



Translation

(1) **EC-Type Examination Certificate**

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

(3) **BVS 04 ATEX E 224 X**

(4) **Equipment:** **Capacitive compact level switch type VEGACAP CP 6*.GX/CK *******

(5) **Manufacturer:** **VEGA Grieshaber KG**

(6) **Address:** **D 77757 Schiltach**

(7) The design and construction of this equipment and any acceptable variation thereto are specified in the schedule to this type examination certificate.

(8) The certification body of EXAM BBG Prüf- und Zertifizier 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 04.2160 EG.

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


EN 50281-1-1:1998+A1 Dust explosion protection

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

(11) This EC-Type Examination Certificate relates only to the design, examination and tests of the specified equipment in accordance to Directive 94/9/EC.

Further requirements of the Directive apply to the manufacturing process and supply of this equipment. These are not covered by this certificate

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

 **II 1/2 D IP 66 T** see 15.3.2 or
II 2 D IP 66 T see 15.3.2

EXAM BBG Prüf- und Zertifizier GmbH

Bochum, dated 28. October 2004

Signed: Dr. Jockers

Certification body

Signed: Dr. Eickhoff

Special services unit

(13)

Appendix to

(14)

EC-Type Examination Certificate

BVS 04 ATEX E 224 X

(15) 15.1 Subject and type

Capacitive level switch type VEGACAP
CP 62.GX/CK * * * * *

cable entry

M = M20x1.5

N = 1/2" NPT

enclosure/degrees of protection

A = aluminium enclosure IP66

D = aluminium double chamber enclosure IP66

V = stainless steel enclosure IP66

electronics

C = contactless switch AC/DC 20...253 V

R = relay DC 20...72 V, AC 20...253V (5 A)

T = transistor (PNP/NPN) DC 10...55 V

Z = two-wire DC 10...36 V, 8/16 mA

process connection/material

GS = thread G1/2 A PN 64/steel

GA = thread G3/4 A PN 64/1.4435(316L)

GC = thread G1 A PN 64/1.4435(316L)

GD = thread G1/2 A PN 64/1.4435(316L)

version/temperature range

A = standard /-50°C...150°C

B = temperature adapter /-50°C...200°C

C = with screening tube/1.4435(316L)/ -50°C...150°C

D = with screening tube and temperature adapter
/1.4435(316L)/-50°C...200°C

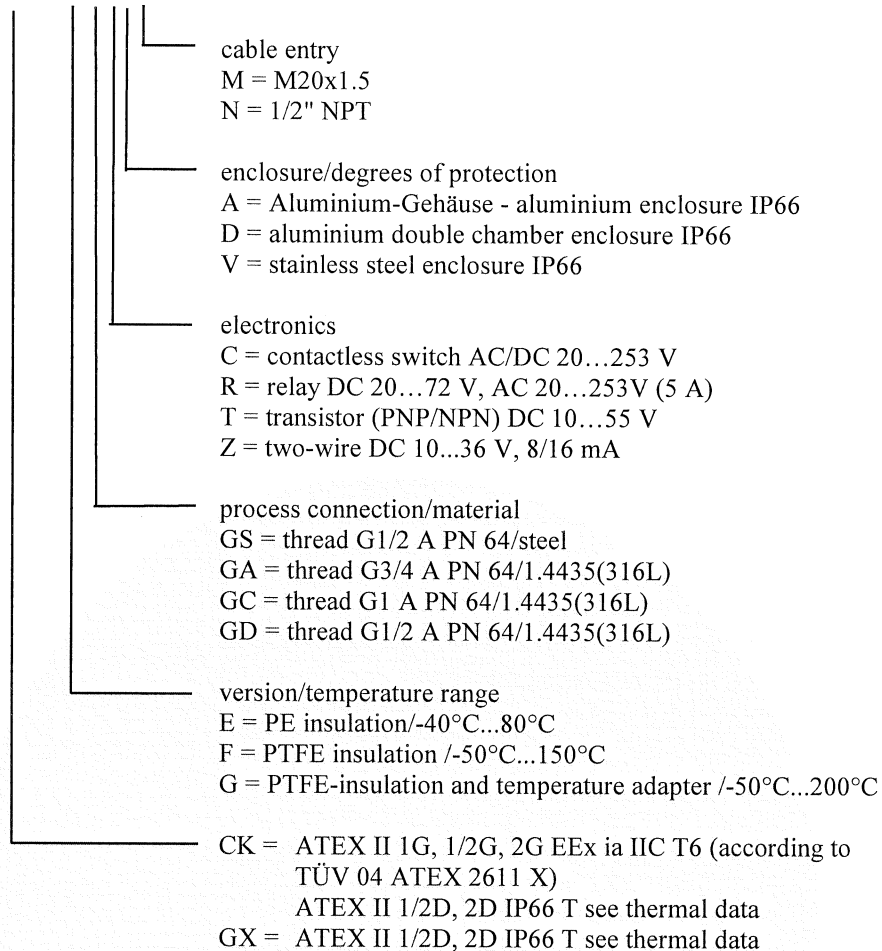
CK = ATEX II 1G, 1/2G, 2G EEx ia IIC T6 (according to
TÜV 04 ATEX 2611 X)

