



# 防爆合格证

证号: GYJ20.1100X

由 VEGA Grieshaber KG 制造的产品:  
(地址: Am Hohenstein 113, D-77761 Schiltach, Germany)

名称 雷达传感器

型号规格 VEGAPULS C 21, C 22, C 23

防爆标志 Ex ia IIC T4 Ga, Ex ia IIC T4 Ga/Gb, Ex iaD 20 T134,  
Ex iaD/ibD 20/21 T134

产品标准 /

图样编号 GE4055,GE4063,GE4056

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 标准, 特颁发此证。

本证书有效期: 2020年4月1日至2025年3月31日

备注 1. 安全使用注意事项见本证书附件。  
2. 型号规格说明见本证书附件。  
3. 本安电气参数见本证书附件。  
4. 本证书同时适用于VEGA Americas Inc. (4241 Allendorf Drive, Cincinnati, Ohio 45209, USA) 组装生产的相同型号产品。

站长



国家级仪器仪表防爆安全监督检验站

颁发日期二〇二〇年四月一日

本证书仅对与认可文件和样品一致的产品有效。

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# EXPLOSION PROTECTION CERTIFICATE OF CONFORMITY

Cert NO.GYJ20.1100X

This is to certify that the product

**Radar sensors**

manufactured by **VEGA Grieshaber KG**

(Address:Am Hohenstein 113, D-77761 Schiltach, Germany)

which model is **VEGAPULS C 21, C 22, C 23**

Ex marking **Ex ia IIC T4 Ga, Ex ia IIC T4 Ga/Gb, Ex iaD 20 T134,  
Ex iaD/ibD 20/21 T134**

product standard /

drawing number **GE4055,GE4063,GE4056**

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**

This Approval shall remain in force until **2025.03.31**

Remarks 

- 1.Conditions for safe use are specified in the attachment(s) to this certificate.
- 2.Model designation is specified in the attachment(s) to this certificate.
- 3.Intrinsic safety parameters specified in the attachment(s) to this certificate.
- 4.This certificate also cover the product with the same type that manufactured by VEGA Americas Inc. (4241 Allendorf Drive, Cincinnati,Ohio 45209, USA) .

Director



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

Issued Date 2020.04.01

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

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# 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

(GYJ 20.1100X)

(Attachment I)

### Attachment I to GYJ 20.1100X

Typed VEGAPULS C 21, C 22, C 23 radar sensors manufactured by VEGA Grieshaber KG and VEGA Americas Inc. has been certified National Supervision and Inspection Center for Explosion Protection and Safety of Instrumentation (NEPSI).

This product accords with following standards:

GB 3836.1-2010 Explosive atmospheres-Part 1: Equipment-General requirements

GB 3836.4-2010 Explosive atmospheres-Part 4: Equipment protection by intrinsic safety "i"

GB 3836.20-2010 Explosive atmospheres-Part 20: Equipment with equipment protection level (EPL) Ga

GB 12476.1-2013 Electrical apparatus for use in the presence of combustible dust – Part 1: General requirements

GB 12476.4-2010 Electrical apparatus for use in the presence of combustible dust – Part 4: Protection by intrinsic safety "iD"

The Ex marking is Ex ia IIC T4 Ga, Ex ia IIC T4 Ga/Gb, Ex iaD 20 T134, Ex iaD/ibD 20/21 T134.

The certificate number is GYJ 20.1100X.

Type designation:

Typed VEGAPULS C 21

VEGAPULS PSC21. *a-b-c-d-e-f-g-h-i*

*a* denotes Scope: T;

*b* denotes Approval: H;

*c* Not relevant for Ex approval;

*d* Not relevant for Ex approval;

*e* Not relevant for Ex approval;

*f* denotes Thread-Process Side/ Connection Cable Side: G, N, R;

*g* denotes Cable Material/ Length: A, B, C, D;

*h* denotes Electronic: H;

*i* denotes Sensor Adjustment via Smart Phone and VEGA Tools-App: X, B.

