



Safety instructions VEGASWING 61, 63

Protection by enclosure

BVS 04 ATEX E 205 X

Two-wire

NAMUR



CE 0044



Document ID: 50810



VEGA

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Supplementary documentation:

- Operating Instructions VEGASWING 61, 63
- EU type approval certificate BVS 04 ATEX E 205 X, Supplement 03 (Document ID: 50811)

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DE	Sicherheitshinweise für den Einsatz in explosionsgefährdeten Bereichen
EN	Safety instructions for the use in hazardous areas
FR	Consignes de sécurité pour une application en atmosphères explosibles
IT	Normative di sicurezza per l'impiego in luoghi con pericolo di esplosione
ES	Instrucciones de seguridad para el empleo en áreas con riesgo de explosión
PT	Normas de segurança para utilização em zonas sujeitas a explosão
NL	Veiligheidsaanwijzingen voor gebruik op plaatsen waar ontploffingsgevaar kan heersen
SV	Säkerhetsanvisningar för användning i explosionsfarliga områden
DA	Sikkerhedsforskrifter til anvendelse i explosionsfarlig atmosfære
FI	Turvallisuusohjeet räjähdysvaarallisissa tiloissa käyttöä varten
EL	Υποδείξεις ασφαλείας για τη χρησιμοποίηση σε περιοχές που υπάρχει κίνδυνος έκρηξης

DE	Die vorliegenden Sicherheitshinweise sind im Download unter www.vega.com standardmäßig in den Sprachen deutsch, englisch, französisch und spanisch verfügbar. Weitere EU-Landessprachen stellt VEGA nach Anforderungen zur Verfügung.
EN	These safety instructions are available as a standard feature in the download area under www.vega.com in the languages German, English, French and Spanish. Further EU languages will be made available by VEGA upon request.
FR	Les présentes consignes de sécurité sont disponibles au téléchargement sous www.vega.com en standard en allemand, en anglais, en français et en espagnol. VEGA met à disposition d'autres langues de l'Union Européenne selon les exigences.
ES	Las indicaciones de seguridad presentes están disponibles en la zona de descarga de www.vega.com de forma estándar en los idiomas inglés, francés y español. VEGA pone a disposición otros idiomas de la UE cuando son requeridos.

1 Area of applicability

These safety instructions apply to the vibrating level switches SWING61/63.GX/CK*****Z/N/W** according to EU type approval certificate BVS 04 ATEX E 205 X, Supplement 03 (certificate number on the type label) and for all instruments with the number of the safety instruction (50810) on the type label.

2 General information

SWING61/63.GX/CK*****Z/N/W** consist of a metal sensor, a process connection element and a processing unit in a powder-coated Aluminium or stainless steel housing.

The SWING61/63.GX/CK*****Z/N/W** are used for monitoring or control also in areas with combustible, dust-generating bulk solids requiring instruments of category 1/2D or 2D.

If the SWING61/63.GX/CK*****Z/N/W** are installed and operated in hazardous areas, the general Ex installation regulations EN 60079-14 as well as these safety instructions must be observed.

The operating instructions as well as the installation regulations or standards that apply for explosion protection of electrical systems must generally be observed.

The installation of explosion-endangered systems must always be carried out by qualified personnel.

The requirements of EN 60079-31 e.g. with respect to dust and temperatures must be fulfilled.

Category 1/2D instruments

The electronics housing is installed in hazardous areas requiring instruments of category 2D. The process connection element is installed in the separating wall, which separates areas requiring instruments of category 2D or 1D. The antenna system with the mechanical fixing element is installed in hazardous areas requiring instruments of category 1D.

Category 2D instruments

The SWING61/63.GX/CK*****Z/N/W** are installed in hazardous areas requiring an instrument of category 2D.

Tested according to the following applied standards:

EN 60079-0: 2012 + A11: 2013

EN 60079-31: 2014

Ignition protection label

CK: II 1G, 1/2G, 2G Ex ia IIC T6 Ga, Ga/Gb, Gb

CK, GX: II 1/2D, 2D Ex ta/tb, tb IIIC T... Da/Db, Db IP66

Important specification in the type code

VEGASWING SG61/63(*).abcdefghijkl

Position		Feature	Description
ab	Approval	CK	ATEX II 1G, 1/2G, 2G Ex ia IIC T6 Ga, Ga/Gb, Gb ATEX II 1/2D, 2D Ex ta/tb, tb IIIC T... Da/Db, Db IP66
		GX	ATEX II 1/2D, 2D Ex ta/tb, tb IIIC T... Da/Db, Db IP66
cde	Process fitting / Material	**	Process fittings acc. to industry standard