ATEX II 1/2D, 2D IP66 T see thermal data

GX = ATEX II 1/2D, 2D IP66 T see thermal data

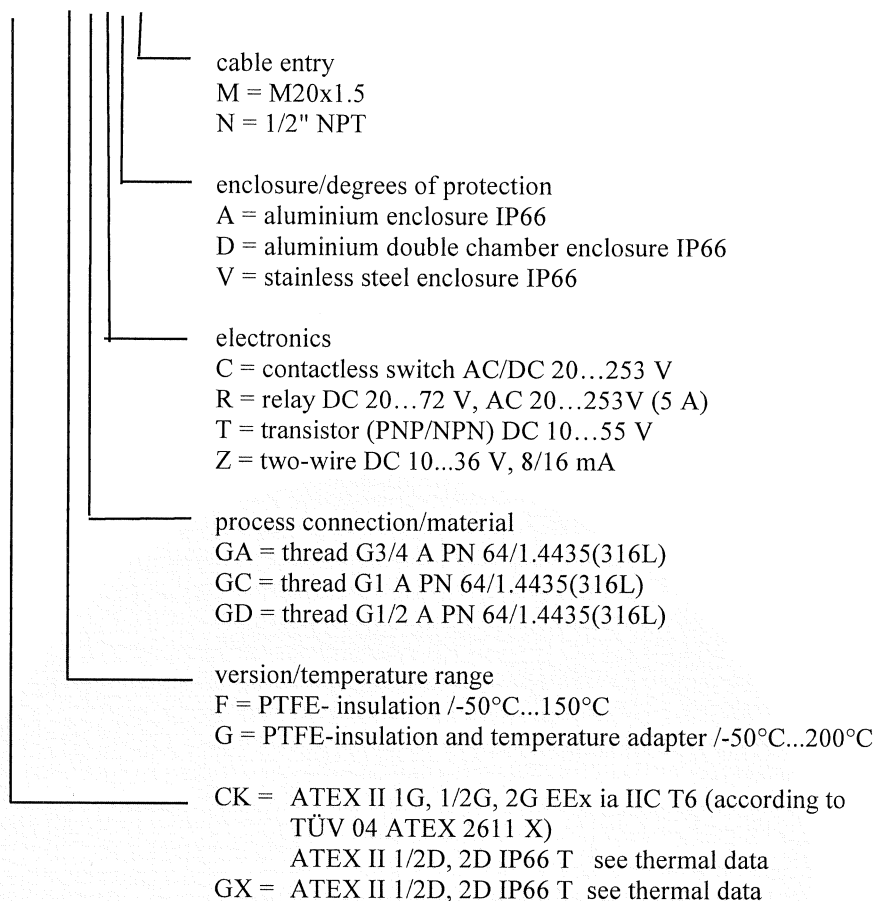
Capacitive level switch type VEGACAP

CP 63.GX/CK * * * * *



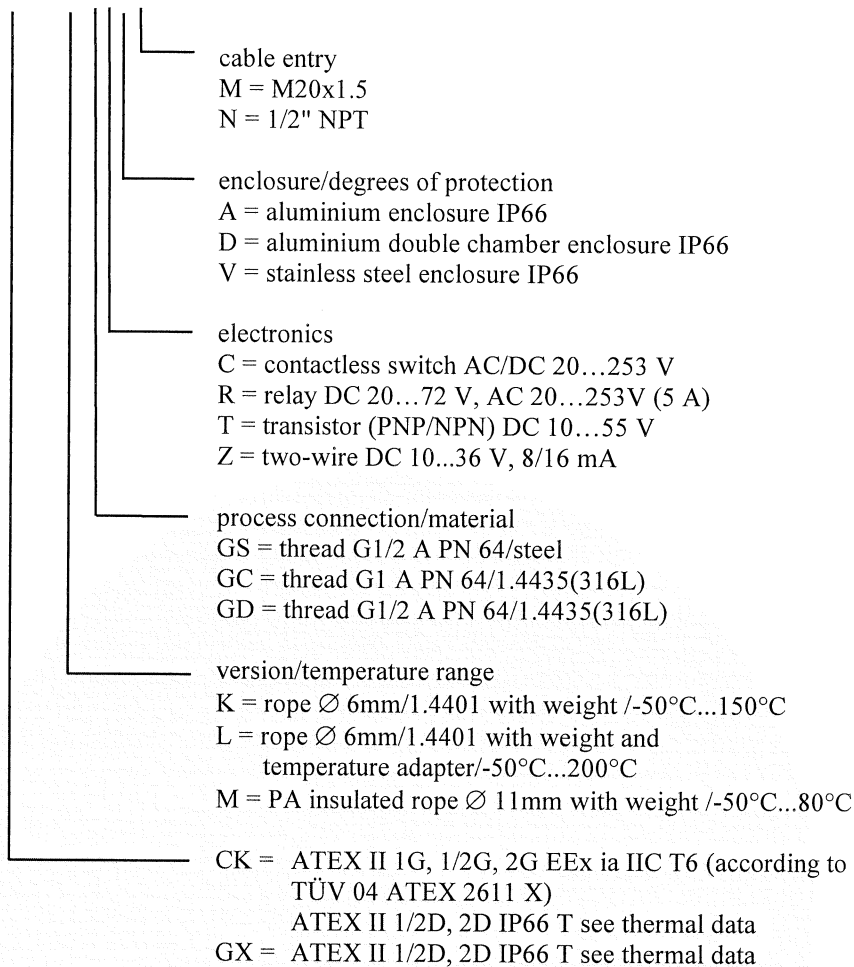
Capacitive level switch type VEGACAP

CP 64.GX/CK * * * * *



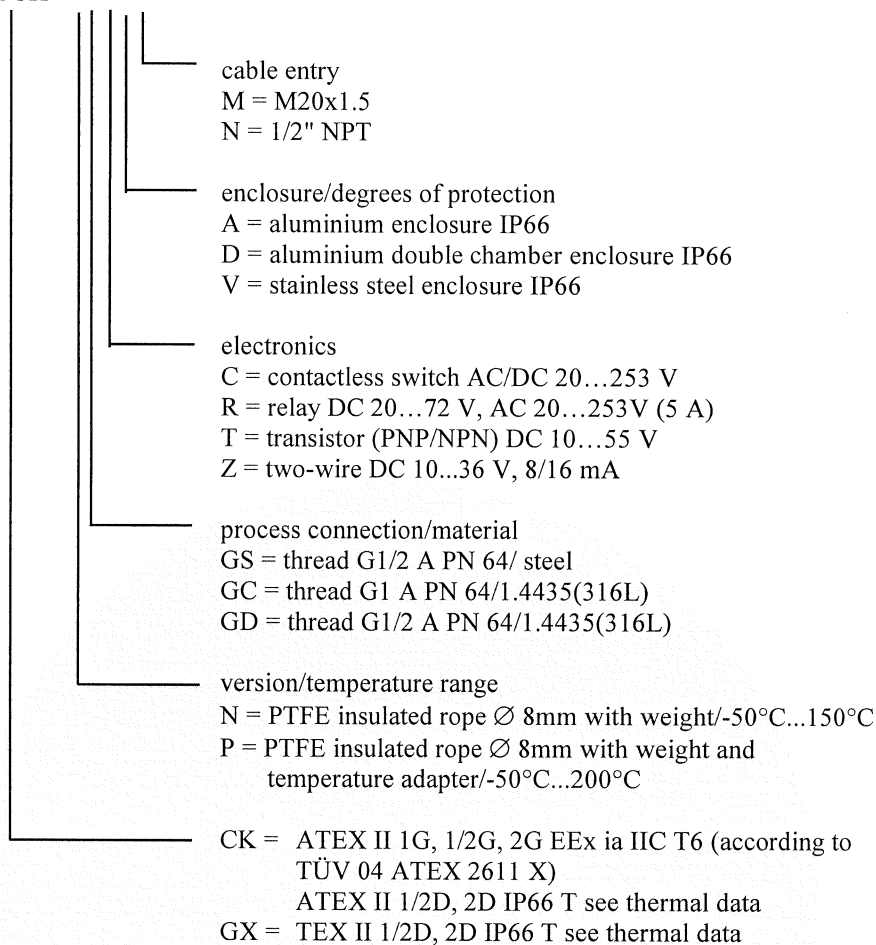
Capacitive level switch type VEGACAP

CP 65.GX/CK * * * * *



Capacitive level switch type VEGACAP

CP 66.GX/CK * * * * *



15.2 Description

The Capacitive probe type VEGACAP CP 6*.GX/CK ***** is used for level monitoring, controlling and regulating in silos with dust generating material.

The probe (rod or rope electrode) meets category 1D whereas the aluminium electronics enclosure meets category 2D.

15.3 Parameters

15.3.1 Electrical data

15.3.1.1	Type VEGACAP CP 6*.GX**C** with electronics insert type CP60C built in supply (terminals 1, 2)	AC 20...253 V, 50/60 Hz or DC 20...253 V, max. 1W
	output	contactless switch
	standby current	< 3mA
	load current	max. 400 mA

Separate version: Maximum length of the cable between the electronics enclosure and the probe enclosure: 10 m

- 15.3.1.2 Type VEGACAP CP 6*.GX**R** with electronics insert type CP60R built in
supply (terminals 1, 2) AC 20...253 V, 50/60 Hz or
DC 20...72 V
power 1...8VA, max. 1.6 W

