



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

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

(3) EC-type-examination Certificate Number:

PTB 03 ATEX 2089 X



(4) Equipment: Microwave sensor, type series VEGAPULS PS6*.CX***P/F***
with integrated electronic assemblies PS60PA/FFC resp.
PS60PA/FFK

(5) Manufacturer: VEGA Grieshaber KG

(6) Address: Am Hohenstein 113, 77761 Schiltach, Germany

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

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

The examination and test results are recorded in the confidential report PTB Ex 03-23209.

(9) Compliance with the Essential Health and Safety Requirements has been assured by compliance with:
EN 50014:1997+A1+A2 EN 50020:2002 EN 50284:1999

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

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

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



II 1 G or II 1/2 G or II 2G

EEx ia IIC T6

Zertifizierungsstelle Explosionsschutz

By order:

Dr.-Ing. U. Johannsmeyer
Regierungsdirektor



Braunschweig, July 7, 2003

sheet 1/5

SCHEDULE

(13)

(14) **EC-TYPE-EXAMINATION CERTIFICATE PTB 03 ATEX 2089 X**

(15) Description of equipment

The microwave sensor, type series VEGAPULS PS6*.CX***P/F*** with integrated electronic assemblies PS60PA/FFC resp. PS60PA/FFK, are used for level measurement in potentially explosive atmospheres requiring category-1 or category-1/2 or category-2 equipment. The enclosure may be optionally fitted with the control and display module "A/B module" or "PLICSCOM" for either parameterization or visualization.

The pressure transducers consist of an electronics housing with the corresponding analyzing electronic system, the process connectors and the sensor.

Category-1 equipment

The microwave sensors are installed in potentially explosive atmospheres requiring category-1 equipment.

Category-1/2 equipment

The electronics housing is installed in potentially explosive atmospheres requiring category-2 equipment. The process connectors are installed in the partition separating areas requiring category-2 or category-1 equipment. The sensor is installed in the potentially explosive atmosphere for category-1 equipment.

Category-2 equipment

The microwave sensors are installed in potentially explosive atmospheres requiring category-2 equipment.

For the relationship between the temperature class and the maximum permissible temperature at the sensor and the maximum permissible ambient temperature for the electronic system, reference is made to the following table.

Category-1 equipment

temperature class	temperature at the sensor	ambient temperature for the electronic system
T5	-20 ... + 43 °C	-20 ... +43 °C
T4, T3, T2, T1	-20 ... + 60 °C	-20 ... +60 °C

For applications requiring category-1 equipment, the media process pressure has to be between 0.8 bar and 1.1 bar. The permissible ambient temperatures specified are based on the 80% rule in section 6.4.2 of EN 1127-1. For the process conditions without explosive mixtures, reference shall be made to the specifications provided by the manufacturer.

sheet 2/5

Category-1/2 equipment

temperature class	temperature at the sensor	ambient temperature for the electronic system
T6	-20 ... + 60 °C	-40 ... +47 °C
T5	-20 ... + 60 °C	-40 ... +62 °C
T4, T3, T2, T1	-20 ... + 60 °C	-40 ... +85 °C

For applications requiring category-1/2 equipment, the media process pressure has to be between 0.8 bar and 1.1 bar. For the process conditions without explosive mixtures, reference shall be made to the specifications provided by the manufacturer

Category-2 equipment

temperature class	temperature at the sensor	ambient temperature for the electronic system
T6	-50 ... + 85 °C	-40 ... +47 °C
T5	-50 ... + 100 °C	-40 ... +62 °C
T4	-50 ... +135 °C	-40 ... +85 °C
T3	-50 ... +200 °C	-40 ... +85 °C
T2	-50 ... +300 °C	-40 ... +85 °C
T1	-50 ... +400 °C	-40 ... +85 °C

For the permissible operating temperatures and pressures, reference shall be made to the specifications provided by the manufacturer.

Electrical data

Supply and signal circuit
(terminals 1 [+], 2 [-] in the
compartment,
for the 2-cell enclosure
version in the terminal compartment)

category 1 respectively category 1/2

Type of protection Intrinsic Safety EEx ia IIC/IIB

category 2

Type of protection Intrinsic Safety EEx ia IIC/IIB
resp. EEx ib IIC/IIB

For connection to a certified intrinsically safe circuit.

