Translation

1 EU-Type Examination Certificate Supplement 2

2 **Equipment intended for use in potentially explosive atmospheres Directive 2014/34/EU**

3 EU-Type Examination Certificate Number: **BVS 16 ATEX E 022 X**

4 Product: **Radar-Sensor type VEGAPULS PS64/PS69(*).**********(*)(*)**

5 Manufacturer: **VEGA Grieshaber KG**

6 Address: **Am Hohenstein 113, 77761 Schiltach, Germany**

7 This supplementary certificate extends EU-Type Examination Certificate No. BVS 16 ATEX E 022 X to apply to products designed and constructed in accordance with the specification set out in the appendix of the said certificate but having any acceptable variations specified in the appendix to this certificate and the documents referred to therein.

8 DEKRA Testing and Certification GmbH, Notified Body number 0158, in accordance with Article 17 of Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014, certifies that this product has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of products 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 No. BVS PP 16.2037 EU.

9 The Essential Health and Safety Requirements are assured in consideration of:

EN IEC 60079-0:2018	**General requirements**
EN 60079-31:2014	**Protection by Enclosure "t"**

Except in respect of those requirements listed under item 18 of the appendix.

10 If the sign "X" is placed after the certificate number, it indicates that the product is subject to the Special Conditions for Use specified in the appendix to this certificate.

11 This EU-Type Examination Certificate relates only to the design and construction of the specified product. Further requirements of the Directive apply to the manufacturing process and supply of this product. These are not covered by this certificate.

12 The marking of the product shall include the following:

II 1D Ex ta IIIC T* Da
II 1/2D Ex ta/tb IIIC T* Da/Db
II 1/3D Ex ta/tc IIIC T* Da/Dc
II 2D Ex tb IIIC T* Db
IP66
* See manual

DEKRA Testing and Certification GmbH
Bochum, 2020-09-04

Signed: Jörg-Timm Kilisch

Managing Director

DEKRA Testing and Certification GmbH, Handwerkstr. 15, 70565 Stuttgart, Germany
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13 **Appendix**

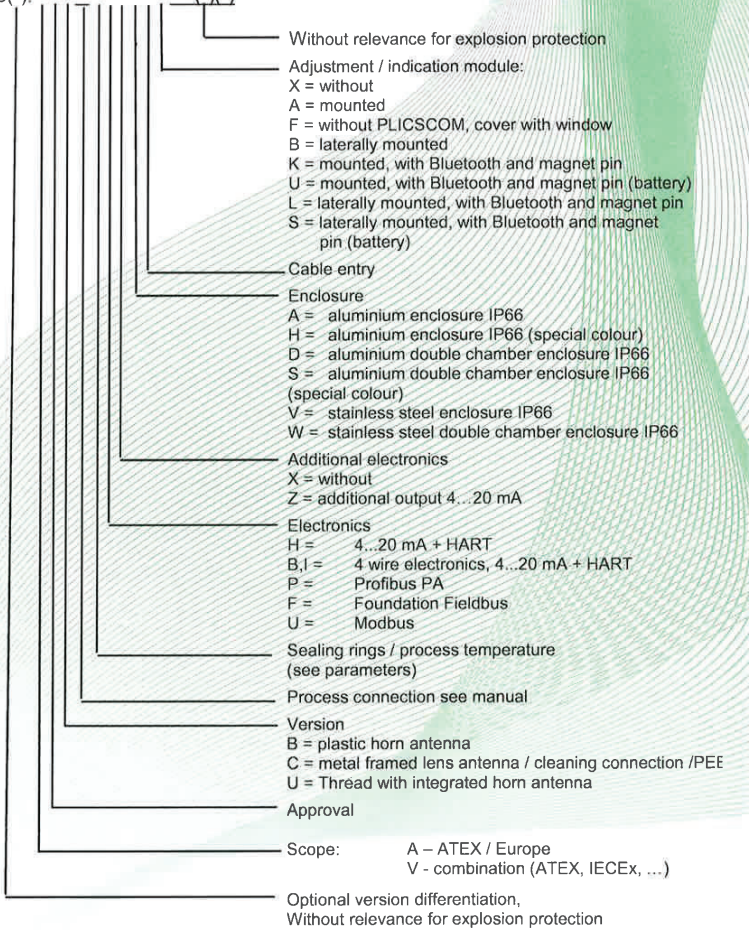
14 **EU-Type Examination Certificate**

BVS 16 ATEX E 022 X
Supplement 2

15 **Product description**

15.1 **Subject and type**

Radar sensor type
VEGAPULS PS 69(*). * * * ** * * * * * * * (*)(*)



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Ex t: Model Code VEGAPULS PS69(*).a-**b**-c-de-f-g-h-i-j-k-l-m-(*)(*)

a = certification: **I, V**
b = approval: **R** = Ex ta IIIC T* [1)]
c = antenna / Material: **B, C, U**
de = ** TRI- CLAMP, DN or ASME industry type flange with pressure ratings and any type which comply with an international or national standard.
f = seal / process temperature: **A, B, C, D, E, F, G, H, R, S**
g = electronics: **H, B, I, F, P, U**
h = additional electronics: **X, Z**
i = housing / protection: **A, D, H, S, V, W**
j = cable entry / connection: **D, N, Q, 1, 2, O, 6, 8, P**
k = display / adjustment module PLICSCOM: **A, B, F, K, U, L, S, X**
l = additional equipment: **R, V, X**
m = certificates: **M, X**

1) Under b other letters are possible in case the version is additionally certified in another type of protection e.g. in Intrinsic Safety or Flameproof Enclosure.

