



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 CES 10.0010X** Page 1 of 4 [Certificate history:](#)
Issue 2 (2015-01-29)
Issue 1 (2012-09-10)
Issue 0 (2010-09-14)

Status: **Current** Issue No: 3

Date of Issue: 2019-10-21

Applicant: **ATOS S.p.A.**
via alla Piana, 57
I - 21018 Sesto Calende (VA)
Italy

Equipment: **Explosion proof solenoid, series OA-*; OAB-*; OZA-A*; OZA-T*; OZAB-A*; MZA-A*; MZAB-A*; OA/O-*; OAB/O-*; OA/WP-*; OAB/WP-*; OA/O/WP-*; OAB/O/WP-***

Optional accessory:

Type of Protection: **Flameproof enclosures 'd'; Dust ignition protection 't'**

Marking: **Ex db IIC T6 or T4 or T3 Gb**
Ex tb IIIC T85°C or T135°C or T200°C Db
IP 66/67

Approved for issue on behalf of the IECEx
Certification Body:

Mirko Balaz

Position:

Head of IECEx CB

Signature:
(for printed version)

Date:

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:

CESI
Centro Elettrotecnico
Sperimentale Italiano S.p.A.
Via Rubattino 54
20134 Milano
Italy

CESI



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Date of issue: 2019-10-21

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Manufacturer: **ATOS S.p.A.**
via alla Piana, 57
I - 21018 Sesto Calende (VA)
Italy

Additional
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 60079-1:2014-06 Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"
Edition:7.0

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 Reports:

[IT/CES/ExTR10.0010/00](#)
[IT/CES/ExTR10.0010/03](#)

[IT/CES/ExTR10.0010/01](#)

[IT/CES/ExTR10.0010/02](#)

Quality Assessment Report:

[IT/CES/QAR10.0003/09](#)



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EQUIPMENT:

Equipment and systems covered by this Certificate are as follows:

Explosion proof solenoids series OA-*; OAB-*; OZA-A*; OZA-T*; OZAB-A*; MZA-A-*; MZAB-A-*; OA/O-*; OAB/O-*; OA/WP-*; OAB/WP-*; OA/O/WP-*; OAB/O/WP-*.

The explosion proof solenoids in subject are used to drive direction control, flow control and pressure control valves.

Electrical characteristics

Rated voltage: 12 / 220 Vdc , 12/ 240 Vac (depending of the models).

Rated power: 3,5 / 35 W (depending of the models).

Ambient temperature range: from -60°C / -40°C to + 40° / +45°C / + 50°C / +55°C /+60°C / + 70°C (*depending of the model*).

Degree of protection: IP 66/67 (IEC 60529).

Details concerning version, model code, short description, min and max T amb, constructional materials, cable temperature, temperature class, surface temperatures and power supply are mentioned in Annexe.

SPECIFIC CONDITIONS OF USE: YES as shown below:

- The flame paths are specified in the manufacturer drawings. For information regarding the dimensions of the flameproof joints the manufacturer shall be contacted.
- For the selection of connecting cable with operating temperature suitable for the installation conditions of equipment refer to the manufacturer safety instruction.
- Use screws property class A4-70 UNI 5931 with yield stress ≥ 450 MPa.



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DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)

Variation 3.1:

The explosion proof solenoids, originally assessed in compliance with IEC 60079-0: 2011 and IEC 60079-1: 2007 have been re-assessed on the basis of the standard IEC 60079-0: 2017, 7th edition and IEC 60079-1:2014, 7th edition.

Variation 3.2:

Ex marking concerning the flameproof enclosure protection type has been updated to “db” for EPL Gb, according to latest edition of standard IEC 60079-1:2014, 7th edition. Ex marking on the nameplate has been updated.

Variation 3.3:

Integration of explosion proof solenoid with position transducer type E-THA-* certified separately by IECEx CES 12.0006X with type of protection “db” and “tb”.

The solenoid, where position transducer is integrated as accessory is called OZA*-T*:

OZA-T*: composed by standard materials and E-THA*-* transducer

OZAX-T*: composed by full stainless steel materials and E-THA*-* transducer

OZAXS-T*: composed by external stainless steel materials and E-THA*-* transducer

OZAXW-T*: composed by internal stainless steel materials and E-THA*-* transducer

The integration of the explosion proof inductive transducer devices in the solenoid enclosure does not introduce new flameproof joint. Each enclosure maintains its own flameproof joints.

