



# 防爆合格证

证 号: GYJ26.1246X

制 造 商 恩德斯+豪斯公司

(地址: Bergener Ring 27, 01458 Ottendorf-Okrilla, Germany)

产 品 名 称 过程光度计

型 号 规 格 MCS300P-EX\*\*\*

防 爆 标 志 Ex eb pxb IIC T3...T4 Gb 或 Ex eb pzc IIC T3...T4 Gc

产 品 标 准 /

图 样 编 号 9158563, 9159553

经图样及技术文件的审查和样品检验, 确认上述产品符合下列标准:

GB/T 3836.1-2021, GB/T 3836.3-2021, GB/T 3836.5-2021

特颁发此证。

本证书有效期: 2026 年 09 月 10 日 至 2031 年 09 月 09 日

备 注

1. 型号规格说明见本证书附件。
2. 证书编号后缀“X”表明产品具有特殊使用条件, 详见本证书附件。
3. 电气参数见本证书附件。
4. 产品使用注意事项见本证书附件。

批 准

上海仪器仪表自控系统检验测试所有限公司  
国家级仪器仪表防爆安全监督检验站

颁 发 日 期 二 〇 二 六 年 九 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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# EXPLOSION PROTECTION

## CERTIFICATE OF CONFORMITY

Cert No. GYJ26.1246X

|                         |                                                                                                         |
|-------------------------|---------------------------------------------------------------------------------------------------------|
| <b>Manufacturer</b>     | <b>Endress+Hauser SICK GmbH+Co. KG</b><br>(Address: Bergener Ring 27, 01458 Ottendorf-Okrilla, Germany) |
| <b>Product</b>          | Process photometer                                                                                      |
| <b>Model</b>            | MCS300P-EX***                                                                                           |
| <b>Ex marking</b>       | Ex eb pxb IIC T3...T4 Gb or Ex eb pzc IIC T3...T4 Gc                                                    |
| <b>Product standard</b> | /                                                                                                       |
| <b>Drawing number</b>   | 9158563, 9159553                                                                                        |

The product was found to comply with the following standard(s):

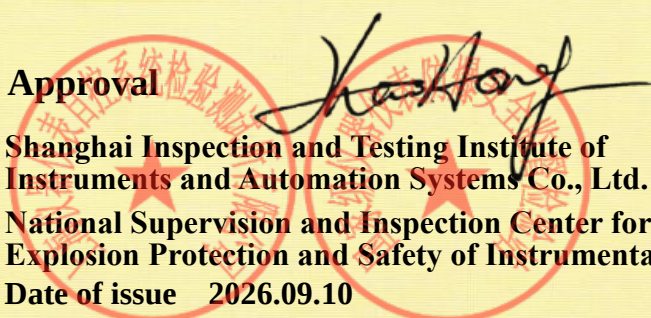
GB/T 3836.1-2021, GB/T 3836.3-2021, GB/T 3836.5-2021

**Valid until:** 2031.09.09

**Remarks**

1. The model designation is specified in the attachment(s) to this certificate.
2. The symbol "X" placed after the certificate number denotes specific conditions of use, which are specified in the attachment(s) to this certificate.
3. The conditions for use are specified in the attachment(s) to this certificate.
4. The electrical parameters are specified in the attachment(s) to this certificate.

**Approval**

  
Shanghai Inspection and Testing Institute of  
Instruments and Automation Systems Co., Ltd.  
National Supervision and Inspection Center for  
Explosion Protection and Safety of Instrumentation  
Date of issue 2026.09.10

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



(GYJ26.1246X)

(Attachment I)

## GYJ26.1246X 防爆合格证附件 I

产品符合下列标准:

GB/T 3836.1-2021 爆炸性环境 第 1 部分: 设备 通用要求

GB/T 3836.3-2021 爆炸性环境 第 3 部分: 由增安型“e”保护的设备

GB/T 3836.5-2021 爆炸性环境 第 5 部分: 由正压外壳“p”保护的设备

本证书认可产品的具体型号规格为: MCS300P-EX**a b c**, 其中:

**a** 代表型号与温度等级, 可为 0=特殊型号, 与防爆性能无关, 1=2G 区 T3 温度等级 230V, 2=2G 区 T3 温度等级 115V, 3=2G 区 T4 温度等级 230V, 4=2G 区 T4 温度等级 115V, 5=3G 区 T3 温度等级 230V, 6=3G 区 T3 温度等级 115V, 7=3G 区 T4 温度等级 230V, 8=3G 区 T4 温度等级 115V, 9=标准型号, 与防爆性能无关。

