

TYPE APPROVAL CERTIFICATE

This is to certify:**That the Level Switches**

with type designation(s)

VEGASWING Series 60 - SWING 61(*), VEGASWING Series 60 - SWING 63(*).

Issued to

VEGA Grieshaber KG
Schiltach, Germany

is found to comply with

DNV GL rules for classification – Ships**Application :****Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.****Location classes:**

Type	Temperature	Humidity	Vibration	EMC	Enclosure
VEGASWING Series 60 - SWING 61(*)	D	B	B	B	C / D
VEGASWING Series 60 - SWING 63(*)	D	B	A	B	C / D

***1- or 2- digit code**
to nominate special customers**Enclosure: C / D - see product description**This Certificate is valid until **2021-12-20**.Issued at **Hamburg** on **2016-12-21**DNV GL local station: **Augsburg**for **DNV GL**Approval Engineer: **Dariusz Lesniewski**

Duy Nam Le
Head of Section

This Certificate is subject to terms and conditions overleaf. Any significant change in design or construction may render this Certificate invalid. The validity date relates to the Type Approval Certificate and not to the approval of equipment/systems installed.

Product description

SWING 61(*). aM b c d e f

SWING 63(*). aM b c d e

- a =** **X** without Ex approval
C with Ex approval (only in connection with Z- and N-Electronics)
D with Ex approval (only in connection with housing variants: M, U, 4)
(Ex approvals to be requested by the manufacturer)
- b =** Process connection
flanges/ threads according to standards 1 to 3 letters A-Z
- c =** Adapter / process temperature X, T, G, D
- d =** Housing / Protection / Cable entry
P Plastic single chamber / IP66 / IP67 / M20 x 1,5
N Aluminium single chamber IP66 / IP67 / ½ NPT
M Aluminium single chamber IP66 / IP67 / M20 x 1,5
7 Special colour Aluminium single chamber IP66 / IP67 / M20 x 1,5
U Aluminium single chamber IP66 / IP67/ ½ NPT
4 Special colour Aluminium single chamber IP66 / IP67 / ½ NPT
V StSt single chamber / IP66 / IP67 / M20 x 1,5
A StSt single chamber / IP66 / IP67/ ½ NPT
G Plasti single chamber / IP 65 with plug connector ISO4400
H Aluminium single chamber / IP 65 with plug connector ISO4400
I Plastic single chamber / IP 65 / Plug connector Harting HAN 8D (straight)
J Aluminium single chamber / IP 65 / Plug connector Harting HAN 8D (straight)
L Plastic single chamber / IP 65 / Plug connector Harting HAN 8D (bent)
Q Aluminium single chamber / IP 65 / Plug connector Harting HAN 8D (bent)
T Plastic single chamber / IP 66 / IP 67 / Plug connector M12 x 1 (4-pole)
Z Aluminium single chamber / IP66/IP67 / Plug connector M12 x 1 (4-pole)
W Plastic single chamber / IP66/IP67 / Plug connector M12 x 1 (5-pole)
Y Plastic single chamber / IP66/IP67 / plug M12x1 (5 pole); EN50044
D Plastic single chamber / IP66/IP67 / plug M12x1 (4 pole); EN50044
3 Aluminium Single chamber / IP 66 / IP 68 (1 bar) / M20x1,5
5 StSt steel single chamber (precision casting) / IP 66 / IP 68 (1bar) / M20x1,5
- e = Electronics**
C Contactless 20...253VAC/DC
R Relais 20...72VDC/20...253VAC
T Transistor 10...55 VDC
V Transistor 10...55 VDC (250ms)
Z Two-wire (8/16 mA)12...36 VDC
N Namur signal
W Namur signal (250ms)
- f = Switching Point**
X Standard (for SWING 61 only)
L as SWING81 resp.81A

*1- or 2- digit code to nominate special customers

VEGASWING 63: sensors with insertion length > 700mm are to be supported at 700mm and then at every following 1500mm

Application/Limitation

Job Id: **262.1-024190-1**
Certificate No: **TAA00000WU**

The Type Approval covers hardware listed under Product description. When the hardware is used in applications to be classed by DNV GL, documentation for the actual application is to be submitted for approval by the manufacturer of the application system in each case. Reference is made to DNV GL Rules for Ships Pt.4 Ch.9 Control and Monitoring Systems.

Ex-certification is not covered by this certificate. Application in hazardous area to be approved in each case according to the Rules and Ex-Certification / Special Condition for Safe Use listed in valid Ex-certificate issued by a notified/recognized Certification Body.

Place of manufacture:

VEGA Grieshaber KG
Am Hohenstein 113
77761 Schiltach, GERMANY

VEGA Americas, Inc.
4241 Allendorf Drive
Cincinnati, OH 45209, USA

Type Approval documentation

Tests carried out

Applicable tests according to Class Guidance DNVGL-CG-0339, November 2015.

Marking of product

The products to be marked with:

- model name
- manufacturer name
- serial number

Periodical assessment

The scope of the periodical assessment is to verify that the conditions stipulated for the type are complied with, and that no alterations are made to the product design or choice of systems, software versions, components and/or materials.

The main elements of the assessment are:

- Ensure that type approved documentation is available
- Inspection of factory samples, selected at random from the production line (where practicable)
- Review of production and inspection routines, including test records from product sample tests and control routines
- Ensuring that systems, software versions, components and/or materials used comply with type approved documents and/or referenced system, software, component and material specifications
- Review of possible changes in design of systems, software versions, components, materials and/or performance, and make sure that such changes do not affect the type approval given
- Ensuring traceability between manufacturer's product type marking and the type approval certificate

Periodical assessment is to be performed at least every second year and at renewal of this certificate.

END OF CERTIFICATE