IECEx Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION
IEC Certification System for Explosive Atmospheres

for rules and details of the IECEx Scheme visit www.iecex.com

Certificate No.:	**IECEx BVS 15.0085X**	Page 1 of 5	Certificate history:
Status:	**Current**	Issue No: 2	Issue 1 (2017-08-30) Issue 0 (2015-09-22)
Date of Issue:	2021-11-17		
Applicant:	**Endress+Hauser SE+Co. KG** Hauptstraße 1 79689 Maulburg **Germany**		
Equipment:	**Detection device type Nivotester FTL 325*-****		
Optional accessory:			
Type of Protection:	**Intrinsic Safety "i", Type of Protection "n", Increased Safety "e"**		
Marking:	[Ex ia Ga] IIC [Ex ia Da] IIIC	FTL325*-F*** and FTL325*-H***	
	Ex ec nC [ia Ga] IIC T4 Gc	FTL325*-G***	

Approved for issue on behalf of the IECEx Certification Body: **Dr Michael Wittler**

Position: **Deputy Head of Certification Body**

Signature: (for printed version)

Date:

1. This certificate and schedule may only be reproduced in full.
2. This certificate is not transferable and remains the property of the issuing body.
3. The Status and authenticity of this certificate may be verified by visiting www.iecex.com or use of this QR Code.

Certificate issued by:

DEKRA Testing and Certification GmbH
Certification Body
Dinnendahlstrasse 9
44809 Bochum
Germany

DEKRA
On the safe side.

IECEx Certificate of Conformity

Manufacturer: **Endress+Hauser SE+Co. KG**
Hauptstraße 1
79689 Maulburg
Germany

Additional manufacturing locations:

This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEx Quality system requirements.This certificate is granted subject to the conditions as set out in IECEx Scheme Rules, IECEx 02 and Operational Documents as amended

STANDARDS :
The equipment and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards

IEC 60079-0:2017 Explosive atmospheres - Part 0: Equipment - General requirements
Edition:7.0

IEC 60079-11:2011 Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
Edition:6.0

IEC 60079-15:2017 Explosive atmospheres - Part 15: Equipment protection by type of protection "n"
Edition:5.0

IEC 60079-7:2017 Explosive atmospheres - Part 7: Equipment protection by increased safety "e"
Edition:5.1

This Certificate **does not** indicate compliance with safety and performance requirements other than those expressly included in the Standards listed above.

TEST & ASSESSMENT REPORTS:
A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in:

Test Report:

DE/BVS/ExTR15.0072/02

Quality Assessment Report:

DE/TUN/QAR06.0003/09

IECEx Certificate of Conformity

EQUIPMENT:
Equipment and systems covered by this Certificate are as follows:

Subject and type
Detection device type Nivotester FTL 325*-****Instead of the *** in the complete denomination letters and numerals will be inserted which characterize the different modifications:
FTL325^{a}-^{bcde}

a Type of output signal
- N NAMUR
- P PFM

b Certificate
- F ATEX: II (1) G [Ex ia Ga] IIC / IECEx: [Ex ia Ga] IIC
  ATEX: II (1) D [Ex ia Da] IIIC / IECEx: [Ex ia Da] IIIC
  WHG (not ex relevant)
- G ATEX: II 3(1) G Ex ec nC [ia Ga] IIC T4 Gc
  IECEx: Ex ec nC [ia Ga] IIC T4 Gc
- H ATEX: II (1) G [Ex ia Ga] IIC / IECEx: [Ex ia Ga] IIC
  ATEX: II (1) D [Ex ia Da] IIIC / IECEx: [Ex ia Da] IIIC
  WHG / SIL (not ex relevant)

c Mounting; Housing; Channels
- 1 Top hat rail mounting; 22.5 mm; 1-Channel
- 3 Top hat rail mounting; 45 mm; 3-Channels
- 9 Not relevant for explosion protection

d Power supply
- A 85 V … 253 VAC, 50/60 Hz
- E 20 V … 60 VDC, 20 V … 30 VAC
- Y Special model

e Output
- 1 1x level relay + 1x alarm relay
- 3 3x level relay + 1x alarm relay
- 9 Special model