Position		Feature	Description
f	Adapter / Process temperature	X	without / -40 ... +150 °C
		T	with / -50 ... +250 °C
		H	with / -50 ... +200 °C with enamel coating
		G	without adapter, gas-tight leadthrough / -50 ... +150 °C
		D	with adapter, gas-tight leadthrough / -50 ... +250 °C
g	Housing / Protection / Cable gland	M	Aluminium single chamber / IP 66/IP 67 / M20 x 1,5
		7	Special colour Aluminium single chamber / IP 66/IP 67 / M20 x 1,5
		U	Aluminium single chamber / IP 66/IP 67 / ½ NPT
		4	Special colour Aluminium single chamber / IP 66/IP 67 / ½ NPT
		V	Stainless steel single chamber (precision casting) / IP 66/IP 67 / M20 x 1,5
		A	Stainless steel single chamber (precision casting) / IP 66/IP 67 / ½ NPT
		*	Further housings with suitable plug connectors and special colours
h	Electronics	Z	Two-wire (8/16 mA) 12 ... 36 V DC
		N	NAMUR signal
		W	NAMUR signal (250 ms)
i	Switching point	X	Standard
		L	with extended switching point
j	Measurement loop identification label	*	

3 Technical data

Electrical data

VEGASWING SWING6*.GX/CK*****Z** with intrinsically safe electronics module SWING E60ZEX

Power supply and signal circuit: (terminals 1[+], 2[-])

In type of protection intrinsic safety Ex ia IIC
Only for connection to a certified, intrinsically safe circuit.

Maximum values:

- $U_i = 29 \text{ V}$
- $I_i = 116 \text{ mA}$
- $P_i = 841 \text{ mW}$

or

- $U_i = 24 \text{ V}$
- $I_i = 131 \text{ mA}$
- $P_i = 786 \text{ mW}$

The effective internal capacitance C_i is negligibly small.

The effective internal inductance L_i is negligibly small.

The intrinsically safe circuits are electrically separated from parts which can be grounded.

The metallic parts of SWING61/63.GX/CK*****Z/N/W** are electrically connected with the internal

and external earth terminal.

VEGASWING SWING6*.GX/CK***N/W** with intrinsically safe electronics module SWING E60NEX**

Power supply and signal circuit: (terminals 1[+], 2[-])	In type of protection intrinsic safety Ex ia IIC Only for connection to a certified, intrinsically safe circuit. Maximum values: <ul style="list-style-type: none"> • $U_i = 20\text{ V}$ • $I_i = 103\text{ mA}$ • $P_i = 516\text{ mW}$
	The effective internal capacitance C_i is negligibly small. The effective internal inductance L_i is negligibly small.

4 Application conditions

Permissible ambient temperatures

On the sensor, category 1D or 2D

SWING61/63.GX/CK*****Z/N/W**	-40 ... +150 °C
In the high temperature version with temperature adapter	-50 ... +250 °C

On the electronics housing, category 2D

SWING61/63.GX/CK*****Z/N/W**	-40 ... +60 °C
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Surface temperature increases

On the sensor, category 1D or 2D

SWING61/63.GX/CK*****Z/N/W**	Process temperature +6 K
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On the electronics housing, category 2D

SWING61/63.GX/CK*****Z/N/W**	Ambient temperature +13 K
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The max. surface temperature of the instrument with which the hazardous dust atmosphere can come into contact, **is the higher** of the two specified surface temperatures on the electronics housing or the sensor/antenna.

Permissible operating pressure on the sensor

The process pressure during operation in hazardous atmosphere must be between 0.8 ... 1.1 bar. The permissible combinations of pressure and temperatures without hazardous atmospheres are mentioned in the manufacturers' instructions (the operating instructions manuals).

Protection rating

On the housing, category 2D	IP 66
On the sensor, category 1D or 2D	IP 68

5 Installation/construction

The SWING61/63.GX/CK*****Z/N/W**** must be mounted in a way that adequately ensures that the sensor tube will not bend due to the movements of other installations or the medium in the vessel.

6 Material resistance

The SWING61/63.GX/CK*****Z/N/W** must only be used in media against which the materials of the wetted parts are sufficiently resistant.

The min. fatigue strength of the vibrating element is 8.6×10^{11} load changes with a max. amplitude of $7.5 \mu\text{m}$. The lifetime is minimum 20 years.

7 Grounding

The SWING61/63.GX/CK*****Z/N/W** must be grounded.

8 Locking mechanism of housing cover

For the aluminium and stainless steel housing the lid has to be screwed into the stop and secured by screwing out one of the lid locking screws before setup of the instrument.

9 Installation with lock fitting

The SWING61/63.GX/CK*****Z/N/W** in the version with lock fitting have to be mounted such, that protection class IP 67 is maintained after installation and locking of the extension tube.

10 Cable entries

The supplied cable entry is suitable for the housing temperature range mentioned in the EU type approval certificate SWING61/63.GX/CK*****Z/N/W**.

Cable entries may only be replaced by the same type or by separately ATEX certified cable entries with at least IP 66. If another cable entry is used, the separately certified cable entry determines the max. permissible ambient temperature on the housing (maximum values: $-40 \dots +73 \text{ }^\circ\text{C}$).

11 Electrostatic charging (ESD)

In case of instrument versions with electrostatically chargeable plastic parts, the danger of electrostatic charging and discharging must be taken into account!