**b** 代表比色皿, 可为 0=特殊型号, 与防爆性能无关, 1=OM100EX (过程气体比色皿), 2=OM200EX (过程气体比色皿), 3=OM500EX (过程气体比色皿), 4=OM750EX (过程气体比色皿), 5=液化气罐, 6=液化气罐+液体预热器, 9=非防爆比色皿, 与防爆性能无关。

**c** 代表比色皿视窗, 可为 0=与防爆性能无关, 1=BaF<sub>2</sub> (氟化钡), 2=CaF<sub>2</sub> (氟化钙), 3=石英。

### 1、产品特殊使用条件

防爆合格证号后缀“X”表明产品具有特殊使用条件:

1.1 产品使用环境温度范围: +5℃~+40℃

1.2 涉及防爆的测量功能不属于型式检验的范围。

1.3 过压监控装置的设定值必须符合气动参数的要求。

1.4 连接工艺时，必须遵守工艺气体和液体气体单元参数中规定的气动和液压数值。

## 2. 产品使用注意事项

### 2.1 电气参数

| 参数                 | 数值        | 单位  |
|--------------------|-----------|-----|
| 电源电压               | 115 / 230 | VAC |
| 频率                 | 50 - 60   | Hz  |
| 电源输入               |           |     |
| 功率输入（分析仪）          | 最大 230    | VA  |
| 功率输入（带过程气体吸收池或液体池） | 最大 805    | VA  |
| 功率输入（带可选加热器）       | 最大 1450   | VA  |

### 2.2 分析仪气动参数

| 参数      | 数值                      |
|---------|-------------------------|
| 自由容积    | 40 dm <sup>3</sup>      |
| 最小预吹扫容积 | 200 dm <sup>3</sup>     |
| 最小体积流量  | 66 dm <sup>3</sup> /min |
| 最小过压    | 0.8 mbar                |
| 最大过压    | 18 mbar                 |

### 2.3 液化气罐的气动数据和液压数据

| 参数                                    | 数值     |
|---------------------------------------|--------|
| 测量气体最大压力（比色皿窗口为石英或 CaF <sub>2</sub> ） | 50 bar |
| 测量气体最大压力（比色皿窗口为 BaF <sub>2</sub> ）    | 25 bar |
| 样品介质最大流量                              | 8 l/h  |
| 吹扫气室最大压力                              | 3 bar  |
| 吹扫气最大流量                               | 35 l/h |

## 2.4 过程气体比色皿的气动数据

| 参数                                  | 数值          |
|-------------------------------------|-------------|
| 测量气体最大压力（比色皿窗口为石英或 $\text{CaF}_2$ ） | 20 bar      |
| 测量气体最大压力（比色皿窗口为 $\text{BaF}_2$ ）    | 10 bar      |
| 测量气体最大流量（工艺非爆炸危险）                   | 1000 l/h    |
| 测量气体最大流量（工艺要求 2G 或 3G 等级）           | 100 l/h     |
| 吹扫气室最大压力                            | 3 bar       |
| 吹扫气流量                               | 2 - 100 l/h |

2.5 产品外壳防护等级：IP65。

2.6 MCS300P-EX<sub>a b c</sub> 系列过程光度计，可与过程气体比色皿（见 IECEx BVS 17.0060U）或液化气罐（见 IECEx BVS 26.0018U）配合使用，液化气罐可装配液体预热器（见 IECEx BVS 26.0019U）。pxb 版本采用 FS850S 系统（IECEx BVS 12.0033），pzc 版本采用 FS840 系统（IECEx BVS 15.0037X），配合辅助设备（比例阀、接口继电器）使用。