For example for VEGAPULS PS69(*).ARcdefghijklm there is as well

- a version VEGAPULS PS69(*).AHcdefghijklm which is in type of Protection by Enclosure covered by this Certificate as well as in type of protection Intrinsic Safety covered by a separate Certificate

- and a version VEGAPULS PS69(*).AJcdefghijklm which is in type of Protection by Enclosure covered by this Certificate as well as in type of protection Flameproof Enclosure clovered by a separate Certificate.

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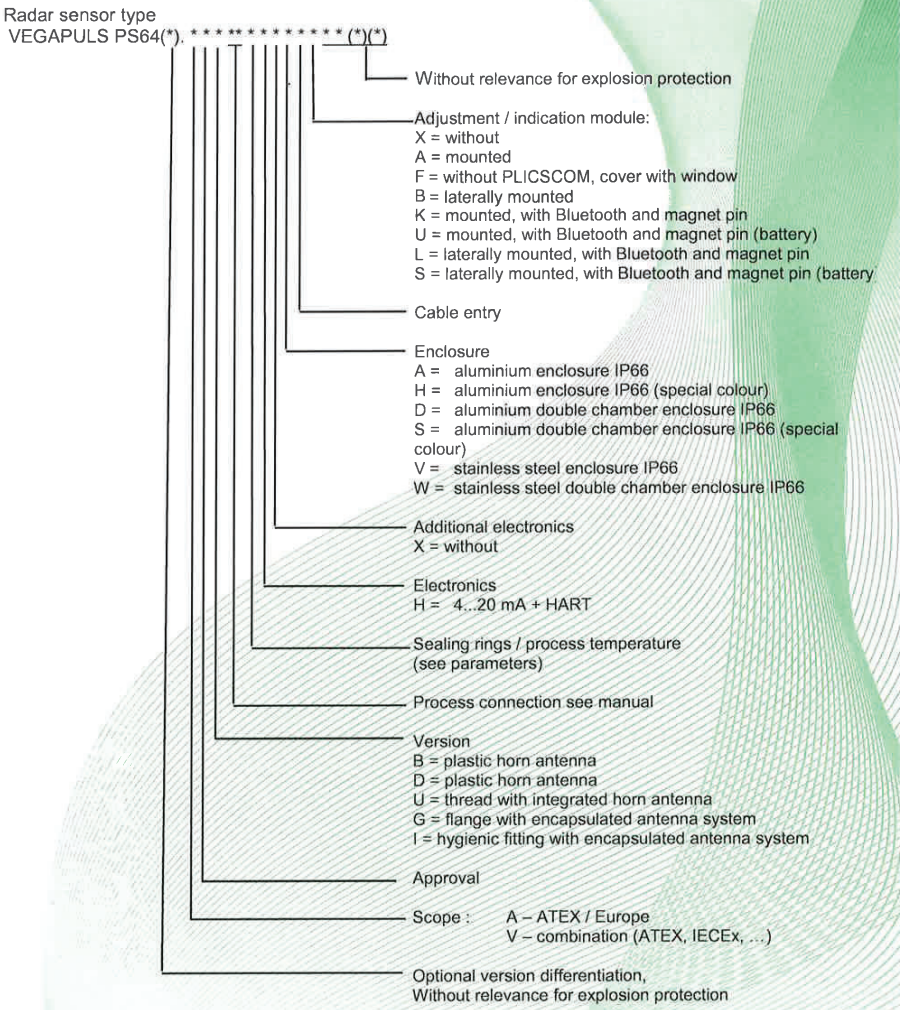

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Ex t: Model Code VEGAPULS PS64(*).a-**b**-c-de-f-g-h-i-j-k-l-m-(*)(*)

a = scope: **I, V**
b = approval: **R** = Ex ta IIIC T* [1)]
c = antenna / Material: **B, D, U, G, I**
de = ** TRI- CLAMP, DN or ASME industry type flange with pressure ratings and any type which comply with an international or national standard.
f = seal / process temperature: **A, B, G, H, F, R, S, T, U, V, I, J, K, L, P, Q, C, D, E *** or any other comparable seal suitable for the application including the given process temperature
g = electronics: **H**
h = additional electronics: **X**
i = housing / protection: **A, D, H, S, V, W**
j = cable entry / connection: **D, N, Q, 1, 2, O, 6, 8, P *** or any other certified connection or cable gland suitable for the application
k = display / adjustment module PLICSCOM: **A, B, F, K, U, L, S, X**
l = additional equipment: **X, V**
m = certificates: **M, X**

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15.2 **Description**

Reason for the supplement:

- Updating to the current standards

Description of Product

The Radar sensors type VEGAPULS PS64(*).**********(*)(*) and type VEGAPULS PS69(*).**********(*)(*) are used to measure the distance between the surface of combustible dust generating material and the sensor.
It consists of an enclosure in equipment dust ignition protection by enclosure "t" according to BVS 14 ATEX E 121 U (BVS PP 02.2113 EG) and an antenna coupling at the process.

15.3 **Parameters**

The maximum power given to the radar sensor with HART-signal, has to be limited to the indicated value (P_{max} <=2 W), when it is installed in Zone 20.

