



防爆合格证

证号: GYJ18.1319X

由 德国VEGA公司

制造的产品:

(地址: Am Hohenstein 113, 77761 Schiltach, Germany)

名称 电容式物位开关

型号规格 VEGACAP CP69.5***Z***

防爆标志 Ex ia IIC T1 ~ T6 Ga Ex iaD tD A20/21 IP66 T*

产品标准 /

图样编号 GE2094 GE2095 GE2112 GE2113 GE2115 GE2116
GE2117 GE2118 GE2235

经图样及技术文件的审查和样品检验, 确认上述产品符合 GB 3836.1-2010、GB 3836.4-2010、GB 3836.20-2010、GB 12476.1-2013、GB 12476.4-2010、GB 12476.5-2013 标准, 特颁发此证。

本证书有效期: 2018年7月11日至2023年7月10日

- 备注
1. 安全使用注意事项见本证书附件。
 2. 证书编号后缀“X”表明产品具有安全使用特殊条件, 内容见本证书附件。
 3. 型号规格说明见本证书附件。
 4. 电气安全参数见本证书附件。

站长



国家级仪器仪表防爆安全监督检验站
颁发日期二〇一八年七月十一日

本证书仅对与认可文件和样品一致的产品有效。

地址: 上海市漕宝路103号
邮编: 200233

网址: www.nepsi.org.cn
Email: info@nepsl.org.cn

电话: +86 21 64368180
传真: +86 21 64844580





EXPLOSION PROTECTION CERTIFICATE OF CONFORMITY

Cert NO.GYJ18.1319X

This is to certify that the product

manufactured by **Capacitive level switch**
VEGA Grieshaber KG
(Address: Am Hohenstein 113, 77761 Schiltach, Germany)

which model is **VEGACAP CP69.0***Z*****

Ex marking **Ex ia IIC T1 ~ T6 Ga Ex iaD tD A20/21 IP66 T***

product standard /

drawing number **GE2094 GE2095 GE2112 GE2113 GE2115 GE2116
GE2117 GE2118 GE2235**

has been inspected and certified by NEPSI, and that it conforms
to **GB 3836.1-2010,GB 3836.4-2010,GB 3836.20-2010,GB 12476.1-2013,
GB 12476.4-2010,GB 12476.5-2013**

This Approval shall remain in force until **2023.07.10**

- Remarks
1. Conditions for safe use are specified in the attachment to this certificate.
 2. Symbol "X" placed after the certification number denotes specific conditions of use, which are specified in the attachment to this certificate.
 3. Model designation is specified in the attachment to this certificate.
 4. Safe parameters specified in the attachment to this certificate.

Director



National Supervision and Inspection Centre for
Explosion Protection and Safety of Instrumentation

Issued Date 2018.07.11

This Certificate is valid for products compatible with the documents and samples approved by NEPSI.

103 Cao Bao Road
Shanghai 200233, China

<http://www.nepsi.org.cn>
Email: info@nepsl.org.cn

Tel: +86 21 64368180
Fax: +86 21 64844580

国家级仪器仪表防爆安全监督检验站

National Supervision and Inspection Centre for Explosion Protection and Safety of Instrumentation

(GYJ18.1319X)

(Attachment I)

GYJ18.1319X防爆合格证附件 I

由德国VEGA公司生产的VEGACAP CP6 \square ***Z****型电容式物位开关，经国家级仪器仪表防爆安全监督检验站(NEPSI)检验，符合下列标准：

GB12476.1-2013 可燃性粉尘环境用电气设备 第1部分：通用要求

GB12476.4-2010 可燃性粉尘环境用电气设备 第4部分：本质安全型“iD”

GB12476.5-2013 可燃性粉尘环境用电气设备 第5部分：外壳保护型“tD”

