



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 DEK 16.0039X Issue No: 3 Certificate history:
Status: **Current** Issue No. 3 (2019-07-19)
Date of Issue: **2019-07-19** Page 1 of 4 Issue No. 2 (2017-04-11)
Applicant: **AUMA Riester GmbH & Co. KG** Issue No. 1 (2017-03-17)
Aumastrasse 1 Issue No. 0 (2016-07-19)
79379 Müllheim
Germany
Equipment: **Fail safe unit, types FQMEEx 05.1, FQMEEx 07.1, FQMEEx 10.1 and FQMEEx 12.1**
Optional accessory:
Type of Protection: **Ex db and Ex eb**
Marking: Ex db eb IIB T4 Gb (With terminal connection KP, KPH, KPB or KES-Exe)
Ex db IIB T4 Gb (With terminal connection KES-Exd)

Approved for issue on behalf of the IECEx
Certification Body:

L.G. van Schie

Position:

Certification Manager

Signature:
(for printed version)

Date:

2019-07-19

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](http://www.iecex.com).

Certificate issued by:

DEKRA Certification B.V.
Meander 1051,
6825 MJ Arnhem
The Netherlands





IECEX Certificate of Conformity

Certificate No: IECEX DEK 16.0039X

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Page 2 of 4

Manufacturer: **Auma Riester GmbH & Co. KG**
Aumastrasse 1
79379, Müllheim
Germany

Additional Manufacturing location(s):

DREHMO GmbH
Zum Eichstruck 10
D-57482 Wenden
Germany

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 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 : 2017 Edition:7.0	Explosive atmospheres - Part 0: Equipment - General requirements
IEC 60079-1 : 2014-06 Edition:7.0	Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"
IEC 60079-7 : 2017 Edition:5.1	Explosive atmospheres - Part 7: Equipment protection by increased safety "e"

*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:

[NL/DEK/ExTR16.0057/03](#)

Quality Assessment Report:

[DE/TPS/QAR15.0004/02](#) [NL/DEK/QAR12.0073/05](#)



IECEx Certificate of Conformity

Certificate No: IECEx DEK 16.0039X

Issue No: 3

Date of Issue: 2019-07-19

Page 3 of 4

Schedule

EQUIPMENT:

Equipment and systems covered by this certificate are as follows:

The Fail safe units types FQMEEx 05.1, FQMEEx 07.1, FQMEEx 10.1 and FQMEEx 12.1 combined with an electric actuator are designed for the operation of safety related industrial valves for a swing angle of 90°, e.g. butterfly -, ball - or plug valves.

AUMA part-turn actuators with fail safe unit ensure that the valve is operated to a safe position in the event of power failure or in case an emergency signal is issued. Selection can be made whether the valve is to be operated into open or closed.

During "normal operation" all AUMA actuator functions are available as usual in normal operation. The torque is transmitted directly from the actuator through the Fail safe unit to the valve.

The fail safe operation is completely independent of the power supply and is exclusively supplied on a mechanical basis by means of the energy stored in the coiled up constant force spring. A fail safe operation is initiated in case of power failure or if an emergency signal is issued. This is independent of AC actuator controls. The constant force spring is activated during fail safe operation and transmits the generated torque to the valve by means of planetary gearing.

For the connection of the electrical wirings a separate terminal connection is used:

The fail safe unit in combination with terminal connections KP, KPH, KPB or KES-Exe are in type of protection "Ex db eb". The fail safe unit in combination with terminal connection KES Exd is in type of protection "Ex db".

Within terminal connections KP, KPH, KPB or KES-Exe the wiring connection shall be "Ex e".

Within terminal connection KES-Exd the wiring connection shall be "Ex d".

Within the flameproof compartment of the Fail safe unit, a heating system can be installed optionally. This internal heater, if provided, automatically switches off at an ambient temperature above 0 °C. On the outside of the housing, the fail safe units may be equipped with a thermal insulating cover.

For thermal data, type designation, sizes and technical data and electrical data, refer to Annex 1.

SPECIFIC CONDITIONS OF USE: YES as shown below:

The flameproof joints of the fail safe units are not intended to be repaired.

The property class of the special fasteners for the Terminal Connections is min. A2-70.

The property class of the special fasteners for the Fail Safe compartment is min. A2-80.



IECEx Certificate of Conformity

Certificate No: IECEx DEK 16.0039X

Issue No: 3

Date of Issue: 2019-07-19

Page 4 of 4

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

Changes issue 3:

- Assessment against recent editions of the standard.
- Minimum temperature range for FQMEEx 10.1 and FQMEEx 12.1 revised to -40 °C.
- A thermal insulating cover can optionally be added.
- A centrifugal brake unit can optionally be added.
- Power consumption of the heater is revised to 150 W.
- Mechanical design details.

Annex:

[07.223140100-Annex 1 to NL,DEK,ExTR,16.0057.03.pdf](#)

Annex 1 to Report No. NL/DEK/ExTR16.0057/03

Thermal data

Ambient temperature	Temperature class		Terminal connection
-60 °C to +80 °C *)	T4	FQMEEx 05.1 and FQMEEx 07.1	KP, KPH, KPB or KES-Exe
-60 °C to +60 °C	T4	FQMEEx 05.1 and FQMEEx 07.1	KES-Exd
-40 °C to +80 °C *)	T4	FQMEEx 10.1 and FQMEEx 12.1	KP, KPH, KPB or KES-Exe
-40 °C to +60 °C	T4	FQMEEx 10.1 and FQMEEx 12.1	KES-Exd

*) The ambient temperature is limited to +60 °C in combination with thermal insulating cover.

Type designation

FQMEEx Serie

FQM **Ex** **05** **.** **1** **-** **F05** / **-** **-** **3** **-** **-**
 I II III IV V VI VII VIII IX X XI

Designation	Explanation	Value	Explanation
I	General	FQM	Fail safe unit
II	Blank	-	Not used yet
III	Explosionproof version	Ex	For use in environments containing flammable gas
IV	Unit size	05 07 10 12	Indicator for standardized unit sizes
V	Design generation	1	Indicator for generation series
VI	Flange size	F***	Indicator for standardized flange sizes (not relevant for Ex)
VII	Blank	-	not used yet
VIII	Blank	-	Not used yet
IX	Terminal connection	3 4	Type KP, KPH, KPB or KES-Exe Type KES-Exd
X	Blank	-	Not used yet
XI	Blank	-	Not used yet

Sizes and technical data

Type	Output torque	Operating time for 90° in "normal mode" (depends on actuator)	Operating time for 90° in "emergency mode" (depends on fail safe unit)	Max. swing angle
FQMEEx 05.1	150 Nm	Depends on actuator	5 to 40 s	105°
FQMEEx 07.1	300 Nm		5 to 40 s	105°
FQMEEx 10.1	600 Nm		10 to 60 s	105°
FQMEEx 12.1	1 200 Nm		10 to 60 s	105°

Annex 1 to Report No. NL/DEK/ExTR16.0057/03

Electrical data

Power supply

Current type: 3-phase AC
Mains voltage: 380 – 480 V
Frequency: 50/60 Hz
Power consumption: 510 W max.

Current type: 1-phase AC
Mains voltage: 100 – 240 V
Frequency: 50/60 Hz
Power consumption: 510 W max.

Control circuits:

Voltage: 250 V max.
Current: 5 A max.

Installation instructions

The instructions provided with the equipment shall be followed in detail to assure safe operation.