15.3.1 Electrical data

15.3.1.1 VEGAPULS PS64(*).AR****H******(*)(*)
VEGAPULS PS64(*).AR****H***B**(*)(*)
Supply
terminals 1 [+], 2 [-] in the electronics compartment or in the terminal compartment regarding the two cell enclosure version — U = 12 V ... 35 V DC, P_{max} <= 2 W (Zone 20)

15.3.1.2 VEGAPULS PS69(*).AR****H******(*)(*)
VEGAPULS PS69(*).AR****H***B**(*)(*)

Supply
terminals 1 [+], 2 [-] in the electronics compartment or in the terminal compartment regarding the two cell enclosure version — U = 12 V ... 35 V DC, P_{max} <= 2 W (Zone 20)

15.3.1.3 VEGAPULS PS69(*).AR****HZ*****(*)(*)
Supply and signal circuit 1
terminals 1 [+], 2 [-] in the electronics compartment or in the terminal compartment regarding the two cell enclosure version — U = 12 V ... 35 V DC, P_{max} <= 2 W (Zone 20)

Supply and signal circuit 2
terminals 7 [+], 8 [-] in the electronics compartment or in the terminal compartment regarding the two cell enclosure version — U = 12 V ... 35 V DC, P_{max} <= 2 W (Zone 20)

15.3.1.4 VEGAPULS PS69(*).AR****P/F******(*)(*)
Supply and signal circuit
terminals 1 [+], 2 [-] in the electronics compartment — U = 9 V .... 32 V DC, P_{max} <= 2 W (Zone 20)

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15.3.1.5 VEGAPULS PS69(*).AR****P/F***B**(*)(*)
Supply and signal circuit terminals 1 [+], 2 [-] in the electronics compartment or in the terminal compartment regarding the two cell enclosure version

U = 9 V ... 32 V DC
P_{max} <= 2 W (Zone 20)

15.3.1.6 VEGAPULS PS69(*).AR****B******(*)(*)
supply (terminals 1, 2 in the terminal compartment)

AC 90...253 V, 50/60 Hz

output (terminals 5[+], 7[-] in the terminal compartment)

4...20 mA with superposed HART-signal

passive signal current, input (terminals 6[+], 7[-] in the terminal compartment)

4...20 mA with superposed HART-signal

15.3.1.7 VEGAPULS PS69(*).AR****I******(*)(*)
supply (terminals 1, 2 in the terminal compartment)

AC 20...42 V, 50/60 Hz or
DC 9.6...48 V

output (terminals 6[+], 7[-] in the terminal compartment)

4...20 mA with superposed HART-signal

passive signal current, input (terminals 6[+], 7[-] in the terminal compartment)

4...20 mA with superposed HART-signal

15.3.1.8 VEGAPULS PS69(*).AR****H/P/F******(*)(*)
VEGAPULS PS69(*).AR****H/P/F***B**(*)(*)
adjustment and indication circuit (terminals 5, 6, 7, 8 in the electronics compartment)

only for connection to the associated VEGA adjustment and indication unit VEGADIS61/81 according to BVS 05 ATEX E 023

15.3.1.9 VEGAPULS PS69(*).AR****H/P/F/B/I/U******(*)(*)
adjustment and indication circuit

only for connection to the adjustment and indication unit PLICSCOM (TÜV 15 ATEX 161127 U) or VEGACONNECT (PTB 07 ATEX 2013X).

15.3.2 Thermal data

15.3.2.1 Permitted process temperature at the probe

VEGAPULS PS64(*).AR***X*********(*)(*) X:

A = FKM (SHS FPM 70C3 GLT) + PEEK / with short temperature reduction piece	-40 °C ... +130 °C
B = FKM (SHS FPM 70C3 GLT) + PEEK / with long temperature reduction piece	-40 °C ... +200 °C
C = PP/	-40 °C ... +80 °C
D = FKM (SHS FPM 70C3 GLT) + PP /	-40 °C ... +80 °C
E = EPDM (COG AP310) und PP /	-40 °C ... +80 °C
F = EPDM (COG AP302) und PEEK (FDA)/ with short temperature reduction piece	-40 °C ... +130 °C
G = PEEK / FKM (Kalrez 6375) /	-20 °C ... +130 °C
H = PEEK / FKM (Kalrez 6375) /	-20 °C ... +200 °C
R = PEEK / FKM (Kalrez 6230) /	-15 °C ... +130 °C
S = PEEK / FKM (Kalrez 6230) /	-15 °C ... +200 °C
T = PTFE / FFKM (Kalrez 6230) /	-15 °C ... +130 °C
U = PTFE / FKM (75,5/VA75F) /	-20 °C ... +130 °C
V = PTFE / EPDM (75,5/KW75F) /	-20 °C ... +130 °C
I = PTFE / PTFE /	-40 °C ... +130 °C
J = PTFE / PTFE /	-40 °C ... +200 °C
K = PTFE (8mm) / PTFE /	-40 °C ... +130 °C
L = PTFE (8mm) / PTFE /	-40 °C ... +200 °C
P = PFA (8mm) / PFA /	-40 °C ... +130 °C
Q = PFA (8mm) / PFA /	-40 °C ... +200 °C

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VEGAPULS PS69(*).AR***X*********(*)(*)	X:	A = FKM (SHS FPM 70C3 GLT) + PEEK / with short temperature reduction piece	-40 °C ... +130 °C
		B = FKM (SHS FPM 70C3 GLT) + PEEK / with long temperature reduction piece	-40 °C ... +200 °C
		C = PP/	-40 °C ... +80 °C
		D = FKM (SHS FPM 70C3 GLT) + PP /	-40 °C ... +80 °C
		E = EPDM (COG AP310) und PP /	-40 °C ... +80 °C
		F = EPDM (COG AP302) und PEEK (FDA)/ with short temperature reduction piece	-40 °C ... +130 °C
		G = PEEK / FKM (Kalrez 6375) /	-20 °C ... +130 °C
		H = PEEK / FKM (Kalrez 6375) /	-20 °C ... +200 °C
		R = PEEK / FKM (Kalrez 6230) /	-15 °C ... +130 °C
		S = PEEK / FKM (Kalrez 6230) /	-15 °C ... +200 °C

