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 TUN 15.0028X**

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Certificate history:
Issue 2 (2020-02-27)
Issue 1 (2018-10-10)
Issue 0 (2015-11-02)

Status: **Current**

Issue No: 3

Date of Issue: 2025-09-02

Applicant: **Duplomatic MS S.p.A**
Via Mario Re Depaolini, 24
Parabiago (MI) 20015
Italy

Equipment: **ON-OFF and proportional coils for potential explosive atmosphere**

Optional accessory: C**22KX**2-*K9*/10/*

Type of Protection: **protection by enclosure “t” and protection by flameproof enclosures "d"**

Marking:
Ex db IIC T5 Gb (-40 °C Ta +55 °C)
Ex db IIC T4 Gb (-40 °C Ta +80 °C)
Ex db IIC T5 Gb (-60 °C Ta +55 °C)
Ex db IIC T4 Gb (-60 °C Ta +80 °C)
Ex tb III C T100 °C Db (-40 °C Ta +55 °C)
Ex tb III C T135 °C Db (-40 °C Ta +80 °C)
Ex tb III C T100 °C Db (-60 °C Ta +55 °C)
Ex tb III C T135 °C Db (-60 °C Ta +80 °C)
Ex db I Mb (-40 °C Ta +80 °C)

Approved for issue on behalf of the IECEx Certification Body: **Andreas Meyer**

Position: **Deputy Head of the IECEx Certification Body**

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 NORD CERT GmbH
Hanover Office
Am TÜV 1, 30519 Hannover
Germany

IECEx Certificate of Conformity

Certificate No.: **IECEx TUN 15.0028X**

Date of issue: 2025-09-02 Issue No: 3

Manufacturer: **Duplomatic MS S.p.A**
Via Mario Re Depaolini, 24
Parabiago (MI) 20015
Italy

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 60079-1:2014 Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"
Edition:7.0

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

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/TUN/ExTR15.0039/00 DE/TUN/ExTR15.0039/01 DE/TUN/ExTR15.0039/02

Quality Assessment Report:

DE/TUR/QAR19.0020/04

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

The coils can be ON-OFF or PROPORTIONAL: versions ON-OFF behaviour is according to the principle "energized" or "de-energized", while versions PROPORTIONAL allow the modulation of the controlled variable in a continuous mode, proportionally to the current supplied to the solenoid . The ON-OFF versions are available for current supply (DC) or alternate (RAC); the last one include a diode rectifier bridge.

Model reference: C**22KX**2-*K9*/10/*

See attachment for further details.

SPECIFIC CONDITIONS OF USE: YES as shown below:
1- The cover screws are M5x16 class A4-80.

2- Interrupting current of the pre-connected fuse as stated in specific conditions of safe uses.

- Upstream of each coil, an appropriate fuse (max 3 x In according to IEC 60127) or a protective motor switch with short-circuit and thermal instantaneous tripping, as short-circuit protection, must be connected. The fuse ratings listed in technical data.

-The cut-off power of the fuse must correspond or exceed the short circuit current of the supply source.

-The fuse or the protective motor must be placed outside the dangerous area or they must be protected with an explosion-proof covering.

-The breaking capacity of the fuse link shall be the same as or higher than the maximum short-circuit current expected to occur at the place of installation (normally 1500 A).

3- Cable glands must be assessed and certified in accordance with IEC 60079-1:2014 and IEC 60079-31:2022. In the end application, the degree of protection is at least IP66.

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DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)
Update standards:
- IEC 60079-0:2011 → IEC 60079-0:2017
- IEC 60079-31:2013 → IEC 60079-31:2022

Extension of “Specific Conditions of Use”

Annex:

Attachment to IECEx TUN 15.0028X-issue 3.pdf

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Am TÜV 1
30519 Hannover
Germany

Product:

The coils can be ON-OFF or PROPORTIONAL: versions ON-OFF behaviour is according to the principle "energized" or "de-energized", while versions PROPORTIONAL allow the modulation of the controlled variable in a continuous mode, proportionally to the current supplied to the solenoid. The ON-OFF versions are available for current supply (DC) or alternate (RAC); the last one include a diode rectifier bridge.

The following type of coils are below described:

Aluminum/steel or steel coil with EPL Gb and Db and ambient temperature range -40 °C +55 °C:

- C22KXD2-*K9*/10/T5
- CS22KXD2-*K9*/10/T5
- CE22KXD2-*K9*/10/T5
- CSE22XKD2-*K9*/10/T5

Aluminum/steel or steel coil with EPL Gb and Db and ambient temperature range -40 °C +80 °C:

- C22KXD2-*K9*/10
- CS22KXD2-*K9*/10
- CE22KXD2-*K9*/10
- CSE22KXD2-*K9*/10

Stainless steel coil with EPL Gb and Db and ambient temperature range -60 °C +55 °C:

- CX22KD2-*K9*/10/T5
- CXE22KD2-*K9*/10/T5

Stainless steel coil with EPL Gb and Db and ambient temperature range -60 °C +80 °C:

- CX22KD2-*K9*/10
- CXE22KD2-*K9*/10

Aluminum/steel or steel coil with EPL Mb and ambient temperature range -40 °C +80 °C:

- C22KDM2-*K9*/10/*
- CS22KDM2-*K9*/10/*
- CE22KDM2-*K9*/10/*
- CSE22KDM2-*K9*/10/*

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30519 Hannover
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Type code:

C			22	K	X			–		K9		/	10	

Coil

Material
X = stainless steel
S = steel
omit for standard coil with aluminium terminal box

Type
E = proportional (omit for ON–OFF coil)

Internal diameter for solenoid tube
22 = ø22 mm

Explosion–proof

Reference standard
X = IECEx

Protection type
D = "db" for gas – "tb" for dusts

Category of protection
2 = Equipments for surface plants EPL Gb – EPL Db
M2 = Equipments for mines EPL Mb

Power supply
D12 = 12V ON–OFF (direct current – DC)
D24 = 24V ON–OFF (direct current – DC)
D48 = 48V ON–OFF (direct current – DC)
D110 = 110V ON–OFF (direct current – DC)
R120 = 120V ON–OFF (alternating current with built–in rectifier bridge – RAC)
R240 = 240V ON–OFF (alternating current with built–in rectifier bridge – RAC)
D09 = 12V PROPORTIONAL
D20 = 24V PROPORTIONAL

Coil electrical connection: junction block

Connection type for cable gland
upper connection:
T01 = M20x1.5 – ISO 261
T02 = Gk 1/2 – UNI EN 10226–2
T03 = 1/2" NPT – ANSI B1.20.1 (ex ANSI B2.1)
side connection
S01 = M20x1.5 – ISO 261
S02 = Gk 1/2 – UNI EN 10226–2
S03 = 1/2" NPT – ANSI B1.20.1 (ex ANSI B2.1)
S04 = M16x1.5 – ISO 261

Series No.: (the overall and mounting dimensions do not change from 10 to 19)

Temperature class
/T5 = T5 for Gas / T100°C for Dusts
Omit if not required (for standard class of temperature T4 for Gas / T135°C for Dusts)

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Electrical data:

COIL DATA IECEx MARKING Ex db IIC T5 Gb - Ex db IIC T4 Gb Ex tb IIIC T100°C Db - Ex tb IIIC T135°C Db IP66/IP68			POWER	NOMINAL VOLTAGE	NOMINAL CURRENT	RECOMMENDED PRE-FUSE CHARACTERISTICS MEDIUM TIME-LAG ACCORDING TO DIN 41571	AMBIENT TEMPERATURE
DESCRIPTION	COIL VERSION	SUFFIX	[W] or [VA]	[V]	[A]	[A]	[°C]
C22KXD2-*K9*/10/* CS22KXD2-*K9*/10/*	DIRECT CURRENT	D*	5 ÷ 30	5 ÷ 240	0,05 ÷ 3	0,05 ÷ 5	-40°C Ta +80°C (T4 - T135°C) -40°C Ta +55°C (T5 - T100°C)
	ALTERNATING CURRENT (RECTIFIED BY INTERNAL DIODE BRIDGE)	R*					
CE22KXD2-*K9*/10/* CSE22KXD2-*K9*/10/*	PROPORTIONAL CURRENT	D*					
CX22KXD2-*K9*/10/*	DIRECT CURRENT	D*	5 ÷ 30	5 ÷ 240	0,05 ÷ 3	0,05 ÷ 5	-60°C Ta +80°C (T4 - T135°C) -60°C Ta +55°C (T5 - T100°C)
	ALTERNATING CURRENT (RECTIFIED BY INTERNAL DIODE BRIDGE)	R*					
CXE22KXD2-*K9*/10/*	PROPORTIONAL CURRENT	D*					

COIL DATA IECEx MARKING Ex db I Mb IP66/IP68			POWER	NOMINAL VOLTAGE	NOMINAL CURRENT	RECOMMENDED PRE-FUSE CHARACTERISTICS MEDIUM TIME-LAG ACCORDING TO DIN 41571	AMBIENT TEMPERATURE
DESCRIPTION	COIL VERSION	SUFFIX	[W] or [VA]	[V]	[A]	[A]	[°C]
C22KXDM2-*K9*/10/* CS22KXDM2-*K9*/10/*	DIRECT CURRENT	D*	5 ÷ 30	5 ÷ 240	0,05 ÷ 3	0,05 ÷ 5	-40°C Ta +80°C
	ALTERNATING CURRENT (RECTIFIED BY INTERNAL DIODE BRIDGE)	R*					
CE22KXDM2-*K9*/10/* CSE22KXDM2-*K9*/10/*	PROPORTIONAL CURRENT	D*					

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Details of Change:

Update standards:

- IEC 60079-0:2011 → IEC 60079-0:2017
- IEC 60079-31:2013 → IEC 60079-31:2022

Extension of “Specific Conditions of Use”

Special Conditions for Safe Use / Notes for Erection:

1. The cover screws are M5x16 class A4-80.

2. Interrupting current of the pre-connected fuse as stated in specific conditions of safe uses.

   -Upstream of each coil, an appropriate fuse (max 3 x In according to IEC 60127) or a protective motor switch with short-circuit and thermal instantaneous tripping, as short-circuit protection, must be connected. The fuse ratings listed in technical data.

   -The cut-off power of the fuse must correspond or exceed the short circuit current of the supply source.

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3. Cable glands must be assessed and certified in accordance with IEC 60079-1:2014 and IEC 60079-31:2022. In the end application, the degree of protection is at least IP66.