



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 BVS 15.0075X issue No.:1 Certificate history:
Issue No. 1 (2017-7-12)
Issue No. 0 (2015-9-10)

Status: **Current**

Date of Issue: **2017-07-12** Page 1 of 4

Applicant: **FESTO AG & Co. KG**
Ruiter Straße 82
73734 Esslingen
Germany

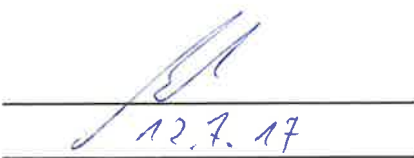
Equipment: **Solenoid coils type VACC-S13-18-K4-...-EX4 ME**
Optional accessory:

Type of Protection: **Equipment protection by encapsulation "m", Equipment dust ignition protection by enclosure "t", Equipment protection by increased safety "e"**

Marking: Ex e mb IIC T* Gb
Ex tb IIIC T*°C Db
* See Parameters

Approved for issue on behalf of the IECEx Certification Body: Jörg Koch

Position: Head of Certification Body

Signature: 
(for printed version)

Date: 12.7.17

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

Certificate issued by:

DEKRA EXAM GmbH
Dinnendahlstrasse 9
44809 Bochum
Germany





IECEX Certificate of Conformity

Certificate No.: IECEx BVS 15.0075X

Date of Issue: 2017-07-12

Issue No.: 1

Page 2 of 4

Manufacturer: **FESTO AG & Co. KG**
Ruiter Straße 82
73734 Esslingen
Germany

Additional Manufacturing location(s):

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 60079-18 : 2014 Edition: 4.0	Explosive atmospheres – Part 18: Equipment protection by encapsulation "m"
IEC 60079-31 : 2013 Edition: 2	Explosive atmospheres - Part 31: Equipment dust ignition protection by enclosure "t"
IEC 60079-7 : 2006-07 Edition: 4	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:

[DE/BVS/ExTR15.0071/01](#)

Quality Assessment Report:

[NL/DEK/QAR12.0012/05](#)



IECEX Certificate of Conformity

Certificate No.: IECEx BVS 15.0075X

Date of Issue: 2017-07-12

Issue No.: 1

Page 3 of 4

Schedule

EQUIPMENT:

Equipment and systems covered by this certificate are as follows:

Subject and type

Solenoid coils type VACC-S13-18-K4-...*-EX4 ME

* The dots will be replaced by 1-3 numbers and letters that define the rated voltage and the installation of a fuse (letter F).

Description

The solenoid coils have been designed as an actuator for valves. They are designed in the type of protection Encapsulation "m" or Protection by Enclosure "t". The housing is sealed at the top with a lid and at the bottom with sealing compound. On one side a thread is arranged for attaching one separately certified cable entry. In the enclosure, a coil and further electrical components are fitted.

The attachment to a valve and the mechanical design of the valves are not part of this certificate.

Among others, the certificate is based on the following Test Reports: Kema Quality B.V. Test Report No. 213091700 with Annex 1 (variants with installed fuse) and PTB Ex-02-22231, PTB Ex-02-22231m and IBEExU IB-94-649 (variant where customers have to install the fuse) which deal with equipment of identical types.

Parameters

See Annex

SPECIFIC CONDITIONS OF USE: YES as shown below:

The solenoids have to be installed and used in a manner that electrostatic charges are excluded by operation, maintenance and cleaning.

Each solenoid coil that does not feature an internal fuse has to be provided with an external fuse to prevent short-circuits. Up to a rated voltage of 250 V, the breaking capacity of the fuse must be at least 1500 A.



IECEX Certificate of Conformity

Certificate No.: IECEx BVS 15.0075X

Date of Issue: 2017-07-12

Issue No.: 1

Page 4 of 4

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

Additionally the solenoid coils can also be manufactured as variants with an installed fuse.
The variant such modified can also be manufactured according to the test documents listed in the pertinent test and assessment report; then it is labelled as type VACC-S13-18-K4-1UF-EX4 ME.
Updating to new version of standards.



IECEX Certificate of Conformity



Certificate No.: IECEx BVS 15.0075X **issue No.:** 1
Annex
Page 1 of 1

Parameters

1 Electrical parameters

Type w/o fuse	VACC-S13-18-K4-1U-EX4ME	VACC-S13-18-K4-2U-EX4ME	VACC-S13-18-K4-3U-EX4ME	VACC-S13-18-K4-27-EX4ME
Type with fuse	VACC-S13-18-K4-1UF-EX4ME	---	---	---
Rated voltage	24 V -15 / +10 % DC or AC 40 to 65 Hz	110 V -15 / +10 % DC or AC 40 to 65 Hz	230 V -15 / +10 % DC or AC 40 to 65 Hz	60 V -15 / +10 % DC or AC 40 to 65 Hz
Breaking capacity of installed fuse F	Littelfuse: 4000 A or ESKA: 300 A	---	---	---
Rated power	1.8 W / 1.8 VA			

2 Thermal parameters

2.1 Ambient temperature range and temperature class and surface temperature, respectively variants where the fuse has to be installed by the customer

Ambient temperature range	$-20\text{ °C} \leq T_a \leq +60\text{ °C}$	$-20\text{ °C} \leq T_a \leq +60\text{ °C}$	$-20\text{ °C} \leq T_a \leq +50\text{ °C}$
Maximum medium temperature	+60 °C	+60 °C	+50 °C
Ex e mb IIC * Gb	T4	T5	T6
Ex tb IIIC * °C Db	T130°C	T95°C	T85°C

2.2 Ambient temperature range and temperature class and surface temperature, respectively variants with installed fuse F

Ambient temperature range	$-20\text{ °C} \leq T_a \leq +40\text{ °C}$
Maximum medium temperature	+40 °C
Ex e mb IIC T6 Gb	T6
Ex tb IIIC T70°C Db	T70°C