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防爆合格证

证号: GYJ22.1801

制 造 商 恩德斯豪斯公司

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

产 品 名 称 限位转换器

型 号 规 格 Nivotester FTL325 系列

防 爆 标 志 [Ex ia Ga] II C、[Ex ia Da] III C

产 品 标 准 /

图 样 编 号 960006042-B

经图样及技术文件的审查和样品检验, 确认上述产品符合下列标准:

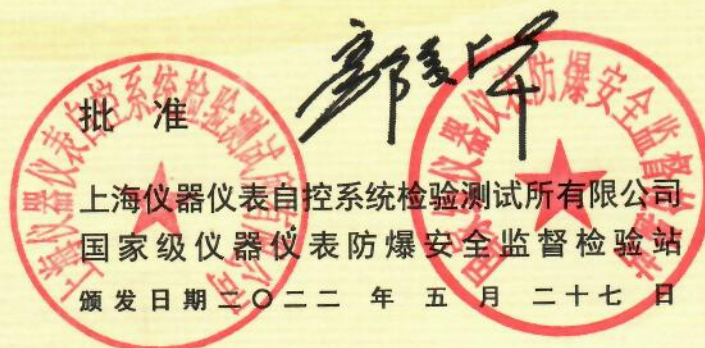
GB/T 3836.1-2021, GB/T 3836.4-2021, GB 3836.20-2010

特颁发此证。

本证书有效期: 2022年05月27日至2027年05月26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. 电气安全参数见本证书附件。
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。



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. GYJ22.1801

Manufacturer	Endress + Hauser SE +Co. KG (Address: Hauptstrasse 1, D-79689 Maulburg, Germany)
Product	Detection device
Model	Nivotester FTL325 Series
Ex marking	[Ex ia Ga]IIC、 [Ex ia Da]IIIC
Product standard	/
Drawing number	960006042-B

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

GB/T 3836.1-2021,GB/T 3836.4-2021,GB 3836.20-2010

Valid until: 2027.05.26

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.Safe 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)



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 2022.05.27

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

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GYJ22.1801防爆合格证附件 I

由恩德斯豪斯公司生产的Nivotester FTL325系列限位转换器，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/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

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
产品防爆标志为[Ex ia Ga]II C、[Ex ia Da]IIIC，防爆合格证号为GYJ22.1801。

本证书认可的产品型号规格如下：

Nivotester FTL325 **a - b c d e**

其中**a**表示输出信号，可为N（NAMUR）、P（PFM）；

b表示认证代码，可为M（[Ex ia Ga]II C、[Ex ia Da]IIIC）（WHG）、
N（[Ex ia Ga]II C、[Ex ia Da]IIIC）（WHG+SIL）；

c表示安装、外壳和通道，可为1（导轨安装、22.5mm、1通道）、
3（导轨安装、45mm、3通道）；

d表示供电电源，可为A（85V...253VAC, 50/60Hz）、
E（20V...60VDC/ 20V...30 VAC）；

e表示输出，可为1（1xSPDT+1xSPST）、
3（3xSPDT+1xSPST）。

一、产品使用注意事项

1、产品使用环境温度：

独立安装-20℃~+60℃；

密集安装-20℃~+50℃。

2、产品非本安端电气参数如下：

电路/端子	电气参数
供电电源	d = A 85~253VAC
	d = E 20~60VDC 或 20~30VAC
最高电压U _m	253VAC
触点电路	
限制电压	250VAC
限制电流	2A
cosφ=0.7时的限制功率	500VA
限制电压	40VDC
限制电流	2A
限制功率	80W

功耗		
最大功耗(FTL325N-**A*)	1通道	1.75W
	3通道	2.75W
最大功耗(FTL325N-**E*)	1通道	1.2W
	3通道	2.25W
最大功耗(FTL325P-**A*)	1通道	2.0W
	3通道	4.2W
最大功耗(FTL325P-**E*)	1通道	1.7W
	3通道	4.0W

3、该产品本安端(端子7-8, 33-34和37-38)的本安参数如下:

FTL325P:

最高输出电压	最大输出电流	最大输出功率	内部电阻
U _o (VDC)	I _o (mA)	P _o (mW)	R _i (Ω)
14.6	97	633	273

	IIC				IIB, IIIC			
Lo (mH)	3	1	0.5	0	15	5	1	0
Co (nF)	0	200	300	640	0	500	1000	3900