Maximum values:

$U_i = 17.5 \text{ V}$

$I_i = 500 \text{ mA}$

$P_i = 5.5 \text{ W}$

The equipment is suitable for the connection to a field bus system according to the FISCO model, e.g. PROFIBUS-PA or Foundation Fieldbus.

or

$U_i = 24 \text{ V}$
 $I_i = 250 \text{ mA}$
 $P_i = 1.2 \text{ W}$

C_i negligibly low
 $L_i \leq 5 \text{ } \mu\text{H}$

Control and display circuit
(terminals Nos. 5,6,7,8 in the
electronics compartment or plug
connector for the 2-cell enclosure
version)

Type of protection Intrinsic Safety EEx ia IIC
For connection to the intrinsically safe
supply and signal circuit of the corresponding
external VEGA display unit VEGADIS61
(PTB 02 ATEX 2136 X)

The rules for interconnection of intrinsically safe
circuits between the microwave sensors, type series
VEGAPULS and the external VEGADIS61 display
unit are complied with if the total inductance and
capacitance of the connecting line between
microwave sensors, type series VEGAPULS and the
external VEGADIS61 display unit ($L_{\text{Kabel}} = 96 \text{ } \mu\text{H}$
and $C_{\text{Kabel}} = 2.8 \text{ } \mu\text{F}$) is not exceeded.

A control and display module (A/B module or
PLICSCOM) installed in the microwave sensors,
type series VEGAPULS and a connected
VEGACONNECT3 have been considered.

Communication circuit
(I²C-bus socket in the electronics
compartment, for the 2-cell enclosure
version in additionally the terminal
compartment)

Type of protection Intrinsic Safety EEx ia IIC
For connection to the intrinsically safe
signal circuit of a VEGA VEGACONNECT3
interface converter (PTB 01 ATEX 2007).

Control and display module circuit
(spring contacts in the electronics
compartment, for the 2-cell enclosure
version in additionally the terminal
compartment)

Type of protection Intrinsic Safety EEx ia IIC
For connection to the VEGA control and
display module (A/B module or PLICSCOM)
With the 2-cell-enclosure version the operating
and display module may either be fitted in the
electronics compartment or in the terminal
compartment.

The metal elements of the microwave sensors are electrically connected to the earth terminals.

The intrinsically safe circuits are safely electrically isolated from elements that may be earthed.

(17) Special conditions for safe use

1. The microwave sensor, type series VEGAPULS PS6*.CX***P/F*** with integrated electronic assemblies PS60PA/FFC resp. PS60PA/FFK, which include the material aluminium, 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 microwave sensors with plastic enclosure, parts of enclosures out of plastic and also the sensors include surfaces that can become charged electrostatically (note warning label).
3. The microwave sensors shall be installed in such a way that impact of the sensor to the tank wall can be excluded with sufficient safety considering the tank installations and the flow conditions inside the tank. This applies, in particular, to sensors which are more than 3 m long.

(18) Essential health and safety requirements

met by compliance with the standards mentioned above

Zertifizierungsstelle Explosionsschutz
By order:

Dr.-Ing. U. Johannsmeyer
Regierungsdirektor



Braunschweig, July 7, 2003


1. SUPPLEMENT

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

to EC-TYPE-EXAMINATION CERTIFICATE PTB 03 ATEX 2089 X

(Translation)

Equipment: Microwave sensor, type series VEGAPULS PS6*.CX***P/F***
with integrated electronic assemblies PS60PA/FFC resp. PS60PA/FFK

Marking:  II 1 G or 1/2 G or II 2G EEx ia IIC T6

Manufacturer: VEGA Grieshaber KG

Address: Am Hohenstein 113, 77761 Schiltach, Germany

Description of supplements and modifications

The name of the microwave sensors type series VEGAPULS PS6*.CX***P/F*** with integrated electronic assembly PS60PA/FFC or PS60PA/FFK is changed into radar sensors VEGAPULS PS6*.CX***P/F*** or PS6*.C_***P/F***. Furthermore the type series VEGAPULS are extended for the type series PS61/62/63. CX/C_***K*** and PS61/62/63. CX/C_***L***. In the radar sensors VEGAPULS type series PS61/62/63. CX/C_***K*** the electronic assembly PS60PAS and in the radar sensors VEGAPULS type series PS61/62/63. CX/C_***L*** the electronic assembly PS60FFS is used.