relay circuit
terminals 3, 4, 5 max. AC 253 V, 3 A, 500 VA
terminals 6, 7, 8 max. DC 253 V, 1 A, 41 W

Separate version: Maximum length of the cable between the electronics enclosure and
the probe enclosure: 10 m
- 15.3.1.3 Type VEGACAP CP 6*.GX**T** with electronics insert type CP60T built in
supply (terminals 1, 4) DC 10...55 V
power max. 0,5 W

transistor output
(terminals 2, 3) max. 400 mA, DC 55 V

Separate version: Maximum length of the cable between the electronics enclosure and the
probe enclosure: 10 m
- 15.3.1.4 Type VEGACAP CP 6*.GX/CK**Z** with electronics insert type CP60Z built in
Supply and signal circuit in type of protection Intrinsic Safety EEx ia IIC
(terminals 1 [+], 2 [-] in the electronics only for connection to a certified intrinsically safe
compartment or in the terminal circuit with the following maximum values:
compartment regarding the $U_i = 30 \text{ V}$
double chamber enclosure version) $I_i = 131 \text{ mA}$
 $P_i = 983 \text{ mW}$

linear characteristics
 L_i negligible
 C_i negligible

Separate version: Maximum length of the cable between the electronics enclosure and the
probe enclosure: 10 m
- 15.3.2 Thermal data
- 15.3.2.1 Permitted process temperature at the probe (category 1D or 2D)

Type VEGACAP CP 6*.*****