产品防爆标志 Ex ia II C T1~T6 Ga、Ex iaD tD A20/21 IP66 T*，防爆合格证号 GYJ18.1319X。

本证书认可的产品型号规格如下：

VEGA公司生产的VEGACAP CP6 \square ***Z****

其中： \square 表示产品型号，可为2、3、4、5或6；

\square 表示防爆型式，可为GX = Ex iaD tD A20/21 IP66 T*

CK = Ex ia II C T1~T6 Ga、Ex iaD tD A20/21 IP66 T*

*表示型式/温度范围、材料、过程连接、外壳和引入装置等。

详见产品使用说明书。

一、产品安全使用特殊条件

产品防爆合格证号后缀“X”表示产品有安全使用特殊要求，具体内容如下：

1、应采取避免产品裸露非金属部件静电电荷产生引燃危险。

2、铝合金外壳用于要求EPL Ga或EPL Ga/Gb的场所时，应采取防止由于冲击或摩擦引起的点燃危险。

3、产品的安装应避免摇摆和振动。

二、产品使用注意事项

1、产品外壳设有接地端子，用户在安装使用时应可靠接地。

2、用于气体环境

产品的温度组别、使用环境温度（电子外壳）和介质温度范围（传感器）的关系如下：

整个产品位于0区

温度组别	使用环境温度（电子外壳）	介质温度范围（传感器）
T6	-20°C~+42°C	-20°C~+42°C
T5~T1	-20°C~+60°C	-20°C~+60°C

传感器位于0区，电子外壳位于1区

温度组别	使用环境温度（电子外壳）	介质温度范围（传感器）
T6	-40°C~+58°C	-20°C~+60°C
T5	-40°C~+73°C	-20°C~+60°C
T4~T1	-40°C~+80°C	-20°C~+60°C

整个产品位于1区

温度组别	使用环境温度 (电子外壳)	介质温度范围（传感器）		
		PE绝缘	PTFE绝缘	PTFE绝缘 带温度适配器
T6	-40°C~+58°C	-40°C~+80°C	-50°C~+85°C	-50°C~+85°C
T5	-40°C~+73°C	-40°C~+80°C	-50°C~+100°C	-50°C~+100°C
T4	-40°C~+80°C	-40°C~+80°C	-50°C~+135°C	-50°C~+135°C
T3~T1	-40°C~+80°C	-40°C~+80°C	-50°C~+150°C	-50°C~+200°C

3、用于粉尘环境

3.1 产品电子外壳使用环境温度：-40°C~+60°C。

3.2 产品传感器部分的介质温度：

-50°C~+150°C（PTFE绝缘）

-40°C~+80°C（PE/PA绝缘）

-50°C~+200°C（PTFE绝缘带温度适配器）

3.3 产品最高表面温度：

介质温度不高于65°C时，最高表面温度T*为T65°C；

介质温度高于65°C时，最高表面温度T*为介质温度T_{med}。

3.4 传感器位于20区时，须满足以下条件：

环境温度-20°C~+60°C、压力0.8bar~1.1bar、空气中标准氧含量小于21%

3.5 产品在粉尘爆炸危险场所使用时，应定期采取清洁措施以防止表面积聚粉尘。

3.6 产品在现场使用和维修时必须遵守“断电源后开盖”的原则。

4、产品必须与已通过防爆认证的关联设备配套共同组成本安防爆系统方可用于爆炸性气体/可燃性粉尘环境。其系统接线必须同时遵守本产品 and 所配关联设备的使用说明书要求，接线端子不得接错。

5、产品的本安参数如下：

最高输入电压 U _i (V)	最大输入电流 I _i (mA)	最大输入功率 P _i (mW)	最大内部等效参数	
			Ci(nF)	Li(μH)
30	131	983	0	0

6、产品与关联设备的连接电缆应为带绝缘护套的屏蔽电缆，其屏蔽层应接地。

7、产品的电缆引入口须配用经认证的相适应的电缆引入装置或封堵件，装配完整后产品外壳防护等级不得低于GB/T 4208-2017规定的IP66。选用的电缆引入装置、封堵件和连接电缆应与产品的工作条件相适应。

