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## Installation

The information in this chapter will enable you to:

- Mount all system components properly
- Connect all electrical system inputs and outputs properly
- Ensure that the complete system is installed properly

**You must complete the Check-Out Procedure in Chapter ② *Getting Started* before proceeding with the permanent installation process.**

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### Environmental Considerations

You must consider the environment in which your system will be operating. Proper mounting, wiring, and grounding will ensure trouble-free operation. The ZX is designed to operate in an industrial environment; however, severe atmospheric contamination, electrical noise, or temperature extremes can affect performance of the system. ***Operate the drive and motor within its designed specifications.***

Compumotor recommends that you operate and store the ZX in the following conditions.

**Storage Temperature:** -40°F to +185°F (-40°C to +85°C)

**Operating Temperature:** 32°F to 122°F (0°C to 50°C) With adequate air flow (10 cubic feet per minute)

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### Complete System Configuration

Safety is the primary concern when installing any motion control system. This chapter provides installation guidelines that are designed to preserve the safety of the operator and the equipment. You should install all Compumotor hardware in conformity with local and national electrical and safety codes.

This chapter provides detailed instructions on all aspects of the ZX's installation and configuration. Once the system has been properly installed and initial adjustments are made, there should be little or no adjustment required to maintain normal operation.

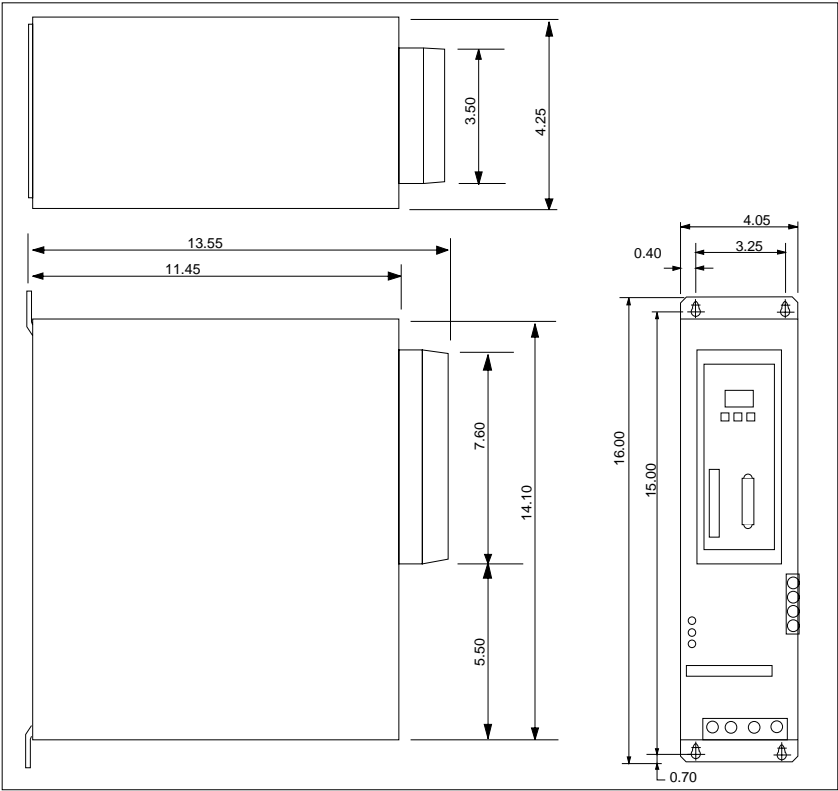
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### Drive Mounting

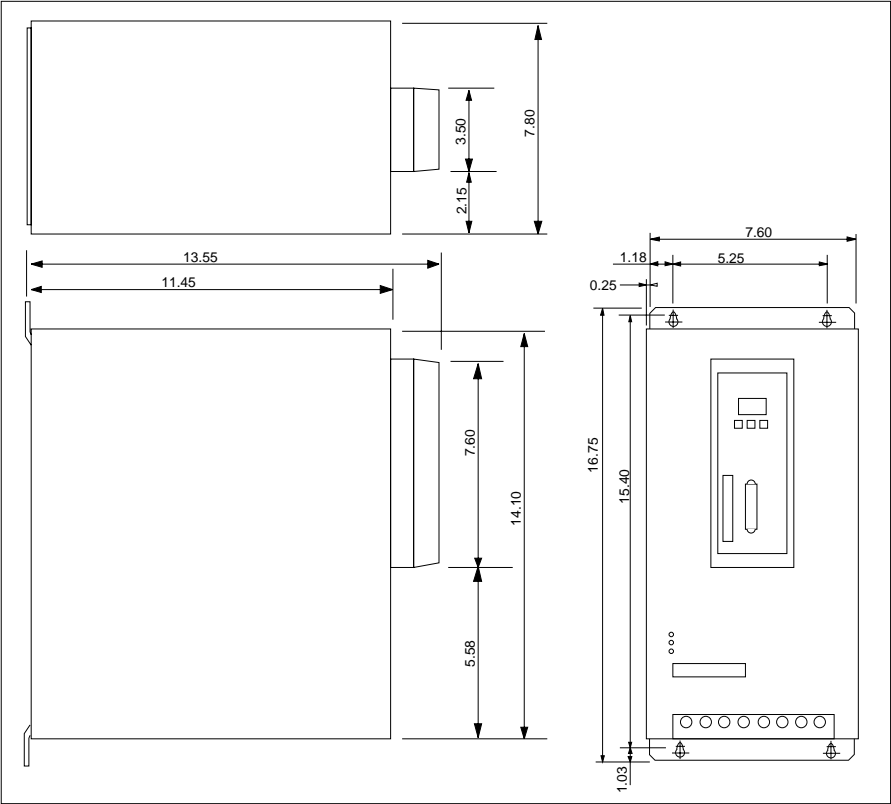
☛ The National Electrical Manufacturers Association (NEMA) has established standards that define the degree of protection that electrical enclosures provide.