with PTFE-insulation - 50 °C... + 150 °C
with PE/PA-insulation - 40 °C... + 80 °C

with PTFE-insulation
high temperature-version - 50 °C... + 200 °C
- 15.3.2.2 Permitted ambient temperature at the electronics enclosure (category 2D)
- 40 °C... + 60 °C
- 15.3.2.3 Maximum surface temperature at the probe (category 1D or 2D)
process temperature + 3K

15.3.2.4 Maximum surface temperature at the electronics enclosure (category 2D)
Type VEGACAP CP6*.GX/CK**Z**
ambient temperature + 15K

Type VEGACAP CP6*.GX**C/T/R
maximum surface temperature T with thermo fuse limited to 98 °C

15.4.3 Degrees of protection according to EN 60529 IP66

(16) Test and assessment report
BVS PP 04.2160 EG as of 28.10.2004

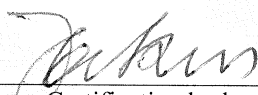
(17) Special conditions for safe use

1. Variants of the Capacitive probe type VEGACAP CP6*.GX/CK ***** as category 1G equipment for which aluminium is used shall be installed in such a way that sparking as a result of impact or friction is excluded.
2. The Capacitive probe type VEGACAP CP65/66.GX/CK***** as category 1G, 1/2 G, 1/2 D - equipment shall be installed in such a way that contact between the measuring sensor and the tank wall will be excluded with sufficient safety considering the tank installations and the flow conditions inside the tank.