8、用户不得自行随意更换该产品的电气零部件，应会同产品制造商共同解决运行中出现的故障，以免影响防爆性能和损坏现象的发生。

9、产品的安装、使用和维护应同时遵守产品使用说明书、GB 3836.13-2013“爆炸性环境 第13部分：设备的修理、检修、修复和改造”、GB/T 3836.15-2017“爆炸性环境 第15部分：电气装置的设计、选型和安装”、GB/T 3836.16-2017“爆炸性环境 第16部分：电气装置的检查与维护”、GB/T 3836.18-2017“爆炸性环境 第18部分：本质安全电气系统”、GB 50257-2014“电气设备安装工程爆炸和火灾危险环境电气装置施工及验收规范”、GB 15577-2007“粉尘防爆安全规程”及GB 12476.2-2010“可燃性粉尘环境用电气设备 第2部分：选型和安装”的有关规定。

三、制造厂责任

- 1、产品制造厂必须将上述使用注意事项纳入产品使用说明书；
- 2、制造厂必须严格按照NEPSI认可的文件资料生产；
- 3、产品铭牌中应至少包括下列内容：
 - a) NEPSI认可标志（见防爆合格证书）
 - b) 产品防爆标志
 - c) 防爆合格证号
 - d) 使用环境温度
 - e) 介质温度范围
 - f) 安全电气参数

国家级仪器仪表防爆安全监督检验站
二〇一八年七月十一日

国家级仪器仪表防爆安全监督检验站


National Supervision and Inspection Centre for
Explosion Protection and Safety of Instrumentation

(GYJ18.1319X)

(Attachment I)

Attachment I to GYJ18.1319X (translation)

1. Description

Capacitive level switch typed VEGACAP CP6  ***Z****, manufactured by VEGA Grieshaber KG, has been certified by National Supervision and Inspection Center for Explosion Protection and Safety of Instrumentation (NEPSI). This product accords with following standards:

GB3836.1-2010 Explosive atmospheres-Part 1: Equipment-General requirements

GB3836.4-2010 Explosive atmospheres-Part 4: Equipment protection by intrinsic safety "i"

GB3836.20-2010 Explosive atmospheres-Part 20: Equipment with equipment protection level (EPL) Ga

GB12476.1-2013 Electrical apparatus for use in the presence of combustible dust- Part 1: General requirements


GB12476.4-2010 Electrical apparatus for use in the presence of combustible dust- Part 4: Protection by intrinsic safety "ID"


GB12476.5-2013 Electrical apparatus for use in the presence of combustible dust- Part 5: Protection by enclosures "ID"

The Ex marking is Ex ia II C T1~T6 Ga Ex iaD tD A20/21 IP66 T*, its certificate number is GYJ18.1319X.

Type approved in this certificate is shown as below:

VEGACAP CP6  ***Z****

Note:  indicates model, including 2, 3, 4, 5 or 6;

 indicates Ex marking, including GX = Ex iaD tD A20/21 IP66 T*

CK = Ex ia II C T1~T6 Ga Ex iaD tD A20/21 IP66 T*

* indicates type/temperature range, material, process connection, enclosure and cable entry etc.

Refer to the instruction manual for the details.

2. Special Conditions for Safe Use

The suffix "X" placed after the certificate indicates that the product is subject to special conditions for safe use specified as follows:

2.1 At the surface of plastic parts of the products, there is a danger of ignition by electrostatic discharge. Observe the instruction manual and warning label.

2.2 For EPL Ga or EPL Ga/Gb applications, at the metallic parts of the products made of light metal there is a danger of ignition by impact or friction. Observe the instruction manual.

2.3 At risks by pendulum or vibration the respective parts of the product have to be secured effectively against these dangers. Observe the instruction manual.

3. Conditions for Safe Use

3.1 The external earth connection facility shall be connected reliably.

3.2 in explosive gas atmospheres

The relationship between temperature class, ambient temperature (electronics housing) and medium temperature (sensor) is shown as following:

EPL Ga equipment

Temperature class	Ambient temperature (electronics)	Medium temperature (sensor)
T6	-20°C ~+ 42°C	-20°C ~+ 42°C
T5~T1	-20°C ~+ 60°C	-20°C ~+ 60°C

EPL Ga/Gb equipment

Temperature class	Ambient temperature (electronics)	Medium temperature (sensor)
T6	-40°C ~+ 58°C	-20°C ~+ 60°C
T5	-40°C ~+ 73°C	-20°C ~+ 60°C
T4~T1	-40°C ~+ 80°C	-20°C ~+ 60°C