Typed VEGAPULS C 22

VEGAPULS PSC22. *a-b-c-d-e-f-g-h-i*

*a* denotes Scope: T;

*b* denotes Approval: H;

- c* Not relevant for Ex approval;  
*d* Not relevant for Ex approval;  
*e* Not relevant for Ex approval;  
*f* denotes Thread-Process Side/ Connection Cable Side: G, N, R;  
*g* denotes Cable Material/ Length: A, B, C, D;  
*h* denotes Electronic: H;  
*i* denotes Sensor Adjustment via Smart Phone and VEGA Tools-App: X, B.

Typed VEGAPULS C 23

VEGAPULS PSC23. *a-b-c-d-e-f-g-h-i*

- a* denotes Scope: T;  
*b* denotes Approval: H;  
*c* Not relevant for Ex approval;  
*d* Not relevant for Ex approval;  
*e* Not relevant for Ex approval;  
*f* denotes Process-fitting: F, M, Q;  
*g* denotes Cable Material/ Length: A, B, C, D;  
*h* denotes Electronic: H;  
*i* denotes Sensor Adjustment via Smart Phone and VEGA Tools-App: X, B.

## 1. Special condition for safe use

Symbol "X" denotes special condition for safe use: For use and maintenance in explosive atmosphere, observe the warning "POTENTIAL ELECTROSTATIC CHARGING HAZARD – SEE INSTRUCTIONS".

## 2. Condition for safe use

- 2.1 Ambient temperature range: (-40~+80) °C.  
 2.2 Process temperature range: (-40~+80) °C.  
 2.3 Intrinsic safety electrical data and maximum internal equivalent parameter of supply and output circuit (+Brown wire, - Blue wire):

Maximum input voltage	Maximum input current	Maximum input power	Internal equivalent parameters
$U_i=30V$	$I_i=131mA$	$P_i=983mW$	$L_i=0.65 \mu H/m, C_i=0.18 nF/m$

- 2.4 This product should be used in explosive atmospheres together with approved associated apparatus, follow the instruction manual of the radar sensors and associated apparatus when



connecting the wiring. Connect the wiring terminals correctly.

2.5 The user shall not change the configuration in order to maintain/ensure the explosion protection performance of the equipment.

2.6 For installation, use and maintenance of the product, the end user shall observe the instruction manual and the following standards:

GB 3836.13-2013 Electrical 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 3836.20-2010 Explosive atmospheres-Part 20: Equipment with equipment protection level (EPL) Ga

GB 50257:2014 Code for construction and acceptance of electric equipment on fire and explosion hazard electrical equipment installation engineering

GB 15577-2018 Safety regulations for dust explosion prevention and protection


### 3. Manufacturer's Responsibility


3.1 Special condition for safe use and condition for safe use specified above should be included in the instruction manual.

3.2 Manufacturing should be done according to the documentation approved by NEPSI.

3.3 Any modification with influence on the type of protection should be submitted to NEPSI before application.

3.4 Following items should be added to the nameplate

- a) NEPSI logo 
- b) Ex marking
- c) Number of certificate
- d) Ambient temperature range

  
**National Supervision and Inspection Center  
for Explosion Protection and Safety of Instrumentation  
April 1st, 2020**

# 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

(GYJ20.1100X)

(Attachment I)

### GYJ20.1100X防爆合格证附件 I

由VEGA Grieshaber KG和VEGA Americas Inc.生产的VEGAPULS C 21, C 22, C 23型雷达传感器, 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:

GB 3836.1-2010 爆炸性环境 第1部分: 设备 通用要求

GB 3836.4-2010 爆炸性环境 第4部分: 由本质安全型“i”保护的的设备

GB 3836.20-2010 爆炸性环境 第20部分 设备保护级别 (EPL) 为Ga级的设备

GB 12476.1-2013 可燃性粉尘环境用电气设备 第1部分: 通用要求

GB 12476.4-2010 可燃性粉尘环境用电气设备 第4部分: 本质安全型“ID”

