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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

Consider the environment in which your system will be operating. Proper mounting, wiring, and grounding will ensure trouble-free operation. The Z Drive 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 Z Drive in the following conditions.

- Storage Temp.: -40°F to +185°F (-40°C to +85°C)
- Operating Temp.: 32°F to 122°F (0°C to 50°C) w/adequate air flow (10 cubic feet per minute)

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### Complete System Configurations

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. Install all Compumotor hardware in conformity with local and national electrical and safety codes.

This chapter provides detailed instructions on all aspects of the Z Drive'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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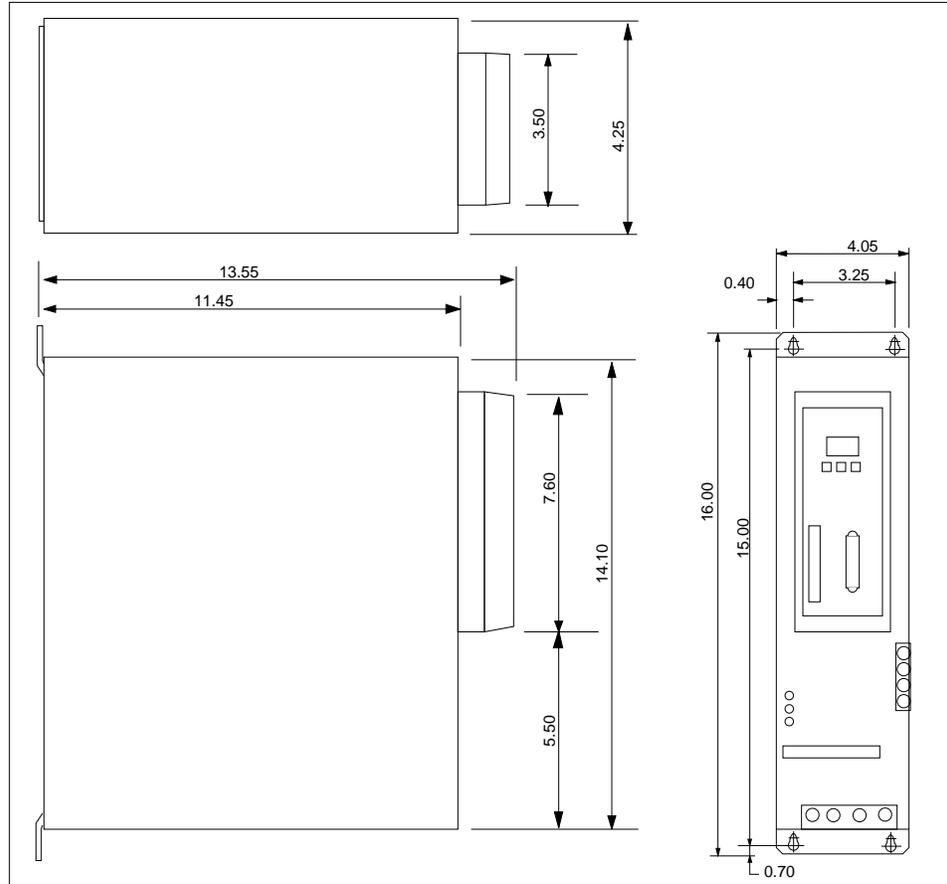
### Drive Mounting

The Z Drive should be installed in an enclosure that will protect it from atmospheric contaminants such as oil, metal flakes, moisture, and dirt. The National Electrical Manufacturers Association (NEMA) has established standards that define the degree of protection that electrical enclosures provided. Industrial application environments may contain airborne contaminants, so the enclosure used should conform to at least a *NEMA TYPE 12 standard*.