FTL325N:

最高输出电压	最大输出电流	最大输出功率	内部电阻
U _o (VDC)	I _o (mA)	P _o (mW)	R _i (Ω)
12	34	154	644

	IIC				IIB, IIIC			
Lo (mH)	30	1	0.5	0	120	5	1	0
Co (nF)	0	450	500	1400	0	1500	2000	9000

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/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 3836.16-2017“爆炸性气体环境 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”及GB 15577-2018“粉尘防爆安全规程”的有关规定。

二、制造厂责任

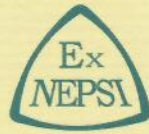
1、产品制造厂必须将上述产品安全使用特殊条件和使用注意事项纳入产品使用说明书或相关技术文件中；

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

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
二〇二二年五月二十七日



Attachment I to GYJ22.1801

1. Description

Nivotester FTL325 series Detection device, manufactured by Endres+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/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"

GB 3836.20-2010 Explosive atmospheres-Part 20: Equipment with equipment protection level (EPL) Ga

The Ex marking is [Ex ia Ga] II C, [Ex ia Da] III C; its certificate number is GYJ22.1801.

Type approved in this certificate is shown as following:

Nivotester FTL325 **a - b c d e**

Note: **a** indicates type of output signal, including N (NAMUR), P (PFM);

b indicates approval code, including M ([Ex ia Ga] II C, [Ex ia Da] III C) (WHG),

N ([Ex ia Ga] II C, [Ex ia Da] III C) (WHG+SIL);

c indicates mounting, housing, channels, including 1(Top hat rail mounting; 22.5 mm; 1-Channel),
3(Top hat rail mounting; 45 mm; 3-Channels);

d indicates power supply, including A(85V...253VAC, 50/60Hz),
E(20V...60 VDC/ 20V...30VAC);

e indicates output, including 1(1x SPDT level + 1x SPST alarm),
3(3x SPDT level + 1x SPSTalarm).

2. Condition for Safe Use

2.1 Ambient temperature range of the product is:

stand-alone mounting (-20~+60) °C,

row mounting (-20~+50) °C.

2.2 The parameters of non intrinsic safety circuits are shown as following:

circuit/terminal		parameters
Power supply	d = A	85~253VAC
	d = E	20~60VDC or 20~30VAC
Max. voltage U_m		253 VAC
Relay circuits		



Limiting voltage	250VAC	
Limiting current	2A	
Limiting Power at $\cos\phi = 0.7$	500VA	
Limiting voltage	40VDC	
Limiting current	2A	
Limiting Power	80W	
Power consumption		
Max. power consumption (FTL325N-**A*)	1 channel	1.75W
	3 channels	2.75W
Max. power consumption (FTL325N-**E*)	1 channel	1.2W
	3 channels	2.25W
Max. power consumption (FTL325P-**A*)	1 channel	2.0W
	3 channels	4.2W
Max. power consumption (FTL325P-**E*)	1 channel	1.7W
	3 channels	4.0W

2.3 Intrinsically safe parameters of output circuits (terminals 7 – 8, 33 – 34 and 37 –38) are shown as following:

FTL325P:

$U_o=14.6VDC$, $I_o=97mA$, $P_o=633mW$, $R_i=273\Omega$

	IIC				IIB, IIIC			
Lo (mH)	3	1	0.5	0	15	5	1	0
Co (nF)	0	200	300	640	0	500	1000	3900

FTL325N:

$U_o=12VDC$, $I_o=34mA$, $P_o=154mW$, $R_i=644\Omega$

	IIC				IIB, IIIC			
Lo (mH)	30	1	0.5	0	120	5	1	0
Co (nF)	0	450	500	1400	0	1500	2000	9000

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

2.5 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 equipment on fire and explosion hazard electrical equipment installation engineering".

GB 15577-2018 "Safety regulations for dust explosion prevention and protection".

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 3836.16-2017 Explosive atmospheres- Part 16: Electrical installations inspection and maintenance".


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

3. Manufacturer's Responsibility

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

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

3.3 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 Electric data

Shanghai Inspection and Testing Institute of
Instruments and Automation Systems Co., Ltd.
National Supervision and Inspection Center for
Explosion Protection and Safety of Instrumentation
2022.05.27

