

ZETA4 DRIVE AND ZETA6104 INDEXER/DRIVE

USER GUIDE ADDENDUM: LVD INSTALLATION INSTRUCTIONS



Product Type: ZETA4 Step Motor Drive and ZETA6104 Step Motor Indexer/Drive

The above products are in compliance with the requirements of directives

- **72/23/EEC** **Low Voltage Directive**
- **93/68/EEC** **CE Marking Directive**

The ZETA4/ZETA6104 Drive, when installed according to the procedures in the main body of this user guide, may not necessarily comply with the Low Voltage Directive (LVD) of the European Community. To install the ZETA4/ZETA6104 so that it complies with LVD, you must follow the additional procedures described in this addendum, under *LVD Installation Instructions*. If you do not follow these instructions, the protection of the product may be impaired.

The ZETA4/ZETA6104 is sold as a complex component to professional assemblers. As a component, it is not required to be compliant with Electromagnetic Compatibility Directive 89/336/EEC. However, information is offered in Compumotor's *EMC Installation Guide* on how to install the drive in a manner most likely to minimize the effects of drive emissions and to maximize the immunity of the drive from externally generated interference.



Motion & Control

Compumotor Division

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LVD INSTALLATION INSTRUCTIONS

For more information about LVD, see 73/23/EEC and 93/68/EEC, published by the European Economic Community (EEC).

ENVIRONMENTAL CONDITIONS

POLLUTION DEGREE

The ZETA4/ZETA6104 Drive is designed for pollution degree 2.

INSTALLATION CATEGORY

The ZETA4/ZETA6104 Drive is designed for installation category II.

ELECTRICAL

CONNECTING AND DISCONNECTING POWER MAINS

The ZETA4/ZETA6104 Drive's protective earth connection is provided through its make first/break last earth terminal on the power mains connector. You must reliably earth the ZETA4/ZETA6104 Drive's protective earth connection.

USING AN ISOLATION TRANSFORMER

The ZETA4/ZETA6104 Drive's mains voltage is limited to 120 VAC nominal. If your mains voltage is higher, use an isolation transformer located between the power mains and the ZETA4/ZETA6104 Drive. Your isolation transformer should be insulated to ~2300V rms.

Do not interrupt the protective earth conductor between the source mains and the isolation transformer's secondary. The core of the isolation transformer and the drive's protective conductor terminal must *both* be connected to the main's protective earth conductor.

CAUTION

Do not use an autotransformer.

LINE FUSES

Line fuses need to be added to protect the transformer and associated wiring. If the live wire cannot be readily identified, fuse both phase conductors. The value of fuse required is given by:

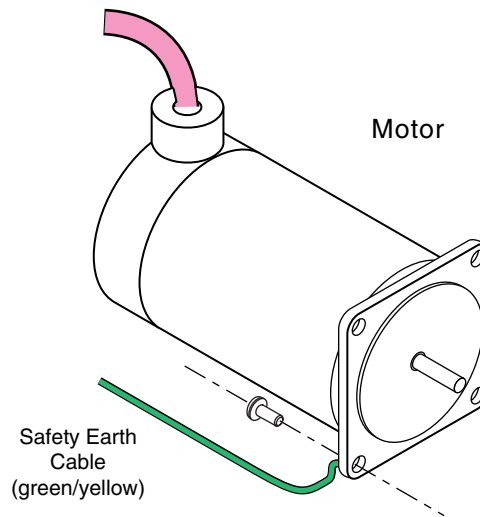
$$(1.5 \times VA)/(\text{supply volts}) \quad [\text{amps}]$$

Fuse types should be anti-surge HBC.

PROVIDING A PROTECTIVE EARTH CONNECTION FOR MOTORS

You must provide a connection from the motor to a reliable protective earth contact point. This connection provides a protective earth for the motor, and is *in addition* to the earth connection provided by the drain wire in the motor's power cable. The motor's protective earth connection is important for safety reasons, and *must not be omitted*.

Make connections according to the following instructions and diagram:



Providing Protective Earth Connection for Motor

- ① Use a spade lug in combination with a star washer and mounting bolt to make good contact with the bare metal surface of the motor's mounting flange.
- ② Use a green and yellow striped wire to make the connection between the motor and earth. Wire gauge must be no thinner than the current carrying wire in the motor's power cable.
- ③ Resistance between the motor and earth must be no greater than 0.1 Ω . Use thicker gauge wire if the resistance is too high.

MECHANICAL

INSTALLING IN AN ENCLOSURE

The ZETA4/ZETA6104 Drive must be installed within an enclosure. The enclosure's interior must not be accessible to the operator. The enclosure should be opened only by skilled or trained service personnel.

SERVICING THE ZETA4/ZETA6104 DRIVE

CHANGING FIRMWARE

Only skilled or trained personnel should change firmware.

CHANGING BATTERIES

The ZETA6104 contains a replaceable lithium battery, of type Duracell DL2450, or Sanyo CR2450, or equivalent. Only skilled or trained personnel should change batteries.

DISPOSAL OF BATTERIES

Dispose of batteries in accordance with local regulations.

DO NOT REPLACE FUSES

The ZETA4/ZETA6104 Drive has no fuses designed to be replaced by the

user. Fuse failure indicates that other components have also failed. Fuses and other components should only be replaced by Compumotor or its designated repair facilities.

THERMAL SAFETY

THE MOTOR MAY BE HOT

The motor may reach high temperatures during normal operations, and may remain hot after power is removed.








SONIC PRESSURE

HIGH SOUND LEVEL

The sound level from some large frame step motors (NEMA 34, NEMA 42, and larger) may exceed 85 dBA. Actual sound level is application dependent, and varies with motor loads and mounting conditions. Measure the sound level in your application; if it exceeds 85 dBA, install the motor in an enclosure to provide sound baffling, or provide ear protection for personnel.

TABLE OF GRAPHIC SYMBOLS AND WARNINGS

The following symbols may appear in this user guide, and may be affixed to the products discussed in this user guide.

Symbol	Description
	Earth Terminal
	Protective Conductor Terminal
	Frame or Chassis Terminal
	Equipotentiality
	Caution, Risk of Electric Shock
	Caution, Refer to Accompanying Text
	Hot Surface