

## Vk4 ELECTRONIC MOTOR RELAY

### DESCRIPTION OF OPERATION

The VK4 relay circuitry, is designed to interrupt the start circuit current after the motor has accelerated to approximately 80% of synchronous motor speed. Once the start circuit reaches the cut out point the main winding then accelerates the motor to its running speed, when an overload condition causes the motor speed to drop to approximately 50% of synchronous speed the relay automatically reconnects the motor start winding which is the "cut in" point. The relay is line voltage compensated.

Changes in line voltage within +/- 25% of nominal 230 VAC will not affect the function of the relay.

### CONSTRUCTION

The VK4 start relay is easy to install and connect. The relay is potted and completely sealed from dust and moisture. The universal design allows for one relay to work on most standard single-phase motors.

### SELECTION PROCEDURE

1. The relay current rating must meet or exceed the motor start capacitor or aux winding current (based on actual measurement of aux winding current).
2. The relay voltage rating must match the aux winding voltage 260 VAC or 310 VAC at point A and B.

**CAUTION:** Voltage measurement of the start or auxiliary winding must be done quickly to prevent damage to the switch or capacitor. Test between points A and B while the motor is running

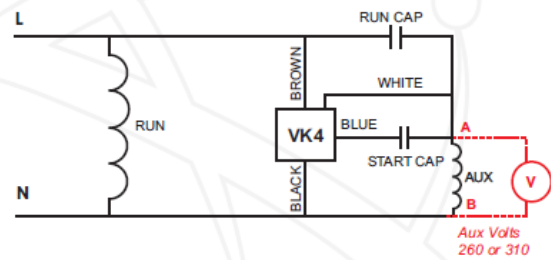
### SPECIFICATIONS

MODEL	Vk4
Rated Voltage	250VAC
Switch Rated Current	25A
Frequency	50-60 Hz (Single Phase)
Operating Temp	-20/+80° C
Cut Out Voltage	260 or 310

### INSTALLATION INSTRUCTIONS

1. Installation and servicing must be done in compliance with all local safety codes including (OSHA). All wiring and electrical connections must comply with the national electric code.
2. To prevent an electrical hazard, disconnect power source before working on the switch.
3. Installation and servicing should be done by qualified personnel only.

### Vk4 CONNECTION DIAGRAM



### BENEFITS OF SOLID STATE DEVICE

- The Vk4 relay is a solid state device - No burning contacts or moving parts.
- Zero crossing logic - Prevents current spiking due to run capacitor.
- Speed sensitive - Cut in capability
- Line voltage compensation - operating voltage from 150V up to 250V.
- Universal design - will work on 2, 4 or 6 pole motors.
- Transient protection
- Silent operation - No switch noise.
- Can be mounted in any position.
- Internal start capacitor discharge resistor.
- Encapsulated - water and dust proof.

### DIMENSIONS

