# 防爆合格证

证　号：GYJ21.1252

由　恩德斯豪斯公司　　制造的产品：
（地址：Hauptstrasse 1, D-79689 Maulburg, Germany）

名　　称　电容式物位开关

型号规格　Minicap FTC262 系列

防爆标志　Ex iaD 20 tD A21 IP66 $T_{200}$108T91℃

产品标准　/

图样编号　960005624-B、960005625-B

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 12476.1-2013,GB 12476.4-2010,GB 12476.5-2013　标准，特颁发此证。

本证书有效期：2021 年 06 月 10 日至 2026 年 06 月 09 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. 安全电气参数见本证书附件。
4. 本证书同时适用于恩德斯豪斯（苏州）自动化仪表有限公司（地址：苏州工业园区苏虹中路 491 号）生产的同型号产品。

站长

国家级仪器仪表防爆安全监督检验站

颁发日期 二〇二一 年 六 月 十 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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版本05

# EXPLOSION PROTECTION
## CERTIFICATE OF CONFORMITY

Cert NO.GYJ21.1252

This is to certify that the product

Capacitive Level Limit Switch

manufactured by Endress+Hauser SE+Co. KG

(Address:Hauptstrasse 1, D-79689 Maulburg, Germany)

which model is Minicap FTC262 Series

Ex marking Ex iaD 20 tD A21 IP66 $T_{200}$108T91°C

product standard /

drawing number 960005624-B、960005625-B

has been inspected and certified by NEPSI, and that it conforms to GB 12476.1-2013,GB 12476.4-2010,GB 12476.5-2013.

This Approval shall remain in force until 2026.06.09

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.Safety parameters specified in the attachment(s) to this certificate.
4.This certificate is also applicable for the product with the same type manufactured by Endress+Hauser (Suzhou) Automation Instrumentation Co., Ltd. (address: Su Hong Zhong Lu No.491, Suzhou-SIP, China)

Director

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

Issued Date 2021.06.10

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

(GYJ21.1252) (Attachment Ⅰ)

### GYJ21.1252防爆合格证附件 Ⅰ

由恩德斯豪斯公司生产的Minicap FTC262系列电容式物位开关，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：

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”

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Ex iaD 20 tD A21 IP66 $T_{200}$108T91℃，防爆合格证号GYJ21.1252。

本证书认可的产品型号规格如下

Minicap FTC262-2***a b c d e***

其中，***a*** 表示过程连接，可为 A 或 B；

***b*** 表示探头绳长度（最长 10m）；

***c*** 表示供电/输出方式，可为 2 或 4；

***d*** 表示外壳/电缆口型式，可为 H，I 或 J；

***e*** 表示附件信息，可为 1 或 3。

具体含义详见产品说明书。

### 一、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、产品的电子部件外壳仅适用于21区；探头可适用于20区。

3、产品电气参数：

| | |
|---|---|
| FTC 262-…2… (dc version) | |
| 电源电压 | 10.8 … 45 Vdc, max. 1.5 W |
| 输出电流 | max. 200 mA |
| Um = 253 Vac | |
| FTC 262-…4… (ac/dc version) | |
| 电源电压 | 20 … 253 Vac, 47 … 63 Hz<br>20 … 55 Vdc, max. 2 W |
| Um = 253 Vac | |
| 输出：<br>开关触点，无源 | max. 253 Vac, 4 A<br>max. 30 Vdc, 4 A<br>max. 253 Vdc, 0.2 A |

4、产品的电缆引入口须配用经防爆检验认可、符合GB12476.1-2013和GB12476.5-2013标准、防爆等级至少为Ex tD A21 IP66的电缆引入装置或封堵件。

