mm / PP -40 °C…+80 °C
X – for separate horn antenna

Approval
GX – IECEx ta, ta/tb, ta/tc, tb T* Da, Da/Db, Da/Dc, Db IP66
more markings are possible in case the version is separately certified according to an additional certificate.
The detailed encoding of the type code is part of the safety instructions.

optional version differentiation,
without relevance for explosion protection

Certificate No.: **IECEx BVS 09.0054 issue 3**
Annex
Page 3 of 5

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

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
* - separately certifies cable glands and blind plugs (M20x1.5 or 1/2NPT)

housing / protection
A - aluminium / IP66
V - stainless steel 316L / IP66
H – Al special color / IP66/68 0.2 bar

electronics
T - power supply DC 20…72 V / AC 20…253 V

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
F - plastic horn antenna Ø80 mm / PP -40 °C…+80 °C
X – for separate horn antenna

Approval
GX – IECEx ta, ta/tb, ta/tc, tb T* Da, Da/Db, Da/Dc, Db IP66
more markings are possible in case the version is separately certified according to an additional certificate.
The detailed encoding of the type code is part of the safety instructions.

optional version differentiation,
without relevance for explosion protection

Certificate No.: **IECEx BVS 09.0054 issue 3**
Annex
Page 4 of 5

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 MPR61/62(*).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

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} ≤		400	mA

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

Certificate No.: **IECEx BVS 09.0054 issue 3**
Annex
Page 5 of 5

Thermal data

Permitted ambient temperature range

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

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

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

max. surface temperature T

The max. surface temperature is the higher one of the following:

-	At the sensor (in zone 20 or 21)	process temperature + 3 K
-	At the electronics enclosure (in zone 20, 21 or 22)	limited by thermo fuse to 102 °C

Degrees of protection according to EN 60529, IP66

IECEx Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION
IEC Certification Scheme for Explosive Atmospheres

for rules and details of the IECEx Scheme visit www.iecex.com

Certificate No.:	IECEx BVS 09.0054 issue No.:2	Certificate history: Issue No. 2 (2013-1-29) Issue No. 1 (2012-1-30) Issue No. 0 (2009-10-28)
Status:	Current	
Date of Issue:	**2013-01-29**	Page 1 of 5

Applicant: **VEGA Grieshaber KG**
Am Hohenstein 113
77761 Schiltach
Germany

Electrical Apparatus: **Microwave barrier type VEGAMIP**
Optional accessory:

Type of Protection: **Equipment dust ignition protection by enclosure 't'**

Marking:

type VEGAMIP MP*61(*).GX****T***
Ex t IIIC T * Da
Ex t IIIC T * Da/Db
Ex t IIIC T * Da/Dc
Ex t IIIC T * Db
IP66
* max. surface temperature see manual

type VEGAMIP MP*61(*).DK****T***
Ex d IIC T1...T6 Ga/Gb
Ex d IIC T1...T6 Gb
Ex t IIIC T * Da/Db
Ex t IIIC T * Da/Dc
Ex t IIIC T * Db
IP66
* max. surface temperature see manual

Approved for issue on behalf of the IECEx Certification Body: H.-Ch. Simanski

Position: Head of Certification Body

Signature:
(for printed version)

Date: 29/1/2013

1. This certificate and schedule may only be reproduced in full.
2. This certificate is not transferable and remains the property of the issuing body.
3. The Status and authenticity of this certificate may be verified by visiting the Official IECEx Website.

Certificate issued by:

DEKRA EXAM GmbH
Dinnendahlstrasse 9
44809 Bochum
Germany

DEKRA
DEKRA EXAM GmbH

IECEx Certificate of Conformity

Certificate No.: IECEx BVS 09.0054

Date of Issue: **2013-01-29** Issue No.: **2**

Manufacturer: **VEGA Grieshaber KG**
Am Hohenstein 113
77761 Schiltach
Germany

Additional Manufacturing location (s):

This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEx Quality system requirements. This certificate is granted subject to the conditions as set out in IECEx Scheme Rules, IECEx 02 and Operational Documents as amended.

