
EXTENSION n. 04/10



to EC-Type Examination Certificate CESI 03 ATEX 280X

Equipment: Three-phase asynchronous motors series 7 A 132-160-180-200-225-250-280

Manufacturer: **KONCAR – MALI ELEKTRICNI STROJEVI d.d.**

Address: Faleroovo setaliste 22, HR – 10002 Zagreb, CROATIA

Admitted variation

- Frame size 315

This extension and annexed descriptive documents must be annexed to the EC-Type Examination Certificate CESI 03ATEX280X.

This document may only be reproduced in its entirety and without any change.

date 9 April 2010 - translation issued on 9th April 2010

prepared Maurizio Toninelli

verified Mirko Balaz

approved Fiorenzo Bregani

CESI S.p.A.
Divisione Energia
"Area Tecnica Certificazione"
Il Responsabile

page 1/5

EXTENSION n. 04/10

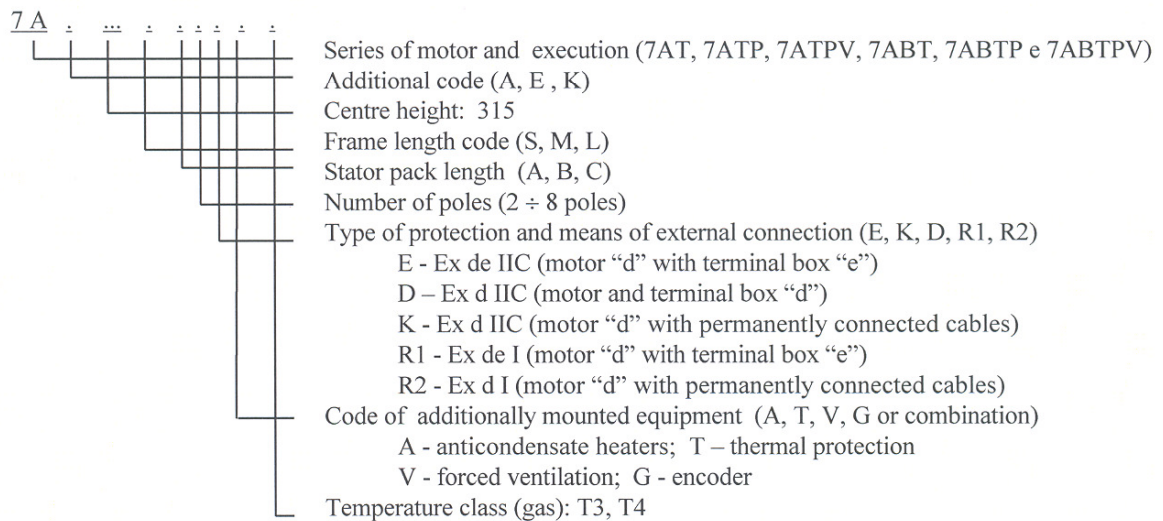
to EC-Type Examination Certificate CESI 03ATEX280X

Description of equipment

The three-phase asynchronous motors series 7 A, frame size 315, can be supplied by mains or by inverter, with simple or double polarity, self-ventilated or with forced ventilation.



The motors can be equipped with auxiliary devices (heaters, thermal detectors) and with separate brake.

Three-phase asynchronous motors series 7 A are identified by a code as follows:



According to the type of protection, ambient temperature range and the model, the motors series 7 A 315 can have the following marking:

Ambient temperature: - 20°C / 50°C / 60°C

 I M2 Ex de I or I M2 Ex d I
 II 2 G Ex de IIC T4, T3 or II 2 G Ex d IIC T4, T3

Ambient temperature: - 20°C / 80°C

 II 2 G Ex de IIB T3 or II 2 G Ex d IIB T3

This document may only be reproduced in its entirety and without any change.

EXTENSION n. 04/10

to EC-Type Examination Certificate CESI 03ATEX280X

Electrical characteristics

Supply by mains

Maximum rated voltage:	750	V
Maximum rated power (S1 duty)	180	kW
Maximum rated current:	280	A
Rated frequency:	50 / 60	Hz
Insulation class:	F-H	(with Δt B)
Duty:	S1 ÷ S10	
Number of poles:	2 ÷ 8	
Ambient temperature:	-20 ÷ +60	°C
	Motors provided with permanently connected cables: -20 ÷ +50°C	
Ambient temperature:	-20 ÷ +80	°C (only for motors II 2G Ex de or Ex d IIB T3)

The anticondensate heaters installed inside the motor can have a maximum power of 130 W.

Cable entries

The accessories used for cable entries and for unused holes shall be certificate according to following standards:

- EN 60079-0 / EN 60079-7 (degree of protection IP55 at least) for motors I M2 Ex de I or II 2 G Ex de IIC;
- EN 60079-0 / EN 60079-1 (degree of protection IP55 at least) for motors I M2 Ex d I or II 2 G Ex d IIC/IIB;

If cylindrical threads are used, the coupling between the cable gland and the terminal box shall be blocked to prevent loosening.