2.7 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。

2.8 产品的安装、使用和维护应同时遵守产品使用说明书及下列相关标准的要求：

GB/T 3836.13—2021 爆炸性环境 第 13 部分：设备的修理、检修、修复和改造

GB 3836.15—2024 爆炸性环境 第 15 部分：电气装置设计、选型、安装规范

GB 3836.16—2024 爆炸性环境 第 16 部分：电气装置检查与维护规范

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

### 3. 制造商责任

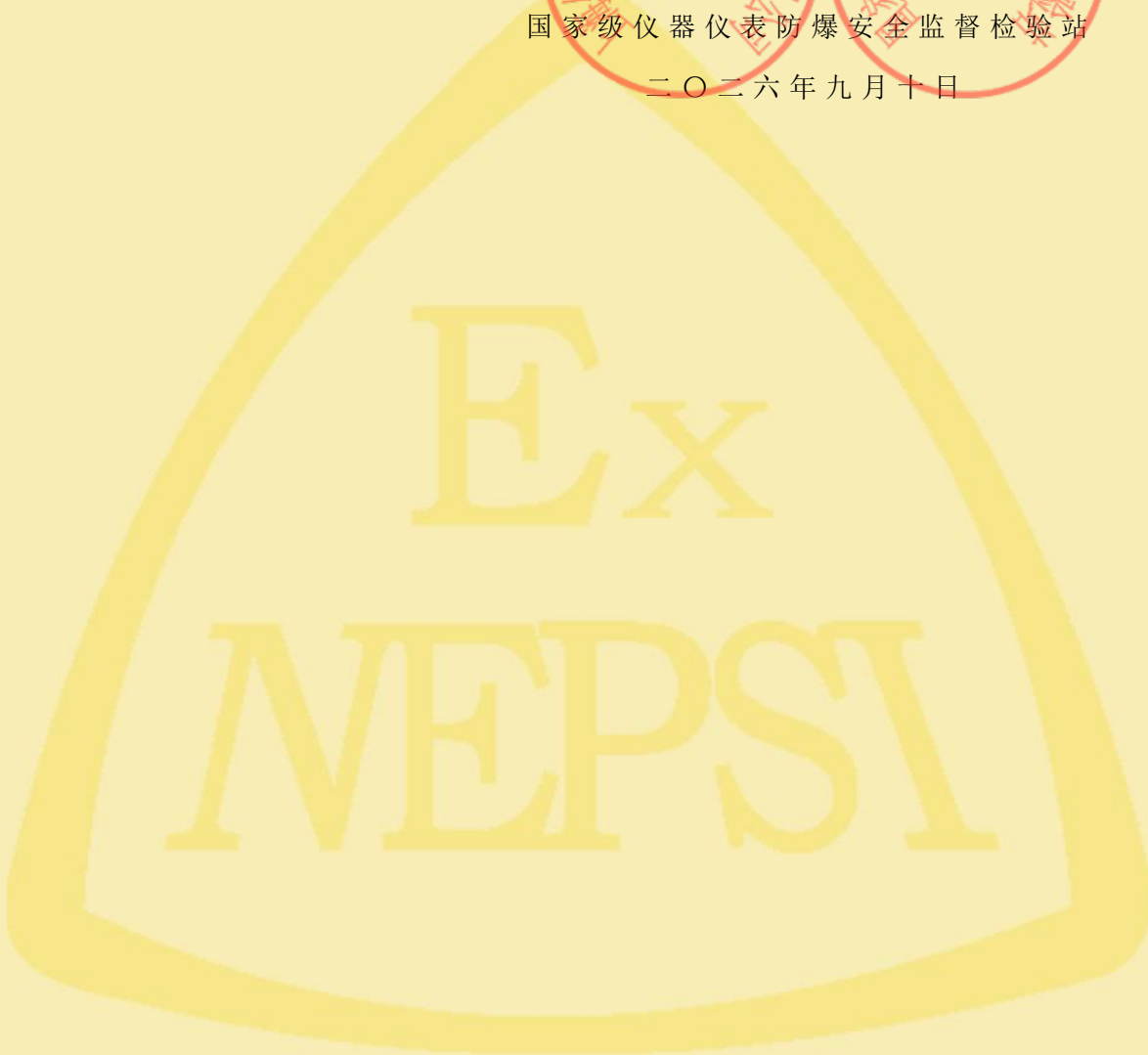
3.1 制造商应将包含上述产品特殊使用条件及产品使用注意事项的使用说明书提供给用户。

3.2 制造商应严格按照国家级仪器仪表防爆安全监督检验站认可的文件资料生产。

上海仪器仪表自控系统检验测试所有限公司

国家级仪器仪表防爆安全监督检验站

二〇二六年九月十日





(GYJ26.1246X)

(Attachment I)

## Attachment I to GYJ26.1246X

### 1. Description

The product complies with the following standards:

GB/T 3836.1-2021 Explosive atmospheres-Part 1: Equipment-General requirements

GB/T3836.3-2021 Explosive atmospheres-Part 3: Equipment protection by increased safety “e”

GB/T3836.5-2021 Explosive atmospheres Part5: Equipment protection by pressurized enclosure “p”

This certificate approves the specific model specifications of the product as: MCS300P-EXa<sup>b</sup>c

a represents the Variant and temperature class, can be 0=Special model,not EX-relevant,1=Zone 2G T3 230 V,2=Zone 2G T3 115 V,3=Zone 2G T4 230 V,4=Zone 2G T4 115 V,5=Zone 3G T3 230 V,6=Zone 3G T3 115 V,7=Zone 3G T4 230 V,8=Zone 3G T4 115 V,9=Standard model,not ex relevant;

b represents the Cuvette, can be 0=Special model,not EX-relevant,1=OM100EX (Process gas cuvette),2=OM200EX (Process gas cuvette),3=OM500EX (Process gas cuvette),4=OM750EX (Process gas cuvette),5=Liquid / Gas cell,6=Liquid / Gas cell + Liquid Pre Heater,9=Non-Ex cuvette,not Ex-relevant;

c represents the Cuvette window, can be 0=Not EX-relevant,1=BaF2,2=CaF2,3=Quartz;

