防爆合格证

证　号：GYJ21.1074X

由 Endress+Hauser Conducta GmbH+Co. KG 制造的产品：
（地址：Dieselstraße 24, 70839 Gerlingen, Germany）

名　　称　氧分析传感器

型号规格　xOS81E、xOS22E、xOS51E 系列
Ex ia op is ⅡC T6/T4/T3 Ga

防爆标志　Ex iaD op is 20 T90/T135/T200
Ex ia ⅡC T6/T4 Ga　Ex ia ⅡC T6 Ga

产品标准　/

图样编号　961004851 Rev.A、961004915 Rev.A、961004900 Rev.A

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/T 3836.22-2017, GB 12476.1-2013,GB 12476.4-2010, 标准，特颁发此证。

本证书有效期：2021 年 02 月 22 日至 2026 年 02 月 21 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. 安全电气参数见本证书附件。
5. 本证书同时适用于恩德斯豪斯分析仪器（苏州）有限公司（地址：苏州工业园区江田里路 31 号）生产的同型号产品。
6. [更改 I]：产品型号规格、防爆标志、图样编号变更。2021 年 11 月 10 日签发。

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 二 月 二十二 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　网址：www.nepsi.org.cn　电话：+86 21 64368180
邮编：200233　Email:info@nepsi.org.cn　传真：+86 21 64844580

版本05

EXPLOSION PROTECTION
CERTIFICATE OF CONFORMITY

Cert NO.GYJ21.1074X

This is to certify that the product

	Oxygen sensor
manufactured by	Endress+Hauser Conducta GmbH+Co. KG
	(Address:Dieselstraße 24, 70839 Gerlingen, Germany)
which model is	xOS81E, xOS22E and xOS51E series
Ex marking	Ex ia op isIIC T6/T4/T3 Ga Ex iaD op is 20 T90/T135/T200 Ex iaIIC T6/T4 Ga Ex iaIIC T6 Ga
product standard	/
drawing number	961004851 Rev.A, 961004915 Rev.A, 961004900 Rev.A

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/T 3836.22-2017, GB 12476.1-2013,GB 12476.4-2010.

This Approval shall remain in force until 2026.02.21

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.Safety parameters specified in the attachment(s) to this certificate.
5.This certificate is also applicable for the product with the same type manufactured by Endress+Hauser Analytical Instruments (Suzhou) Co., Ltd. (address: Jiang Tian Li Lu, No.31, Suzhou-SIP, China)
6.[VariationI]: Modify the product model, Ex marking and drawing number. Signed on 2021.11.10.

Director

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

Issued Date 2021.02.22

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@nepsi.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

(GYJ21.1074X) **(Attachment Ⅱ)**

GYJ21.1074X防爆合格证附件Ⅱ

由Endress+Hauser Conducta GmbH + Co. KG生产的xOS81E、xOS22E和xOS51E系列氧分析传感器，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 3836.20-2010 爆炸性环境 第20部分：设备保护级别（EPL）为Ga级的设备

GB/T 3836.22-2017 爆炸性环境 第22部分：光辐射设备和传输系统的保护措施

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”

产品防爆标志见下表，防爆合格证号GYJ21.1074X。

型号	防爆标志
xOS81E	Ex ia op is ⅡC T6/T4/T3 Ga Ex iaD op is 20 T90/T135/T200
xOS22E	Ex ia ⅡC T6/T4 Ga
xOS51E	Ex ia ⅡC T6 Ga

本证书认可产品型号规格如下：

xOS81E-aa bb cc dd e fff+g

其中：x可为C、O或OC（与防爆性能无关）；

aa表示认证代码；

bb表示测量范围（与防爆性能无关）；

cc表示探头保护套材质，可为AC、AU、BC、BU、CC、CU或YY；

dd表示探头长度（最长600mm）；

e表示O圈材质（探头保护套内，与防爆性能无关）；

fff表示附加信息（与防爆性能无关）；

g表示附加信息（与防爆性能无关）。

xOS22E-aa bb cc dd e fff+g

其中：x可为C、O或OC（与防爆性能无关）；

aa表示认证代码；

bb表示测量范围（与防爆性能无关）；

cc表示探头保护套材质，可为AA、BA、CA或YY；

dd表示探头长度（最长600mm）；

e表示O圈材质（探头保护套内，与防爆性能无关）；

fff表示附加信息（与防爆性能无关）；

g表示附加信息（与防爆性能无关）。

xOS51E-aa bb cc fff+g

其中：x可为C、O或OC（与防爆性能无关）；

aa表示认证代码；

bb表示测量范围（与防爆性能无关）；

cc表示探头保护套材质，可为TF、TN或YY；

fff表示附加信息（与防爆性能无关）；

g表示附加信息（与防爆性能无关）。

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：

对于所有型号：

1、传感器塑料表面仅能使用湿布擦拭，以防产生静电火花危险。

2、传感器应用场所应避免静电产生，应避免强气流及粉尘云等对于传感器探头的直接影响。

对于型号xOS22E和xOS81E：

1、传感器的金属过程连接部件须连接接地系统，导电率小于1MΩ。

2、传感器部分使用轻金属时，应避免这些含有轻金属的部位受到机械冲击。

对于型号xOS51E：

1、为防止静电发生，产品使用中的流体介质电导率应至少为10nS/cm。

二、产品使用注意事项

1、产品温度组别/最高表面温度与使用环境温度、介质温度范围的关系如下：

传感器型号	温度组别/最高表面温度	使用环境温度	介质温度范围
xOS81E	T6/T90℃	-25℃～+70℃	-15℃～+70℃
	T4/T135℃	-25℃～+90℃	-15℃～+120℃
	T3/T200℃	-25℃～+70℃	-15℃～+130℃
xOS22E	T6	-25℃～+70℃	-5℃～+70℃
	T4	-25℃～+70℃	-5℃～+100℃
xOS51E	T6	-5℃～+60℃	-5℃～+60℃