Other changes concern the internal and the external construction, the electrical data, a version of the type series VEGAPULS PS6*.CX/C_***K/L/P/F3/4/5*** with cable tail for the use with the Entity Concept as well as the relationship between the temperature class and the maximum permissible temperature at the sensor and the maximum permissible ambient temperature for the electronic system and the "Special Conditions".

For the relationship between the temperature class and the maximum permissible temperature at the sensor and the maximum permissible ambient temperature for the electronic system, reference is made to the following table.

Radar-sensors type series VEGAPULS PS6*.CX*P/F*** or PS6*.C_***P/F*****

Category-1 equipment

temperature class	temperature at the sensor	ambient temperature for the electronic system
T5	-20 ... + 43 °C	-20 ... +43 °C
T4, T3, T2, T1	-20 ... + 60 °C	-20 ... +60 °C

1. SUPPLEMENT TO EC-TYPE-EXAMINATION CERTIFICATE PTB 03 ATEX 2089 X

For applications requiring category-1 equipment, the media process pressure has to be between 0.8 bar and 1.1 bar. The permissible ambient temperatures specified are based on the 80 % rule in section 6.4.2 of EN 1127-1.

For the process conditions without explosive mixtures, reference shall be made to the specifications provided by the manufacturer.

Category-1/2 equipment

temperature class	temperature at the sensor	ambient temperature for the electronic system
T6	-20 ... + 60 °C	-40 ... +47 °C
T5	-20 ... + 60 °C	-40 ... +62 °C
T4, T3, T2, T1	-20 ... + 60 °C	-40 ... +85 °C

For applications requiring category-1 equipment, the media process pressure has to be between 0.8 bar and 1.1 bar.

When the sensors of the VEGAPULS PS6*.*** are operated with higher temperatures than indicated in the table above, it shall be guaranteed by suitable measures that no ignition hazard is caused by such hot surfaces. In this case the temperature at the electronics housing shall not exceed the respective values of the table above.

For the process conditions without explosive mixtures, reference shall be made to the specifications provided by the manufacturer

Category-2 equipment

temperature class	temperature at the sensor	ambient temperature for the electronic system
T6	-60 ... + 85 °C	-40 ... +47 °C
T5	-60 ... +100 °C	-40 ... +62 °C
T4*	-60 ... +135 °C	-40 ... +85 °C
T3*	-60 ... +200 °C	-40 ... +85 °C
T2*	-60 ... +300 °C	-40 ... +85 °C
T1*	-60 ... +400 °C	-40 ... +85 °C

*from 130 °C with temperature distance piece

When the sensors of the VEGAPULS PS6*.*** are operated with higher temperatures than indicated in the table above, it shall be guaranteed by suitable measures that no ignition hazard is caused by such hot surfaces. In this case the temperature at the electronics housing shall not exceed the respective values of the table above.

For the permissible operating temperatures and pressures, reference shall be made to the specifications provided by the manufacturer.

1. SUPPLEMENT TO EC-TYPE-EXAMINATION CERTIFICATE PTB 03 ATEX 2089 X

Radar-sensors type series VEGAPULS PS61/62/63.CX*K/L*** or PS61/62/63.C_***K/L*****

Category-1 equipment

temperature class	temperature at the sensor	ambient temperature for the electronic system
T4	-20 ... + 54 °C	-20 ... +54 °C
T3, T2, T1	-20 ... + 60 °C	-20 ... +60 °C

For applications requiring category-1 equipment, the media process pressure has to be between 0.8 bar and 1.1 bar. The permissible ambient temperatures specified are based on the 80% rule in section 6.4.2 of EN 1127-1.

For the process conditions without explosive mixtures, reference shall be made to the specifications provided by the manufacturer.

Category-1/2 equipment

temperature class	temperature at the sensor	ambient temperature for the electronic system
T5	-20 ... + 60 °C	-40 ... +45 °C
T4	-20 ... + 60 °C	-40 ... +80 °C
T3, T2, T1	-20 ... + 60 °C	-40 ... +85 °C

For applications requiring category-1 equipment, the media process pressure has to be between 0.8 bar and 1.1 bar.

