

## MODEL 253

# Reverse Phase Relay

- Socket-mounted
- Senses phase reversal
- Low power consumption
- UL Recognized; CSA Certified



### DESCRIPTION

The **Model 253 Reverse Phase Relay** is a solid-state sensing device designed for installation in equipment using 3-phase power. This unit is used where it is desirable to have a contact closure indicating that the proper phase rotation sequence has been applied.

The relay closes when the proper sequence (**A B C**) is applied, but will remain open if any two phases are reversed. If reverse phasing occurs during operation, the relay also de-energizes.

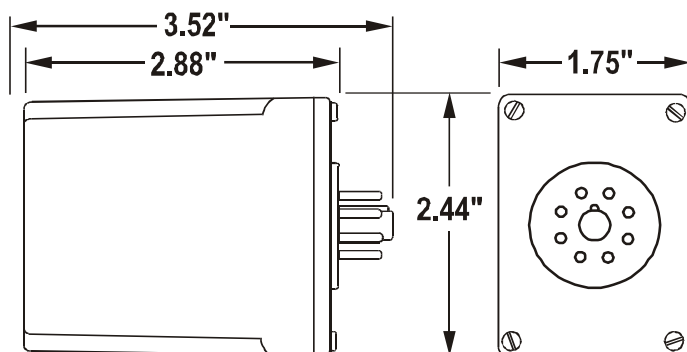
The Model 253 has a special industrial grade relay designed for low power consumption. The **A B C** indicator will be illuminated when the proper phase rotation sequence is applied.

### SPECIFICATIONS

| Model                 | 253                                                                    |
|-----------------------|------------------------------------------------------------------------|
| Nominal voltage       | 208 - 480 VAC (phase to phase)                                         |
| Operating range       | 190 - 480 VAC                                                          |
| Frequency             | 50 to 60Hz                                                             |
| Power consumption     | 2W per phase                                                           |
| Transient protection  | 2500V for 10ms                                                         |
| Repeat accuracy       | ± 0.1% (fixed conditions)                                              |
| Response time         | .05 seconds                                                            |
| Reset time            | .05 seconds                                                            |
| Reset type            | Automatic                                                              |
| Dead Band             | Approximately 2%                                                       |
| Output contacts       | SPDT 10A at 240VAC resistive                                           |
| Expected relay life   | Mechanical: 10 million operations<br>Electrical: 100,000 at rated load |
| Operating temperature | - 20° to +131° F                                                       |
| Humidity tolerance    | 0 - 97% w/o condensation                                               |
| Case material         | ABS plastic                                                            |
| Mounting              | 8-pin socket *(order separately)                                       |
| Weight                | 6 oz.                                                                  |
| Agency approval       | UL Recognized and CSA Certified                                        |

\* Order 8-pin socket number 51X120

### DIMENSIONS



(dimensions have tolerance of ± 0.06)

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# MODEL 253 Reverse Phase Relay

READ ALL INSTRUCTIONS BEFORE INSTALLING, OPERATING OR SERVICING THIS DEVICE.  
KEEP THIS DATA SHEET FOR FUTURE REFERENCE.

## GENERAL SAFETY

POTENTIALLY HAZARDOUS VOLTAGES ARE PRESENT AT THE TERMINALS OF THE MODEL 253.  
ALL ELECTRICAL POWER SHOULD BE REMOVED WHEN CONNECTING OR DISCONNECTING WIRING.  
THIS DEVICE SHOULD BE INSTALLED AND SERVICED BY QUALIFIED PERSONNEL.

## Installation Instructions

### WARNING

IN APPLICATIONS WHERE VOLTAGES IN EXCESS OF 300VAC ARE TO BE MONITORED, BE CERTAIN TO USE THE TIME MARK MODEL 51X120 8-PIN SOCKET, OR AN EQUIVALENT UL APPROVED 600VAC RATED SOCKET.

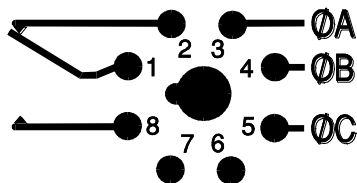
### INSTALLATION

Refer to the Pin Drawing below, and on the case of the Model 253. The contacts are shown in the tripped condition.

Connect wiring to the socket as shown (an 8-pin socket, rated for at least 480VAC is required).

Refer to the Application Drawing for additional information.

### PIN DRAWING



If the relay contacts do not transfer when power is applied (indicator not lit), check that all three voltages are correct. If power is present and of the correct voltage, remove power, then reverse two of the three phase connections at the socket.

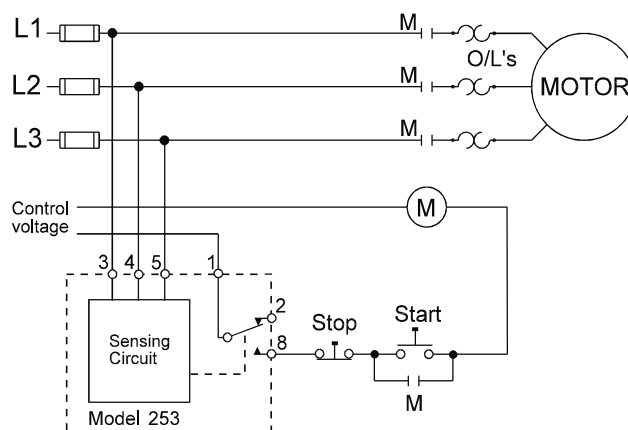
Re-apply power. The contacts should transfer to the normal condition (pins 1 and 8 closed; indicator lit). There are no calibrations or adjustments required.

**NOTE:** When installing the Model 253 monitor in areas of high humidity or contamination, it is recommended that the base area and all exposed metal parts of the socket be coated liberally with a good quality silicone grease, such as Dow Corning DC-4 or DC-4X. Insert the unit into the socket and wipe off excess grease around the base. This will prevent the entrance of moisture and other contaminants into the base and socket areas.

### TROUBLESHOOTING

Should the relay fail to operate properly, check that all three voltages are present and are of the correct level. Check all fuses and verify that all wiring connections are correct. Should problems persist, contact the factory for assistance.

### TYPICAL APPLICATION



### WARRANTY

This product is warranted to be free from defects in materials and workmanship, and is covered by our exclusive **5-year Unconditional Warranty**. Should this device fail to operate for any reason, we will repair it for five years from the date of manufacture. For complete warranty details, see the *Terms and Conditions of Sales* page in the front section of the Time Mark catalog or contact Time Mark at 1-800-862-2875.

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