

# MODEL 108B MODEL 125C

## Phase Sequence Detector

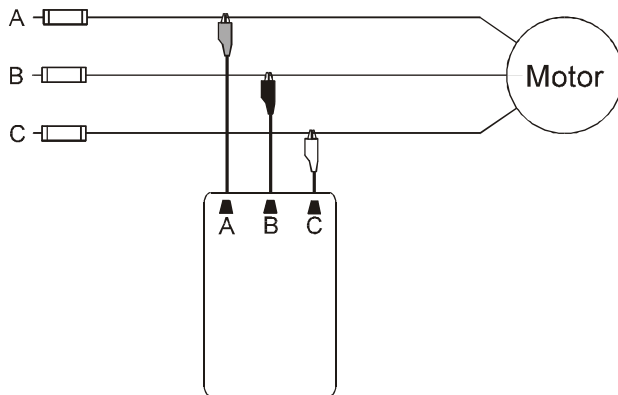
- Indicates Phase Sequence
- Detects Loss of One or More Phases
- Compact & Lightweight
- Color-coded Leads

### DESCRIPTION

The Models 108B (50/60Hz) and Model 125C (400Hz) Phase Sequence Detectors permit the operator to quickly and easily determine proper phase sequence (either ABC or CBA). This can be vitally important information when installing, or making wiring changes to motors, wattmeters, transformers, electrical installations, power factor meters or generators.

To use, connect the Detector to any 3-phase circuit from 208 to 480 volts, Wye or Delta. Proper phase sequence, and all phases present will illuminate the ABC lamp. An open phase condition will illuminate both lamps. If two or more phases are open, neither lamp will illuminate. See the Condition Chart.

### TYPICAL APPLICATION

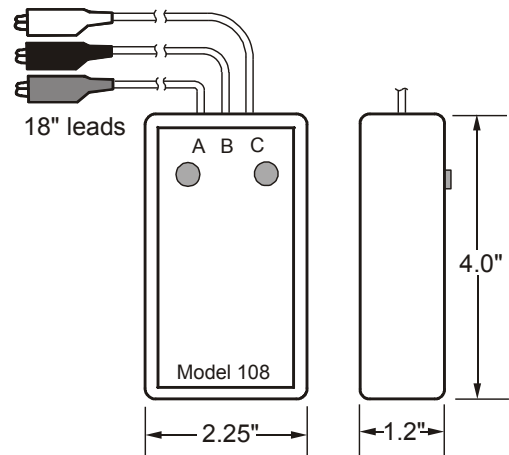


### SPECIFICATIONS

MODEL	108B	125C
Frequency	50/60Hz	400Hz
Voltage (phase to phase)	208 - 480VAC	
Leads	18" color-coded	
Lead Termination	Alligator clips	
Weight	8 oz. max.	
Enclosure Material	ABS plastic	

CONDITION CHART	LAMP(S) LIT	
	ABC	CBA
ABC Rotation	●	
CBA Rotation		●
ONE Phase Open	●	●
2 OR MORE Phases Open		

### DIMENSIONS



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# MODEL 108B MODEL 125C

## Phase Sequence Detectors

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 108B OR 125C DETECTORS. ALL ELECTRICAL POWER SHOULD BE REMOVED WHEN CONNECTING OR DISCONNECTING WIRING. THIS DEVICE AND WIRING SHOULD BE INSTALLED AND SERVICED BY QUALIFIED PERSONNEL.

## OPERATOR INSTRUCTIONS

### CONNECTION

Connect the three clip leads to the 3-phase power source.

Apply AC power. One of the detector lamps should illuminate, indicating the phase sequence as connected. If the desired phase sequence is not lit, change any two of the three leads.

Read the 3-phase designation on the front panel; connect the corresponding leads to your equipment.

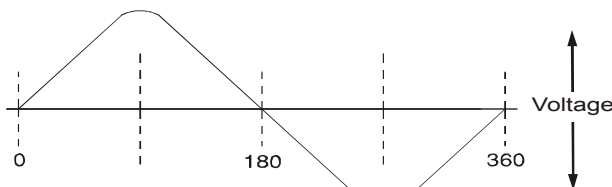
If both lamps illuminate, check for a loss of voltage on one of the three phases. If neither lamp illuminates, check for a loss of voltage.

### 3-PHASE POWER BASICS

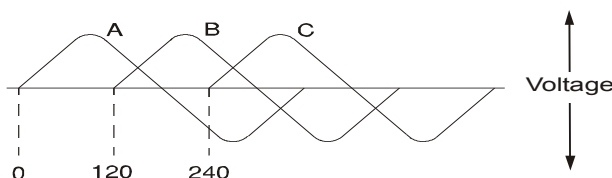
In 3-phase power there are three lines which carry the voltage, normally designated as A-B-C. In some installations however, they may be designated L1-L2-L3 or T1-T2-T3. The phase sequence as generated is A-B-C.

As the voltage on these lines rotates through 360 degrees, phase B lags phase A by 120 degrees; while phase C lags phase A by 240 degrees. The voltage on each of these lines vary as shown in *figure 1*, a graph of voltage versus degrees of rotation.

*figure 1.*



*figure 2.*

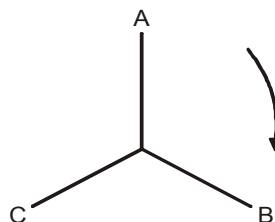


If all phases are shown on the same graph, they would appear as shown in *figure 2*.

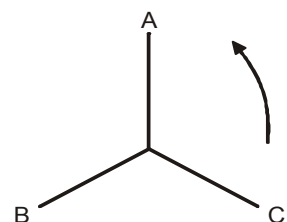
Pictured on a rotating phasor diagram, the angle between each phase is fixed at 120 degrees as they rotate in unison at the line frequency (see *figure 3*).

In *figure 4* you can see that if any two phases are reversed, the direction of rotation will be in the opposite direction. This reversal of the rotating sequence will cause motors to run in the opposite direction. Many other types of equipment are phase sensitive and will not perform as intended if the phase sequence is incorrect.

*figure 3.*



*figure 4.*



### 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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