15.3.2.2 Permitted ambient temperature at the electronics enclosure -40 °C ... +60 °C

15.3.2.3 max. surfacetemperature T

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

a) Maximum surface temperature at the probe process temperature + 2 K

b) Maximum surface temperature at the electronics enclosure

VEGAPULS PS64/PS69(*).AR ****H******(*)(*)	ambient temperature + 86 K
VEGAPULS PS69(*).AR****P/F******(*)(*)	ambient temperature + 86 K
VEGAPULS PS69(*).AR****HZ******(*)(*)	ambient temperature + 86 K
VEGAPULS PS69(*).AR****U*****(*)(*)	ambient temperature + 86 K
VEGAPULS PS69(*).AR****B/I******(*)(*)	with thermo fuse limited to 102 °C

Maximum surface temperature at the electronics enclosure

VEGAPULS PS64/69(*).AR ****H******(*)(*)	ambient temperature + 36 K
VEGAPULS PS69(*).AR****P/F******(*)(*)	ambient temperature + 36 K
VEGAPULS PS69(*).AR****HZ******(*)(*)	ambient temperature + 36 K
VEGAPULS PS69(*).AR****U*****(*)(*)	ambient temperature + 36 K
VEGAPULS PS69(*).AR****B/I******(*)(*)	with thermo fuse limited to 102 °C

15.3.3 Degrees of protection according to EN 60529 IP66

16 Report Number

BVS PP 16.2037 EU, 2020-09-04

17 Special Conditions for Use

1. Variants of the radar sensor type VEGAPULS PS 69(*).**********(*)(*) for which aluminium is used shall be installed in such a way that sparking as a result of impact or friction between aluminium and steel (with the exception of stainless steel if the presence of rust particles can be excluded) is excluded.
2. The level measuring devices in the version with swivelling holder shall be installed in such a way that if used as a Category 1/2 equipment the degree of protection IP67 is kept.
3. When installing in Zone 20 a security device limiting the maximum input power to 2 W has to be installed.
4. Intensive electrostatic charging for instance by the process has to be avoided. In case of extremely ignitable dusts (MIE < 3 mJ) the equipment must not be used in areas where intensive charging processes are to be expected.

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18 **Essential Health and Safety Requirements**

The Essential Health and Safety Requirements are covered by the standards listed under item 9.

19 **Drawings and Documents**

Drawings and documents are listed in the confidential report.

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 Testing and Certification GmbH
Bochum, 2020-09-04
BVS-Hor/Mu A20200535

Managing Director

DEKRA Testing and Certification GmbH, Handwerkstr. 15, 70565 Stuttgart, Germany
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Translation

1 # EU-Type Examination Certificate Supplement 1

Change to Directive 2014/34/EU

2 **Equipment intended for use in potentially explosive atmospheres Directive 2014/34/EU**

3 EU-Type Examination Certificate Number: **BVS 16 ATEX E 022 X**

4 Product: **Radar-Sensor type VEGAPULS PS64/PS69**

5 Manufacturer: **VEGA Grieshaber KG**

6 Address: **Am Hohenstein 113, 77761 Schiltach, Germany**

7 This supplementary certificate extends EG-Type Examination Certificate No. BVS 16 ATEX E 022 X to apply to products designed and constructed in accordance with the specification set out in the appendix of the said certificate but having any acceptable variations specified in the appendix to this certificate and the documents referred to therein.
y

8 DEKRA EXAM GmbH, Notified Body number 0158, in accordance with Article 17 of Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014, certifies that this product has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of products 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 No. BVS PP 16.2037 EU.

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

EN 60079-0:2012 + A11:2013 **General requirements**
EN 60079-31:2014 **Protection by Enclosure "t"**

Except in respect of those requirements listed under item 18 of the appendix.

10 If the sign "X" is placed after the certificate number, it indicates that the product is subject to the Special Conditions for Use specified in the appendix to this certificate.

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12 The marking of the product shall include the following:

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

DEKRA EXAM GmbH
Bochum, 2017-10-10

Signed: Günther Schumann
Certifier

Signed: Dr Franz Eickhoff
Approver

DEKRA EXAM GmbH, Dinnendahlstrasse 9, 44809 Bochum, Germany,
telephone +49.234.3696-105, Fax +49.234.3696-110, zs-exam@dekra.com