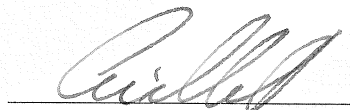
We confirm the correctness of the translation from the German original.
In the case of arbitration only the German wording shall be valid and binding.

44809 Bochum, 28.10.2004
BVS-Hk/Mi A 20040542

EXAM BBG Prüf- und Zertifizier 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 04 ATEX E 224 X

Equipment: Capacitive compact level switch type VEGACAP CP 6*.GX/CK *****

Manufacturer: VEGA Grieshaber KG

Address: 77757 Schiltach

Description

The Capacitive compact level switch type VEGACAP CP 6*.GX/CK ***** can also be modified according to the descriptive documents as mentioned in the pertinent test and assessment report.

The Capacitive compact level switch meets the requirements of the standards EN 61241-0:2006 and EN 61241-1:2004, protection by enclosures "tD".

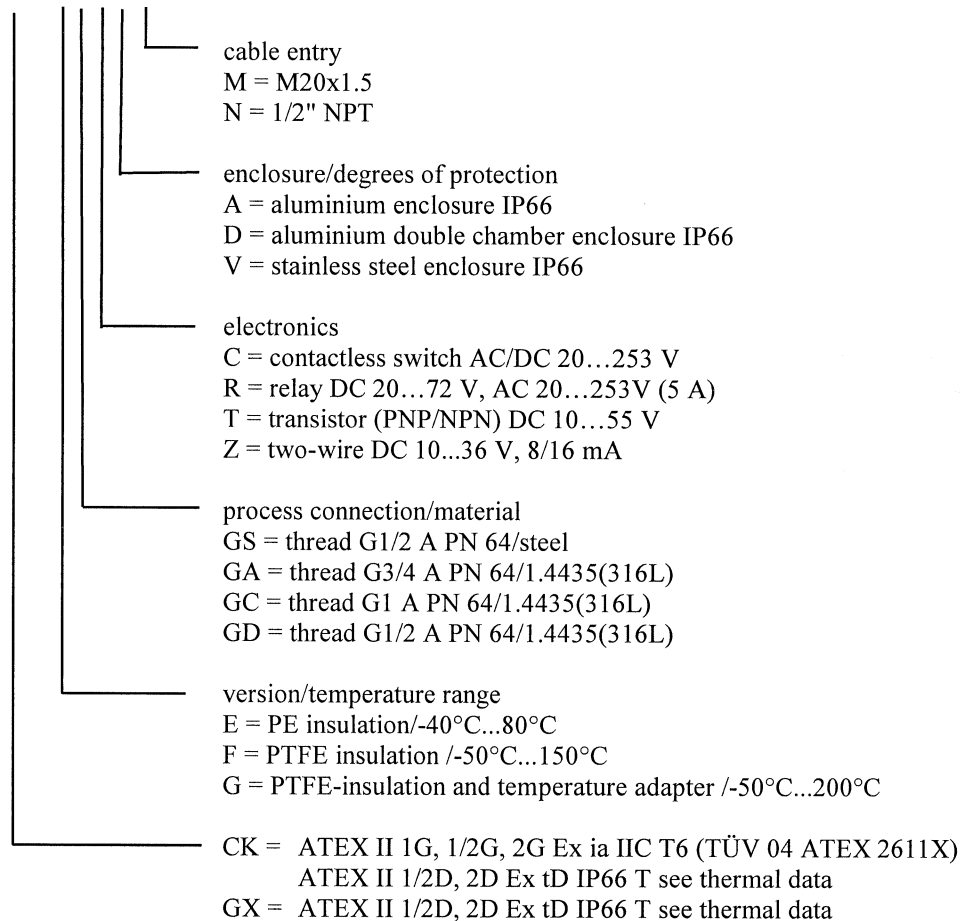
The complete type code is as follows:

