

TYPE APPROVAL CERTIFICATE

This is to certify:**That the Level Alarm System**

with type designation(s)

HB-SPCG, UWKS, UKS, WBS, QPS, UHB-2, YSZK-LB, WZPK, YSZK, UHB

Issued to

Jiangsu Yuanwang Instrument Group Co., Ltd.
Jiangyan City, JIANGSU, China

is found to comply with

DNV GL rules for classification – Ships, offshore units, and high speed and light craft**Application :****Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.****Location classes:****Temperature B****Humidity B****Vibration A****EMC B****Enclosure specified in product description**Issued at **Hamburg** on **2019-04-29**This Certificate is valid until **2024-03-29**.for **DNV GL**DNV GL local station: **Shanghai**Approval Engineer: **Holger Jansen**

Joannis Papanuskas
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

Type: **HB-SPCG** - Self Powered Content Gauge
Measuring Range: 0 - 40m
Measuring Accuracy: $\pm 1,5\%$ F.S.
Enclosure Class: IP44

Type: **UWKS** - Cargo Water Ingress Alarm Device
Power Supply: AC220V or DC24V
Measuring Accuracy: $\pm 20\text{mm}$.
Enclosure Class: IP68 (transmitter), IP44 (control panel)
Approval Standard: Resolution MSC 188 (79)
UWKS consisting of:
 Level Switch UQK-652-C-B, Ex ia IIC T3~T6 (GYB17.1169X)
 Pressure Level Sensor YSZK-01L-C-E; Ex ia IIC T4~T6 (GYB16.1608X)
 Water Level Sensor UHC-01C-E, Ex ia IIC T6 (GYB16.1607X)

Type: **UKS** - Tank Level Alarm Device:
Power Supply: 220Vac or 24Vdc
Measuring Accuracy: $\pm 20\text{mm}$.
Enclosure Class: IP68 (transmitter), IP44 (control panel)

Type: **WBS** - Pump Room Temperature Monitoring and Alarm Device
Power Supply: 220Vac or 24Vdc
Measuring Range: 0 - 200°C
Measuring Accuracy: $\pm 1,0^\circ\text{C}$
Enclosure Class: IP68 (transmitter), IP44 (control panel)

Type: **QPS** - Pneumatic Type Remote Level Gauging Device
Power Supply: 220Vac or 24Vdc
Measuring Range: 0 - 40m
Measuring Accuracy: $\pm 1,5\%$ F.S.
Enclosure Class: IP44

Type: **UHB-2** - Float Type Level And Temperature Gauging Device
Power Supply: 220Vac or 24Vdc
Measuring Range: 0 - 30m / 0 - 100°C
Measuring Accuracy: $\pm 10\text{mm}$ (for liquid level), $\pm 0,5\%$ F.S.
Enclosure Class: IP66 (transmitter), IP44 (control panel)

Type: **YSZK-LB** - Pressure Type Level Gauging Device
Power Supply: 220Vac or 24Vdc
Measuring Range: 0 - 30m
Measuring Accuracy: $\pm 0,5\%$ F.S.
Enclosure Class: IP66 (transmitter), IP44 (control panel)

Type: **WZPK** - Temperature Transmitter
Working Temperature: -20 to +80°C
Measuring Accuracy: $\pm 0,5\%$ F.S.
Enclosure Class: IP66
Explosion protection: Ex ia IIC T1/T2/T3/T4/T5/T6/530°C Ga (GYB19.1032X)
 Ex d IIC T4 ~ T6 Gb (GYB19.1127X)

Job Id: **262.1-031011-1**
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Type: **YSZK** - Pressure Transmitter
Working Temperature: -20 to +80°C
Measuring Accuracy: ±0,5% F.S.
Enclosure Class: IP68
Explosion protection: Ex ia IIC T4 ~ T6 (GYB16.1608X)
Ex d IIC T4 ~ T6 Gb (GYB19.1126X)

Type: **UHB** - Level Transmitter
Working Temperature: -20 to +100°C
Measuring Accuracy: ±10mm
Enclosure Class: IP66
Explosion protection: Ex ia IIC T4/T5/T6 Ga (GYB19.1033X)
Ex d IIC T4 ~ T6 Gb (GYB19.1128X)

Application/Limitation

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.

Type Approval documentation

Tests carried out

Applicable tests according to DNV GL Class Guideline CG0339, November 2016.

Marking of product

The products to be marked with:

- Model name
- Manufacturer name
- Serial number

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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 after 2 years and after 3.5 years. A renewal assessment will be performed at renewal of the certificate.

END OF CERTIFICATE