2、产品安全电气参数：

最大输入功率$P_i \leq 180mW$ （所有型号）

光辐射功率（传感器信号）$P_{opt} \leq 15mW$ （仅xOS81E）

3、本传感器应连接具有如下本安输出参数的Memosens设备：

$P_o \leq 180mW$

4、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。

5、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”及GB 15577-2018“粉尘防爆安全规程”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）安全参数说明

国家级仪器仪表防爆安全监督检验站

二〇二一年十一月十日

注：本附件是对2021年2月22日签发的附件Ⅰ的更新。

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

(GYJ21.1074X) **(Attachment Ⅱ)**

Attachment Ⅱ to GYJ21.1074X

(translation)

1. Description

Oxygen sensor type Memosens xOS81E, xOS22E and xOS51E, manufactured by Endress+Hauser Conducta GmbH+Co. KG, has been certified by 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/T 3836.22-2017 Explosive atmospheres-Part 22: Protection of equipment and transmission system using optical radiation

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 shown as below, its certificate number is GYJ20.1074X.

Model	Ex marking
xOS81E	Ex ia op is Ⅱ C T6/T4/T3 Ga Ex iaD op is 20 T90/T135/T200
xOS22E	Ex ia Ⅱ C T6/T4 Ga
xOS51E	Ex ia Ⅱ C T6 Ga

Type approved in this certificate is:

xOS81E-[redacted]

Note: x includes C, O or OC (no ex-relevance);

[redacted] indicates order option approval certification;

[redacted] indicates measuring range (no ex-relevance);

[redacted] indicates Cap characteristics, including AC, AU, BC, BU, CC, CU or YY;

[redacted] indicates sensor length (no ex-relevance) max 600mm;

[redacted] indicates O-ring material (in the cap) (no ex-relevance);

[redacted] indicates optional (no ex-relevance);

[redacted] indicates optional features (no ex-relevance).

xOS22E-[redacted]

Note: x includes C, O or OC (no ex-relevance);

[redacted] indicates order option approval certification;

[redacted] indicates measuring range (no ex-relevance);

[redacted] indicates Cap characteristics, including AA, BA, CA or YY;

[redacted] indicates sensor length (no ex-relevance) max 600mm;

[redacted] indicates O-ring material (in the cap) (no ex-relevance);

[redacted] indicates optional (no ex-relevance);

[redacted] indicates optional features (no ex-relevance).

xOS51E-[redacted]

Note: x includes C, O or OC (no ex-relevance);

[redacted] indicates order option approval certification;

[redacted] indicates measuring range (no ex-relevance);

[redacted] indicates Cap characteristics, including TF, TN or YY;

[redacted] indicates optional (no ex-relevance);

[redacted] indicates optional features (no ex-relevance).

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:

For all types:

1. The plastic housing may only be cleaned with a damp cloth.
2. The sensor may not be operated in electrostatically critical processing conditions, in which an electrostatic loading of the sensor and the connecting system is to be counted. Significant steam and dust clouds acting directly on the Memosens sensor head must be strictly avoided.

For type xOS22E and xOS81E:

1. Metallic process connection parts have to be mounted electrostatically conductive at the mounting location (< 1 MΩ).
2. If sensor parts are consisting of light metal e.g. Titan, then these parts have to protected against hits.

For type xOS51E:

1. Operation in product application intended fluid media providing conductivity of at least 10nS/cm can be assumed as electrostatic uncritical.

3. Conditions for Safe Use

3.1 The relationship between sensor, temperature class/max. surface temperature, ambient temperature and process temperature is shown as following:

Sensor	Temperature class/ Max. surface temperature	Ambient temperature	Process temperature
xOS81E	T6/T90℃	-25℃～+ 70℃	-15℃～+ 70℃
	T4/T135℃	-25℃～+ 90℃	-15℃～+ 120℃
	T3/T200℃	-25℃～+ 70℃	-15℃～+ 130℃
xOS22E	T6	-25℃～+ 70℃	-5℃～+ 70℃
	T4	-25℃～+ 70℃	-5℃～+ 100℃
xOS51E	T6	-5℃～+ 60℃	-5℃～+ 60℃

3.2 Safety parameters:

Inductive coupling	$P_i \leq 180mW$	for all types
Optical radiation (sensor signal)	$P_{opt} \leq 15mW$	only type xOS81E

3.3 The approved Oxygen sensors must be connected to a Memosens compatible supply with $P_o \leq 180mW$.

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

3.5 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 15577-2018 "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 Safety parameters

National Supervision and Inspection Center
for Explosion Protection and Safety of Instrumentation
2021.11.10

Note: This attachment is the amendment to the attachment Ⅰ issued on 2021.02.22.