产品防爆标志为Ex ia IIC T4 Ga, Ex ia IIC T4 Ga/Gb, Ex iaD 20 T134, Ex iaD/ibD 20/21 T134, 防爆合格证号为GYJ20.1100X。

产品具体认可型号为:

VEGAPULS C 21型

VEGAPULS PSC21. *a-b-c-d-e-f-g-h-i*

*a* : 代表范围, 可选代码为T;

*b* : 代表认证, 可选代码为H;

*c* : 与防爆无关;

*d* : 与防爆无关;

*e* : 与防爆无关;

*f* : 代表过程连接螺纹侧/连接电缆侧, 可选代码为G、N、R;

*g* : 代表电缆材料/长度, 可选代码为A、B、C、D;

*h* : 代表电气, 可选代码为H;

*i* : 代表可通过智能手机和VEGA APP工具调节, 可选代码为X、B。

VEGAPULS C 22型

VEGAPULS PSC22. *a-b-c-d-e-f-g-h-i*

*a* : 代表范围, 可选代码为T;

*b* : 代表认证, 可选代码为H;



- c** : 与防爆无关;
- d** : 与防爆无关;
- e** : 与防爆无关;
- f** : 代表过程连接螺纹侧/连接电缆侧, 可选代码为G、N、R;
- g** : 代表电缆材料/长度, 可选代码为A、B、C、D;
- h** : 代表电气, 可选代码为H;
- i** : 代表可通过智能手机和VEGA APP工具调节, 可选代码为X、B。

#### VEGAPULS C 23型

#### VEGAPULS PSC23. *a-b-c-d-e-f-g-h-i*

- a** : 代表范围, 可选代码为T;
- b** : 代表认证, 可选代码为H;
- c** : 与防爆无关;
- d** : 与防爆无关;
- e** : 与防爆无关;
- f** : 代表过程配件, 可选代码为F、M、Q;
- g** : 代表电缆材料/长度, 可选代码为A、B、C、D;
- h** : 代表电气, 可选代码为H;
- i** : 代表可通过智能手机和VEGA APP工具调节, 可选代码为X、B。

### 一、 产品安全使用特殊条件

防爆合格证号后缀“X”代表产品安全使用有特定条件: 产品在爆炸性环境中使用和维护时, 须遵循“潜在静电电荷危险-见使用说明书”的原则。

### 二、 产品使用注意事项

1. 产品使用环境温度范围为:  $-40^{\circ}\text{C} \sim +80^{\circ}\text{C}$ 。
2. 产品介质温度范围为:  $-40^{\circ}\text{C} \sim +80^{\circ}\text{C}$ 。
3. 产品电源和输出电路(+棕色线, -蓝色线)的安参数及内部最大等效参数如下:

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	
			$C_i$ (nF/m)	$L_i$ ( $\mu$ H/m)
30	131	963	0.16	0.65

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使用于爆炸性危险场所。其系统接线必须同时遵守雷达传感器和所配关联设备的使用说明书要求，接线端子不得接错

5. 用户不得自行更换该产品的零部件，应会同产品制造商共同解决运行中出现的故障，以杜绝损坏现象的发生。

6. 用户在安装、使用和维护产品时，须同时严格遵守产品使用说明书和下列标准：

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 3836.20-2010 爆炸性环境 第20部分 设备保护级别（EPL）为Ga级的设备

GB 50257-2014 电气装置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 15577-2018 粉尘防爆安全规程

### 三、 制造厂责任

1. 制造厂必须将上述使用注意事项纳入产品的使用说明书中。
2. 制造厂必须严格按照NEPSI认可的文件资料生产。
3. 涉及产品防爆性能和温度的更改和维修，需提交NEPSI重新检验认可。
4. 产品铭牌中应至少包括下列内容：

a) NEPSI认可标志



b) 产品防爆标志

c) 防爆合格证号

d) 使用环境温度范围

国家级仪器仪表防爆安全监督检验站

二〇二〇年四月一日