STANDARDS:
The electrical apparatus and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards:

IEC 60079-0 : 2011 Edition: 6.0	Explosive atmospheres - Part 0: General requirements
IEC 60079-31 : 2008 Edition: 1	Explosive atmospheres – Part 31: Equipment dust ignition protection by enclosure 't'

*This Certificate **does not** indicate compliance with electrical safety and performance requirements other than those expressly included in the Standards listed above.*

TEST & ASSESSMENT REPORTS:
A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in

Test Report:
DE/BVS/ExTR09.0053/02

Quality Assessment Report:

DE/TUN/QAR06.0002/04

IECEx Certificate of Conformity

Certificate No.: IECEx BVS 09.0054

Date of Issue: **2013-01-29** Issue No.: **2**

Schedule

EQUIPMENT:
Equipment and systems covered by this certificate are as follows:

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 MPR61/62(*).G********* 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

CONDITIONS OF CERTIFICATION: NO

IECEx Certificate of Conformity

Certificate No.: IECEx BVS 09.0054

Date of Issue: **2013-01-29** Issue No.: **2**

EQUIPMENT(continued):

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} ≤ 400 mA

High frequency parameters
transmitting-/emitting frequency K-Band
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/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

At the electronics enclosure (in zone 20, 21 or 22)
VEGAMIP MPR/T6*(*).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)
VEGAMIP MPR/T6*(*).G*****R/T*** with thermo fuse limited to 102 °C

Degrees of protection according to EN 60529 IP66

General product information
See annex

IECEx Certificate of Conformity

Certificate No.: IECEx BVS 09.0054

Date of Issue: **2013-01-29** Issue No.: **2**

DETAILS OF CERTIFICATE CHANGES (for issues 1 and above):

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.

Annexe: BVS_09_0054_VEGA_Annex_issue2.pdf

IECEx Certificate of Conformity

Certificate No.: **IECEx BVS 09.0054 issue 2**
Annex

General product information:

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 = Da, Da/Db, Da/Dc, Db
DK = Ga/Gb, Gb Ex d IIC (IECEx BVS 11.0098)
Da, Da/Db, Da/Dc, Db

optional version differentiation,
without relevance for explosion protection

1 – compact version
2 – separate version

Certificate No.: **IECEx BVS 09.0054 issue 2**
Annex
Page 2 of 2

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

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
T - power supply DC 20…72V/AC 20…253 V

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 = Da, Da/Db, Da/Dc, Db
DK = Ga/Gb, Gb Ex d IIC (IECEx BVS 11.0098)
Da, Da/Db, Da/Dc, Db

optional version differentiation,
without relevance for explosion protection

IECEx Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION
IEC Certification Scheme for Explosive Atmospheres

for rules and details of the IECEx Scheme visit www.iecex.com

Certificate No.:	IECEx BVS 09.0054 issue No.:1	Certificate history: Issue No. 1 (2012-1-30) Issue No. 0 (2009-10-28)
Status:	**Current**	
Date of Issue:	**2012-01-30**	Page 1 of 5

Applicant: **VEGA Grieshaber KG**
Am Hohenstein 113
77761 Schiltach
Germany

Electrical Apparatus: **Microwave barrier type VEGAMIP**
Optional accessory:

Type of Protection: **Equipment dust ignition protection by enclosure 't'**

Marking:

type VEGAMIP MP*61(*).GX****T***
Ex t IIIC T * Da
Ex t IIIC T * Da/Db
Ex t IIIC T * Da/Dc
Ex t IIIC T * Db
IP66
* max. surface temperature see manual

type VEGAMIP MP*61(*).DK****T***
Ex d IIC T1...T6 Ga/Gb
Ex d IIC T1...T6 Gb
Ex t IIIC T * Da/Db
Ex t IIIC T * Da/Dc
Ex t IIIC T * Db
IP66
* max. surface temperature see manual

Approved for issue on behalf of the IECEx Certification Body: H.-Ch. Simanski

Position: Head of Certification Body

Signature:
(for printed version)

Date: 30 I 2012

1. This certificate and schedule may only be reproduced in full.
2. This certificate is not transferable and remains the property of the issuing body.
3. The Status and authenticity of this certificate may be verified by visiting the Official IECEx Website.

