IECEx Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION
IEC Certification Scheme for Explosive Atmospheres

for rules and details of the IECEx Scheme visit www.iecex.com

Certificate No.:	IECEx EUT 14.0001X	Issue No: 0	Certificate history: Issue No. 0 (2014-03-07)
Status:	**Current**	Page 1 of 3	
Date of Issue:	**2014-03-07**		
Applicant:	**Elpromtech S.r.l.** Via Mantova, 93 43122 Parma **Italy**		
Electrical Apparatus:	**Series O-M three-phase and single-phase asynchronous squirrel cage rotor motors, supplied by mains or inverter**		
Optional accessory:	*Terminal box and Capacitor*		
Type of Protection:	**Flameproof enclosures "d"; Equipment dust ignition protection by enclosure "t"**		
Marking:	Ex db IIC T3, T4 or T5 Ex tb IIIC T125°C		

Approved for issue on behalf of the IECEx Certification Body: Dionisio Bucchieri

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 the Official IECEx Website.

Certificate issued by:

Eurofins Modulo Uno S.p.A.
Via Cuorgnè,
n.21 - 10156 Torino
Italy

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Manufacturer:	**Elpromtech S.r.l.** Via Mantova, 93 43122 Parma **Italy**	
Additional Manufacturing location(s):		

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 electrical apparatus 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 : 2011 Edition:6.0	Explosive atmospheres - Part 0: General requirements
IEC 60079-1 : 2007-04 Edition:6	Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"
IEC 60079-31 : 2008 Edition:1	Explosive atmospheres – Part 31: Equipment dust ignition protection by enclosure 't'

*This Certificate **does not** indicate compliance with electrical 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:

IT/EUT/ExTR14.0001/00

Quality Assessment Report:

IT/EUT/QAR14.0001/00

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Schedule

EQUIPMENT:

Equipment and systems covered by this certificate are as follows:

The three-phase and single-phase asynchronous squirrel cage rotor motors series O-M, are made of aluminium with separate components: motor enclosure, terminal box for supply and a capacitor enclosure.
The motor can be provided with terminal box and capacitor enclosure or with terminal box and without capacitor enclosure or without terminal box and without capacitor enclosure; all the parts have flameproof joints independent from each other.
The motors of group IIC and group IIIC have respectively the type of protection “Ex d” and “Ex t”.
The motors can be equipped with auxiliary devices (heaters, thermal protectors).
Possibility of supply through inverter exclusively with the use of thermal protectors applied on the windings.
Such protectors may be either PTO and PTC and they shall be connected to an appropriate protection device conforming to EN 50495.

A more detailed description is given in the annex

CONDITIONS OF CERTIFICATION: YES as shown below:

The determination of maximum surface temperature was based on operation within "zone A" with an input voltage between 95% and 105% of the rated voltage
The screws have to comply with quality 8.8 ISO 898-1

Annex:

EUT.14.REL.01_51973.pdf

Annex to certificate: **IECEx EUT 14.0001 Issue N. 0 of 2014-03-07**

General product information:

The three-phase and single-phase asynchronous squirrel cage rotors motors, series O-M, supplied by mains or inverter, are identified by a code as follows:

OX 063 A 4 H 230 5 P 4 U

Motor Type			
MX	Single Phase Ex d		
OX	Three Phase Ex d		

Shaft height
56, 63, 71, 80, 90, 100, 112, 132

Stator Dimensions	
A, B	56, 63, 71, 80
S, L	90 - 132
K, M	100 - 132

Poles	
2, 4, 6	Single phase motor
2, 4, 6 , 8	Three phase motor 1 speed
3, 5, 7, 9	Three phase motor 2 speed 2/4, 4/8, 4/6, 6/8 poles

Mounting System			
H	B3	**W**	B3/B14
B	B3 box dx	**X**	B3/B5
S	B3 box sx	**J**	B3/B14 box sx
F	B5	**M**	B3/B14 box dx
G	V1 (B5 + roof)	**R**	B3/B5 box sx
Q	B14	**T**	B3/B5 box dx