### 2. Special Conditions for Safe Use

The suffix “X” placed after the certificate number indicates that this product is subject to special conditions for safe use, that is:

2.1 Product operating ambient temperature range: +5°C ~ +40°C

2.2 A measuring function with regard to explosion protection is not subject of the type examination.

2.3 The setting of the overpressure monitoring device has to comply with the pneumatic parameters.

2.4 The pneumatic and hydraulic values stated in parameters for the process gas and liquid gas cell must be complied with when connecting the process.

### 3. Conditions for Safe Use

3.1 Electrical parameters:

| Parameter      | Value     | Unit |
|----------------|-----------|------|
| Supply voltage | 115 / 230 | VAC  |
| Frequency      | 50-60     | Hz   |

| Parameter                                   | Value |      | Unit |
|---------------------------------------------|-------|------|------|
| Power input                                 |       |      |      |
| Analyzer                                    | max.  | 230  | VA   |
| With process gas cuvette or liquid gas cell | max.  | 805  | VA   |
| With Optional heater                        | max.  | 1450 | VA   |

## 3.2 Pneumatic parameters for the analyzer:

| Parameter             | Value | Unit                 |
|-----------------------|-------|----------------------|
| Free volume           | 40    | dm <sup>3</sup>      |
| Min. pre-purge volume | 200   | dm <sup>3</sup>      |
| Min. volume flow      | 66    | dm <sup>3</sup> /min |
| Min. overpressure     | 0.8   | mbar                 |
| Max. overpressure     | 18    | mbar                 |

## 3.3 Pneumatic data / hydraulic data for liquid gas cell

| Parameter                                 | Value | Unit |
|-------------------------------------------|-------|------|
| Maximum pressure of measuring gas         |       |      |
| Cuvette window quartz or CaF <sub>2</sub> | 50    | bar  |
| Cuvette window BaF <sub>2</sub>           | 25    | bar  |
| Maximum flow rate of sample media         | 8     | l/h  |
| Maximum pressure of purging gas room      | 3     | bar  |
| Maximum flow rate purging gas             | 35    | l/h  |

## 3.4 Pneumatic data for Process gas cuvette

| Parameter                                   | Value | Unit |
|---------------------------------------------|-------|------|
| Maximum pressure of measuring gas           |       |      |
| Cuvette window quartz or $\text{CaF}_2$     | 20    | bar  |
| Cuvette window $\text{BaF}_2$               | 10    | bar  |
| Maximum flow rate of measuring gas          |       |      |
| -Process not an explosive hazard            | 1000  | l/h  |
| -Process requiring category 2G or 3G        | 100   | l/h  |
| Maximum pressure of purging gas compartment | 3     | bar  |
| Flow rate purging gas                       | 2-100 | l/h  |

3.5 Ingress protection: IP65.

3.6 The process photometer of type MCS300P-Exa b c can be used in conjunction with a process gas cuvette IECEx BVS 17.0060U) or a liquid gas cell (IECEx BVS 26.0018U). Optionally a liquid pre-heater (see IECEx BVS 26.0019U) can be installed. The monitoring of the overpressure and the pre-purging process is provided by system FS850S (IECEx BVS 12.0033) for the pxb version and by system FS840 (IECEx BVS 15.0037X) for the pzc version in conjunction with auxiliary devices (proportional valve, interface relay).

3.7 Users shall not replace components of this product by themselves. Any faults occurring during operation shall be resolved jointly with the product manufacturer to prevent damage.

3.8 The installation, use, and maintenance of the product shall simultaneously comply with the relevant provisions of the product instruction manual:

GB/T 3836.13-2021 "Explosive atmospheres – Part 13: Equipment repair, overhaul, reclamation and modification"

GB 3836.15-2024 "Explosive atmospheres – Part 15: Specification of electrical installations design, selection and erection"

GB 3836.16-2024 "Explosive atmospheres – Part 16: Specification of electrical installations inspection and maintenance"

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

#### 4. Manufacturer's Responsibility

4.1 Conditions for safe use and special 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.

Shanghai Inspection and Testing  
Institute of Instruments and Automation Systems Co. Ltd.  
National Supervision and Inspection Center  
for Explosion Protection and Safety of Instrumentation  
2026.09.10

Ex  
NEPSI