



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 12.0080X** Page 1 of 5 [Certificate history:](#)
Issue 0 (2012-10-29)

Status: **Current** Issue No: 1

Date of Issue: 2022-05-12

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

Equipment: **Detector Gammapilot type FTG20**

Optional accessory:

Type of Protection: **Flameproof Enclosures "d", Intrinsic Safety "i", Protection by Enclosure "t"**

Marking:

Type FTG20-IAbcdefg+k	Ex db ia IIC T* Gb
Type FTG20-IBbcdefg+kl	Ex db [ia] IIC T* Gb
Type FTG20-IDbcdefg+kl	Ex tb ia IIIC T* Db
Type FTG20-IEbcdefg+kl	Ex tb [ia] IIIC T* Db

* see manual

Approved for issue on behalf of the IECEx
Certification Body:

Dr Franz Eickhoff

Position:

Lead Auditor and officially recognised expert

Signature:
(for printed version)

Date:
(for printed version)

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.



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

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

**Endress+Hauser (Suzhou)
Automation Instrumentation Co. Ltd.**
China – Singapore Industrial Park
(SIP)
Su-Hong-Zhong-Lu, No. 491
Jiangsu Province, 215021 Suzhou
China

**Endress+Hauser (India) Automation
Instrumentation Pvt. Ltd.**
M-192, Waluj MIDC
Maharashtra State
Aurangabad 431136
India

See following pages for more 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 60079-1:2014-06](#) Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"
Edition:7.0

[IEC 60079-11:2011](#) Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
Edition:6.0

[IEC 60079-31:2013](#) Explosive atmospheres - Part 31: Equipment dust ignition protection by enclosure "t"
Edition:2

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/ExTR12.0075/01](#)

Quality Assessment Report:

[DE/TUN/QAR06.0003/08](#)



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EQUIPMENT:

Equipment and systems covered by this Certificate are as follows:

Description

The Detector Gammapilot type FTG20 is a device for non-contact measurement of level-limit in liquids and solids. The detector receives the weak signal from a measurement gamma radiation source which is focused to the sensor unit. The Geiger Muller tubes of the sensor unit transform the weak radiation into small electrical pulses which are evaluated and put out as measuring signal to the transmitter.

The sensor was tested separately and meets the requirements of the standards EN IEC 60079-0:2018, EN 60079-1:2014, EN 60079-11:2012 und EN 60079-31:2014 (see BVS PP 12.2070 EU/N1).

The transmitter unit consists of a housing in type of protection Flameproof Enclosure "d" respective Protection by enclosure "t" with electronic insert built in. The transmitter housing is either made of aluminium (F13 housing) or stainless steel (F27 housing). The F13 type can optionally be equipped with a cover with glass window.

The electronic insert is available in two different variants:

- relay-version FEG 24 (supplied non intrinsically safe)
- 8/16 mA-version FEG 25 (supplied intrinsically safe).

In both variants the sensor output circuit is intrinsically safe ia IIC resp. ia IIIC.

Subject and type:

See Annex

Rating:

See Annex

SPECIFIC CONDITIONS OF USE: YES as shown below:

- The sensor cable must not be installed in areas where intensive electrostatic charging processes may occur.
- The flameproof joints are not intended to be repaired.



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DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)

- Updating to the current standards



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Additional manufacturing locations:

Endress+Hauser (USA)
Automation Instrumentation Inc.
2340 Endress Place
Greenwood, Indiana 46143
United States of America

Annex:

[BVS_12_0080X_Endress+Hauser_Annex_issue1.pdf](#)



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Subject and type:

Detector Gammapilot Type FTG20-abcdefg+kl

- a Approval
 - IA IECEX Ex db ia IIC T* Gb
 - IB IECEX Ex db [ia] IIC T* Gb
 - ID IECEX Ex tb ia IIIC T* Db
 - IE IECEX Ex tb [ia] IIIC T* Db

- b Sensitivity
 - X any single letter or number representing measuring sensitivity

- c Electronics; output
 - 4 FEG24, relay (supplied non-intrinsically safe)
 - 5 FEG25, 8/16 mA (supplied intrinsically safe).

- d Housing Transmitter
 - A F13 aluminium enclosure
 - B F27 stainless steel enclosure

- e Electrical connection
 - 1 cable gland M20 (not for IB)
 - 2 thread M20
 - 3 thread G1/2
 - 4 thread NPT 3/4

- f Housing Sensor
 - B stainless steel enclosure
 - D stainless steel enclosure + connection compartment

- g Cable; plug
 - X any single letter or number representing cable with length up to 51 m
with M23 plug

- optional:
k Accessory mounted
 - NA water-cooling tube
 - NB cover with glass window

- l Accessory enclosed
without relevance for explosion protection



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Rating:

Electrical data

Supply

Transmitter with FEG24

Supply terminals:

Nominal input voltage

DC 19...55 V

AC 19...250 V

Max. input voltage

U_m AC 253 V

Relay terminals:

Switching voltage

AC 253 V

Switching current

4 A

Switched power (cos φ = 1)

1000 VA

Switched power (cos φ = 0.7)

750 VA

or

Switching voltage

DC 30 V

Switching current

4 A

or

Switching voltage

DC 125 V

Switching current

0.2 A

Transmitter with FEG25

Supply by intrinsically safe circuit, level of protection "ia"

Max. input voltage

U_i DC 30 V

Max. input current

I_i 100 mA

Max. input power

P_i 1 W

Max. internal capacitance

C_i 2.4 nF

Max. internal inductance

L_i negligible

Transmitter output circuit

Intrinsically safe, level of protection "ia"

Max. output voltage

U_o 9.77 V

Max. output current

I_o 26.7 mA

Max. output power

P_o 78.5 mW

Cable

The admissible cable types are specified in manufacturer's documents, max. cable length 51 m.

Rated ambient temperature range:

Transmitter

Permitted ambient temperature range

-40 °C...+70 °C

Temperature class with electronic insert FEG25

T4 (T_a = +70 °C)

T6 (T_a = +40 °C)

T6

with electronic insert FEG24

Max. surface temperature T

T 75 °C

with electronic insert FEG25

T 90 °C

with electronic insert FEG24

Sensor

without water cooling

permitted ambient temperature range

-40 °C...+70 °C

temperature class

T6

max. surface temperature T

T 75 °C

With water cooling

permitted ambient temperature range

-40 °C...+120 °C

temperature class

T4

max. surface temperature T

T 125 °C