IECEx Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION
IEC Certification Scheme for Explosive Atmospheres

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

Certificate No.:	IECEx PTB 12.0044X	Issue No: 1	Certificate history:
Status:	**Current**		Issue No. 1 (2017-09-01)
Date of Issue:	**2017-09-01**	Page 1 of 4	Issue No. 0 (2012-12-07)

Applicant: **Endress+Hauser GmbH + Co. KG**
Hauptstrasse 1, D-79689 Maulburg
Germany

Equipment: **Microwave unit Micropilot type series FMR5x-...**
Optional accessory:

Type of Protection: **General requirements, Flameproof Enclosures "d", Intrinsic safety "i" , Equipment protection by type of protection "n" , Equipment with equipment protection level (EPL) Ga, Equipment dust ignition protection by enclosure "t"**

Marking:
For details see annex 1.

Approved for issue on behalf of the IECEx Certification Body: Dr.-Ing. Frank Lienesch

Position: Department Head "Explosion Protection in Sensor Technology and Instrumentation"

Signature:
(for printed version)

Date: 14.9.17

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 the Official IECEx Website.

Certificate issued by:

Physikalisch-Technische Bundesanstalt (PTB)
Bundesallee 100
38116 Braunschweig
Germany

Physikalisch-Technische Bundesanstalt
Braunschweig und Berlin

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Manufacturer:	**Endress+Hauser GmbH+Co.KG** Hauptstrasse 1 79689 Maulburg **Germany**	

Additional Manufacturing location(s):

Refer to Annex 2 for a list of 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 electrical apparatus 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 : 2011 Edition:6.0	Explosive atmospheres - Part 0: General requirements
IEC 60079-1 : 2014-06 Edition:7.0	Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"
IEC 60079-11 : 2011 Edition:6.0	Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
IEC 60079-15 : 2010 Edition:4	Explosive atmospheres - Part 15: Equipment protection by type of protection "n"
IEC 60079-26 : 2014-10 Edition:3.0	Explosive atmospheres – Part 26: Equipment with Equipment Protection Level (EPL) Ga
IEC 60079-31 : 2013 Edition:2	Explosive atmospheres - Part 31: Equipment dust ignition protection by enclosure "t"

*This Certificate **does not** indicate compliance with electrical 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/PTB/ExTR12.0058/01

Quality Assessment Report:

DE/TUN/QAR06.0003/06

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Schedule

EQUIPMENT:

Equipment and systems covered by this certificate are as follows:

The microwave units Micropilot, type series FMR5x are used for the contactless, continuous measurement of liquid and solid media in explosion hazardous areas with gas or dust atmospheres. The microwave units Micropilot consist of various types of housings, electronic modules with optional surge protection adapted to the supply and evaluating circuits, different RF modules with associated antennas.

For further details see annex 1.

SPECIFIC CONDITIONS OF USE: YES as shown below:

Specific conditions for use details see annex.

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DETAILS OF CERTIFICATE CHANGES (for issues 1 and above):

The changes concern, among other things the application of the mentioned standards, modification of the external and internal construction (new I/O-modules, mainboard and flame-proof feedthrough) as well as changes in the min. process temperature as well as the ambient temperature of the enclosures.

Annex:

Annex 1 to IECEx PTB 12-0044 X issue 1.pdf

Annex 2 to IECEx PTB 12-0044 X issue 1.pdf