Capacitive level switch type VEGACAP
CP 62.GX/CK * * * * *

	cable entry M = M20x1.5 N = 1/2" NPT
	enclosure/degrees of protection A = aluminium enclosure IP66 D = aluminium double chamber enclosure IP66 V = stainless steel enclosure IP66
	electronics C = contactless switch AC/DC 20...253 V R = relay DC 20...72 V, AC 20...253V (5 A) T = transistor (PNP/NPN) DC 10...55 V Z = two-wire DC 10...36 V, 8/16 mA
	process connection/material GS = thread G1/2 A PN 64/steel GA = thread G3/4 A PN 64/1.4435(316L) GC = thread G1 A PN 64/1.4435(316L) GD = thread G1/2 A PN 64/1.4435(316L)
	Version / temperature range A = standard /-50°C...150°C B = temperature adapter /-50°C...200°C C = with screening tube/1.4435(316L)/ -50°C...150°C D = with screening tube and temperature adapter /1.4435(316L)/-50°C...200°C
	CK = ATEX II 1G, 1/2G, 2G Ex ia IIC T6 (TÜV 04 ATEX 2611X) ATEX II 1/2D, 2D Ex tD IP66 T see thermal data GX = ATEX II 1/2D, 2D Ex tD IP66 T see thermal data

