



Coil Type 3009M
DECLARATION
OF CONFORMITY



Coil Type 3009M
DECLARATION OF CONFORMITY

EC DECLARATION OF CONFORMITY

COIL 3009M

II 2G Ex mb IIC Tx Gb

II 2D Ex tb IIIC Tx°C IP66 Db

to be used in potentially explosive atmosphere

We, AMISCO S.p.A.

Sited in Via Piaggio 70, 20037,

Paderno Dugnano [Milan] - ITALY

declare under our sole responsibility that the product:

DC solenoids

Coil		Vn [V]	f [Hz]	I [A]	P [W]	Temperature Class
Type	Code					
3009M	3009MD006W3	6	-	0.510	3	T5
3009M	3009MD012W3	12	-	0.250	3	T5
3009M	3009MD024W3	24	-	0.125	3	T5
3009M	3009MD048W3	48	-	0.063	3	T5
3009M	3009MD006W4	6	-	0.640	3.8	T4
3009M	3009MD012W4	12	-	0.320	3.8	T4
3009M	3009MD024W4	24	-	0.160	3.8	T4
3009M	3009MD048W4	48	-	0.080	3.8	T4



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AC solenoids

Coil		V _n [V]	f [Hz]	I [A]	P [W]	Temperature Class
Type	Code					
3009M	3009MA012W2	12	50/60	0.2700	3.2	T5
3009M	3009MA024W2	24	50/60	0.1330	3.2	T5
3009M	3009MA048W2	48	50/60	0.0670	3.2	T5
3009M	3009MA100W2	100	50/60	0.0320	3.2	T5
3009M	3009MA110W2	110	50/60	0.0290	3.2	T5
3009M	3009MA115W2	115	50/60	0.0280	3.2	T5
3009M	3009MA120W2	120	50/60	0.0270	3.2	T5
3009M	3009MA220W2	220	50/60	0.0146	3.2	T5
3009M	3009MA230W2	230	50/60	0.0140	3.2	T5
3009M	3009MA240W2	240	50/60	0.0134	3.2	T5

V_n = nominal voltage

f = frequency

I = nominal current

P = nominal power

Voltage Tolerance range on nominal values: $\pm 10\%$



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to which this declaration relates, is in conformity with the provisions of the following directive:

ATEX 94/9/CE

and it's produced and tested with reference to the following standards:

**EN 60079-0 Explosive atmospheres – Part 0:
Equipment – General requirements – Ed. 2009**

**EN 60079-18 Explosive atmospheres – Part 18:
Equipment protection by encapsulation “m” – Ed. 2009**

**EN 60079-31 Explosive atmospheres – Part 31:
Equipment dust ignition protection by enclosure “t” –
Ed. 2009**

certified by TÜV:

TÜV IT 13 ATEX 030

Ing. Elio Mantovani
Authorized Person

November 12, 2013

CERTIFICATE

EC-TYPE EXAMINATION CERTIFICATE

[1]

[2]

**Equipment or Protective System intended for use
in potentially explosive atmospheres
Directive 94/9/EC**

[3]

EC-Type Examination Certificate number:

TÜV IT 13 ATEX 030

[4]

Equipment or Protective System: Electrical Coils Type 3009M

[5]

Manufacturer: AMISCO S.p.A.

[6]

Address: via Piaggio 70
I-20037 Paderno Dugnano (MI) ITALY

[7]

This equipment or protective system and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.

[8]

TÜV Italia, notified body no. 0948 in accordance with Article 9 of the Council Directive 94/9/EC of 23 March 1994, certifies that this equipment or protective system has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment and protective systems intended for use in potentially explosive atmospheres given in Annex II to the Directive.

The examination and test results are recorded in confidential report no. R-13-EX-017.

[9]

Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

EN 60079-0 : 2009 EN 60079-18 : 2009 EN 60079-31 : 2009

[10]

If the sign "X" is placed after the certificate number, it indicates that the equipment or protective system is subject to special conditions for safe use specified in the schedule to this certificate.

[11]

This EC-TYPE EXAMINATION CERTIFICATE relates only to the design, examination and tests of the specified equipment or protective system in accordance to the Directive 94/9/EC. Further requirements of the Directive apply to the manufacturing process and supply of this equipment or protective system. These are not covered by this certificate.

