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 11.0035X**	Page 1 of 4	Certificate history:
Status:	**Current**	Issue No: 2	Issue 1 (2016-06-21) Issue 0 (2011-05-02)
Date of Issue:	2021-11-25		
Applicant:	**Endress+Hauser SE+Co. KG** Hauptstraße 1 79689 Maulburg **Germany**		
Equipment:	**Microwave barrier type FDR/FQR16/46/56-* and microwave flow indicator type FTR16/20/46-***		
Optional accessory:			
Type of Protection:	**Protection by enclosure "t"**		
Marking:	Ex ta/tb IIIC T_{200}102°C Da/Db Ex tb IIIC T_{200}102°C Db		

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

Position: **Deputy Head of Certification Body**

Signature: (for printed version)

Date: 25.11.2021

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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Date of issue: 2021-11-25 Issue No: 2

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 Edition:7.0	Explosive atmospheres - Part 0: Equipment - General requirements
IEC 60079-26:2021-02 Edition:4.0	Explosive atmospheres - Part 26: Equipment with Separation Elements or combined Levels of Protection
IEC 60079-31:2013 Edition:2	Explosive atmospheres - Part 31: Equipment dust ignition protection by enclosure "t"

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/ExTR11.0053/02

Quality Assessment Report:

DE/TUN/QAR06.0003/09

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

Description

The microwave barrier consists of the devices FQR16/46 or FQR56 and FDR16/46 or FDR56. It can be used for a contact free limit detection, for controlling and counting as well as for continuously contamination detection.

The microwave flow indicator FTR16/46/ or FTR20 can be used for a contact free motion detection.

All devices are used for application in zones 20 and 21.

Subject and type

See Annex

Parameters

See Annex

SPECIFIC CONDITIONS OF USE: YES as shown below:
Microwave barrier type FQR16/46-* and Microwave flow indicator type FTR16/46-*:
The plug and socket connection has to be
- protected against impact energy > 4J
- protected against UV emitting light.

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DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)

- Standard IEC 60079-26 is added
- The new type variants FDR16/46 and FQR16/46 of the microwave barrier and FTR16/46 of the microwave flow indicator were added. These variants are provided with a plug/socket connection type EVC**A according to BVS 08 ATEX 109 U resp. IECEx BVS 08.0041 U, which leads to a deviating permissible ambient temperature range of these types and to "Special conditions for use".

Annex:

BVS_11_0035_EndressHauser_Annex_issue2.pdf

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Annex

Subject and Type

1. Microwave barrier

1.1 Type FQR56-*[1)*2)*3)]

[1)] Approval:	BA –	Ex ta/tb IIIC T_{200}102°C Da/Db IP66 Ex tb IIIC T_{200}102°C Db IP66
[2)] Power supply:	A –	85 … 253 VAC, 50/60 Hz
	E –	20 … 60 VDC / 20 … 30 VAC, 50/60 Hz
[3)] Enclosure:	B –	stainless steel
	C –	aluminium

1.2 Type FQR16/46-*

[1)] Approval:	BA –	ATEX II 1/2D Ex ta/tb IIIC T_{200}102°C Da/Db ATEX II 2D Ex tb IIIC T_{200}102°C Db

1.3 Type FDR56-*[1)*2)*3)*4)]

[1)] Approval:	BA –	Ex ta/tb IIIC T_{200}102°C Da/Db IP66 Ex tb IIIC T_{200}102°C Db IP66
[2)] Output:	1 –	Relay
	2 –	4 … 20 mA
	3 –	Photo relay
[3)] Power supply:	A –	85 … 253 VAC, 50/60 Hz
	E –	20 … 60 VDC / 20 … 30 VAC, 50/60 Hz
[4)] Enclosure:	B –	stainless steel
	C –	stainless steel with window
	D –	aluminium
	E –	aluminium with window

1.4 Type FDR16/46-*

[1)] Approval:	BA –	ATEX II 1/2D Ex ta/tb IIIC T_{200}102°C Da/Db ATEX II 2D Ex tb IIIC T_{200}102°C Db

2. Microwave flow monitor

2.1 Type FTR20-*[1)*2)*3)*4)]

[1)] Approval:	BA –	Ex ta/tb IIIC T_{200}102°C Da/Db IP66 Ex tb IIIC T_{200}102°C Db IP66
[2)] Output:	1 –	Relay
	2 –	4 … 20 mA
	3 –	Photo relay
[3)] Power supply:	A –	85 … 253 VAC, 50/60 Hz
	E –	20 … 60 VDC / 20 … 30 VAC, 50/60 Hz
[4)] Enclosure:	B –	stainless steel
	C –	stainless steel with window
	D –	aluminium
	E –	aluminium with window

2.2 Type FTR16/46-*

[1)] Approval:	BA –	ATEX II 1/2D Ex ta/tb IIIC T_{200}102°C Da/Db ATEX II 2D Ex tb IIIC T_{200}102°C Db

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Annex

Parameters

Power supply	
Microwave barrier type FQR56-*, FDR56-* and Microwave flow indicator type FTR20-*	85 … 253 VAC, 50/60 Hz 20 … 60 VDC / 20 … 30 VAC, 50/60 Hz
Microwave barrier type FQR16/46-* and Microwave flow indicator type FTR16/46-*	18…30 VDC
Signal outputs FDR56-*	
Relay (terminals 3-5)	AC 250 V / 4 A or DC 125 V / 0.4 A or DC 30 V 4 A
Current (terminals 3-4)	4 - 20 mA
Solid-state relay (terminals 3-4)	AC 30 V / 0.4 A or DC 40 V / 0.4 A
Signal output FQR16/46-*/FTR16/46-*	
DC-PNP (connector 1, pin 2+4)	DC 30 V, 200 mA
IP-degree of protection	IP66

Permitted ambient temperature range

Microwave barrier type FQR56-*, FDR56-* and Microwave flow indicator type FTR20-*	-40 °C … +70 °C
Microwave barrier type FQR16/46-* and Microwave flow indicator type FTR16/46-*	-20 °C … +60 °C