When the sensors of the VEGAPULS PS6*.*** are operated with higher temperatures than indicated in the table above, it shall be guaranteed by suitable measures that no ignition hazard is caused by such hot surfaces. In this case the temperature at the electronics housing shall not exceed the respective values of the table above.

For the process conditions without explosive mixtures, reference shall be made to the specifications provided by the manufacturer.

Category-2 equipment

temperature class	temperature at the sensor	ambient temperature for the electronic system
T5	-60 ... +100 °C	-40 ... +45 °C
T4*	-60 ... +135 °C	-40 ... +80 °C
T3, T2, T1*	-60 ... +200 °C	-40 ... +85 °C

*from 130 °C with temperature distance piece

1. SUPPLEMENT TO EC-TYPE-EXAMINATION CERTIFICATE PTB 03 ATEX 2089 X

When the sensors of the VEGAPULS PS6*.*** are operated with higher temperatures than indicated in the table above, it shall be guaranteed by suitable measures that no ignition hazard is caused by such hot surfaces. In this case the temperature at the electronics housing shall not exceed the respective values of the table above.

For the permissible operating temperatures and pressures, reference shall be made to the specifications provided by the manufacturer.

Electrical data

Supply and signal circuit
(terminals 1 [+], 2 [-] in the
compartment,
for the 2-cell enclosure
version in the terminal compartment)

Category 1 or Category 1/2

in type of protection Intrinsic Safety EEx ia IIC/IIB

Category 2

in type of protection Intrinsic Safety EEx ia IIC/IIB
or EEx ib IIC/IIB

For connection to a certified intrinsically safe
circuit.

Maximum values:

$$U_i = 17.5 \text{ V}$$

$$I_i = 500 \text{ mA}$$

$$P_i = 5.5 \text{ W}$$

C_i negligibly low

$$L_i \leq 5 \mu\text{H}$$

The equipment is suitable for the connection to a field
bus system according to FISCO (IEC 60079-27), e.g.
PROFIBUS-PA or Foundation Fieldbus.

or

$$U_i = 24 \text{ V}$$

$$I_i = 250 \text{ mA}$$

$$P_i = 1.2 \text{ W}$$

C_i negligibly low or in the version VEGAPULS
PS6*.CX/C_***K/L/P/F3/4/5***

$$C_{i \text{ core/core}} = 58 \text{ pF/m}, C_{i \text{ core/screen}} = 270 \text{ pF/m}$$

$L_i \leq 5 \mu\text{H}$, in the version VEGAPULS

PS6*.CX/C_***K/L/P/F3/4/5*** additional

$$L_i' = 55 \mu\text{H/m}$$

Control and display circuit
(terminals Nos. 5,6,7,8 in the
electronics compartment or plug
connector for the 2-cell enclosure
version)

Type of protection Intrinsic Safety EEx ia IIC
For connection to the intrinsically safe
supply and signal circuit of the corresponding
external VEGA display unit VEGADIS61
(PTB 02 ATEX 2136 X).

1. SUPPLEMENT TO EC-TYPE-EXAMINATION CERTIFICATE PTB 03 ATEX 2089 X

The rules for interconnection of intrinsically safe circuits between the radar sensors, type series VEGAPULS and the external VEGADIS61 display unit are complied with if the total inductance and capacitance of the connecting line between radar sensors, type series VEGAPULS and the external VEGADIS61 display unit ($L_{\text{cable}} = 100 \mu\text{H}$ and $C_{\text{cable}} = 2.8 \mu\text{F}$) is not exceeded.

A control and display module (A/B module or PLICSCOM) installed in the radar sensors, type series VEGAPULS and a connected VEGACONNECT3 have been considered.

Communication circuit
(I²C-bus socket in the electronics compartment, additionally for the 2-cell-enclosure version in the terminal compartment)

Type of protection Intrinsic Safety EEx ia IIC
For connection to the intrinsically safe signal circuit of a VEGA interface converter VEGACONNECT3 (PTB 01 ATEX 2007).