The implementation of the new solenoid models with the inductive transducers ETHA-4/* provides a modification of the IP joint in the area of the coupling between both enclosures: An O-ring gasket interposed between the shell of the solenoid and the cap of the transducer, replaces the O-ring gasket used on the rotor shaft of the solenoid (used when it is not coupled to the transducer).

The temperature class of the solenoid takes into account the temperature class of the position transducer coupled.

The solenoid models with integrated the inductive transducer maintain the same technical characteristics and supply power than the same solenoid models without the transducer device.

Annex:

[IECExCES10.0010X Issue 3 ANNEXE - ATOS solenoids.pdf](#)

Prot: B9020746

Annex to certificate:

IECEx CES 10.0010X_Issue No.3 of 2019-10-21

Applicant:

ATOS S.p.A.

Via alla Piana, 57 – 21018 Sesto Calende (Varese) - Italy

Electrical Apparatus:

**Explosion proof solenoids series OA-*; OAB-*; OZA-A*; OZA-T*; OZAB-A*; MZA-A-*; MZAB-A-*; OA/O-*; OAB/O-*; OA/WP-*; OAB/WP-*; OA/O/WP-*; OAB/O/WP-*
(standard version, see product information for complete model types)**

Description of equipment

The explosion proof solenoids in subject are used to drive direction control, flow control and pressure control valves. In the following are summarized the models and the relevant description.

Version, model code and short description

Version	Code	Description
Standard	OA-*	on-off solenoid
	OA/3-*	on-off solenoid - power 3,5 W
	OZA-A-*	proportional solenoid without position transducer
	MZA-A-*	proportional solenoid without position transducer and without manual override
Standard Temp. Amb. -60°C	OZA-T	proportional solenoid with position transducer
	OAB-*	on-off solenoid for Amb.T -60°C
	OAB/3-*	on-off solenoid -power 3,5 W for Amb.T -60°C
	OZAB-A-*	proportional solenoid without position transducer for Amb.T -60°C
with protected manual override	MZAB-A-*	proportional solenoid without position transducer and without manual override for Amb.T -60°C
	OA/WP-*	on-off solenoid with protected manual override
with protected manual override Temp. Amb. -60°C	OA/3/WP-*	on-off solenoid with protected manual override - power 3,5W
	OZA-A*/WP	proportional solenoid without position transducer and with protected manual override
	OAB/WP-*	on-off solenoid with protected manual override for Amb.T -60°C
with horizontal cable output	OAB/3/WP-*	on-off solenoid with protected manual override - power 3,5 W for Amb.T -60°C
	OZAB-A*/WP	proportional solenoid without position transducer and with protected manual override for Amb.T -60°C
	OA/O-*	on-off solenoid with horizontal cable output
	OA/3/O-*	on-off solenoid with horizontal cable output - power 3,5 W
	OA/O/WP-*	on-off solenoid with protected manual override and horizontal cable output
	OA/3/O/WP-*	on-off solenoid with protected manual override, horizontal cable output - power 3,5 W
	OZA-A*/O	proportional solenoid without position transducer and with horizontal cable output
with horizontal cable output Temp. Amb. -60°C	OZA-A*/O/WP	proportional solenoid without position transducer, with protected manual override and horizontal cable output
	MZA-A*/O	proportional solenoid without position transducer, without manual override and with horizontal output cable
	OAB/O-*	on-off solenoid with horizontal cable output for Amb.T -60°C
	OAB/3/O-*	on-off solenoid with horizontal cable output - power 3,5 W for Amb.T -60°C
	OAB/O/WP-*	on-off solenoid with protected manual override and horizontal cable output for Amb.T -60°C
	OAB/3/O/WP-*	on-off solenoid with protected manual override, horizontal cable output - power 3,5 W for Amb.T -60°C
	OZAB-A*/O	proportional solenoid without position transducer and with horizontal cable output for Amb.T -60°C
stainless steel	OZAB-A*/O/WP	proportional solenoid without position transducer, with protected manual override and horizontal cable output for Amb.T -60°C
	MZAB-A*/O	proportional solenoid without position transducer, without manual override and with horizontal output cable for Amb.T -60°C
	OAX/WP-*	stainless steel on-off solenoid – power 8W
	OAX/3/WP-*	stainless steel on-off solenoid – power 3,5W
	OAKX/WP-*	stainless steel on-off solenoid – power 25W
	OZAX-A*/WP	stainless steel proportional solenoid without position transducer
stainless steel Temp. Amb. -60°C	MZAX-A-*	stainless steel proportional solenoid without position transducer and without manual override
	OZAX-T-*	stainless steel proportional solenoid without position transducer and without manual override
	OABX/WP-*	stainless steel on-off solenoid – power 8W for Amb.T -60°C
	OABX/3/WP-*	stainless steel on-off solenoid – power 3,5W for Amb.T -60°C
	OABKX/WP-*	stainless steel on-off solenoid – power 25W for Amb.T -60°C
	OZABX-A*/WP	Stainless steel proportional solenoid without position transducer for Amb.T -60°C