[12]

The marking of the equipment or protective system shall include the following:



II 2G Ex mb IIC T4/T5 Gb

Ta= -50°C ÷ +50°C

II 2D Ex tb IIIC T130/T95 °C IP66 Db

Ta= -50°C ÷ +50°C

This certificate may only be reproduced in its entirety and without any change, schedule included.

Date: 21st of June 2013



Gennaro Oliva
Approved
Gennaro Oliva
Industrie Service Director

TÜV Italia has been authorized by Italian government to operate as notified body for the certification of equipment or protective system intended for use in potentially explosive atmospheres with D.D. prot N. 0215696 dated 18/10/2012. This document without signature and official stamp shall not be valid. This document is internally administrated under no 232070.

[13]

SCHEDULE



[14]

EC-TYPE EXAMINATION CERTIFICATE no. TÜV IT 13 ATEX 030

Italia

[15] **Description of equipment**

The device is a solenoid for piloting a two or more ways pneumatic valve. The electric winding of the solenoid is constructed of a copper wire on a body in insulating plastic material and subsequently encapsulated in insulating plastic material. The connection with the power network occurs through a three-pole cable

Rated characteristics

Electrical data DC 3W solenoids

Type code	V _n [V]	f [Hz]	Ø wire [mm]	N of coils	R _a 20°C [Ω]	I [A]	P [W]	Temp. class	T _{Cut-off} MAX [°C]
3009MD006W3	6	0	0.30	925	11.8	0.510	3	T5	76
3009MD012W3	12	0	0.210	1850	48	0.250	3	T5	76
3009MD024W3	24	0	0.150	3700	192	0.125	3	T5	76
3009MD048W3	48	0	0.106	7400	770	0.063	3	T5	76

Ambient temperature: -50°C ÷ +50°C

Electrical data DC 3.8W solenoids

Type code	V _n [V]	f [Hz]	Ø wire [mm]	N of coils	R _a 20°C [Ω]	I [A]	P [W]	Temp. class	T _{Cut-off} MAX [°C]
3009MD006W4	6	0	0.315	825	9.5	0.640	3.8	T4	115
3009MD012W4	12	0	0.224	1650	38	0.320	3.8	T4	115
3009MD024W4	24	0	0.160	3300	150	0.160	3.8	T4	115
3009MD048W4	48	0	0.112	6500	600	0.080	3.8	T4	115

Ambient temperature: -50°C ÷ +50°C

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[13]

SCHEDULE



[14]

EC-TYPE EXAMINATION CERTIFICATE no. TÜV IT 13 ATEX 030

Italia

Electrical data AC solenoids

Type code	V _n [V]	f [Hz]	∅ wire [mm]	N of coils	R _a 20°C [Ω]	I [A]	P [W]	Temp. class	T _{Cut-off} MAX [°C]
3009MA012W2	12	50/60	0.28	1050	15.4	0.2700	3.2	T5	76
3009MA024W2	24	50/60	0.200	2100	61	0.1330	3.2	T5	76
3009MA048W2	48	50/60	0.140	4170	247	0.0670	3.2	T5	76
3009MA100W2	100	50/60	0.095	8700	1115	0.0320	3.2	T5	76
3009MA110W2	110	50/60	0.09	9570	1357	0.0290	3.2	T5	76
3009MA115W2	115	50/60	0.09	10000	1440	0.0280	3.2	T5	76
3009MA120W2	120	50/60	0.09	10400	1515	0.0270	3.2	T5	76
3009MA220W2	220	50/60	0.063	19130	5494	0.0146	3.2	T5	76
3009MA230W2	230	50/60	0.063	20000	5820	0.0140	3.2	T5	76
3009MA240W2	240	50/60	0.063	20870	6160	0.0134	3.2	T5	76

Ambient temperature: -50°C ÷ +50°C

Warning label

None

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[13]

SCHEDULE

[14]

EC-TYPE EXAMINATION CERTIFICATE no. TÜV IT 13 ATEX 030

Italia

[16] **Report no. R-13-EX-017****Routine tests**

A dielectric strength test must be carried out on the equipment, in accordance with 9.2 of EN 60079-18.