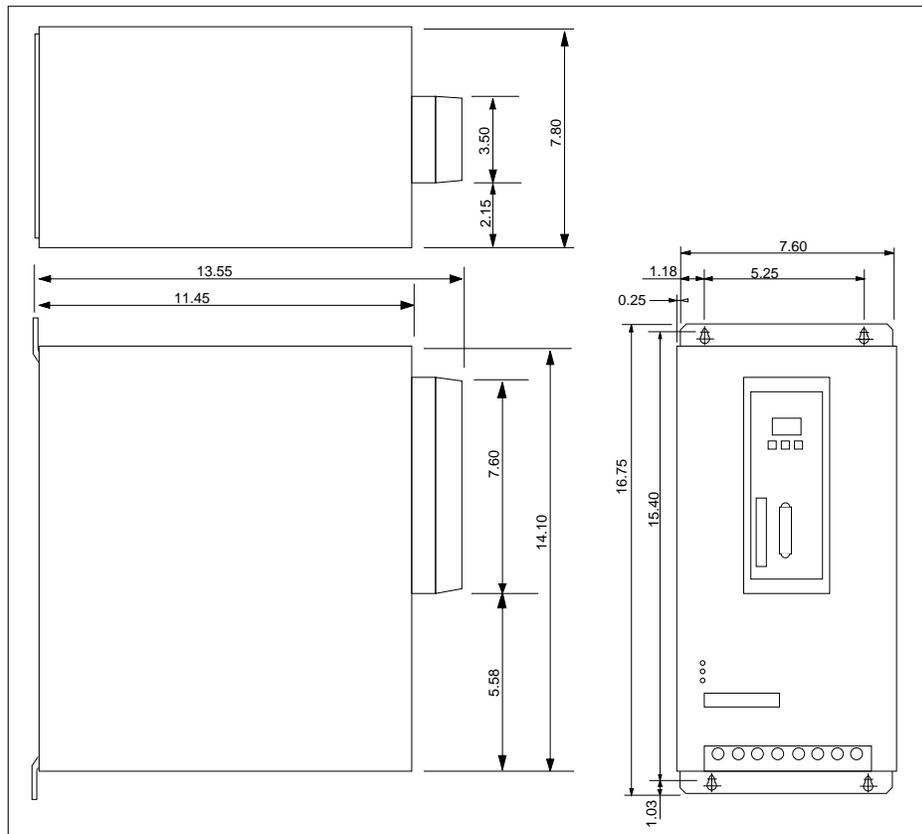
The Z Drive mounting bracket is notched with keyhole type slots to accept screws on either end for flat panel surface mounting.

**Helpful Hint:**

You should use 10-32 or 1/4 x 20 screws into captured nuts to mount the Z Drive in a panel mount configuration. Use locking type fasteners to prevent the drive from coming loose due to vibration.



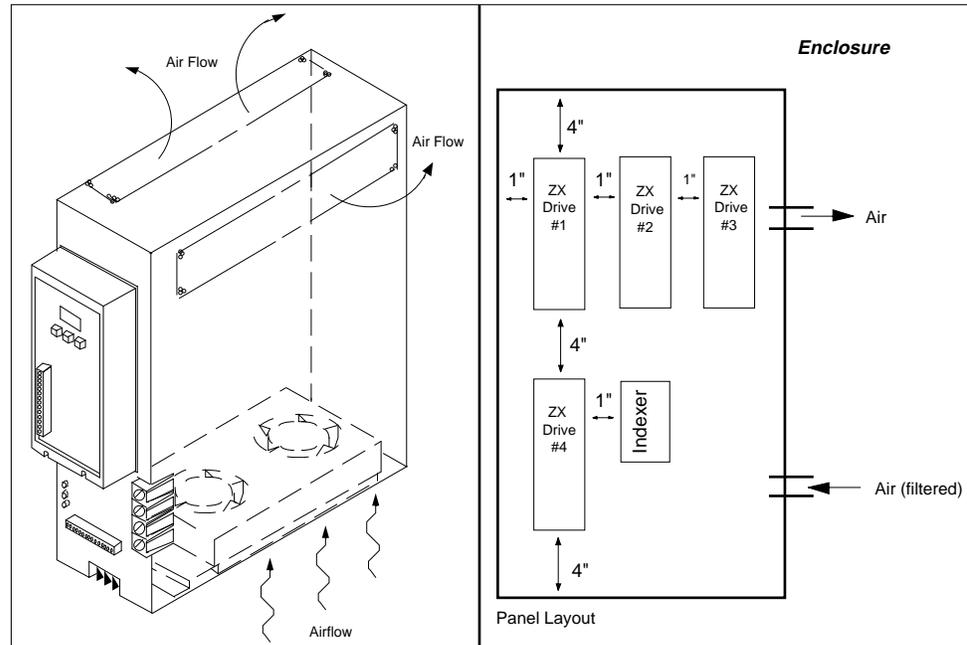
Z600/800 Drive Dimensions



Z900 Drive Dimensions

## Panel Layout

Proper panel layout is essential to ensure sufficient cooling of equipment within the enclosure. The Z Drive 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 Z Drive has two temperature sensors. One sensor is mounted to the heatsink, and the other is mounted to the control board circuitry. If the drive overheats, the front-panel display will provide an error message. The figure below shows drive air flow.