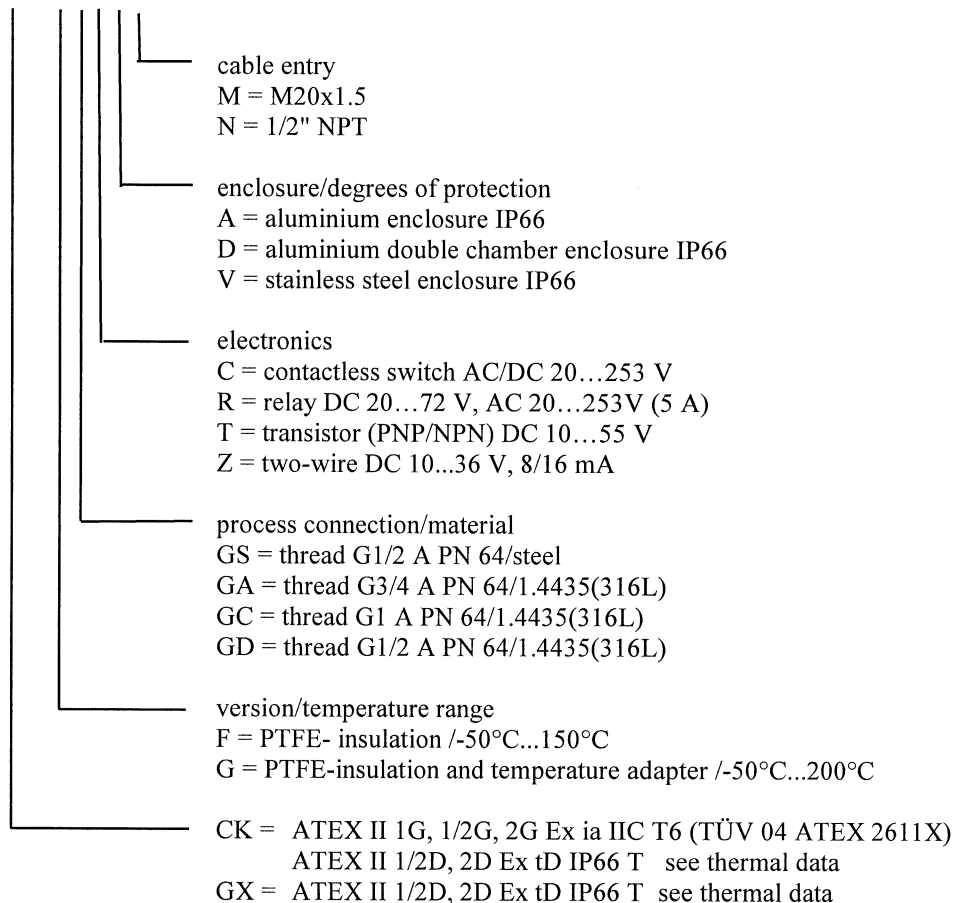
Capacitive level switch type VEGACAP

CP 63.GX/CK * * * * *



Capacitive level switch type VEGACAP

CP 64.GX/CK * * * * *



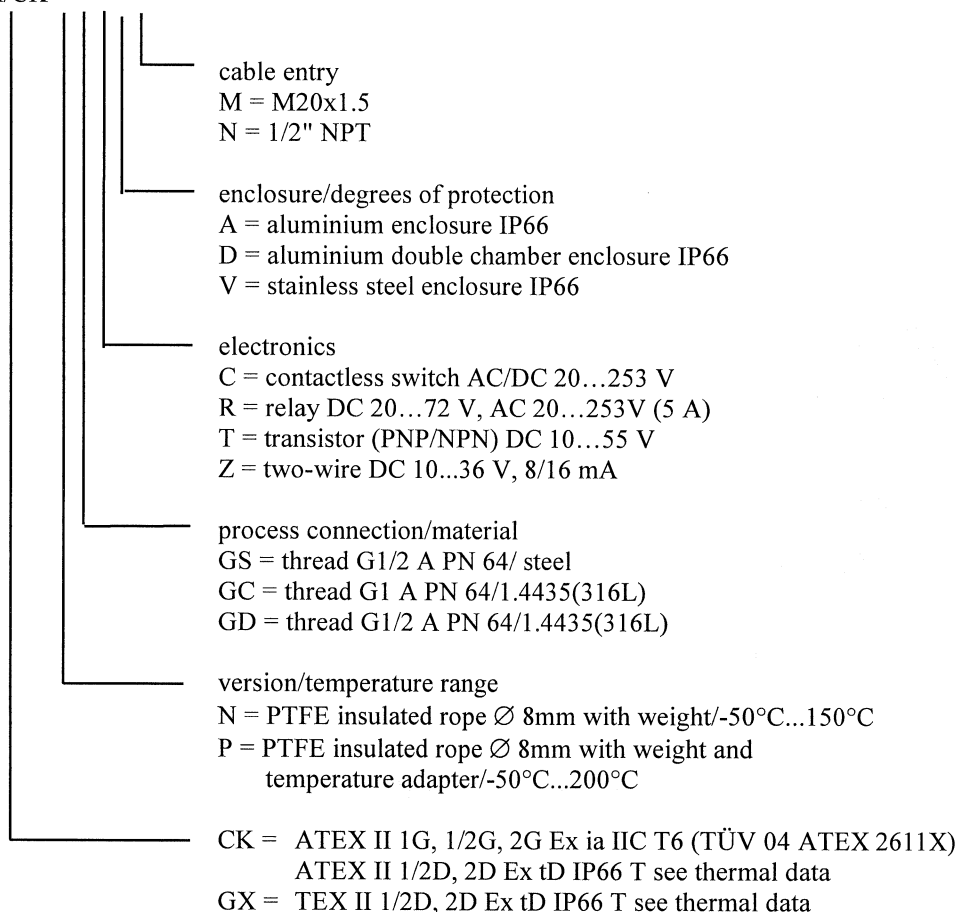
Capacitive level switch type VEGACAP

CP 65.GX/CK * * * * *

	cable entry M = M20x1.5 N = 1/2" NPT
	enclosure/degrees of protection A = aluminium enclosure IP66 D = aluminium double chamber enclosure IP66 V = stainless steel enclosure IP66
	electronics C = contactless switch AC/DC 20...253 V R = relay DC 20...72 V, AC 20...253V (5 A) T = transistor (PNP/NPN) DC 10...55 V Z = two-wire DC 10...36 V, 8/16 mA
	process connection/material GS = thread G1/2 A PN 64/steel GC = thread G1 A PN 64/1.4435(316L) GD = thread G1/2 A PN 64/1.4435(316L)
	Version / temperature range K = rope Ø 6mm/1.4401 with weight /-50°C...150°C U = rope Ø 6mm/1.4401 with weight + screening tube/-50°C...150°C L = rope Ø 6mm/1.4401 with weight and temperature adapter/-50°C...200°C V = rope Ø 6mm/1.4401 with weight + screening tube and temperature adapter/-50°C...200°C M = PA insulated rope Ø 11mm with weight /-50°C...80°C
	CK = ATEX II 1G, 1/2G, 2G Ex ia IIC T6 (TÜV 04 ATEX 2611X) ATEX II 1/2D, 2D Ex tD IP66 T see thermal data GX = ATEX II 1/2D, 2D EX tD IP66 T see thermal data