13 **Appendix**

14 **EU-Type Examination Certificate**

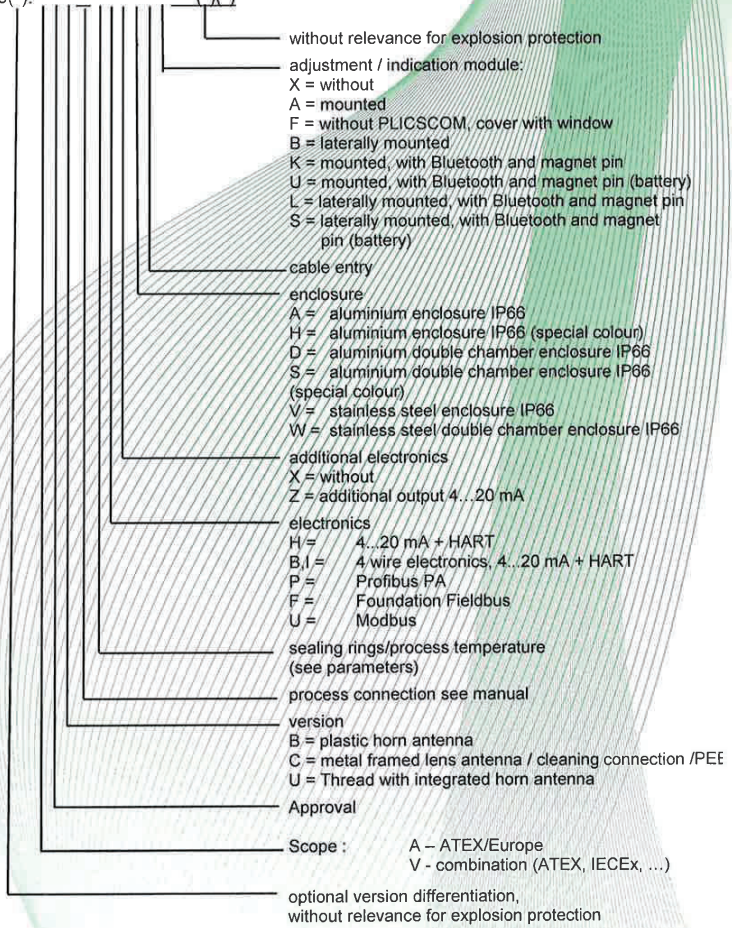
BVS 16 ATEX E 022 X
Supplement 1

15 **Product description**

15.1 **Description**

Subject and type

Radar sensor type
VEGAPULS PS 69(*). * * * * * * * * * * * * (*)(*)



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Ex t: Model Code VEGAPULS PS69(*).a-**b**-c-de-f-g-h-i-j-k-l-m-(*)(*)

a = certification: **I, V**
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l = additional equipment: **R, V, X**
m = certificates: **M, X**

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For example for VEGAPULS PS69(*).ARcdefghijklm there is as well

- a version VEGAPULS PS69(*).AHcdefghijklm which is in type of Protection by Enclosure covered by this Certificate as well as in type of protection Intrinsic Safety covered by a separate Certificate

- and a version VEGAPULS PS69(*).AJcdefghijklm which is in type of Protection by Enclosure covered by this Certificate as well as in type of protection Flameproof Enclosure clovered by a separate Certificate.

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Radar sensor type
VEGAPULS PS64(*). * * * ** * * * * * * * * (*)(*)

- without relevance for explosion protection
- adjustment / indication module:
  X = without
  A = mounted
  F = without PLICSCOM, cover with window
  B = laterally mounted
  K = mounted, with Bluetooth and magnet pin
  U = mounted, with Bluetooth and magnet pin (battery)
  L = laterally mounted, with Bluetooth and magnet pin
  S = laterally mounted, with Bluetooth and magnet pin (battery)
- cable entry
- enclosure
  A = aluminium enclosure IP66
  H = aluminium enclosure IP66 (special colour)
  D = aluminium double chamber enclosure IP66
  S = aluminium double chamber enclosure IP66 (special colour)
  V = stainless steel enclosure IP66
  W = stainless steel double chamber enclosure IP66
- additional electronics
  X = without
- electronics
  H = 4...20 mA + HART
- sealing rings/process temperature
  (see parameters)
- process connection see manual
- version
  B = plastic horn antenna
  D = plastic horn antenna
  U = thread with integrated horn antenna
  G = flange with encapsulated antenna system
  I = hygienic fitting with encapsulated antenna system
- Approval
- Scope: A – ATEX/Europe
  V – combination (ATEX, IECEx, ...)
- optional version differentiation,
  without relevance for explosion protection

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Ex t: Model Code VEGAPULS PS64(*).a-b-c-de-f-g-h-i-j-k-l-m-(*)(*)

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c = antenna / Material: **B, D, U, G, I**
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f = seal / process temperature: **A, B, G, H, F, R, S, T, U, V, I, J, K, L, P, Q, C, D, E** * or any other comparable seal suitable for the application including the given process temperature
g = electronics: **H**
h = additional electronics: **X**
i = housing / protection: **A, D, H, S, V, W**
j = cable entry / connection: **D, N, Q, 1, 2, O, 6, 8, P** * or any other certified connection or cable gland suitable for the application
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15.2 Description

With this supplement the certificate is changed to Directive 2014/34/EU.
(Annotation: In accordance with Article 41 of Directive 2014/34/EU, EC-Type Examination Certificates referring to 94/9/EC that were in existence prior to the date of application of 2014/34/EU (20 April 2016) may be referenced as if they were issued in accordance with Directive 2014/34/EU. Supplementary Certificates to such EC-Type Examination Certificates, and new issues of such certificates, may continue to bear the original certificate number issued prior to 20 April 2016.)

Reason for the supplement:

- Change to Directive 2014/34/EU
- Add radar-sensor PS64
- Add antenna-version U, scope V, Electronic version U
- rearrangement of HART-electronics

Description of Product

The Radar sensors type VEGAPULS PS64(*).**********(*)(*) and type VEGAPULS PS69(*).**********(*)(*) are used to measure the distance between the surface of combustible dust generating material and the sensor.
It consists of an enclosure in equipment dust ignition protection by enclosure "t" according to BVS 14 ATEX E 121 U (BVS PP 02.2113 EG) and an antenna coupling at the process.

15.3 **Parameters**

The maximum power given to the radar sensor with HART-signal, has to be limited to the indicated value (P_{max} <=2 W), when it is installed in zone 20.