The following parts can charge and discharge:

- Lacquered housing version or alternative special lacquering
- Plastic housing, plastic housing parts
- Metal housing with inspection window
- Plastic process fittings
- Plastic-coated process fittings and/or plastic-coated sensors
- Connection cable for separate versions
- Type label
- Isolated metallic labels (measuring point identification plate)

Take note in case of danger of electrostatic charges:

- Avoid friction on the surfaces
- Do not dry clean the surfaces

The instruments must be mounted/installed in such a way that the following can be ruled out:

- electrostatic charges during operation, maintenance and cleaning.
- process-related electrostatic charges, e.g. by measuring media flowing past

The warning label indicates danger:

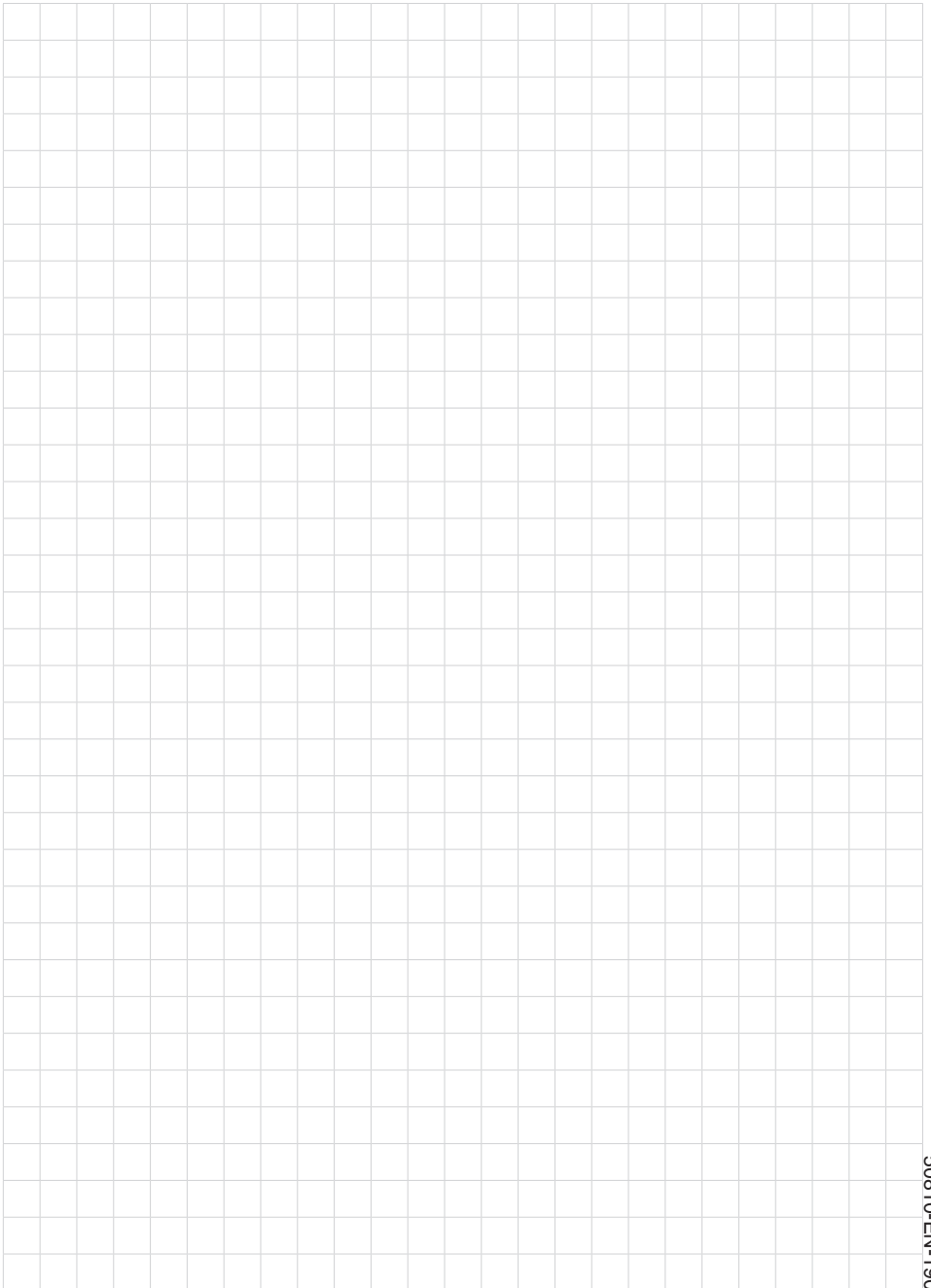
WARNING - POTENTIAL ELECTROSTATIC
CHARGING HAZARD - SEE INSTRUCTIONS

Non-grounded, metallic parts

Resistance between aluminium housing to metal measuring point identification plate is $> 10^9$ Ohm.

The capacitance of the metal measuring point identification plate was measured with 15 pF.







Printing date:

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All statements concerning scope of delivery, application, practical use and operating conditions of the sensors and processing systems correspond to the information available at the time of printing.

Subject to change without prior notice

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