防 爆 合 格 证

证　号：GYJ23.1375X

制　造　商　恩德斯+豪斯公司

（地址：Dieselstraße 24, 70839 Gerlingen, Germany）

产 品 名 称　电导率传感器

型 号 规 格　*a*LS 系列

防 爆 标 志　Ex ia ⅡC T2...T6 Ga(*a*LS13 系列)
Ex ia ⅡC T3...T6 Ga(*a*LS12/15/16/16B/21 系列)

产 品 标 准　/

图 样 编 号　136524-3A, 136535-3A, 136536-0000-3B, 136537-3A, 136538-3

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 3836.4-2021

特颁发此证。

本证书有效期：2023 年 07 月 06 日 至 2028 年 07 月 05 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. 本安电气参数见本证书附件。
5. [更改 1]增加产品型号。2024 年 3 月 7 日签发。

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 二〇二三 年 七 月 六 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
邮编：200233
网址：www.nepsi.org.cn
Email:info@nepsi.org.cn
电话：+86 21 64368180
传真：+86 21 64844580

EXPLOSION PROTECTION
CERTIFICATE OF CONFORMITY

Cert No. GYJ23.1375X

Manufacturer	**Endress+Hauser Conducta Gmbh+Co.KG** **(Address:Dieselstraße 24, 70839 Gerlingen, Germany)**
Product	**Conductivity sensor**
Model	***a*LS Series**
Ex marking	**Ex ia IIC T2…T6 Ga(*a*LS13 Series)** **Ex ia IIC T3…T6 Ga(*a*LS12/15/16/16B/21 Seriess)**
Product standard	**/**
Drawing number	**136524-3A, 136535-3A, 136536-0000-3B, 136537-3A, 136538-3**

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

GB/T 3836.1-2021,GB/T 3836.4-2021

Valid until: **2028.07.05**

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 to this certificate.
3.Model designation is specified in the attachment(s) to this certificate.
4.Intrinsic safety parameters specified in the attachment(s) to this certificate.
5.[Variation I]Add product *a*LS Series. issued on 2024.03.07.

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 2023.07.06

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

(GYJ23.1375X) (Attachment Ⅱ)

GYJ23.1375X 防爆合格证附件Ⅱ

由恩德斯+豪斯公司生产的*a*LS系列电导率传感器，经检验符合下列标准：

GB/T 3836.1-2021 爆炸性环境 第1部分：设备 通用要求

GB/T 3836.4-2021 爆炸性环境 第4部分：由本质安全型“i”保护的设备

产品防爆标志 Ex ia ⅡC T2…T6 Ga(*a*LS13 系列), Ex ia ⅡC T3…T6 Ga(CLS12/15/16/16B/21系列)，防爆合格证号GYJ23.1375X。

本证书认可的型号规格如下：

Condumax *a*LS12-*b c d e g*

Condumax *a*LS13-*b c d e g*

Condumax *a*LS15-*b c d e g*

Condumax *a*LS16-*c d e f g*

Condumax *a*LS21-*b c d e g*

*a*代表可替换产品系列号，可为C，O或OC，与防爆性能无关；

*b*代表测量范围，可为A，B，C或L，与防爆性能无关；

*c*代表过程连接/材料，可为两位字符，与防爆性能无关；

*d*代表连接电缆，可为1, 4, 5=不带永久电缆；2=带5m永久电缆；3=带10m永久电缆；

*e*代表温度传感器，可为D=不带温度传感器；A=Pt100；B=Pt1000；

*f*代表可选项，可为两位字符，与防爆性能无关；

*g*代表可选项，可为空白（不选）或三位字符（代表OEM/label partner）+1位到最多11位字符（代表可选功能），与防爆性能无关；

详见产品使用说明书。

Condumax *a*LS16B-*b c d e f g* + *h*

*a*代表可替换产品系列号，可为C，O或OC，与防爆性能无关；

*b*代表可选的认证，可为两位字符，与防爆性能无关；

*c*代表过程连接，可为两位字符，与防爆性能无关；

*d*代表材料，可为两位字符，与防爆性能无关；

*e*代表电缆连接，可为一位字符，与防爆性能无关；

*f*代表温度传感器，可为A=Pt100；B=Pt1000；

*g*代表OEM/label partner，可为三位字符（仅当*a*=O或OC时）；

*h*代表可选项，可为1位到最多11位字符，与防爆性能无关；

详见产品使用说明书。

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：

1、对于传感器CLS21，测量介质的最小电导率为10nS/cm，以避免产生静电火花危险。

2、传感器头部的使用环境温度范围为：-20℃～60℃。

传感器尖端部位使用环境温度和产品型号、温度组别的关系如下：

产品型号	环境温度	温度组别
aLS12-b c d A	-20℃～+160℃	T3
	-20℃～+125℃	T4
	-20℃～+75℃	T6
aLS13-b c dA	-20℃～+250℃	T2
	-20℃～+190℃	T3
	-20℃～+125℃	T4
	-20℃～+75℃	T6
aLS15-b c d A	-20℃～+140℃	T3
	-20℃～+115℃	T4
	-20℃～+65℃	T6
aLS16-c d A/B aLS16B-b c d e A/B	-5℃～+150℃	T3
	-5℃～+115℃	T4
	-5℃～+65℃	T6
aLS21-b c d A	-20℃～+135℃	T3
	-20℃～+115℃	T4
	-20℃～+65℃	T6
aLS21-b c d D	-20℃～+135℃	T3
	-20℃～+130℃	T4
	-20℃～+80℃	T6