Certificate issued by:

DEKRA EXAM GmbH
Dinnendahlstrasse 9
44809 Bochum
Germany

DEKRA
DEKRA EXAM GmbH

IECEx Certificate of Conformity

Certificate No.: IECEx BVS 09.0054

Date of Issue: **2012-01-30** Issue No.: **1**

Manufacturer: **VEGA Grieshaber KG**
Am Hohenstein 113
77761 Schiltach
Germany

Manufacturing location(s):

This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEx Quality system requirements. This certificate is granted subject to the conditions as set out in IECEx Scheme Rules, IECEx 02 and Operational Documents as amended.

STANDARDS:
The electrical apparatus and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards:

IEC 60079-0 : 2011 Edition: 6.0	Explosive atmospheres - Part 0: General requirements
IEC 60079-31 : 2008 Edition: 1	Explosive atmospheres – Part 31: Equipment dust ignition protection by enclosure 't'

*This Certificate **does not** indicate compliance with electrical safety and performance requirements other than those expressly included in the Standards listed above.*

TEST & ASSESSMENT REPORTS:
A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in

Test Report:
DE/BVS/ExTR09.0053/01

Quality Assessment Report:

DE/TUN/QAR06.0002/04

IECEx Certificate of Conformity

Certificate No.: IECEx BVS 09.0054

Date of Issue: **2012-01-30** Issue No.: **1**

Schedule

EQUIPMENT:
Equipment and systems covered by this certificate are as follows:

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********* 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
contact set 2 (terminals 6, 7, 8)	DC	30 V, 4 A
	DC	125 V, 0.2 A

CONDITIONS OF CERTIFICATION: NO

IECEx Certificate of Conformity

Certificate No.: IECEx BVS 09.0054

Date of Issue: **2012-01-30** Issue No.: **1**

EQUIPMENT(continued):

VEGAMIP MPR61(*).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)
ULoad = DC 20...55 V
ILoad ≥ 400 mA

High frequency parameters
transmitting-/emitting frequency K-Band
output radiating power (normal operation) PEIRP 0.1 W
output radiating power (2 faults) PEIRP 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)
VEGAMIP MPR/T61(*).G*****R/T*** with thermo fuse limited to 102 °C

Degrees of protection according to EN 60529 IP66

Type Code
See Annex

IECEx Certificate of Conformity

Certificate No.: IECEx BVS 09.0054

Date of Issue: **2012-01-30** Issue No.: **1**

DETAILS OF CERTIFICATE CHANGES (for issues 1 and above):

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. This variant is suitable for use in combustible dusts or explosive gas-air mixtures.

Annexe: BVS_09_0054_Issue1_VEGA_Annex.doc

IECEx Certificate of Conformity

Certificate No.: **IECEx BVS 09.0054 Issue 1**
Annex

Type Code:

General product information:

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 = Da, Da/Db, Da/Dc, Db
DK = Ga/Gb, Gb Exd IIC (IECEx BVS 11.0098)
Da, Da/Db, Da/Dc, Db

optional version differentiation,
without relevance for explosion protection

IECEx Certificate of Conformity

Certificate No.: **IECEx BVS 09.0054 Issue 1**
Annex

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

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
T - power supply DC 20…72V/AC 20…253 V

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
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E - horn antenna Ø95 mm / 316L
K - parabolic antenna Ø245 mm / 316L
F - plastic horn antenna Ø80 mm /PP/-40…+80 °C

GX = Da, Da/Db, Da/Dc, Db
DK = Ga/Gb, Gb Exd IIC (IECEx BVS 11.0098)
Da, Da/Db, Da/Dc, Db

optional version differentiation,
without relevance for explosion protection