Control and display module circuit
(spring contacts in the electronics compartment, additionally for the 2-cell-enclosure version in the terminal compartment)

Type of protection Intrinsic Safety EEx ia IIC
For connection to the VEGA control and display module (A/B module or PLICSCOM)
With the 2-cell-enclosure version the operating and display module may either be fitted in the electronics compartment or in the terminal compartment.

The metal elements of the radar sensors are electrically connected to the earth terminals.
The intrinsically safe circuits are safely electrically isolated from elements that may be earthed.

All other specifications remain without changes.

Special conditions for safe use

1. The radar sensors type series VEGAPULS PS6*.*** which include the material aluminium, 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 radar sensors with plastic enclosure, with metal enclosure with display window, with parts of enclosures out of plastic as well as sensors include surfaces that can become charged electrostatically (note warning label).

1. SUPPLEMENT TO EC-TYPE-EXAMINATION CERTIFICATE PTB 03 ATEX 2089 X

3. The radar sensors in the versions with standpipe or antenna extension shall be installed in such a way that contact between the antenna and the tank wall will be excluded with sufficient safety, considering the tank installations and the flow conditions inside the tank.
4. When used as category-1 or category-1/2 equipment, the radar sensors shall be connected to the equipotential bonding conductor (contact resistance $\leq 1\text{M}\Omega$) (e.g. using the earthing terminal) in order to prevent metal elements from being charged electrostatically.
5. For applications where equipment of category 1 or category 1/2 is required, all parts of the radar sensors which are in contact with the medium must only be used in such media, against which they are sufficiently resistant.
6. With the radar sensors in the execution with ball valve it is to be made certain that before the separation of the flange connection the ball valve is locked.
7. With the radar sensors in the execution with flushing connector it is to be made certain that using the radar sensors as an apparatus of category 1/2 the degree of protection IP 67 at the connection to the check valve is guaranteed. After removing the check valve or the flushing system at the check valve, the opening with a suitable plug is to be locked in such a way, that the degree of protection IP 67 is kept.

Test report: PTB Ex 05-25326

Zertifizierungsstelle Explosionsschutz

By order:

Dr.-Ing. U. Johannsmeyer
Direktor und Professor



Braunschweig, December 19, 2005


2. SUPPLEMENT

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

to EC-TYPE-EXAMINATION CERTIFICATE PTB 03 ATEX 2089 X

(Translation)

Equipment: Radar sensors type series VEGAPULS PS6*.CX/C_***K/L/P/F***

Marking:  II 1 G or 1/2 G or II 2G EEx ia IIC T6

Manufacturer: VEGA Grieshaber KG

Address: Am Hohenstein 113, 77761 Schiltach, Germany

Description of supplements and modifications

The radar sensors type series VEGAPULS PS63.CX/C_***K/L/P/F*** (Execution for operating at process temperatures to -170°C) may be operated as a category 2-equipment also according to the following tables:

Radar sensors type series VEGAPULS PS63.CX/C_***K/L/P/F*** (Execution for operating at process temperatures to -170°C)

temperature class	temperature at the sensor	ambient temperature for the electronic system
T5	-170 ... +100°C	-40 ... +45°C
T4	-170 ... +135°C	-40 ... +80°C
T3, T2, T1	-170 ... +150°C	-40 ... +85°C

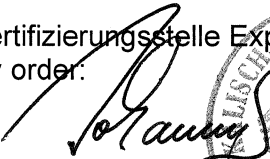
When the sensors of the VEGAPULS PS63.CX/C_***K/L/P/F*** (Execution for operating at process temperatures to -170°C) are operated with higher temperatures than indicated in the table above, it shall be guaranteed by suitable measures that no ignition hazard is caused by such hot surfaces. In this case the temperature at the electronics housing shall not exceed the respective values of the table above.

For the permissible operating temperatures and pressures, reference shall be made to the specifications provided by the manufacturer.

All other specifications remain without changes.