二、产品使用注意事项

1、产品必须与已通过防爆认证的关联装置配套共同组成本安防爆系统方可使用于爆炸性气体环境，本安输入参数如下：

U_i=15.0V I_i=30mA P_i=130mW C_i=1nF L_i=6 μH

2、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。

3、产品的安装、使用和维护应同时遵守产品使用说明书、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/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 3836.16-2022“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”及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”

三、制造厂责任

1、产品制造厂必须将上述产品安全使用特殊条件和使用注意事项纳入该产品使用说明书。

2、制造厂必须严格按照NEPSI认可的文件资料生产。

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

二〇二四年三月七日

注：本证书附件替代原证书附件Ⅰ。

Attachment Ⅱ to GYJ23.1375X

1. Description

*a*LS Series Conductivity Sensors, manufactured by Endress+Hauser Conducta GmbH+Co. KG, has been certified accords with following standards:

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

GB/T 3836.4-2021 Explosive atmospheres-Part 4: Equipment protection by intrinsic safety"i"

The Ex marking is Ex ia ⅡC T2…T6 Ga(*a*LS13 Series), Ex ia ⅡC T3…T6 Ga(*a*LS12/15/16/16B/21 Series), its certificate number is GYJ23.1375X.

Type approved in this certificate is:

Condumax *a*LS12-*b c d e g*

Condumax *a*LS13-*b c d e g*

Condumax *a*LS15-*b c d e g*

Condumax *a*LS16-*c d e f g*

Condumax *a*LS21-*b c d e g*

Note: *a* indicates alternative product designation:C,O or OC (not Ex-relevant);

b indicates measuring range and cell constant (not Ex-relevant);

c indicates two characters determining process connection / material (not Ex-relevant);

d indicates cable connection: 1, 4, 5 = without fixed cable; 2 = with 5m fixed cable; 3 = with 10m fixed cable;

e indicates temperature sensor: D = without temperature sensor; A = Pt100; B = Pt1000;

f indicates two characters determining additional option (no Ex relevance);

g indicates optional, which can be blank (No option) or three characters determining OEM / label partner (no Ex relevance)+ 1 to 11 characters determining optional features (no Ex relevance).

Refer to the instruction manual for the details.

Condumax *a*LS16B-*b c d e f g* + *h*

Note: *a* indicates alternative product designation:C,O or OC (not Ex-relevant);

b indicates two characters determining order option approval (not Ex-relevant);

c indicates two characters determining process connection (not Ex-relevant);

d indicates two characters determining material (not Ex-relevant);

e indicates one characters determining cable connection (not Ex-relevant);

f indicates temperature sensor:A = Pt100; B = Pt1000;

g indicates three characters determining OEM/label partner (only *a*=O or OC);

h indicates optional, which can 1 to 11 characters determining 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:

2.1 The sensor type ***a***LS21 is only allowed to be used for measuring liquids having a minimum conductivity of 10nS/cm in order to avoid electrostatic charge.

2.2 Ambient temperature range of the sensor head： -20℃～+60℃.

The relation between the ambient temperature range of the sensor tip and model type, temperature class is shown as follows:

Model type	ambient temperature	temperature class
aLS12-***b c d*** A	-20℃～+160℃	T3
	-20℃～+125℃	T4
	-20℃～+75℃	T6
aLS13-***b c d***A	-20℃～+250℃	T2
	-20℃～+190℃	T3
	-20℃～+125℃	T4
	-20℃～+75℃	T6
aLS15-***b c d*** A	-20℃～+140℃*	T3
	-20℃～+115℃	T4
	-20℃～+65℃	T6
aLS16-***c d*** A/B ***a***LS16B-***b c d e*** A/B	-5℃～+150℃*	T3
	-5℃～+115℃	T4
	-5℃～+65℃	T6
aLS21-***b c d*** A	-20℃～+135℃	T3
	-20℃～+115℃	T4
	-20℃～+65℃	T6
aLS21-***b c d*** D	-20℃～+135℃	T3
	-20℃～+130℃	T4
	-20℃～+80℃	T6

3. Conditions for Safe Use

3.1 This product should be used in explosive gas atmospheres together with approved associated apparatus, the connecting parameters is shown as following:

Ui=15.0V Ii=30mA Pi=130mW Ci=1nF Li=6 μH

3.2The user shall not change the configuration in order to maintain/ensure the explosion protection performance of the equipment. Any change may impair safety.

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

GB/T 3836.13-2021 “Explosive atmospheres- Part 13:Equipment repair,overhaul,reclamation and modification”.

GB/T 3836.15-2017 “Explosive atmospheres- Part 15:Electrical installations design, selection and erection”.

GB/T 3836.16-2022 “Explosive atmospheres- Part 16:Electrical installations inspection and maintenance”.

GB/T 3836.18-2017 “Explosive atmospheres-Part 18: Intrinsically safe electrical systems”.

GB 50257-2014 ”Code for construction and acceptance of electric device for explosion atmospheres and fire hazard electrical equipment 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
2024.03.07

Note: This certificate annex replaces the original certificate Annex Ⅰ.