



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 12.0056** Page 1 of 5 **Certificate history:**
Status: **Current** Issue No: 2 **Issue 1 (2018-11-22)**
Date of Issue: **2021-07-12** **Issue 0 (2012-10-05)**
Applicant: **Minimax GmbH & Co. KG**
Industriestraße 10/12
23840 Bad Oldesloe
Germany
Equipment: **Flame detector type UniVario FMX5000 IR Ex ***
Optional accessory:
Type of Protection: **Intrinsic Safety "i", Equipment protection level (EPL) Ga, Protection by Enclosure "t"**
Marking: **Ex ia IIC T1...T6 Ga**
Ex ia IIC T1...T6 Gb
Ex ia IIIC T₂₀₀ 95°C Da
Ex ia IIIC T₂₀₀ 105°C Da
Ex ta IIIC T₂₀₀ 95°C Da
Ex ta IIIC T₂₀₀ 105°C Da

Approved for issue on behalf of the IECEx
Certification Body:

Jörg Koch

Position:

Head of Certification Body

Signature:
(for printed version)

Date:

12.07.2021



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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Manufacturer: **Minimax GmbH & Co. KG**
Industriestraße 10/12
23840 Bad Oldesloe
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 60079-26:2014-10 Explosive atmospheres – Part 26: Equipment with Equipment Protection Level (EPL) Ga
Edition:3.0

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/ExTR12.0070/02](#)

Quality Assessment Report:

[DE/BVS/QAR10.0003/09](#)



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EQUIPMENT:

Equipment and systems covered by this Certificate are as follows:

Subject and type

The flame detector type FMX5000 IR Ex * is built in the following variations:

Type	Description	Type of protection
FMX5000 IR Ex	Standard Flame Detector with aluminium enclosure	Ex ia IIC T1...T6 Gb
FMX5000 IR Ex SF	Silicon free product	Ex ia IIIC T ₂₀₀ 95°C Da
FMX5000 IR Ex HR	Special enclosure coating for corrosive atmospheres	Ex ia IIIC T ₂₀₀ 105°C Da
FMX5000 IR Ex ST	Stainless steel enclosure for corrosive atmospheres	Ex ia IIC T1...T6 Ga Ex ia IIIC T ₂₀₀ 95°C Da Ex ia IIIC T ₂₀₀ 105°C Da
FMX5000 IR Ex Dust	Flame Detector for non-intrinsically safe applications	Ex ta IIIC T ₂₀₀ 95°C Da Ex ta IIIC T ₂₀₀ 105°C Da

The communication module KMX5000 AP Ex for Apollo communication line can be used in all detector types.

Description

The flame detector type FMX5000 IR Ex * is used for the warning of flames and fires in explosion-hazard areas of Zone 0 (with stainless steel enclosure), Zones 1, 2, 20, 21 and 22.

The flame detector senses flames with their typical flame spectrum in optical wavelength and frequency. The electronics comprises among others 3 PIR sensors with a digital signal processing. A regular self-test is carried out to monitor the detectors key functions. This includes a test of the optical channels via an integrated infrared emitter. The external connection is done by terminals. A 2-wire interface is used to supply the detectors and send an alarm indication to the fire panel; optionally a second 2-wire interface can be used to send a fault indication to the fire panel.

Additionally the flame detector can be equipped with a communication module type KMX5000 AP. The module transfers serial data of the detector's status via the supply circuitry e.g. to a superior fire-detection system.

SPECIFIC CONDITIONS OF USE: NO



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Equipment (continued):

Ratings

Electrical parameters

for FMX5000 IR Ex, FMX5000 IR Ex SF, FMX5000 IR Ex HR, FMX5000 IR Ex ST

Power supply circuit (UL+, UL-, Ext, Test)

Maximum input voltage	U_i	DC	28	V
Maximum input current	I_i		100	mA
Maximum input power	P_i		1.2	W
Maximum internal capacitance	C_i		360	pF
Maximum internal inductance	L_i		960	nH

Fault line circuit (+UF, UL-)

Maximum input voltage	U_i	DC	28	V
Maximum input current	I_i		100	mA
Maximum input power	P_i		1.2	W
Maximum internal capacitance	C_i		negligible	
Maximum internal inductance	L_i		720	nH

The power supply circuit and the fault line circuit are not galvanically isolated from each other.

Electrical parameters for FMX5000 IR Ex Dust

Rated voltage		DC	28	V
Rated current			100	mA
Power dissipation			1.2	W

Ambient temperature range

Gas applications	T_a	for T1 to T4	-40 °C up to +80 °C
		for T5	-40 °C up to +55 °C
		for T6	-40 °C up to +40 °C
Dust applications	T_a	for T ₂₀₀ 105 °C	-40 °C up to +80 °C
		for T ₂₀₀ 95 °C	-40 °C up to +70 °C



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DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)

- Update to the current standards
- Modification of documentation