15.3.1 Electrical data

15.3.1.1 VEGAPULS PS64(*).AR****H******(*)(*)
VEGAPULS PS64(*).AR****H***B**(*)(*)

Supply terminals 1 [+], 2 [-] in the electronics compartment or in the terminal compartment regarding the two cell enclosure version	U = 12 V ... 35 V DC P_{max} <= 2 W (Zone 20)

15.3.1.2 VEGAPULS PS69(*).AR****H******(*)(*)
VEGAPULS PS69(*).AR****H***B**(*)(*)

Supply terminals 1 [+], 2 [-] in the electronics compartment or in the terminal compartment regarding the two cell enclosure version	U = 12 V ... 35 V DC P_{max} <= 2 W (Zone 20)

15.3.1.3 VEGAPULS PS69(*).AR****HZ*****(*)(*)

Supply and signal circuit 1 terminals 1 [+], 2 [-] in the electronics compartment or in the terminal compartment regarding the two cell enclosure version	U = 12 V ... 35 V DC P_{max} <= 2 W (Zone 20)
Supply and signal circuit 2 terminals 7 [+], 8 [-] in the electronics compartment or in the terminal compartment regarding the two cell enclosure version	U = 12 V ... 35 V DC P_{max} <= 2 W (Zone 20)

15.3.1.4 VEGAPULS PS69(*).AR****P/F******(*)(*)

Supply and signal circuit terminals 1 [+], 2 [-] in the electronics compartment	U = 9 V .... 32 V DC P_{max} <= 2 W (Zone 20)

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15.3.1.5 VEGAPULS PS69(*).AR****P/F***B**(*)(*)

Supply and signal circuit terminals 1 [+], 2 [-] in the electronics compartment or in the terminal compartment regarding the two cell enclosure version	U = 9 V ... 32 V DC P_{max} <= 2 W (Zone 20)

15.3.1.6 VEGAPULS PS69(*).AR****B******(*)(*)

supply (terminals 1, 2 in the terminal compartment)	AC 90...253 V, 50/60 Hz
output (terminals 5[+], 7[-] in the terminal compartment)	4...20 mA with superposed HART-signal
passive signal current, input (terminals 6[+], 7[-] in the terminal compartment)	4...20 mA with superposed HART-signal

15.3.1.7 VEGAPULS PS69(*).AR****I******(*)(*)

supply (terminals 1, 2 in the terminal compartment)	AC 20...42 V, 50/60 Hz or DC 9.6...48 V
output (terminals 6[+], 7[-] in the terminal compartment)	4...20 mA with superposed HART-signal
passive signal current, input (terminals 6[+], 7[-] in the terminal compartment)	4...20 mA with superposed HART-signal

15.3.1.8 VEGAPULS PS69(*).AR****H/P/F******(*)(*)
VEGAPULS PS69(*).AR****H/P/F***B**(*)(*)

adjustment and indication circuit (terminals 5, 6, 7, 8 in the electronics compartment)	only for connection to the associated VEGA adjustment and indication unit VEGADIS61/81 according to BVS 05 ATEX E 023

15.3.1.9 VEGAPULS PS69(*).AR****H/P/F/B/I/U******(*)(*)

adjustment and indication circuit	only for connection to the adjustment and indication unit PLICSCOM (TÜV 15 ATEX 161127 U) or VEGACONNECT (PTB 07 ATEX 2013X).

15.3.2 Thermal data

15.3.2.1 Permitted process temperature at the probe

VEGAPULS PS64(*).AR***X*********(*)(*) X:

A = FKM (SHS FPM 70C3 GLT) + PEEK / with short temperature reduction piece	-40 °C...+130 °C
B = FKM (SHS FPM 70C3 GLT) + PEEK / with long temperature reduction piece	-40 °C...+200 °C
C = PP/	-40 °C...+80 °C
D = FKM (SHS FPM 70C3 GLT) + PP /	-40 °C...+80 °C
E = EPDM (COG AP310) und PP /	-40 °C...+80 °C
F = EPDM (COG AP302) und PEEK (FDA)/ with short temperature reduction piece	-40 °C...+130 °C
G = PEEK / FKM (Kalrez 6375) /	-20 °C...+130 °C
H = PEEK / FKM (Kalrez 6375) /	-20 °C... +200 °C
R = PEEK / FKM (Kalrez 6230) /	-15 °C... +130 °C
S = PEEK / FKM (Kalrez 6230) /	-15 °C... +200 °C
T = PTFE / FFKM (Kalrez 6230) /	-15 °C... +130 °C
U = PTFE / FKM (75,5/VA75F) /	-20 °C... +130 °C
V = PTFE / EPDM (75,5/KW75F) /	-20 °C... +130 °C
I = PTFE / PTFE /	-40 °C... +130 °C
J = PTFE / PTFE /	-40 °C... +200 °C
K = PTFE (8mm) / PTFE /	-40 °C... +130 °C
L = PTFE (8mm) / PTFE /	-40 °C... +200 °C
P = PFA (8mm) / PFA /	-40 °C... +130 °C
Q = PFA (8mm) / PFA /	-40 °C... +200 °C

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VEGAPULS PS69(*).AR***X*********(*)(*)	X:	A = FKM (SHS FPM 70C3 GLT) + PEEK / with short temperature reduction piece	-40 °C...+130 °C
		B = FKM (SHS FPM 70C3 GLT) + PEEK / with long temperature reduction piece	-40 °C...+200 °C
		C = PP/	-40 °C...+80 °C
		D = FKM (SHS FPM 70C3 GLT) + PP /	-40 °C...+ 80 °C
		E = EPDM (COG AP310) und PP /	-40 °C...+ 80 °C
		F = EPDM (COG AP302) und PEEK (FDA)/ with short temperature reduction piece	-40 °C...+130 °C
		G = PEEK / FKM (Kalrez 6375) /	-20 °C... +130 °C
		H = PEEK / FKM (Kalrez 6375) /	-20 °C... +200 °C
		R = PEEK / FKM (Kalrez 6230) /	-15 °C... +130 °C
		S = PEEK / FKM (Kalrez 6230) /	-15 °C... +200 °C

