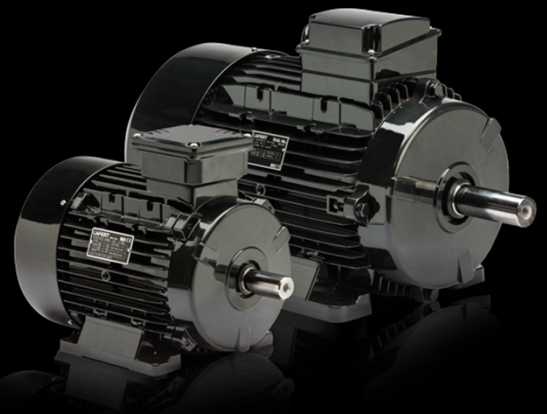


ASYNCHRONOUS MOTORS

INSTALLED IN POTENTIALLY
HAZARDOUS LOCATIONS
ATEX – ZONE 2-22



OPERATING INSTRUCTIONS 2020
ATEX MOTORS – ZONE 2-22



3002/20 EN

OPERATING INSTRUCTIONS FOR ASYNCHRONOUS MOTORS INSTALLED IN POTENTIALLY HAZARDOUS LOCATIONS – ATEX ZONE 2-22

MOTOR TYPE NAM: Non Sparking - (Ex) II 3G EEx nA II
MOTOR TYPE DAM: Dust Ignition Protected (Ex) II 3D T125°C

These Instructions must be read prior transporting, installing, commissioning, maintaining or repairing the motors.

These instructions are to be used in connection with our general operating Instructions for low-voltage motors. For health and safety reasons, they must be adhered to.

The symbol shown below will draw your attention to the safety measures required.



Should additional information be required, you should immediately consult the manufacturer or authorized personnel.

GENERAL INFORMATION



The operation of such motors is subject to the relevant national regulations or standards, covering the use of electrical apparatus in hazardous locations.

When installing these motors, the stipulations of

- EN 50014, EN 50021 and EN 60079-14 for type n
- EN 50281-1-1, EN 50281-1-2 for type DAM, for dust must be observed

The designation of a hazardous area can only be stipulated by competent personnel. Use according to regulations.

Unless otherwise stated in the applicable certificate, these motors are designed for continuous duty (S1) only.

INSTALLATION

CONDENSATION DRAIN HOLES



The drain holes must be positioned at the lowest point of the motor. They must be kept clean. Drain holes must be plugged after drainage.

TRANSMISSION ELEMENTS



Only belts with no electro-static charge are permitted.

CONNECTIONS

Supply cables must be stress free so that no cantilever loads are exerted on the terminals.

Choose cable cross-sections in accordance with the rated current. Unused cable entries must be sealed by the use of compression glands.



Only ATEX certified compression glands or plugs are allowed. The cable entry plugs will have to be replaced by ATEX certified gland nuts.



The terminal boards must be fixed by means of two fastening screws with spring lock ring. They must be mounted in the housing or terminal box with a minimum protection of IP55.

The screws must not surpass the maximum bolt head height to DIN 912.

The connection of this terminal board has to be carried out exclusively by qualified technical personnel.

The bow terminals have to be screwed up tightly without using any force and the tightening torques to DIN 46200 have to be observed and fulfilled.



Use only insulated cable sockets.

MOTOR PROTECTION



With a motor connected for direct-on-line starting, the connection of the protective devices must ensure that, after tripping, all supply phases are disconnected.

OVER-CURRENT PROTECTION

Current-dependent tripping devices or relays must be set to the rated motor current. They must also ensure that the motor is thermally protected also in case of short-circuit (e.g. with stalled rotor).

Over-current protection devices with phase control as per DIN VDE 0660 Part 104 – 09/8 respectively DIN VDE 0165 Part 6.1.4.3.2 must be used.

Windings with delta starting must be protected so that the tripping devices are connected in series with the winding phases. The selection and adjustment of the tripping devices have to be based thereby on the rated value of the phase current, i.e. 0.58 times the rated motor current.

Should such connection found impossible, suitable protective switches e.g. with phase failure control have to be used.

TEMPERATURE DETECTOR (PTC)

The temperature detectors for control of e.g. the stator winding temperature, bearings, have to be connected to additional terminals especially intended for this purpose.

Connect PTC according to wiring diagram with the tripping device. Evtl. continuity tests of the PTC are to be done through a measuring bridge (max. 2,5V).

For 3G motors this protection is considered only as additional.

DIP motors category 2 D or 3 D equipped with factory tested embedded PTC can be used on frequency converters.

ANTI-CONDENSATION HEATING

Heating output and supply voltage: See indication plate on the motor. The anti- condensation heating has to be connected to special terminals for this purpose according to the valid connection diagram.

Do not connect the heating before switching the motor off. During operation of the motor, the heating must be switched off.

REPAIR INSTRUCTIONS

Any repair work within the guarantee period is subject to the approval of the motor manufacturer. Only original spares must be used for motor repairs.

GENERAL REPAIRS

It is work which does not affect the explosion protection and is, therefore, not subject to special regulations on the use of apparatus in hazardous locations.

SPECIAL REPAIRS

It is work which can affect the explosion protection, e.g. work on stator, rotor or windings. These repairs should be carried out by the

manufacturer or an approved repair shop equipped to handle these types of motors. The repairs should be carried out to IEC 60079-19. The repairers must be approved by the manufacturer, or by a third party and holds an approved quality assurance system, e.g. ISO 9002.

Where a motor has been repaired, this should be indicated by a letter R inside a triangle or a square in accordance with IEC60079-19. Details of the repairs should be obtained from the user before proceeding with repairs.

SPARES

The spares for our range of motors for hazardous locations are supplied under the condition that any repair work and/or fitting of spares, are certified by the approved repair shop.

WARNING FOR THE CORRECT DISPOSAL OF THE MOTORS AT THE END OF THEIR LIFETIME



*According to the art. 26 of the Italian law 2014, March 14th n. 49
" Implementation of the DIRECTIVE 2012/19/EU OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL
of 4 July 2012, on waste electrical and electronic equipment (WEEE)"*

The above symbol, applied to the equipment or its packaging, means that at the end of its lifetime the motors need to be disposed separately from the other waste materials.

The users must dispose their unused motors on behalf of the national authorized collection centers which have been approved for the electrical and electronic waste.

The right collection for recycling, treatment and disposal will contribute to avoid any potential negative environmental & healthy effect and will help both the reuse and the recycling of the motor' components/materials.

TABLE OF DISPOSAL CODES FOR ELECTRIC MOTORS

CODE OF THE MOTOR (WASTE) DISPOSED IN ALL ITS PARTS	EWC (European Waste Code)	EWC DESCRIPTION
In the event of disposal of the full motor	16.02.14	Discarded equipment
In the event of disposal of a disassembled motor: <i><u>Aluminium parts:</u> flange, cover, terminal box and frame in aluminium</i> <i><u>Steel parts:</u> rotor with shaft (both die-cast and with magnets), stator pack with wire windings, cast iron flange and cover, terminal box, brake with magnet, friction disc, springs, etc.</i> <i><u>Plastic parts:</u> fan, fan cover, terminal box, brake cover, shaft protection</i> <i><u>Electrical components:</u> switches, capacitors, starters, terminal board, etc.</i>	12.01.03 12.01.01 12.01.05 16.02.16	Non-ferrous metal filings and turnings Ferrous metal filings and turnings Plastics shavings and turnings Components removed from discarded equipment



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