Test report: PTB Ex 06-26254

Zertifizierungsstelle Explosionsschutz
By order:


Dr.-Ing. U. Johannsmeyer
Direktor und Professor

Braunschweig, November 06, 2006

Sheet 1/1


3. SUPPLEMENT

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

to EC-TYPE-EXAMINATION CERTIFICATE PTB 03 ATEX 2089 X

(Translation)

Equipment: Radar sensors type series VEGAPULS PS6*.CX/C_***K/L/P/F***

Marking:  II 1 G or 1/2 G or II 2 G EEx ia IIC T6

Manufacturer: VEGA Grieshaber KG

Address: Am Hohenstein 113, 77761 Schiltach, Germany

Description of supplements and modifications

Applied standards

EN 60079-0:2006

EN 60079-11:2007

EN 60079-26:2007

The name of the radar sensors type series VEGAPULS PS6*.CX/C_***K/L/P/F*** is changed into radar sensors type series VEGAPULS PS6*.C^(*)***K/L/P/F***. They are also made and operated according to the test documents listed under 3 of the test report.

Type list:

VEGAPULS PS61.C****K/L/P/F****

VEGAPULS PS62.C*****K/L/P/F****

VEGAPULS PS63.C****K/L/P/F****

VEGAPULS PS65.C****P/F****

VEGAPULS PS66.C*****P/F****

The changes concern the application of the above mentioned standards, the external construction (stainless steel forming housing and a second pressure compensation element), the internal construction, the electrical data and the marking.

The marking changes as follows:

 II 1 G or 1/2 G or II 2 G Ex ia IIC T6

Sheet 1/3

3. SUPPLEMENT TO EC-TYPE-EXAMINATION CERTIFICATE PTB 03 ATEX 2089 X

Electrical data

Supply and signal circuit
(terminals 1 [+], 2 [-] in the electronic
compartment, for the 2-cell enclosure version
in the terminal compartment)

Category 1 or Category 1/2

in type of protection Intrinsic Safety Ex ia IIC/IIB

Category 2

in type of protection Intrinsic Safety Ex ia IIC/IIB
or Ex ib IIC/IIB

For connection to a certified intrinsically safe circuit.

Maximum values:

$$U_i = 17.5 \text{ V}$$

$$I_i = 500 \text{ mA}$$

$$P_i = 5.5 \text{ W}$$

C_i negligibly low

$$L_i \leq 5 \mu\text{H}$$

The equipment is suitable for the connection to a
field bus system according to FISCO (IEC 60079-
27), e.g. PROFIBUS-PA or Foundation Fieldbus.

or

$$U_i = 24 \text{ V}$$

$$I_i = 250 \text{ mA}$$

$$P_i = 1.2 \text{ W}$$

C_i negligibly low or in the version VEGAPULS

$$\text{PS6}^*.\text{C}^{(*)*****3/4/5/9***}$$

$$C'_{i \text{ core/core}} = 58 \text{ pF/m}, C'_{i \text{ core/screen}} = 270 \text{ pF/m}$$

$$L_i \leq 5 \mu\text{H}, \text{ in the version VEGAPULS}$$

$$\text{PS6}^*.\text{C}^{(*)*****3/4/5/9***} \text{ additional } L_i' = 55 \mu\text{H/m}$$

Control and display circuit
(terminals Nos. 5,6,7,8
in the electronic compartment or plug
connector for the 2-cell enclosure version)

type of protection Intrinsic Safety Ex ia IIC

Only for connection to the intrinsically safe supply
and signal circuit of the external VEGADIS61.

The rules for interconnection of intrinsically safe
circuits between the radar sensors VEGAPULS
PS6*.*.* and the external VEGADIS61 display unit
are complied with if the total inductance and
capacitance of the connecting line between the radar
sensors VEGAPULS PS6*.*.* and VEGADIS61
($L_{\text{cable}} = 100 \mu\text{H}$ and $C_{\text{cable}} = 2.8 \mu\text{F}$) is not exceeded.
A control and display module installed in the
VEGAPULS type series PS6*.*.* and a connected
VEGACONNECT have been considered.

$L_i' = 0,62 \mu\text{H/m}$
 $C_{i' \text{ core/core}} = 132 \text{ pF/m}$
 $C_{i' \text{ core/screen}} = 208 \text{ pF/m}$
 $C_{i' \text{ screen/screen}} = 192 \text{ pF/m}$

type of protection Intrinsic Safety Ex ia IIC
Only for connection to the VEGA control and display
module (PLICSCOM).
With the 2-cell-enclosure version the operating and
display module may either be fitted in the electronics
compartment or in the terminal compartment.

Dr.-Ing. U. Johannsmeyer
Direktor und Professor