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Annex to certificate:

IECEx CES 10.0010X_Issue No.3 of 2019-10-21

Applicant:

ATOS S.p.A.

Via alla Piana, 57 – 21018 Sesto Calende (Varese) - Italy

Electrical Apparatus:

**Explosion proof solenoids series OA-*; OAB-*; OZA-A*; OZA-T*; OZAB-A*; MZA-A-*; MZAB-A-*; OA/O-*; OAB/O-*; OA/WP-*; OAB/WP-*; OA/O/WP-*; OAB/O/WP-*
(standard version, see product information for complete model types)**

	MZABX-A-*	Stainless steel proportional solenoid without position transducer and without manual override for Amb.T -60°C
Stainless steel with horizontal cable output	OAX/O/WP-*	Stainless steel on-off solenoid – power 8W with horizontal cable output
	OAX/3/O/WP-*	Stainless steel on-off solenoid – power 3,5W with horizontal cable output
	OAKX/O/WP-*	stainless steel on-off solenoid – power 25W with horizontal cable output
	OZAX-A-*/O/WP	Stainless steel proportional solenoid without position transducer and horizontal cable output
	MZAX-A-*/O	Stainless steel proportional solenoid without position transducer, without manual override and with horizontal cable output
Stainless steel with horizontal cable output Temp. Amb. -60°C	OABX/O/WP-*	Stainless steel on-off solenoid – power 8W with horizontal cable output for Amb.T -60°C
	OABX/3/O/WP-*	Stainless steel on-off solenoid – power 3,5W with horizontal cable output for Amb.T -60°C
	OABKX/O/WP-*	stainless steel on-off solenoid – power 25W with horizontal cable output for Amb.T -60°C
	MZABX-A-*/O	Stainless steel proportional solenoid without position transducer, without manual override and with horizontal cable output for Amb.T -60°C.
External stainless steel, internal standard	OAXS/WP-*	External stainless steel and internal standard on-off solenoid – power 8W
	OAXS/3/WP-*	External stainless steel and internal standard on-off solenoid – power 3,5W
	OAKXS/WP-*	External stainless steel and internal standard on-off solenoid – power 25W
	OZAXS-A-*/WP	External stainless steel and internal standard proportional solenoid without position transducer
	MZAXS-A-*	External stainless steel and internal standard proportional solenoid without position transducer and without manual override
	OZAXS-T-*	External stainless steel and internal standard proportional solenoid with position transducer and without manual override
External stainless steel, internal standard Temp. Amb. -60°C	OABXS/WP-*	External stainless steel and internal standard on-off solenoid – power 8W for Amb.T -60°C
	OABXS/3/WP-*	External stainless steel and internal standard on-off solenoid – power 3,5W for Amb.T -60°C
	OABKXS/WP-*	External stainless steel and internal standard on-off solenoid – power 25W for Amb.T -60°C
	OZABXS-A-*/WP	External stainless steel and internal standard proportional solenoid without position transducer for Amb.T -60°C
	MZABXS-A-*	External stainless steel and internal standard proportional solenoid without position transducer and without manual override for Amb.T -60°C
External stainless steel, internal standard with horizontal cable output	OAXS/O/WP-*	External stainless steel and internal standard on-off solenoid – power 8W with horizontal cable output
	OAXS/3/O/WP-*	External stainless steel and internal standard on-off solenoid – power 3,5W with horizontal cable output
	OAKXS/O/WP-*	external stainless steel and internal standard on-off solenoid – power 25W with horizontal cable output
	OZAXS-A-*/O/WP	external stainless steel and internal standard proportional solenoid without position transducer and with horizontal cable output
	MZAXS-A-*/O	external stainless steel and internal standard proportional solenoid without position transducer and without manual override and with horizontal cable output
External stainless steel, internal standard with horizontal cable output Temp. Amb. -60°C	OABXS/O/WP-*	External stainless steel and internal standard on-off solenoid – power 8W with horizontal cable output for Amb.T -60°C
	OABXS/3/O/WP-*	External stainless steel and internal standard on-off solenoid – power 3,5W with horizontal cable output for Amb.T -60°C
	OABKXS/O/WP-*	external stainless steel and internal standard on-off solenoid – power 25W with horizontal cable output for Amb.T -60°C
	OZABXS-A-*/O/WP	external stainless steel and internal standard proportional solenoid without position transducer and with horizontal cable output for Amb.T -60°C
	MZABXS-A-*/O	external stainless steel and internal standard proportional solenoid without position transducer and without manual override and with horizontal cable output for Amb.T -60°C
Internal stainless steel, external standard	OAXW/WP-*	Internal stainless steel and external standard on-off solenoid – power 8W
	OAXW/3/WP-*	Internal stainless steel and external standard on-off solenoid – power 3,5W
	OAKXW/WP-*	Internal stainless steel and external standard on-off solenoid – power 25W
	OZAXW-A-*/WP	internal stainless steel and external standard proportional solenoid without position transducer
	MZAXW-A-*	internal stainless steel and external standard proportional solenoid without position transducer and without manual override

