



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 KEM 08.0021X** Page 1 of 4 Certificate history:
Status: **Current** Issue No: 2 [Issue 1 \(2014-09-12\)](#)
[Issue 0 \(2008-09-12\)](#)
Date of Issue: 2021-07-06
Applicant: **Endress+Hauser SE+Co. KG**
Hauptstrasse 1
79689 Maulburg
Germany
Equipment: **Modulator Type FHG65-...**
Optional accessory:
Type of Protection: **Ex d e or Ex d or Ex t**
Marking: Ex db eb IIC T6, T5 Gb or Ex db IIC T6, T5 Gb
Ex tb IIIC T90 °C or Ex tb IIIC T105 °C Db

Approved for issue on behalf of the IECEx
Certification Body:

L.G. van Schie

Position:

Certification Manager

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 Certification B.V.
Meander 1051
6825 MJ Arnhem
Netherlands





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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 60079-1:2014-06 Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"
Edition:7.0

IEC 60079-31:2013 Explosive atmospheres - Part 31: Equipment dust ignition protection by enclosure "t"
Edition:2

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:

[NL/KEM/ExTR08.0018/02](#)

Quality Assessment Report:

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



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EQUIPMENT:

Equipment and systems covered by this Certificate are as follows:

The Modulator Type FHG65-... is used for interference radiation suppression applied in radiometrical non-contact measurement systems for level, level-limit, density and concentration measurement of liquids and solids. The modulator enclosure is in type of protection flameproof enclosures "d", provided with a terminal compartment in type of protection flameproof enclosures "d" or in type of protection increased safety "e" or in type of protection Equipment dust ignition protection by enclosure "t".

For the type designation, thermal and electrical data see Annex 1.

SPECIFIC CONDITIONS OF USE: YES as shown below:

For the specific conditions of use with regard to ambient temperatures see the manufacturer instructions.

Flameproof joints are not intended to be repaired.



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DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)

Name change of the manufacturer,
assessed per IEC 60079-0 Ed. 7, IEC 60079-1 Ed. 7, IEC 60079-7 Ed. 5.1,
extension of scope with type of protection by enclosure "t" according IEC 60079-31 Ed. 2,
minor constructional changes.

Annex:

[225621600-ExTR08.0018.02-Annex 1.pdf](#)

Note 1: in this document [,] is used as decimal separator.

Type designation

FHG 65 - 1 1 A A 1
 I II III IV V VI

Designation	Explanation	Value	Explanation
I	Model	FHG 65	Modulator for radiography suppression
II	Approval	1 3 5 7 G H	ATEX II 2 G Ex db eb IIC T5, T6 Gb ATEX II 2 G Ex db IIC T5, T6 Gb ATEX II 2 D Ex tb IIIC T105 °C or T90 °C Db IECEX Ex tb IIIC T105 °C or 90 °C Db IECEX Ex db eb IIC T5, T6 Gb IECEX Ex db IIC T5, T6 Gb
III	Power supply	1	18-35 Vdc
IV	Housing	A	Stainless Steel
V	Cable entry	A B C D	With Ex eb / tb certified cable gland M20 Thread M20 Thread G ½ (only for Ex eb, Ex tb) Thread NPT 1/2
VI	Mounting device	1 2 3 4 5	For level, limit, density For level, limit, density + watercooling tube For density clamping device For density clamping device + watercooling tube Without mounting device

Thermal data

The relation between type of modulator, type of protection, ambient temperature, temperature class and maximum surface temperature is shown in the table below.

Type	Type of protection	Ambient Temperature Range	Temperature class / maximum surface temperature
Types without water cooling or water cooling out of operation	Ex d or Ex d e	-40 °C to +60 °C	T6
	Ex t		T90 °C
Types with water cooling in operation provided that the pipe housing is remained within -40 °C to +60 °C.	Ex d or Ex d e	-40 °C to +75 °C	T5
	Ex t		T105 °C

The enclosure of the Modulator provides a degree of protection of at least IP64 in accordance with EN and IEC 60079-0 and EN and IEC 60529

Electrical data

Supply voltage: 18-35 Vdc
 Power dissipation: 3,2 W max.