

防爆合格证

证号: GYJ20.1603X

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 ib mb IIC T4 Gb; Ex tD A20 IP6X T200121°C,
Ex tD A20/21 IP6X T200121°C,
Ex tD A21 IP6X T200134°C(2-wire 4-20mA HART);
Ex tD A20 IP6X T200142°C,
Ex tD A20/21 IP6X T200142°C, Ex tD A21 IP6X T200155°C(4-wire Modbus)

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 3836.9-2014、标准,
GB 12476.1-2013、GB 12476.5-2013

特颁发此证。

本证书有效期: 2020年11月29日至2025年11月28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。
5. 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十一月二十九日

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.GYJ20.1603X

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 ib mb IIC T4 Gb; Ex tD A20 IP6X T200121°C,
Ex tD A20/21 IP6X T200121°C,
Ex tD A21 IP6X T200134°C(2-wire 4-20mA HART);
Ex tD A20 IP6X T200142°C,
Ex tD A20/21 IP6X T200142°C, Ex tD A21 IP6X T200155°C(4-wire Modbus)

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 3836.9-2014,GB 12476.1-2013,
GB 12476.5-2013

This Approval shall remain in force until 2025.11.28

Remarks

- 1.Conditions for safe use are specified in the attachment(s) to this certificate.
- 2.Symbol "X" placed after the certification number denotes specific conditions of use, which are specified in the attachment(s) to this certificate.
- 3.Model designation is specified in the attachment(s) to this certificate.
- 4.Safe parameters specified in the attachment(s) to this certificate.
- 5.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 2020.11.29

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 20.1603X)

(Attachment I)

Attachment I to GYJ 20.1603X

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 3836.9-2014 Explosive atmospheres-Part 9: Equipment protection by type of protection "m"

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

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

The Ex marking is

Ex ib mb IIC T4 Gb;

2-wire 4-20mA HART

Ex tD A20 IP6X T200121°C, Ex tD A20/21 IP6X T200121°C, Ex tD A21 IP6X T200134°C

4-wire Modbus

Ex tD A20 IP6X T200142°C, Ex tD A20/21 IP6X T200142°C, Ex tD A21 IP6X T200155°C.

The certificate number is GYJ 20.1603X.

Type designation:

Typed VEGAPULS C 21

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

a denotes Scope;

b denotes Approval: B ;

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, W;

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;

b denotes Approval: B;

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, W;

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;

b denotes Approval: B;

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, W;

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:

1.1 For use and maintenance in explosive atmosphere, observe the warning "POTENTIAL ELECTROSTATIC CHARGING HAZARD – SEE INSTRUCTIONS".

1.2 4J low energy for impact test to the non-metallic enclosure of the product was adopted, and High risk of mechanical danger to the enclosure shall be prohibited, while used.

1.3 Permanent cable is used, measures shall be taken to connect the free end of the cable, and the cable must be protected from mechanical damage.

2. Condition for safe use

2.1 The relationship between ambient temperature range, process temperature range and Ex

marking is as below:

Ex marking	Ambient temperature range(°C)	Process temperature range(°C)
Ex ib mb IIC T4 Gb	-20~+80	-20~+80
Ex tD A20 IP6X T200121°C Ex tD A20/21 IP6X T200121°C	-20~+67	-20~+67
Ex tD A21 IP6X T200134°C	-20~+80	-20~+80
Ex tD A20 IP6X T200142°C Ex tD A20/21 IP6X T200142°C	-20~+67	-20~+67
Ex tD A21 IP6X T200155°C	-20~+80	-20~+80

2.2 Electrical safety data of the product is as below:

Function	Electrical safety data
2-wire 4-20mA HART Supply and output circuit (+Brown wire,- Blue wire)	UN=12~35V,<1W
4-wire Modbus Supply circuit (+Brown wire,- Blue wire) Output circuit (+black wire,- white wire)	UN=8~30V,<1W

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

2.4 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 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
November 29th, 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

(GYJ20.1603X)

(Attachment I)

GYJ20.1603X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 设备

GB 3836.9-2014 爆炸性环境 第9部分: 由浇封型“m”保护的 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 12476.5-2013 可燃性粉尘环境用电气设备 第5部分: 外壳保护型“tD”

产品防爆标志为

Ex ib mb IIC T4 Gb;

两线制4-20mA HART电路

Ex tD A20 IP6X T₂₀₀121°C, Ex tD A20/21 IP6X T₂₀₀121°C, Ex tD A21 IP6X T₂₀₀134°C

四线制Modbus电路

Ex tD A20 IP6X T₂₀₀142°C, Ex tD A20/21 IP6X T₂₀₀142°C, Ex tD A21 IP6X T₂₀₀155°C, 防爆

合格证号为GYJ20.1603X。

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;

b : 代表认证, 可选代码为B;

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、W;

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;
- b : 代表认证, 可选代码为B;
- 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、W;
- 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;
- b : 代表认证, 可选代码为B;
- 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、W;
- 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:

1. 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。
2. 产品非金属外壳采用4J低能量进行冲击试验, 使用时须避免高能量的危险冲击。
3. 产品为永久电缆引入连接方式, 应有适当措施连接电缆的自由端, 且电缆必须有防止机械损

伤的保护。

二、 产品使用注意事项

1. 产品使用环境温度范围、介质温度范围与防爆标志关系如下为:

防爆标志	使用环境温度范围 (°C)	介质温度范围 (°C)
Ex ib mb IIC T4 Gb	-20~+80	-20~+80
Ex tD A20 IP6X T200121°C Ex tD A20/21 IP6X T200121°C	-20~+67	-20~+67
Ex tD A21 IP6X T200134°C	-20~+80	-20~+80
Ex tD A20 IP6X T200142°C Ex tD A20/21 IP6X T200142°C	-20~+67	-20~+67
Ex tD A21 IP6X T200155°C	-20~+80	-20~+80

2. 产品电气安全参数如下:

功能	电气参数
2线制4-20mA HART 电源和输出电路 (+棕色线, -蓝色线)	UN=12~35V, <1W
4线制Modbus信号 电源电路 (+棕色线, -蓝色线) 输出电路 (+黑色线, -白色线)	UN=8~30V, <1W

3. 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。

4. 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 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

二〇二〇年十一月二十九日