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ATOS S.p.A.

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Electrical Apparatus:

**Explosion proof solenoids series OA-*; OAB-*; OZA-A*; OZA-T*; OZAB-A*; MZA-A*; MZAB-A*; OA/O-*; OAB/O-*; OA/WP-*; OAB/WP-*; OA/O/WP-*; OAB/O/WP-*
(standard version, see product information for complete model types)**

	OZAXW-T*	internal stainless steel and external standard proportional solenoid with position transducer and without manual override
Internal stainless steel, external standard Temp. Amb. -60°C	OABXW/WP*	Internal stainless steel and external standard on-off solenoid – power 8W for Amb.T -60°C
	OABXW/3/WP*	Internal stainless steel and external standard on-off solenoid – power 3,5W for Amb.T -60°C
	OABXW/WP*	Internal stainless steel and external standard on-off solenoid – power 25W for Amb.T -60°C
	OZABXW-A*/WP	internal stainless steel and external standard proportional solenoid without position transducer for Amb.T -60°C
	MZABXW-A*	internal stainless steel and external standard proportional solenoid without position transducer and without manual override for Amb.T -60°C
Internal stainless steel, external standard with horizontal cable output	OAXW/O/WP*	internal stainless steel and external standard on-off solenoid – power 8W with horizontal cable output
	OAXW/3/O/WP*	Internal stainless steel and external standard on-off solenoid – power 3,5W with horizontal cable output
	OAKXW/O/WP*	Internal stainless steel and external standard on-off solenoid – power 25W with horizontal cable output
	OZAXW-A*/O/WP	Internal stainless steel and external standard proportional solenoid without position transducer and with horizontal cable output
	MZAXW-A*/O	Internal stainless steel and external standard proportional solenoid without position transducer and without manual override and with horizontal cable output
Internal stainless steel, external standard with horizontal cable output Temp. Amb. -60°C	OABXW/O/WP*	internal stainless steel and external standard on-off solenoid – power 8W with horizontal cable output for Amb.T -60°C
	OABXW/3/O/WP*	Internal stainless steel and external standard on-off solenoid – power 3,5W with horizontal cable output for Amb.T -60°C
	OABXW/O/WP*	Internal stainless steel and external standard on-off solenoid – power 25W with horizontal cable output for Amb.T -60°C
	OZABXW-A*/O/WP	Internal stainless steel and external standard proportional solenoid without position transducer and with horizontal cable output for Amb.T -60°C
	MZABXW-A*/O	Internal stainless steel and external standard proportional solenoid without position transducer and without manual override and with horizontal cable output for Amb.T -60°C