Listed documents (prot. 232070)

Document ID	Title	rev.	Date
NA	NOTA TECNICA	0	01/03/2013
NA	ANALISI DEI RISCHI	0	01/03/2013
Allegato 3 PD020	EC DECLARATION OF CONFORMITY	0	01/03/2013
NA	INSTRUCTIONS	0	01/03/2013
EX-2036	PARTICOLARE CUSTODIA CONNESSIONI	2	01/03/2013
EX-2430	BOBINA 3009M Ex m	3	01/03/2013
EX-2430A	BOBINA 3009M Ex m CON CAVO	3	01/03/2013
EX-2469	VITE DI FISSAGGIO CONNESSIONI BOBINA 3009M Ex m	2	01/03/2013
EX-2471	CAVO PER BOBINA 3009M Ex m	2	25/05/2007
EX-2471A	CAVO ASSIEMATO CON PROTETTORE TERMICO E CUSTODIA PER BOBINA 3009M Ex m	3	01/03/2013
EX2472	CAVO PER BOBINA 3009M Ex m	1	25/05/2007

One copy of all documents is kept in TÜV Italia files.

[17] **Special conditions for safe use**

None.

[18] **Essential Health and Safety Requirements**

The evaluation of the "protection against other hazards" in paragraph 1.2.7 of Annex 1 of Directive 94/9/EC is not covered by this certificate

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Coil Type 3009M

INSTRUCTIONS



Coil Type 3009M INSTRUCTIONS

MANUFACTURER NAME:

AMISCO S.p.A.

ADDRESS:

via Piaggio, 70 – Paderno D. – MI – ITALY

TYPE:

3009M

N° N.B.:

0722

GROUP:

II

CATEGORY:

2G and 2D

**GAS AND COMBUSTIBLE DUST ATMOSPHERE
EQUIPMENT**

EXPLOSION PROTECTION FOR:

- GAS ATMOSPHERE

- COMBUSTIBLE DUST

Encapsulation “m”, level mb

Enclosure “t”, level tb

CERTIFICATE NUMBER:

TÜV IT 13 ATEX 030

VOLTAGE TOLERANCE:

±10%

DUTY CYCLE:

100% ED

AMBIENT TEMPERATURE:

-50°C ÷ +50°C

ELECTRICAL DATA:

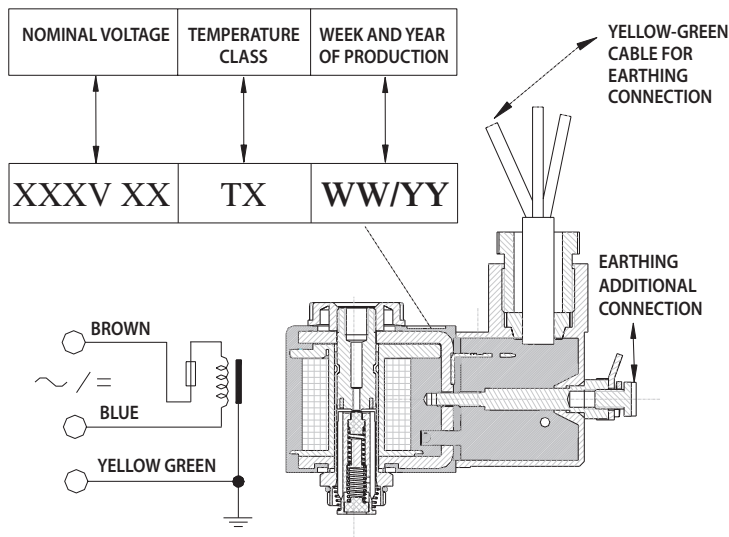
DC solenoids

Coil		Vn [V]	f [Hz]	I [A]	P [W]	Temperature Class
Type	Code					
3009M	3009MD006W3	6	-	0.510	3	T5
3009M	3009MD012W3	12	-	0.250	3	T5
3009M	3009MD024W3	24	-	0.125	3	T5
3009M	3009MD048W3	48	-	0.063	3	T5
3009M	3009MD006W4	6	-	0.640	3.8	T4
3009M	3009MD012W4	12	-	0.320	3.8	T4
3009M	3009MD024W4	24	-	0.160	3.8	T4
3009M	3009MD048W4	48	-	0.080	3.8	T4