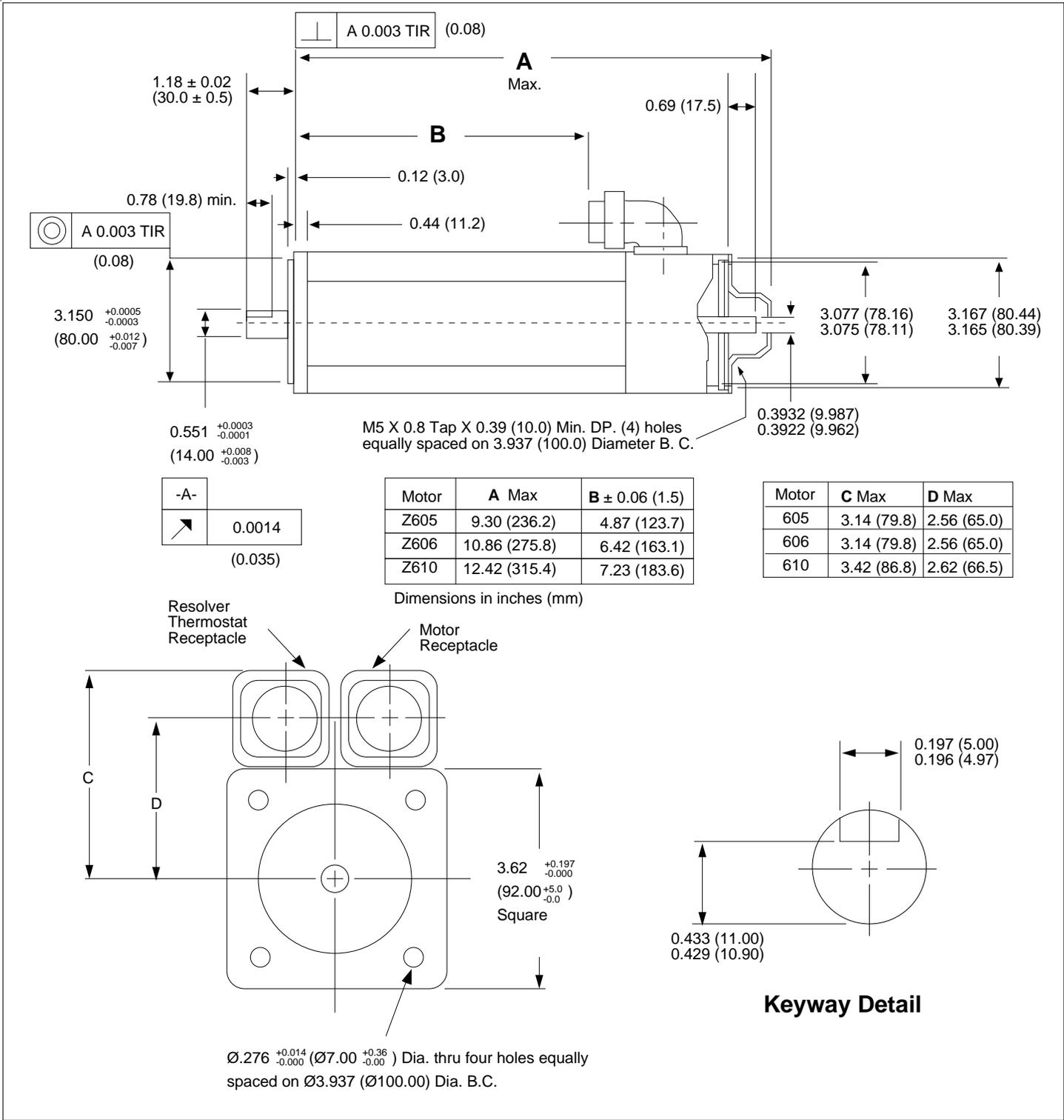
*Z Drive Air Flow and Panel Layout Guidelines*

The Z Drive produces heat that must be dissipated. The heat generated when a Z600 Drive is operated in continuous duty at maximum current may be as high as 500 watts (the Z900 Drive can generate 750 watts). The actual dissipation will vary depending on the application duty cycle, motor size, and load inertia.

