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 TPS 21.0005X**

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Certificate history:
Issue 1 (2025-03-24)
Issue 0 (2021-04-08)

Status: **Current**

Issue No: 2

Date of Issue: 2026-04-08

Applicant: **müller co-ax gmbh**
Friedrich-Müller-Straße 1
Forchtenberg 74670
Germany

Equipment: **Solenoid K10 Ex , K15 Ex, K20 Ex, K25 Ex, K25 Ex HT, K32 Ex, K40 Ex and K50 Ex**

Optional accessory:

Type of Protection: **Ex eb mb or Ex mb tb**

Marking: Ex eb mb IIC T4 Gb and/or Ex mb tb IIIC T135 °C Db

Ex eb mb IIC T3 Gb and/or Ex mb tb IIIC T185 °C Db

Approved for issue on behalf of the IECEx Certification Body: **Dipl.-Ing. Ulrich Jacobs**

Position: **Technical Certifier IECEx**

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:

TÜV SÜD Product Service GmbH
Ridlerstr. 65
D-80339 Munich
Germany

Product Service

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Certificate No.: **IECEx TPS 21.0005X**

Date of issue: 2026-04-08 Issue No: 2

Manufacturer: **müller co-ax gmbh**
Friedrich-Müller-Straße 1
Forchtenberg 74670
Germany

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 60079-18:2017 Explosive atmospheres - Part 18: Protection by encapsulation "m"
Edition:4.1

IEC 60079-31:2022 Explosive atmospheres – Part 31: Equipment dust ignition protection by enclosure "t"
Edition:3.0

IEC 60079-7:2017 Explosive atmospheres - Part 7: Equipment protection by increased safety "e"
Edition:5.1

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 Reports:

DE/TPS/ExTR25.0017/01 DE/TUN/ExTR21.0002/00

Quality Assessment Report:

DE/EPS/QAR21.0006/05

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

Subject and type

Solenoid type K10 Ex, K15 Ex, K20 Ex, K25 Ex, K25 Ex HT, K32 Ex, K40 Ex and K50 Ex

Description:

The Solenoid types K10 Ex, K15 Ex, K20 Ex, K25 Ex, K25 Ex HT, K32 Ex, K40 Ex and K50 Ex are used to operate valves and are de-signed in the types of protection Increased safety “e” and Protection by encapsulation “m” or in the types of protection Protection by encapsulation “m” and Protection by enclosure “t”. The enclosure is closed at the top by a lid. At one side a thread entry has been mounted to accommodate a separately certified cable gland. Inside the enclosure, a coil and other electric components are in-stalled.

The attachment of a valve and the mechanical design of such valves are not subject of this test.

SPECIFIC CONDITIONS OF USE: YES as shown below:
Short-circuit protection:

- A fuse corresponding to its rated current (max. 3 x I rated current according to IEC 60127) or a motor protection switch with short-circuit and thermal quick release (set to rated current) must be preconnected of each solenoid as short-circuit protection.
- The rated fuse voltage must be equal to or greater than the specified rated voltage of the solenoid. The breaking capacity of the fuse link must be equal to or greater than the maximum short-circuit current to be assumed at the installation location (usually 1500 A).
- In case of use of conduit adapter, the conduit connected shall be terminated in an enclosure that provides a minimum ingress protection of IP 54 in accordance with IEC 60079-0

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Equipment (continued):