Supply Voltage
For two voltage motors is indicated the lower (ex. 230 for 230/400)

Frequency	
5	50Hz
6	60Hz
7	50/60Hz

Protection (IP and Ex)	
P	Motor Ex db
Q	Motor Ex db Ex tb

Temperature class	
3	Temperature class T3 (200°C)
4	Temperature class a T4 (135°C)
5	Temperature class T5 (100°C)

Thermal protectors	
-	Without protectors
3	Protector (PTO) – temperature class T3
4	Protector (PTO) – temperature class T4
5	Protector (PTO) – temperature class T5
P	PTC – temperature class T3
U	PTC – temperature class T4
V	PTC – temperature class T5

The motors are made of aluminium (the paint used has a maximum thickness of 0,2 mm) and have separate parts: motor enclosure, terminal box for supply and capacitor enclosure.
The motor can be provided with terminal box and capacitor enclosure or with terminal box and without capacitor enclosure or without terminal box and without capacitor enclosure; all the parts have flameproof joints independent from each other.
The motors of group IIC and group IIIC have the type of protection “Ex d” and “Ex t”.
The motors can be equipped with auxiliary devices (heaters, thermal protectors).
The anticondensate heater can be activate only when the motor is not powered.
In case of single phase motors the capacitors have to be placed in the appropriate enclosure or in safe zone.

Electrical characteristics

Mains Supply

Maximum rated voltage: 850 V (Supply voltage must be within ±5% of the nominal value)
Maximum rated power: 11 kW
Rated frequency: 50/60 Hz
Insulation class: F, H
Duty: S1, S2, S3, S9
Rated speed: 750 ÷ 3000 rpm
Degree of protection: IP 66

Ambient temperature. -40 ÷ +40 ℃ (till +60℃ for T3,T4 class of temperature)

Temperature classes and Maximum surface temperature:
T5, T4, T3, T 125℃ as a function of the ambient te mperature and of the electrical characteristics as indicated in the technical note n. MOTORI ASINCRONI SERIE O – M.

Inverter supply

Frequency range: 5-87Hz
Possibility of supply through inverter exclusively with the use of thermal protectors applied on the windings.
Such protectors may be either PTO and PTC and they shall be connected to an appropriate protection device conforming to EN 50495.
Activation temperature related to the temperature class:

- 90℃ for temperature class T5;
- 130℃ for temperature class T4;
- 150℃ for temperature class T3.

Ventilation

The motors can be ventilated and not ventilated (with half power in respect to the ventilated corresponding motors so to maintain a T3 temperature class and winding insulation class H).
Ventilation can be made by fan, who is fitted directly on the shaft, or by using a special motor.
This motor belong to O-M series. It will be a two poles 63 motor.
Impellors have a peripheral speed below 50 m/s and they can be made by:

- plastic material for Ex db motors

- plastic dissipative material or metallic material for Ex tb or Ex db tb motors.

The degree of protection (IP) of ventilation openings are:
- IP 20 on the air inlet side
- IP 10 on the air outlet side

Cable entries

The cable entries integrated in motor body, terminal box, capacitor box are part of this certification.

All the other cable entries devices used on the enclosures must be suitably certified.

The accessories used for cable entries and for unused holes must be subjected of a separate certification according to the applicable standards IEC 60079-1 and IEC 60079-31.

Warning label

“Do not open when energized”

- For converter supply
- Minimum switching frequency of converter: 4kHz

(tipical torque table)

	Constant Torque 5-50Hz range 1:10 rpm		Constant Torque 10-50Hz range 1:5 rpm		Constant Torque 25-50Hz range 1:2 rpm		Constant Torque 50-87Hz range 1:1.74 rpm		Quadratic Torque 5-50Hz range 1:10 150:1500 rpm	
	P [kW] @50Hz	**Mn [Nm]**	**P [kW] @50Hz**	**Mn [Nm]**	**P [kW] @50Hz**	**Mn [Nm]**	**P [kW] @87Hz**	**Mn [Nm]**	**P [kW] @50Hz**	**Mn [Nm]**
Motor Id.										