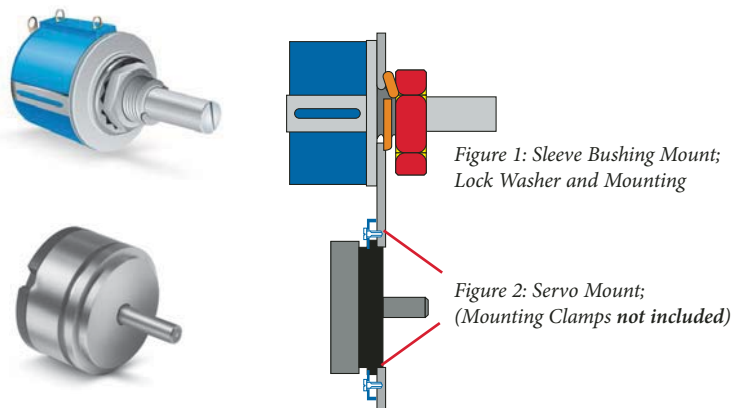


Every application requires selection of the right type of component and shaft/bushing configuration. Whether the component is a precision potentiometer, panel control or rotary encoder, selection of the right shaft/bushing configuration will yield the optimum performance of the component in its intended application. There are two general categories of applications that should be considered when selecting a component. These categories are Human-to-Machine Interface (HMI) and Machine-to-Machine Interface (MMI).

HMI applications commonly appear on the front panel of an application as manual adjustments. These devices are typically mounted to a panel (as shown in figure 1) with a sleeve bushing and have a knob mounted on the end of the shaft. In these applications, high speed of rotation and shaft side load are normally not encountered. On some models, a sleeve bushing is available with front ball bearings should the designer wish to have a very low shaft torque, or front and rear ball bearings for applications where the shaft will likely encounter up to 0.5 oz of side load due to an oversized knob or other similar design factors.

Many MMI applications are position sensors where adjustments will be made by mechanical interface. Position sensor designs include hospital beds, dental chairs, fluid control valves, elevators, automatic doors and lift trucks. These sensors can also be used to count rotations of a motor via a mechanical coupling device. In MMI applications, a high speed of rotation may be encountered along with a shaft side load exerted by either a pulley or gear system. For these applications, the front ball bearing option or front and rear ball bearing option and servo mount configuration (as shown in figure 2) is highly recommended.

Configurations made for MMI applications may be used in HMI applications where the designer would like the additional robustness and extended rotational life. However, configurations made for HMI applications are not recommended for use in MMI applications.



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