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GOVERNMENT APPROVED TEST LABORATORY

IN TERMS OF ARP 0108: "REGULATORY REQUIREMENTS FOR EXPLOSION PROTECTED APPARATUS"

IA CERTIFICATE

Date Issued: **13 Sep 2024**
*Expiry date: **13 Sep 2027**

Issue: 2

Ex – Type Examination Certificate

Certificate Number: **S-XPL/090937 X**
Equipment: **Vibrating level switch**
Model / Type: **VEGASWING SG66(*).I E * ** * * * * * and/or VEGASWING SG66(*).A E * ** * * * * ***
Applicant: **Vega Instruments (Pty) Ltd**
PO Box 692
Wilgeheuwels
1736
Manufacturer: **VEGA Grieshaber KG**
Serial No: All serial numbers imported between issued- and expire date and all serial numbers covered by a valid report or acceptable product certification mark.

Supplied by
Vega Instruments (Pty) Ltd
Identified by Inspection Authority Number
S-XPL/090937 X

And as described in the Explolabs file number **XPL/10628/090937** is hereby certified "Explosion Protected (Refer to clause 1, for Ex Rating)", having been examined and inspected in accordance with the relevant requirements of the South African National Standards.

SANS 60079-0: 2019 Ed 6 **IEC 60079-0: 2017 Ed 7**	Explosive atmospheres Part 0: Equipment — General requirements
SANS 60079-1: 2015 Ed 5 **IEC 60079-1: 2014 Ed 7**	Explosive atmospheres Part 1: Equipment protection by flameproof enclosures "d"
IEC/SANS 60079-26: 2021	Explosive atmospheres – Part 26: Equipment with equipment protection level (EPL) Ga

Risk of ignition provided:

Protection afforded	Equipment Protection Level (EPL) Group	Performance of protection	Conditions of operation	T class or Max Surface Temp (°C)
Very high	Ga Group II	Two independent means of protection or safe even when two faults occur independently of each other	Equipment remains functioning in zones 0, 1 and 2	T6 (85°C) … T1 (450°C)
High	Gb Group II	Suitable for normal operation and frequently occurring disturbances or equipment where faults are normally taken into account	Equipment remains functioning in zones 1 and 2	T6 (85°C) … T1 (450°C)

This certificate supersedes all previous documents bearing the reference no XPL/10628/090937 Issue 1.

1. GENERAL

The marking of the Vibrating level switch shall include the following:
Ex db IIC T6…T1 Ga/Gb or
Ex db IIC T6…T1 Gb

Description

Vibrating level switch type VEGASWING is used for level monitoring or regulating in explosive atmospheres. It consists of a metal enclosure with built in electronics and a vibrating fork as sensor.

The Vibrating level switch for use as EPL Ga/Gb equipment is intended to be mounted in a forming part of the boundary wall to Zone 0. In such a case the sensor is situated in Zone 0 whereas the electronics enclosure is situated in Zone 1.

The thickness of the pipe and vibrating fork is > 1 mm and fulfils the mechanical requirements for an equipment which is mounted through the wall to an area requiring EPL Ga.

Subject and Type

Vibrating level switch type VEGASWING
SG66(*).* * * ** * * * *

- Further criteria, without relevance for explosion protection
- Cable entry/connection
- Enclosure
  A = aluminium-enclosure
  V = stainless steel (precision casting) 316 L
  * = special color
- Electronics
  R = relay (2 x SPDT) 20…72 VDC / 20…253 VAC (5 A)
  S = relay (2 x SPDT) 20…72 VDC / 20…253 VAC (5 A) SIL-version
  T = transistor (NPN/PNP) 9.6…55 VDC
  I = transistor (NPN/PNP) 9.6…55 VDC SIL-version
  Z = two wire 8/16 mA 9.6…35 VDC
  L = two wire 8/16 mA 9.6…35 VDC SIL-version
- Second line of defense / process temperature
  A = with/ -196…450 °C
- Process connection see manual
- Version / material
- Certificate
  E = IEC/ATEX Ex db IIC T6 Ga/Gb, Gb
  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.
- I = Worldwide and/or A = Europe
  * other for approvals in other markets
- without relevance for explosion protection

Parameters

Electrical data

VEGASWING SWING SG66.(*). IE****R/S*** and/or SG66.(*). AE****R/S***
with built in electronics insert SG60HT-R/S

supply (terminals 1, 2)	U = 20…253 V AC, 50/60 Hz U = 20… 72 V DC
Power dissipation	max. 3 VA, max. 1 W
Relay circuit Set of contacts 1 (terminals 3, 4, 5) Set of contacts 2 (terminals 6, 7, 8)	Maximum values: AC 253 V, 5A, 1250 VA DC 253 V, 1A, 40 W