Capacitive level switch type VEGACAP

CP 66.GX/CK * * * * *



Parameters

Electrical data

Type VEGACAP CP 6*.GX**C** with electronics insert type CP60C built in	
supply (terminals 1, 2)	AC 20...253 V, 50/60 Hz or DC 20...253 V, max. 1W
output	contactless switch
standby current	< 3mA
load current	max. 400 mA

Separate version: Maximum length of the cable between the electronics enclosure and the probe enclosure: 10 m

Type VEGACAP CP 6*.GX**R** with electronics insert type CP60R built in supply (terminals 1, 2)

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

power

1...8VA, max. 1.6 W

relay circuit

terminals 3, 4, 5

max. AC 253 V, 3 A, 500 VA

terminals 6, 7, 8

max. DC 253 V, 1 A, 41 W

Separate version: Maximum length of the cable between the electronics enclosure and the probe enclosure: 10 m

Type VEGACAP CP 6*.GX**T** with electronics insert type CP60T built in supply (terminals 1, 4)

DC 10...55 V

power

max. 0,5 W

transistor output

(terminals 2, 3)

max. 400 mA, DC 55 V

Separate version: Maximum length of the cable between the electronics enclosure and the probe enclosure: 10 m

Type VEGACAP CP 6*.GX/CK**Z** with electronics insert type CP60Z built in

Supply and signal circuit
(terminals 1 [+], 2 [-] in the electronics
compartment or in the terminal
compartment regarding the
double chamber enclosure version)

in type of protection Intrinsic Safety Ex ia IIC
only for connection to a certified intrinsically safe
circuit with the following maximum values:

$U_i = 30 \text{ V}$

$I_i = 131 \text{ mA}$

$P_i = 983 \text{ mW}$

linear characteristics

L_i negligible

C_i negligible

Separate version: Maximum length of the cable between the electronics enclosure and the probe enclosure: 10 m

Thermal data

Permitted process temperature at the probe (category 1D or 2D)

Type VEGACAP CP 6*.*****

with PTFE-insulation

- 50 °C... + 150 °C

with PE/PA-insulation

- 40 °C... + 80 °C

with PTFE-insulation

high temperature-version

- 50 °C... + 200 °C

Permitted ambient temperature at the electronics enclosure (category 2D)

- 40 °C... + 60 °C

Maximum surface temperature at the probe (category 1D or 2D)

process temperature + 3K

Maximum surface temperature at the electronics enclosure (category 2D)
Type VEGACAP CP6*.GX/CK**Z**

ambient temperature + 15K

Type VEGACAP CP6*.GX**C/T/R
maximum surface temperature T with thermo fuse limited to 98 °C

Degrees of protection according to EN 60529 IP66

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

EN 61241-0:2006 General requirements
EN 61241-1:2004 Protection by enclosures

The marking of the equipment shall include the following:

Type VEGACAP CP 6*.CK**Z**

II 1/2D Ex tD A20/21 IP66 T see manual

II 2D Ex tD A21 IP66 T see manual



II 1G Ex ia IIC T6 or

II 1/2G Ex ia IIC T6 or

II 2G Ex ia IIC T6

Type VEGACAP CP 6*.GX**C/R/T/Z**



II 1/2D Ex tD A20/21 IP66 T see manual or

II 2D Ex tD A21 IP66 T see manual

Special conditions for safe use

Variants of the Capacitive probe type VEGACAP CP6*.GX/CK ***** as category 1G equipment for which aluminium is used shall be installed in such a way that sparking as a result of impact or friction is excluded.

The Capacitive probe type VEGACAP CP65/66.GX/CK***** as category 1G, 1/2 G, 1/2 D - equipment shall be installed in such a way that contact between the measuring sensor and the tank wall will be excluded with sufficient safety considering the tank installations and the flow conditions inside the tank.

Test and assessment report
BVS PP 04.2160 EG as of 08.07.2008

DEKRA EXAM GmbH

Bochum dated 08. July 2008

Signed: Dr. Eickhoff

Certification body

Signed: Schumann

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, 08. July 2008
BVS-Hk / Her A 20080169

DEKRA EXAM GmbH



Certification body



Special services unit

