



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 PTB 15.0016X**

Page 1 of 5

Certificate history:

Status: **Current**

Issue No: 2

[Issue 1 \(2024-10-24\)](#)

[Issue 0 \(2015-05-22\)](#)

Date of Issue: 2025-02-18

Applicant: **Festo SE & Co. KG**
Ruiter Strasse 82
Esslingen 73734
Germany

Equipment: **Solenoid Coil, type VACN-N-K1-...-EX4-M**

Optional accessory:

Type of Protection: **Encapsulation, Dust Protection by Enclosure**

Marking: Ex mb IIC T6 Gb
Ex mb IIIC T80 °C Db
Ex mb tb IIIC T80 °C Db

Approved for issue on behalf of the IECEx
Certification Body:

Dr.-Ing. Martin Thedens

Position:

**Head of Department "Explosion Protection in Sensor Technology
and Instrumentation"**

Signature:
(for printed version)

Date:
(for printed version)

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:

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



Physikalisch-Technische Bundesanstalt
Braunschweig und Berlin



IECEx Certificate of Conformity

Certificate No.: **IECEx PTB 15.0016X**

Page 2 of 5

Date of issue: 2025-02-18

Issue No: 2

Manufacturer: **Festo SE & Co. KG**
Ruiter Strasse 82
Esslingen 73734
Germany

Manufacturing locations: **Festo SE & Co. KG**
Ruiter Strasse 82
Esslingen 73734
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 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 60079-18:2017 Explosive atmospheres - Part 18: Protection by encapsulation "m"
Edition:4.1

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/PTB/ExTR15.0020/01

Quality Assessment Report:

NL/DEK/QAR12.0012/11



IECEx Certificate of Conformity

Certificate No.: **IECEx PTB 15.0016X**

Page 3 of 5

Date of issue: 2025-02-18

Issue No: 2

EQUIPMENT:

Equipment and systems covered by this Certificate are as follows:

The solenoid coil type VACN-N-K1-...-EX4-M consists of a magnet coil, an armature system and a fixing nut. The armature guide forms the pressure-proof part of the magnet, the guide tube is tested at 1.5 times the nominal operating pressure. The guide tube is specified either for thread-mounting or flange-mounting. The winding consists of varnished copper wire of insulation class H. This coil is injection-moulded with pre-plastified granules. A circuit board with electronic components is soldered onto the terminal posts of the encapsulated part of the coil. The terminals are mounted into a housing made of glass-fibre-reinforced polyimide 6 and casted afterwards

The device is equipped with an integrated cable for electrical connection.

SPECIFIC CONDITIONS OF USE: YES as shown below:

1. Each solenoid coil marked with the type of protection "Protection by Enclosure" with protection level "tb" must be connected in series with a fuse corresponding to its rated current (max. 3xIB according to IEC 60127-2-1) or a motor protection switch with short-circuit and thermal instantaneous tripping (set to rated current) as short-circuit protection. For very low rated currents of the solenoid coil the fuse of lowest current value according to the indicated IEC standard will be sufficient. The fuse may be accommodated in the associated supply unit or shall be separately arranged. The rated voltage to the fuse shall be equal to or greater than the stated rated voltage of the solenoid coil. The breaking capacity of the fuse-link shall be as high as or higher than the maximum expected short circuit current at the location of the installation (usually 1500 A).
2. A maximum permissible ripple of 20 % is valid for all magnets of direct-current design.



IECEx Certificate of Conformity

Certificate No.: IECEx PTB 15.0016X

Page 4 of 5

Date of issue: 2025-02-18

Issue No: 2

Equipment (continued):

Electrical data

Type designation	VACN-N-K1-1-EX4-M VACN-N-K1-1-10-EX4-M	
Type of current:	direct current	
Nominal voltage:	24 V	
Nominal current:	109 mA	
Steady-state active power:	2.5 W	
Temperature class:	T6	
Group mounting:	yes, minimum distance 2 mm	maximum ambient temperature 40°C
Single mounting:	yes	maximum ambient temperature 50°C
Type designation	VACN-N-K1-16B-EX4-M	
Type of current:	alternating current	
Nominal voltage:	110 V	
Nominal current:	22 mA	
Steady-state active power:	2.3 W	
Temperature class:	T6	
Frequency:	50 Hz...60 Hz	
Group mounting:	yes, minimum distance 1 mm	maximum ambient temperature 40°C
Single mounting:	yes	maximum ambient temperature 50°C
Type designation	VACN-N-K1-3A-EX4-M	
Type of current:	alternating current	
Nominal voltage:	230 V	
Nominal current:	9 mA	
Steady-state active power:	2.3 W	
Temperature class:	T6	
Frequency:	50 Hz...60 Hz	
Group mounting:	yes, minimum distance 1 mm	maximum ambient temperature 40°C
Single mounting:	yes	maximum ambient temperature 50°C



IECEx Certificate of Conformity

Certificate No.: **IECEx PTB 15.0016X**

Page 5 of 5

Date of issue: 2025-02-18

Issue No: 2

DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)

Company name for Applicant and Manufacturer corrected