



Where Quality Counts

## Elero Control Equipment

### **Switches**

Since Elero motors are equipped with dual coils to permit rotation selection forward or reverse, all switching and control devices must allow for this selection. All Elero switches are therefore so-called double throw/three position switches (up-stop-down). These are available as rocker and key switches. Both infrared and radio control systems are being offered. The infrared system can operate up to 12 separate motors off of one hand controller without the risk of interference.

### ***Do Not Wire Standard Motors In Parallel***

Elero motors are single phase reversing motors which cannot be connected in parallel. When it is desirable to run more than one motor from a single switch or operating signal, the inactive motor coils must be isolated. This requirement necessitates some type of interfacing control in all installations where motors are grouped for simultaneous operation.

### ***Isolated Relay***

This is a term used in the industry to refer to a specially wired relay associated with each motor which serves to disconnect the inactive motor coil and allows parallel wiring of motors at the switching device. The isolated relays can be located anywhere in the wire run to the motor. They are often located in the junction box near the motor, or within the enclosure of the application itself. These isolated relays are furnished by Elero as a sealed component with a six inch wire lead both in and out. While the isolated relay works well for a small group of motors, it does require one for each motor and the total operating current of all motors passes through the switching device. The amperage rating for the switch has to accommodate the total current load. Motors cannot be operated independently in this type of group.

# Elero Control Equipment

## ***Relay Group Controls***

This technique provides multi-pole relays in a single enclosure such that each motor has its own relay switching poles. Since common relays are furnished as 4-pole devices, the common group control arrangements are for 4, 8, and 12 motors. This type of arrangement will allow individual motor switches, in addition to the group switch. The relay circuit design provides an override of the individual switches when the group is activated. The motor operating current does not pass through the switching device. The disadvantages are that the 120v power wiring for each motor must be run as a separate circuit back to the main group control. With large groups, the total power requirements must be considered. The individual switches can only be used if the main switch is in the off position. Momentary switches must be used for individual switches requiring an operator to hold the switch while making individual adjustments.

All individual Elero motors are single phase reversing motors and cannot be connected in parallel. When it is desirable to run more than one motor from a single switch or operating signal, the inactive motor coils must be isolated. This requirement necessitates some type of interfacing control in all installations where motors are grouped for simultaneous operation.

## ***Motor Control Units***

The most versatile technique provides each motor with its own control to provide the switching of the 120v power to that motor. Elero low voltage controls offer an ideal solution for such decentralized control of multiple units in groups, subgroups and individual units. In this system, a motor control unit (MCU) is placed convenient to each motor and a local source of 120v power is wired up to the control. All MCU's are then connected with a low voltage cable. The 24V DC control power and group switching signals are transmitted over the low voltage cable. Sub-group controls allow numerous grouping configurations. Individual switching devices can be connected to the individual MCU's, Sub-Group or Main Group controllers as required. Each controller can have different or multiple switches (IR, Radio, Sun Sensor, Etc.). All control signals, either individual or group, are momentary with the duration of the power to the motor being controlled by the motor control unit. Each motor can be started and stopped independently or as a group. All switching is low voltage and can be incorporated in automation systems.

In addition to these standard interfacing group and controls, Elero offers many options for custom systems. Contact Elero Engineering to review any special requirements.