VEGASWING SWING SG66.(*). IE****T/I*** and/or SG66.(*). AE****T/I***
with built in electronics insert SG60HT-T/I

Supply (terminals 1, 4)	U = 9.6…55 V DC
Power dissipation	max. 2 W
Load current, transistor-output (NPN/PNP) (terminals 2, 3)	max. 400 mA and 55 V DC

VEGASWING SWING SG66.(*). IE****Z/L*** and/or SG66.(*). AE****Z/L***
with built in electronics insert SG60HT-Z/L

Supply (terminals 1, 2)	U = 9.6…35 V DC

Thermal data

Process- and ambient temperature range
Equipment in Zone 1

Temperature class	Permitted process temperature range at the sensor	Permitted ambient temperature range at the electronics enclosure
T6	-196 °C… +85 °C	-50 °C…+60 °C
T5	-196 °C…+100 °C	-50 °C…+60 °C
T4	-196 °C…+135 °C	-50 °C…+60 °C
T3	-196 °C…+200 °C	-50 °C…+60 °C
T2	-196 °C…+300 °C	-50 °C…+60 °C
T1	-196 °C…+450 °C	-50 °C…+60 °C

Equipment mounted in a boundary wall (electronics enclosure in Zone 1, sensor in Zone 0)

Temperature class	Permitted process temperature range at the sensor	Permitted ambient temperature range at the electronics enclosure
T6	-20 °C…+60 °C	-50 °C…+60 °C
T5		
T4		
T3		
T2		
T1		

Degree of protection according to IEC/SANS 60529 IP66

Details of certificate changes
Updating to the current standards
Mechanical modifications without impact on explosion protection
Slight modification of the type code
Changes to the special conditions of use

Remarks and additional information
Drawings and documents are listed in the confidential report.

Based on the following documentation:
IECEx BVS 13.0022X Issue No. 3 and/or BVS 12 ATEX E 154 X Issue 1

2. INSTALLATION INSTRUCTIONS
It is the manufacturer's responsibility to supply installation instructions with each unit offered for sale as required by IEC/SANS 60079-0 Clause 30.

3. SPECIAL CONDITIONS FOR SAFE USE *(denoted by "X" after certificate number)*
Intensive electrostatic charging, for example through the process, must be avoided.

The capacity of the metallic measuring point identification plates is to be taken from the safety instructions and a suitability is to be checked.

4. SCHEDULE OF LIMITATIONS *(denoted by "U" after certificate number)*
Not applicable.

5. CONDITIONS OF CERTIFICATION
All production units must be covered by a QAN (Quality Assurance Notification), Product Mark Scheme or batch evaluation.

6. MARKING

The following (or similar) information have to be clearly and permanently marked on all units:

Supplier	: Vega Instruments (Pty) Ltd
Manufacturer	: VEGA Grieshaber KG
Equipment	: Vibrating level switch
Model/Type	: VEGASWING SG66(*).I E * ** * * * * * and/or VEGASWING SG66(*).A E * ** * * * * *
Serial No.	: ---
Ex Rating	: Ex db IIC T6…T1 Ga/Gb or Ex db IIC T6…T1 Gb
IA Certificate No	: S-XPL/090937 X

This certification indicates compliance with R10.1 of the Mines Health and Safety Act and/or EMR 9(2) of the Occupational Health and Safety Act, provided that the apparatus is used as relevant in accordance with:

i) SANS 10086 and IEC/SANS 61241-14 requirements as applicable;
ii) Any conditions mentioned in the above report;
iii) Any relevant requirements and codes of practice enforced in terms of the Mine Health and Safety Act or Occupational Health and Safety Act; and
iv) Any restrictions and conditions enforced by the Chief Inspector of Mines or the Principal Inspector or the Chief Inspector: Occupational Health and Safety.
v) A revision certificate replaces all previous version of the certificate.
vi) * - Only covers equipment Imported between the "Issued" and "Expire" dates.
vii) If and when your QAN (Quality Assurance Notification) Certificate for your equipment manufacturer expires during the valid period of the IA Certification (issued for your equipment) and a new certificate is not submitted the existing IA Certification will then be cancelled. It is thus the client's responsibility to always submit the updated and valid QAN certificate(s) to Explolabs (Pty) Ltd

Reviewed by:

C Lourens
Technical Specialist
EXPLOLABS EXPLOSION PREVENTION SERVICES

This certificate supersedes all previous documents bearing the reference no XPL/10628/090937 Issue 1.