The ZX should be installed in an enclosure that will protect it from atmospheric contaminants such as oil, metal flakes, moisture, and dirt. Industrial application environments may contain airborne contaminants, so the enclosure used should conform to a *NEMA TYPE 12 standard*.

The ZX mounting bracket is notched with keyhole type slots to accept screws on either end for flat panel surface mounting. Refer to the figures below for drive dimensions and keyhole slot locations. Use 10-32 or 1/4 x 20 screws into captured nuts to mount the ZX in a panel mount configuration. Use locking type fasteners to prevent the ZX from coming loose due to vibration.



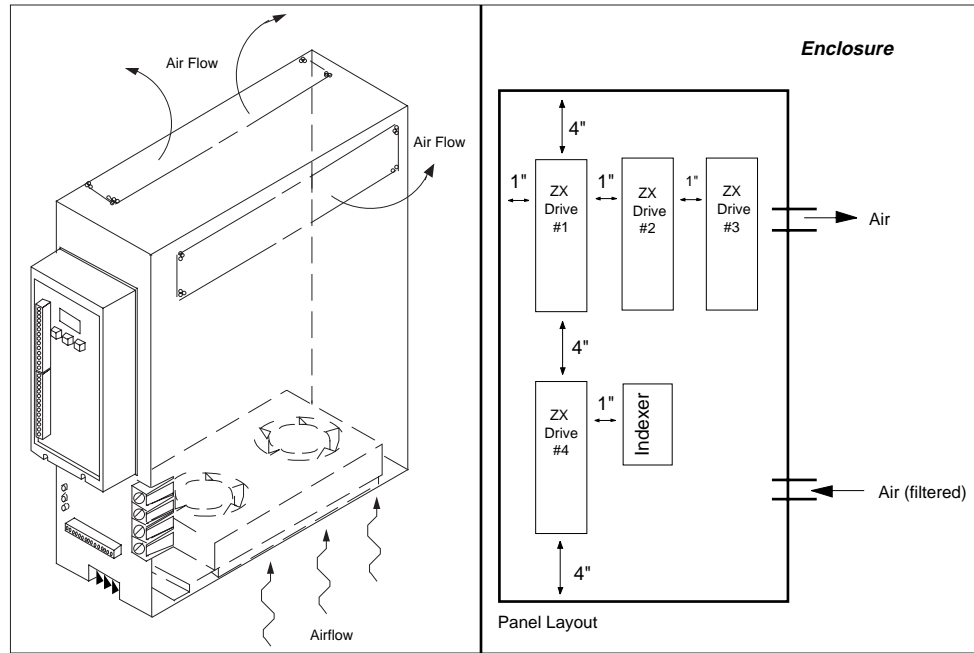
ZX600/ZX800 Indexer/Drive Dimensions



ZX900 Indexer/Drive Dimensions

# Panel Layout

Proper panel layout is essential to ensure sufficient cooling of equipment within the enclosure. The ZX is fan cooled. It is designed to operate at its rated speed and torque specifications in a 32°F to 122°F (0°C to 50°C) ambient environment. When you design your panel layout, allow sufficient space for unrestricted airflow through each drive. Since the fan draws air upward over the heatsink, the air directly beneath the unit must not exceed 122°F (50°C). The ZX has two temperature sensors. One sensor is mounted to the heatsink—the other is mounted to the control board circuitry. If the drive overheats, the front-panel display will provide an error message.



*ZX Air Flow and Panel Layout Guidelines*

The ZX produces heat, which must be dissipated. The ZX600/ZX800 may generate as much as 500 watts (the ZX900 can generate 750 watts) when it is operated in continuous duty at maximum current. The actual dissipation will vary depending on the application duty cycle, motor size, and load inertia.

Observe the following rules when mounting ZX systems in an enclosure:

- ① The vertical distance between the ZX and other equipment, or the top and bottom of the enclosure, should be no less than 4 inches.
- ② The horizontal distance between the ZX and other equipment, or the side walls of the enclosure, should be no less than 1 inch.
- ③ Large heat-producing equipment (such as transformers) should not be mounted directly beneath the ZX.