AC solenoids

Coil		Vn [V]	f [Hz]	I [A]	P [VA]	Temperature Class
Type	Code					
3009M	3009MA012W2	12	50/60	0.2700	3.2	T5
3009M	3009MA024W2	24	50/60	0.1330	3.2	T5
3009M	3009MA048W2	48	50/60	0.0670	3.2	T5
3009M	3009MA100W2	100	50/60	0.0320	3.2	T5
3009M	3009MA110W2	110	50/60	0.0290	3.2	T5
3009M	3009MA115W2	115	50/60	0.0280	3.2	T5
3009M	3009MA120W2	120	50/60	0.0270	3.2	T5
3009M	3009MA220W2	220	50/60	0.0146	3.2	T5
3009M	3009MA230W2	230	50/60	0.0140	3.2	T5
3009M	3009MA240W2	240	50/60	0.0134	3.2	T5

Coil Type 3009M INSTRUCTIONS



The coil 3009M Exm is developed to fit Amisco operators. If a different operator is used, make sure that the coil powered with nominal voltage does not show a power consumption exceeding the values mentioned above.

In any case, before giving its approval, Amisco has to carry out consumption and thermic tests on the operator specimen; on the contrary these tests will be conducted by the Client himself who has to inform Amisco about the results obtained. In this case the Client will also be responsible for eventual malfunctionings incurred by using non-tested operators.

Week and year of production of the complete coil are printed on the upper side of the solenoid, as showed in the above drawing.

The output cable of the solenoid consists of a brown colored lead, of a blue one and of a yellow-green one. The brown and blue leads are the coil power supply while the yellow-green one, that is connected to all the conductive accessible parts of the coil, is the earth connecting.

The coil has also an additional external connecting unit for the earth connection or for the equipotential bonding connection.

INFORMATION FOR USE

- Electrostatic charges product, clean only with wet cloths or antistatic products.
- The coil is NOT a resetting device. When a failure occurs and the internal thermal protection break off, the coil is no longer functioning.
- The electrical connection between solenoid and electric installation has to be performed in compliance with EN 60079-18 for gas and EN 60079-31 for dusts respectively.
- The additional external connecting unit, if utilized, must be connected with a conductor with a cross-sectional area of at least 0.75mm².

Definitions and Symbols

Our Marking



II 2G Ex mb IIC Tx Gb

II 2D Ex tb IIIC Tx°C IP66 Db

Where:



Specific marking of Explosion Protection.

- II:** Group II - Electrical apparatus for places with a potentially explosive atmosphere, other than mines susceptible to fire damp.
- 2:** Category 2 - see the board below.
- G:** Explosive gas atmospheres.
- D:** Explosive atmosphere in the presence of combustible dust.
- Ex:** The symbol Ex which indicates that the electrical apparatus corresponds to one of the protection type (EN 60079 – 0).
- mb:** Type of protection for gas – encapsulation m, level mb.
- tb:** Type of protection for explosive dust atmospheres – protection by enclosure.
- IIC:** Electrical equipment of Group II is subdivided according to the nature of the explosive gas atmospheres – IIC, a typical gas is hydrogen.
- IIIC:** Electrical equipment of Group III is subdivided according to the nature of the explosive dust atmospheres – IIIC, conductive dust.
- Tx:** Temperature class: T4/T5 for Gas and T130°C/T95°C for Dust.
- Gb:** Equipment protection level [EPL] for explosive gas atmospheres.
- Db:** Equipment protection level [EPL] for explosive dust atmospheres.
- IP66:** The degrees of protection provided by an enclosure against, ingress of solid foreign objects, dust (first number) and water (second number).

Zone	Category	Description
1 and 2	2G	Equipment in this category is intended for use in areas in which explosive atmospheres caused by air/gas mixture are likely to occur.
21 and 22	2D	Equipment in this category is intended for use in areas in which explosive atmospheres caused by air/dust mixtures are likely to occur.

Paderno Dugnano, November 7, 2013

Ing. Elio Mantovani

Authorized Person