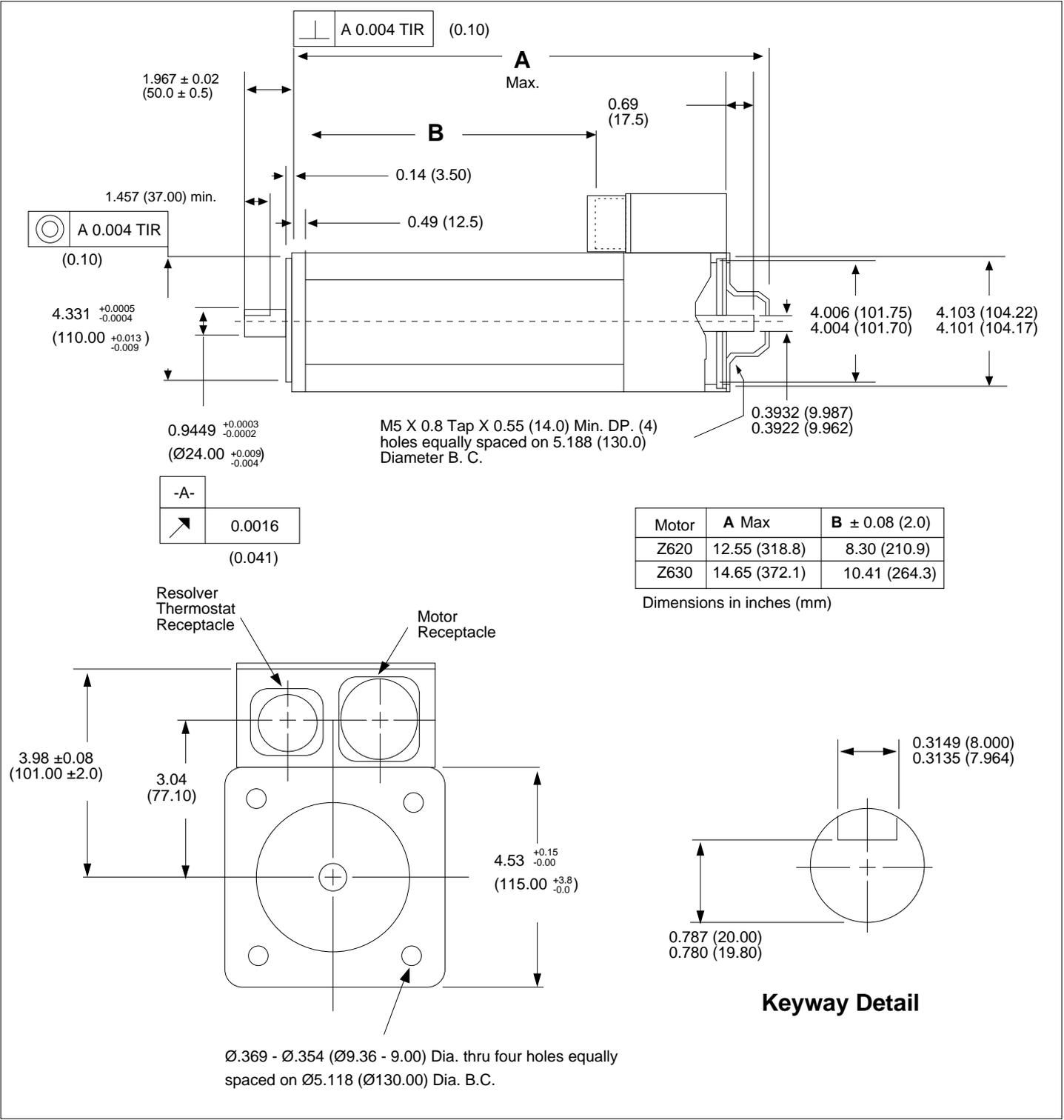
- ① The vertical distance between the Z Drive and other equipment, or the top and bottom of the enclosure, should be no less than 4 inches.
- ② The horizontal distance between the Z Drive and other equipment, or the side walls of the enclosure, should be no less than 1 inch.
- ③ Do not mount the Z Drive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