EPL Gb equipment

Temperature class	Ambient temperature	Medium temperature		
		PE insulation	PTFE insulation	PTFE insulation with temperature adapter
T6	-40°C ~+58°C	-40°C ~+80°C	-50°C ~+85°C	-50°C ~+85°C
T5	-40°C ~+73°C	-40°C ~+80°C	-50°C ~+100°C	-50°C ~+100°C
T4	-40°C ~+80°C	-40°C ~+80°C	-50°C ~+135°C	-50°C ~+135°C
T3~T1	-40°C ~+80°C	-40°C ~+80°C	-50°C ~+150°C	-50°C ~+200°C

3.3 in combustible dust atmospheres

3.3.1 Ambient temperature range of the electronics housing: -40°C ~+ 60°C.

3.3.2 Permitted medium temperature at the sensor:

-50°C ~+ 150°C (with PTFE insulation)

-40°C ~+ 80°C (with PE/PA insulation)

-50°C ~+ 200°C (with PTFE insulation high temperature version)

3.3.3 Maximum surface temperature:

maximum surface temperature $T^* = T65^\circ\text{C}$, when medium temperature $T_{med} \leq 65^\circ\text{C}$;

maximum surface temperature $T^* = T_{med}$, when medium temperature $T_{med} > 65^\circ\text{C}$.

3.3.4 The sensor part can be used in zone 20 only when the following conditions exist:

ambient temperature: -20°C ~+ 60°C, pressure: 0.8 bar~1.1 bar, air with normal oxygen content: <21%.

- 3.3.5 Clean the surface of this product termly when using in combustibile dust atmosphere.
- 3.3.6 Any maintenance shall be performed only when the warning of "Do not open when energized" is observed.
- 3.4 This product should be used in explosive gas atmospheres/ combustibile dust atmospheres together with approved associated apparatus, follow the instruction manual of this product and associated apparatus when connecting the wiring. Connect the wiring terminals correctly.
- 3.5 Intrinsically safe input parameters:
- $U_i = 30V$ $I_i = 131mA$ $P_i = 983mW$ $C_i = 0nF$ $L_i = 0\mu H$
- 3.6 Connecting cable between this product and associated apparatus should be insulated screen cable; connect the cable screen functionally to earth ground.
- 3.7 Suitable certified cable glands or blanking plugs for unused holes approved by ExTL shall be used and correctly installed, after installation, degree of protection of enclosure shall be at least IP66 according to GB/T 4208-2017. The cable glands, blanking plugs and connection cable to be used shall suitable for the product working conditions.
- 3.8 The user shall not change the configuration in order to maintain/ensure the explosion protection performance of the equipment. Any change may impair safety.
- 3.9 For installation, use and maintenance of the product, the end user shall observe the instruction manual and the following standards:

GB 50257-2014 "Code for construction and acceptance of electric device for explosion atmospheres and fire hazard electrical equipment installation engineering".

GB 3836.13-2013 "Explosive atmospheres- Part 13:Equipment repair, overhaul and reclamation".

GB/T 3836.15-2017 "Explosive atmospheres- Part 15:Electrical installations design, selection and erection".


GB/T 3836.16-2017 "Explosive atmospheres- Part 16:Electrical installations inspection and maintenance".

GB/T 3836.18-2017 "Explosive atmospheres-Part 18: Intrinsically safe electrical systems".

GB 12476.2-2010 "Electrical apparatus for use in the presence of combustibile dust- Part 2: Selection and installation". (Only if installed in dust hazardous areas)

GB 15577-2007 "Safety regulations for dust explosion prevention and protection". (Only if installed in dust hazardous areas).

4. Manufacturer's Responsibility

- 4.1 Conditions for safe use, as specified above, should be included in the documentation the user is provided with.
- 4.2 Manufacturing should be done according to the documentation approved by NEPSI.
- 4.3 Marking should show the following
- 4.3.1 NEPSI logo 
- 4.3.2 Type of explosion protection
- 4.3.3 Certificate number

4.3.4 Ambient temperature range

4.3.5 Medium temperature range

4.3.6 Safety parameters

National Supervision and Inspection Center
for Explosion Protection and Safety of Instrumentation

2018.07.11