Voltage (V)	K10 Ex Current / power (A / W)		K15 Ex Current & power (A / W)		K20 Ex Current & power (A / W)	
	T3	T4	T3	T4	T3	T4
230	0.19 / 43.0	0.19 / 43.0	0.25 / 58.4	0.19 / 44.4	0.23 / 52.8	0.23 / 52.8
220	0.24 / 52.0	0.18 / 39.4	0.24 / 53.4	0.24 / 53.4	0.28 / 61.4	0.22 / 48.3
210	0.23 / 47.4	0.23 / 47.4	0.29 / 60.6	0.23 / 48.7	0.27 / 56.0	0.27 / 56.0
200	0.22 / 43.0	0.22 / 43.0	0.27 / 55.0	0.27 / 55.0	0.25 / 50.8	0.25 / 50.8
125	0.45 / 55.7	0.36 / 44.6	0.50 / 63.1	0.40 / 50.0	0.44 / 55.4	0.38 / 47.2
120	0.43 / 51.4	0.43 / 51.4	0.48 / 58.1	0.38 / 46.1	0.43 / 51.1	0.43 / 51.1
110	0.43 / 46.9	0.43 / 46.9	0.55 / 60.1	0.44 / 48.9	0.52 / 56.9	0.39 / 42.9
98	0.53 / 51.5	0.38 / 37.3	0.60 / 59.1	0.49 / 47.7	0.54 / 53.1	0.46 / 45.2
48	1.00 / 48.1	1.00 / 48.1	1.09 / 52.1	1.09 / 52.1	1.06 / 51.0	1.06 / 51.1
24	1.94 / 46.5	1.94 / 46.5	2.16 / 51.7	2.16 / 51.7	2.61 / 62.5	2.05 / 49.2
20	2.62 / 52.4	2.01 / 40.2	2.29 / 45.7	2.29 / 45.7	2.99 / 59.7	2.17 / 43.4

Voltage (V)	K25 Ex Current / power (A / W)		K32/40 Ex Current & power (A / W)		K50 Ex Current & power (A / W)	
	T3	T4	T3	T4	T3	T4
230	0.25 / 58.3	0.25 / 58.3	0.34 / 77.8	0.34 / 77.8	0.42 / 96.2	0.42 / 96.2
220	0.30 / 65.6	0.30 / 65.6	0.40 / 87.6	0.40 / 87.6	0.50 / 109.4	0.50 / 109.4
210	0.35 / 73.0	0.28 / 59.7	0.38 / 79.8	0.38 / 79.8	0.47 / 99.7	0.47 / 99.7
200	0.33 / 66.2	0.27 / 54.2	0.46 / 91.5	0.36 / 72.4	0.58 / 116.1	0.58 / 116.1
125	0.50 / 61.9	0.41 / 51.1	0.74 / 92.3	0.52 / 65.4	0.90 / 112.4	0.90 / 112.4
120	0.48 / 57.1	0.48 / 57.1	0.69 / 83.2	0.71 / 85.1	0.86 / 103.4	0.86 / 103.4

110	0.58 / 63.7	0.58 / 63.7	0.79 / 86.8	0.79 / 86.8	0.98 / 103.7	0.98 / 103.7
98	0.63 / 61.6	0.52 / 50.5	0.88 / 86.5	0.88 / 86.5	1.07 / 104.5	1.07 / 104.5
48	1.64 / 78.9	1.20 / 57.7	1.47 / 70.6	1.47 / 70.6	2.00 / 96.0	2.00 / 96.0
24	2.41 / 57.8	2.41 / 57.8	3.33 / 80.0	3.33 / 80.0	3.93 / 94.4	3.93 / 94.4
20	3.23 / 64.5	3.23 / 64.5	4.17 / 83.3	4.17 / 83.3	5.02 / 100.5	5.02 / 100.5

Voltage (V)	K25 Ex HT Current / power (A / W)
	T4
230	0.18 / 41.9
110	0.31 / 34.5
24	1.86 / 44.7

Assignment of ambient temperature and temperature class / surface temperature

Ambient temperature range	**Temperature class** (gas)
-30 °C ≤ T_a ≤ 80 °C	T4
-30 °C ≤ T_a ≤ 120 °C	T3

Ambient temperature range	**Max. permitted surface temperature** (dust)
-30 °C ≤ T_a ≤ 80 °C	135 °C
-30 °C ≤ T_a ≤ 120 °C	185 °C

Temperatures and duty cycle limitations are defined as follows:

Voltage (V)	Max ambient temperature (°C)	Duty cycle (%)	Temperature class
DC 20-230	40	100	T4
DC 20-230	60	50	T4
DC 20-230	80	30	T4
DC 20-230	120	100	T3
AC ≥ 98	40	100	T4
AC ≥ 98	60	50	T4
AC ≥ 98	80	30	T4
AC ≤ 98	40	100	T4
AC ≤ 98	60	50	T4
AC ≤ 98	80	30	T4

AC ≥ 98	120	100	T3
AC ≤ 98	100	100	T3
DC 24 V – HT*	70	100	T4
AC 110 V – HT*	70	100	T4
AC 230 V – HT*	70	100	T4

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DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)
New model “K25 Ex HT” with extended Ta and higher T class.