15.3.2.2 Permitted ambient temperature at the electronics enclosure -40 °C...+60 °C

15.3.2.3 max. surfacetemperature T

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

a) Maximum surface temperature at the probe process temperature + 2 K

b) Maximum surface temperature at the electronics enclosure

VEGAPULS PS64/PS69(*).AR ****H******(*)(*)	ambient temperature + 86 K
VEGAPULS PS69(*).AR****P/F******(*)(*)	ambient temperature + 86 K
VEGAPULS PS69(*).AR****HZ******(*)(*)	ambient temperature + 86 K
VEGAPULS PS69(*).AR****U*****(*)(*)	ambient temperature + 86 K
VEGAPULS PS69(*).AR****B/I******(*)(*)	with thermo fuse limited to 102 °C

Maximum surface temperature at the electronics enclosure

VEGAPULS PS64/69(*).AR ****H******(*)(*)	ambient temperature + 36 K
VEGAPULS PS69(*).AR****P/F******(*)(*)	ambient temperature + 36 K
VEGAPULS PS69(*).AR****HZ******(*)(*)	ambient temperature + 36 K
VEGAPULS PS69(*).AR****U*****(*)(*)	ambient temperature + 36 K
VEGAPULS PS69(*).AR****B/I******(*)(*)	with thermo fuse limited to 102 °C

15.3.3 Degrees of protection according to EN 60529 IP66

16 **Report Number**

BVS PP 16.2037 EU, as of 2017-10-10

17 **Special Conditions for Use**

Variants of the radar sensor type VEGAPULS PS 69(*). **********(*)(*) for which aluminium is used shall be installed in such a way that sparking as a result of impact or friction between aluminium and steel (with the exception of stainless steel if the presence of rust particles can be excluded) is excluded.

The level measuring devices in the version with swivelling holder shall be installed in such a way that if used as a category 1/2 equipment the degree of protection IP67 is kept.

When installing in zone 20 a security device limiting the maximum input power to 2 W has to be installed.

Electrostatic charging especially by the process has to be avoided.

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18 **Essential Health and Safety Requirements**

The Essential Health and Safety Requirements are covered by the standards listed under item 9.

19 **Drawings and Documents**

Drawings and documents are listed in the confidential report.

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
Bochum, dated 2017-10-10
BVS-Hor/Hk/Nu A 20170178

Certifier

Approver

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telephone +49.234.3696-105, Fax +49.234.3696-110, zs-exam@dekra.com

Translation

(1) EC-Type Examination Certificate

(2) Equipment and protective systems intended for use in potentially explosive atmospheres - Directive 94/9/EC

(3) No. of EC-Type Examination Certificate: **BVS 16 ATEX E 022 X**

(4) Equipment: **Radar sensor type VEGAPULS PS69(*).A**********(*)(*)**

(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 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 16.2037 EG.

(9) The Essential Health and Safety Requirements are assured by compliance with:

EN 60079-0:2012 + A11:2013 General requirements
EN 60079-31:2014 Protection by Enclosure "t"

(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 ta IIIC T* Da
II 1/2D Ex ta/tb IIIC T* Da/Db
II 1/3D Ex ta/tc IIIC T* Da/Dc
II 2D Ex tb IIIC T* Db
IP66 * see manual

DEKRA EXAM GmbH
Bochum, dated 2016-03-29

Signed: Simanski
Certification body

Signed: Dr. Wittler
Special services unit

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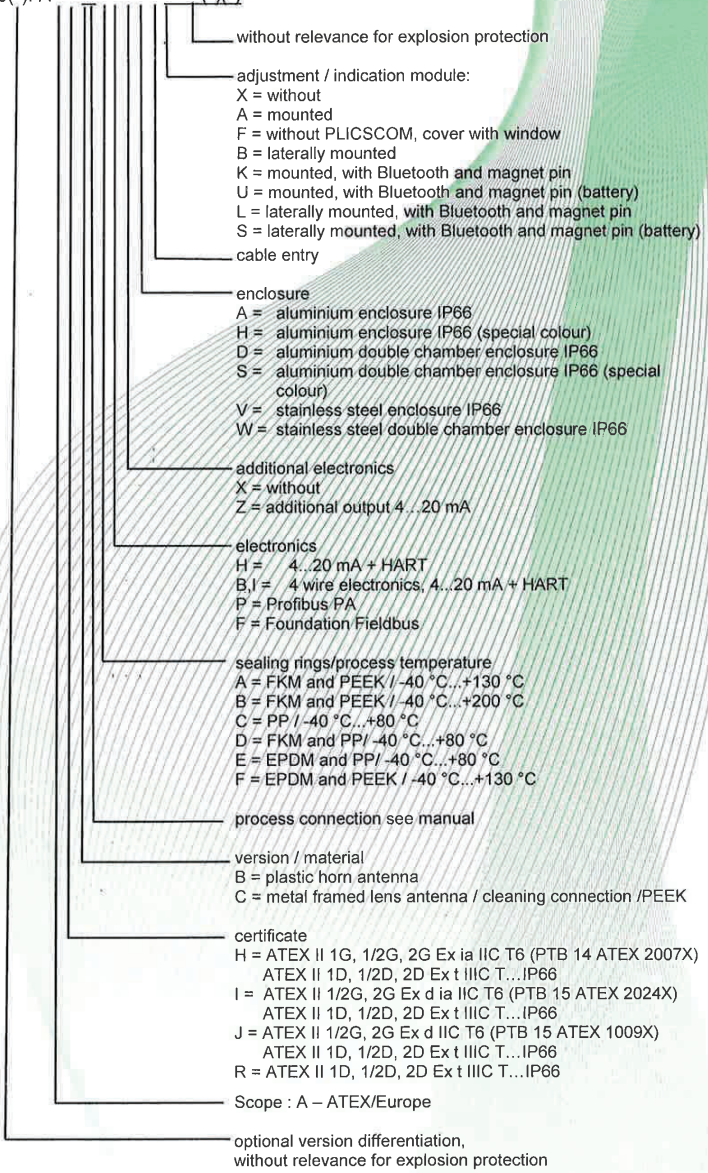
(13) Appendix to

(14) **EC-Type Examination Certificate**
BVS 16 ATEX E 022 X

(15) 15.1 Subject and type

Radar sensor type
VEGAPULS PS 69(*). A * * * * * * * * * * * (*)(*)



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15.2 Description

The Radar sensor type VEGAPULS PS69(*).I**********(*)(*) is used to measure the distance between the surface of combustible dust generating material and the sensor.
It consists of an enclosure in equipment dust ignition protection by enclosure "t" according to BVS 14 ATEX E 121 U (BVS PP 02.2113 EG) and an antenna coupling at the process.