Electrical characteristics

Rated voltage: 12 / 220 Vdc, 12/ 240 Vac (depending of the models)

Rated power: 3,5 / 35 W (depending of the models)

Ambient temperature range:

from -60°C / -40°C to + 40° / +45°C / + 50°C / +55°C / +60°C / + 70°C (depending of the model)

Degree of protection:

IP 66/67 (IEC 60529)

Max ambient temperature, temperature class, surface temperature, connecting cable temperature

Solenoid type (for Min T.Amb -40°C)		T amb. Max ambient temperature (°C)	Connecting cable temperature (°C)	Temperature class / surface temperature
OA, OA/3, OA/O, OA/3/O, OA/WP, OA/3/WP, OA/O/WP, OA/3/O/WP	OAX/WP, OAX/3/WP	70	90	T4 / T135°C
	OAX/O/WP, OAX/3/O/WP OAXS/WP, OAXS/3/WP OAXS/O/WP, OAXS/3/O/WP OAXW/WP, OAXW/3/WP OAXW/O/WP, OAXW/3/O/WP	45	-	T6 / T85°C
-	OAKX/WP	70	130	T3 / 200°C
	OAKX/O/WP	60	120	
	OAKXS/WP	50	110	

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(standard version, see product information for complete model types)**

	OAKXS/O/WP OAKXW/WP OAKXW/O/WP	45	100	T4 / T135°C
OZA-A OZA-A/O OZA-A/WP OZA-A/O/WP	OZAX-A/WP	70	120	T3 / 200°C
	OZAX-A/O/WP	55	110	
	OZAXS-A/WP	45	95	T4 / T135°C
	OZAXS-A/O/WP OZAXW-A/WP OZAXW-A/O/WP	40	90	
MZA-A MZA-A/O	MZAX-A, MZAX-A/O, MZAXS-A, MZAXS-A/O, MZAXW-A, MZAXW-A/O	70	120	T3 / 200°C
		45	90	T4 / T135°C
		55	110	T3 / 200°C
OZA-T	OZAX-T, OZAXS-T, OZAXW-T	70	120	T3 / T200 °C
		40	90	T4 / T135 °C
Solenoid type (for Min T.Amb -60°C)		T amb. Max ambient temperature (°C)	Connecting cable temperature (°C)	Temperature class / surface temperature
OAB, OAB/3, OAB/O, OAB/3/O, OAB/WP, OAB/3/WP, OAB/O/WP, OAB/3/O/WP	OABX/WP, OABX/3/WP OABX/O/WP, OABX/3/O/WP OABXS/WP, OABXS/3/WP OABXS/O/WP, OABXS/3/O/WP OABXW/WP, OABXW/3/WP OABXW/O/WP, OABXW/3/O/WP	70	90	T4 / T135°C
		45	-	T6 / T85°C
-	OABKX/WP OABKX/O/WP OABKXS/WP OABKXS/O/WP OABKXW/WP OABKXW/O/WP	70	130	T3 / 200°C
		60	120	
		50	110	
		45	100	T4 / T135°C
OZAB-A OZAB-A/O OZAB-A/WP OZAB-A/O/WP	OZABX-A/WP OZABX-A/O/WP OZABXS-A/WP OZABXS-A/O/WP OZABXW-A/WP OZABXW-A/O/WP	70	120	T3 / 200°C
		55	110	
		45	95	T4 / T135°C
		40	90	
MZAB-A MZAB-A/O	MZABX-A, MZABX-A/O, MZABXS-A, MZABXS-A/O, MZABXW-A, MZABXW-A/O	70	120	T3 / 200°C
		45	90	T4 / T135°C
		55	110	T3 / 200°C

Cable entries

The cable entry devices used on the enclosure shall be suitably certified according to the applicable standards. For the equipment with dust protection "tb" the accessories used for cable entries and for unused holes shall guarantee the degree of protection IP66/67 according to IEC 60529 standard.

Warning label

"Warning – do not open when energized"

"For the correct selection of connecting cable temperatures see safety instructions"