Description
The detection device is used for power supply and signal detection of connected apparatus.
The Nivotester type FTL325*-G*** is designed in type of protection “ec” for the enclosure, non-i.s. terminals and non-i.s. circuits. The type of protection “nC” for the used relay and in type of protection Intrinsic Safety “ia” for the supply and signal detection of the sensors.
The Nivotester type FTL325*-G*** can be used in Zone 2 environment while the intrinsically safe circuits can be lead into Zone 0. All other types must be installed in areas where no ex atmosphere is present.
The Nivotester can either handle one sensor in the smaller version or up to three sensors in the bigger version. For each sensor a level relay is integrated.

Listing of all components used referring to older standards
None

SPECIFIC CONDITIONS OF USE: YES as shown below:
For type FTL325*-G*** only:

1 The equipment shall only be used in an area of at least pollution degree 2, as defined in IEC 60664-1.

2 The circuits shall be limited to overvoltage Category II as defined in IEC 60664-1.

3 The Nivotester shall only be used in vertical orientation.

4 Transient protection shall be provided that is set at a level not exceeding 140 % of the peak rated voltage value at the supply terminals to the equipment.

5 The equipment shall be installed in an enclosure that provides a minimum ingress protection of IP54 in accordance with IEC 60079-0.

IECEx Certificate of Conformity

Equipment (continued):

Parameters

See Annex

IECEx Certificate of Conformity

DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)

- Assessment in accordance with the current standard versions
- The device has been slightly modified. The impregnating resin E8571 from Herberts is no longer used.
- Changes in documentation
- Name change from Endress + Hauser GmbH + Co. KG to Endress+Hauser SE+Co. KG.

Annex:

BVS_15_0085x_Endress_Hauser_Issue2_Annex.pdf

IECEx Certificate of Conformity

Certificate No.: **IECEx BVS 15.0085X Issue No: 2**
Annex

Parameters

Electrical parameters

Power supply

Nominal voltage (type FTL325*-G*A*)		85 - 253	VAC
Nominal voltage (type FTL325*-G*E*)		20 - 60	VDC
	or	20 - 30	VAC
Max. voltage	U_m	253	VAC

Relay circuits

Limiting voltage		250	VAC
Limiting current		2	A
Limiting Power at cos φ = 0.7		500	VA
Limiting voltage		40	VDC
Limiting current		2	A
Limiting Power		80	W

Power consumption

Max. power consumption (type FTL325N-**A*)	1 channel	1.75	W
	3 channels	2.75	W
Max. power consumption (type FTL325N-**E*)	1 channel	1.2	W
	3 channels	2.25	W
Max. power consumption (type FTL325P-**A*)	1 channel	2.0	W
	3 channels	4.2	W
Max. power consumption (type FTL325P-**E*)	1 channel	1.7	W
	3 channels	4.0	W

Intrinsically safe output circuits (terminals 7- 8, 33 - 34 and 37 - 38)

Type FTL 325P-****

Voltage	U_o	14.6	VDC
Current	I_o	97	mA
Trapezoid output characteristic			
Power	P_o	633	mW
Internal resistance	R_i	273	Ω

For external inductances and capacitances the following values apply:

IIC		IIB, IIIC	
L_o [mH]	C_o [nF]	L_o [mH]	C_o [nF]
3	0	15	0
1	200	5	500
0.5	300	1	1000
0	640	0	3900

Type FTL 325N-****

Voltage	U_o	12	VDC
Current	I_o	34	mA
Trapezoid output characteristic			
Power	P_o	154	mW
Internal resistance	R_i	644	Ω

For external inductances and capacitances the following values apply:

IIC		IIB, IIIC	
L_o [mH]	C_o [nF]	L_o [mH]	C_o [nF]
30	0	120	0
1	450	5	1500
0.5	500	1	2000
0	1400	0	9000

Ambient temperature range T_a

Stand-alone mounting	-20 °C up to +60 °C
Row mounting	-20 °C up to +50 °C