15.3 Parameters

15.3.1 Electrical data

15.3.1.1 VEGAPULS PS69(*).AR****H******(*)(*)
VEGAPULS PS69(*).AR****H***B**(*)(*)
Supply
terminals 1 [+], 2 [-] in the electronics compartment or in the terminal compartment regarding the two cell enclosure version — U = 12 V .... 35 V DC

15.3.1.2 VEGAPULS PS69(*).AR****HZ*****(*)(*)
Supply and signal circuit 1
terminals 1 [+], 2 [-] in the electronics compartment or in the terminal compartment regarding the two cell enclosure version — U = 12 V .... 35 V DC

Supply and signal circuit 2
terminals 7 [+], 8 [-] in the electronics compartment or in the terminal compartment regarding the two cell enclosure version — U = 12 V .... 35 V DC

15.3.1.3 VEGAPULS PS69(*).AR****P/F******(*)(*)
Supply and signal circuit
terminals 1 [+], 2 [-] in the electronics compartment — U = 9 V .... 32 V DC

15.3.1.4 VEGAPULS PS69(*).AR****P/F***B**(*)(*)
Supply and signal circuit
terminals 1 [+], 2 [-] in the electronics compartment or in the terminal compartment regarding the two cell enclosure version — U = 9 V .... 32 V DC

15.3.1.5 VEGAPULS PS69(*).AR****B******(*)(*)
supply (terminals 1, 2 in the terminal compartment) — AC 90...253 V, 50/60 Hz

output (terminals 5[+], 7[-] in the terminal compartment) — 4...20 mA with superposed HART-signal

passive signal current, input (terminals 6[+], 7[-] in the terminal compartment) — 4...20 mA with superposed HART-signal

15.3.1.6 VEGAPULS PS69(*).AR****I******(*)(*)
supply (terminals 1, 2 in the terminal compartment) — AC 20...42 V, 50/60 Hz or DC 9,6...48 V

output (terminals 6[+], 7[-] in the terminal compartment) — 4...20 mA with superposed HART-signal

passive signal current, input (terminals 6[+], 7[-] in the terminal compartment) — 4...20 mA with superposed HART-signal

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15.3.1.7 VEGAPULS PS69(*).AR****H/P/F******(*)(*)
VEGAPULS PS69(*).AR****H/P/F***B**(*)(*)
adjustment and indication circuit (terminals 5, 6, 7, 8 in the electronics compartment) — only for connection to the associated VEGA adjustment and indication unit VEGADIS61/81 according to BVS 05 ATEX E 023

15.3.1.8 VEGAPULS PS69(*).AR****H/P/F/B/I******(*)(*)
adjustment and indication circuit — only for connection to the adjustment and indication unit PLICSCOM (TÜV 15 ATEX 161127 U) or VEGACONNECT (PTB 07 ATEX 2013X).

15.3.2 Thermal data

15.3.2.1 Permitted process temperature at the probe
VEGAPULS PS69(*).AR***X********(*)(*) X:
A = FKM (SHS FPM 70C3 GLT) + PEEK / -40 °C...+130 °C with short temperature reduction piece
B = FKM (SHS FPM 70C3 GLT) + PEEK / -40 °C...+200 °C with long temperature reduction piece
C = PP/ - 40 °C...+80 °C
D = FKM (SHS FPM 70C3 GLT) + PP -40 °C...+ 80 °C
E = EPDM (COG AP310) and PP /-40 °C...+ 80 °C
F = EPDM (COG AP302) and PEEK (FDA)/ -40 °C...+130 °C with short temperature reduction piece

15.3.2.2 Permitted ambient temperature at the electronics enclosure — -40 °C...+ 60 °C

15.3.2.3 Maximum surface temperature at the probe — process temperature + 2 K

15.3.2.4 Maximum surface temperature at the electronics enclosure

VEGAPULS PS69(*).AR/H/I/J****H******(*)(*)	ambient temperature + 28 K
VEGAPULS PS69(*).ARI/J****B/I******(*)(*)	with thermo fuse limited to 102 °C
VEGAPULS PS69(*).AR/J****P/F******(*)(*)	ambient temperature + 30 K
VEGAPULS PS69(*).AR/H/J****HZ******(*)(*)	ambient temperature + 51 K

15.3.3 Degrees of protection according to EN 60529 — IP66

(16) Test and assessment report

BVS PP 16.2037 EG as of 2016-03-29

(17) Special conditions for safe use

17.1 Variants of the radar sensor type VEGAPULS PS 69(*). AH/I/J**********(*)(*) for which aluminium is used shall be installed in such a way that sparking as a result of impact or friction between aluminium and steel (with the exception of stainless steel if the presence of rust particles can be excluded) is excluded.

17.2 The level measuring devices in the version with swivelling holder shall be installed in such a way that if used as a category 1/2 equipment the degree of protection IP67 is kept.

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, 2016-03-29
BVS-Hk/Nu A 20150803

Certification body

Special services unit

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