5、产品使用环境温度范围为-40℃～+60℃（电子外壳）；

介质温度范围为-40℃～+80℃（探头）。

电子外壳的最高表面温度：环境温度60℃时为T91℃。

探头的最高表面温度：介质温度80℃时为$T_{200}$108。

6、应采取措施以防产品标牌表面产生静电放电危险。

7、产品在粉尘环境使用维护时，应定期采取清洁措施，以防止表面积聚粉尘。

8、产品在现场使用维护时必须遵守“断电源后开盖”的原则。

9、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。

10、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 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”及GB 15577-2018“粉尘防爆安全规程”的有关规定。

二、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）安全电气参数

国家级仪器仪表防爆安全监督检验站

二〇二一年六月十日

# 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

**(GYJ21.1252)** **(Attachment Ⅰ)**

### Attachment Ⅰ to GYJ21.1252

1. Description

Minicap FTC262 Series Capacitive Level Limit Switch, manufactured by Endress+Hauser SE + Co.KG, has been certified by National Supervision and Inspection Center for Explosion Protection and Safety of Instrumentation (NEPSI). The product accords with following standards:

GB 12476.1-2013 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"

GB 12476.5-2013 Electrical apparatus for use in the presence of combustible dust- Part 5: Protection by enclosures "tD"

The Ex marking is Ex iaD 20 tD A21 IP66 $T_{200}$108T91℃, its certificate number is GYJ21.1252.

Type approved in this certificate is shown as following:

Minicap FTC262-2 ***a b c d e***

Note: ***a*** indicates process connection, it could be A or B;

***b*** indicates probe length (≤10m);

***c*** indicates switch output, it could be 2 or 4;

***d*** indicates housing/cable entry, it could be H, I or J;

***e*** indicates additional option, it could be 1 or 3.

For the details refer to instruction manual.

2. Conditions for Safe Use

2.1 The external earth connection facility shall be connected reliably.

2.2 The electronics enclosure of this product can only be installed in zone 21; while the probe can be installed in zone 20.

2.3 Electrical data:

| | |
|---|---|
| FTC 262-...2... (dc version) | |
| Supply | 10.8 ... 45 Vdc, max. 1.5 W |
| Output current | max. 200 mA |
| Um = 253 Vac | |
| FTC 262-...4... (ac/dc version) | |
| Supply | 20 ... 253 Vac, 47 ... 63 Hz<br>20 ... 55 Vdc, max. 2 W |
| Um = 253 Vac | |
| Output: 1 switch-over contact, potential free | max. 253 Vac, 4 A<br>max. 30 Vdc, 4 A<br>max. 253 Vdc, 0.2 A |

2.4 For cable entries, appropriate cable glands or blind plugs shall be used which are approved by ExTL in accordance with GB12476.1-2013 and GB12476.5-2013, with the type of protection at least should be Ex tD A21 IP66.

2.5 Ambient temperature range at the electronics enclosure: -40℃～+60℃;

Medium temperature range at the probe: -40℃～+80℃.

The max. surface temperature of the electronics enclosure is T91℃ when the max. ambient temperature is 60℃;

The max. surface temperature of the probe is $T_{200}$108 when the max. medium temperature is 80℃.

2.6 Precaution shall be taken to assure that propagated brush discharges on the marking plate are avoided.

2.7 Clean the surface of this product termly when using in combustible dust atmosphere.

2.8 Any maintenance shall be performed only when the warning "Do not open when energized" is observed.

2.9 The user shall not change the configuration in order to maintain/ensure the explosion protection performance of the equipment. Any change may impair safety.

2.10 For installation, use and maintenance of this 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 15577-2018 "Safety regulations for dust explosion prevention and protection". (Only if installed in dust hazardous areas).

## 3. Manufacturer's Responsibility

3.1 Conditions for safe use, as specified above, should be included in the documentation the user is provided with.

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

3.3 Nameplate should include these contents listed below:

1) NEPSI logo
2) Ex marking
3) Certificate number
4) Ambient temperature
5) Electrical data

National Supervision and Inspection Center
for Explosion Protection and Safety of Instrumentation
2021.06.10