## Motor Mounting

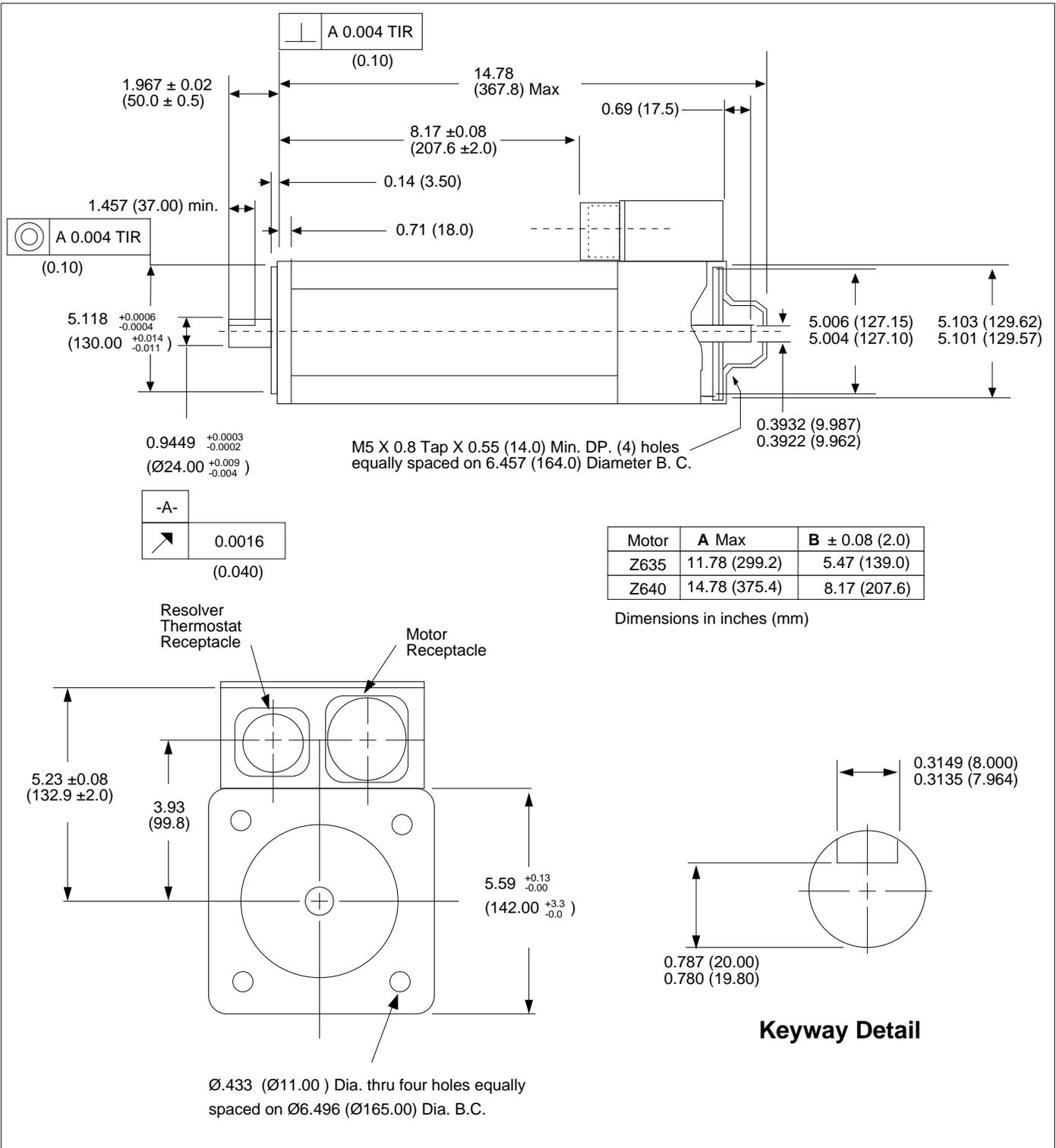
You should mount the motors with the four flange bolts that are on the front face plate. Center the motor with the pilot on the front face.



Z605—Z610 Motor Dimensions



Z620 & Z630 Motor Dimensions



Z635 & Z640 Motor Dimensions