EXTENSION n. 04/10

to EC-Type Examination Certificate CESI 03ATEX280X

Motors supplied by inverter

- rated voltage maximum: 750 V
- peak voltage maximum: 1060 V
- frequency range: $5 \div 87 \text{ Hz (motors } 2p=2) / 5 \div 100 \text{ Hz (motors } 2p=4, 6, 8)$

The three-phase asynchronous motors supplied by inverter are provided with a suitable label reporting electrical operating characteristics.

The motors supplied by inverter shall be provided, inside the stator winding, with thermal detectors (PTC); these thermal detectors must be connected to suitable protection devices of the supply system.

The operation of the thermal detector shall guarantee the disconnection of the supply at:

- 150 °C maximum for motors with temperature class T3;
- 130 °C maximum for motors with temperature class T4 and group I M2 (mining).

The resetting of the supply shall not be automatic.

Motors with forced ventilation

These machines are provided with a motor-driven blower mounted on the primary motor; motors used for forced ventilation shall be suitable for group, category, type of protection and ambient temperature range foreseen of the primary motor.

Primary motor is provided with thermal detectors for the control of internal temperature. The operation of the primary motor shall be interlocked to the correct operation of the forced ventilation.

Motors with brake

Brake, coupled to the motor, shall be suitable for group, category, type of protection and ambient temperature range foreseen from the motor.

Warning label

For motor supply by inverter:

“Winding protected with PTC thermistors”

In case of use of anticondensate heaters:

“Attention – energised resistors”.

Report n. EX-A9027394

Routine tests

The manufacturer shall carry out the routine tests prescribed at clause 27 of the EN 60079-0 standard, clause 16 of EN 60079-1 standard and clause 7 of the EN 60079-7 standard.

The routine overpressure test shall be carried out, with the static method according to paragraph 15.1.3.1 of EN 60079-1 standard, at the following pressures:

- Ex-d motors size 315 : 23,5 bar
- Ex d terminal boxes 315: 15,5 bar

The routine dielectric test, on Ex-e terminal box, shall be performed at $2U + 1000V$ with a minimum value of 1500V (U = rated voltage of the motor).

This document may only be reproduced in its entirety and without any change.

EXTENSION n. 04/10

to EC-Type Examination Certificate CESI 03ATEX280X

Descriptive documents (prot. EX-A9027398)

- Technical description Nr. A524200 Annex 4 (23 pages)	dated	03.03.2010
- Drawing n. 122016/4A	dated	03.12.2009
- Drawing n. 122016/4B (2 pages)	dated	03.12.2009
- Drawing n. 122016/4C1	dated	03.12.2009
- Drawing n. 122016/4C2	dated	19.02.2010
- Drawing n. 122016/4C3	dated	03.12.2009
- Drawing n. 122016/4D1	dated	01.03.2010
- Drawing n. 122016/4D2	dated	03.12.2009
- Drawing n. 122016/4E	dated	03.12.2009
- Drawing n. 122016/4F	dated	03.12.2009
- Drawing n. 122016/4G	dated	03.12.2009
- Drawing n. 122016/4H	dated	24.11.2009
- Drawing n. 120901	dated	24.11.2009
- Drawing n. 120190	dated	24.11.2009
- Drawing n. 122382	dated	24.11.2009
- Drawing n. 122383	dated	24.11.2009
- Drawing n. 121077	dated	24.11.2009
- Drawing n. 122460	dated	24.11.2009
- Drawing n. 122477	dated	24.11.2009
- Drawing n. 121079	dated	24.11.2009
- Drawing n. 120381	dated	24.11.2009
- Drawing n. 122381	dated	24.11.2009
- Drawing n. 122380	dated	24.11.2009
- Drawing n. 121076	dated	24.11.2009
- Example of declaration of Conformity	dated	24.21.2009
- Operation and maintenance instructions n. 2752514/SRPANJ (pg. 28 pages)	dated	07.2009

One copy of all documents is kept in CESI files.

Special conditions for safe use (X)

- The supply cables of motors for the ambient temperature +60°C shall be suitable for an operating temperature equal or greater than 85°C; for ambient temperature +80°C the supply cable shall be suitable for an operating temperature equal or greater than 105°C.
- The motor provided with the cables permanently connected, shall have these cables protected against the risk of damage due to mechanical stresses. The end connections shall be made according to one of the types of protection mentioned in the EN 60079-0 standard according to the installation rules in force in the site of installation.

Essential Health and Safety Requirements

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

EN 60079-0: 2006 - Electrical apparatus for explosive gas atmospheres. Part 0: General requirements

EN 60079-1: 2007 - Electrical apparatus for explosive gas atmospheres. Part 1: Flameproof enclosure

EN 60079-7: 2007 - Electrical apparatus for explosive gas atmospheres. Part 7: Increased safety "e"