

MODEL 188

Phase Sequence Detector

- Tests Phase Orientation on 3-Phase Power
- Indicates Missing Phase
- Indicates Phase Sequence ABC or CBA
- Indicators for Low Battery and 400Hz
- Color-coded and Insulated Leads
- 5 Year Warranty
- Engineered and Built in the U.S.A.

DESCRIPTION

Time Mark's handheld Phase Sequence Detector can help you quickly and easily verify the wiring on your 3-phase applications. Connect the Detector to any 3-phase circuit with nominal operating voltage from 188 to 660 volts (Wye or Delta with operating frequencies of 50, 60, or 400 Hz) and LED's will indicate phase sequence (ABC or CBA), phases present or missing and 400Hz frequency. A Low Battery lamp is also provided to indicate when the 9V battery needs to be replaced. Time Mark's Phase Sequence Detector is engineered and built in the U.S.A. and has a 5-year warranty.

Package contents include:

- (1) Phase Sequence Detector with insulated and color-coded test leads
- (1) Protective silicone boot
- (1) 9V Battery
- (1) Instruction Sheet



SPECIFICATIONS

MODEL	188
Monitoring Voltage	188-660 VAC
Frequency	50-60Hz/400 Hz
Configuration	Wye or Delta
Power Source	9V battery (included)
Power Down Timer	1.5 minutes
LED Indicators	Phases (A, B, C), Rotation (ABC, CBA), 400 Hz. Frequency, Low Battery
Leads	18" Insulated & color-coded Phases: A (red), B (black), C (white)
Lead Termination	Alligator clips
Weight	9.1 oz.
Dimensions	4.77" x 3.09" x 1.17"
Enclosure Material	ABS plastic
Country of Origin	U.S.A.

CONDITION CHART	LAMP(S) LIT				
	ABC	CBA	A	B	C
ABC ROTATION	●		●	●	●
CBA ROTATION		●	●	●	●
PHASE A MISSING	FLASH			●	●
PHASE B MISSING			●		●
PHASE C MISSING			●	●	
>2 PHASES MISSING	OFF				

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MODEL 188

Phase Sequence Detector

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 188. ALL ELECTRICAL POWER SHOULD BE REMOVED WHEN CONNECTING OR DISCONNECTING WIRING. THIS DEVICE SHOULD BE OPERATED BY QUALIFIED PERSONNEL.

OPERATOR INSTRUCTIONS

CONNECTION

- 1) Press the "ON" button
Both ABC and CBA lamps will flash. If the "LOW BATT" lamp flashes or the rotation lamps do not flash then replace the battery with a fresh 9V battery.
- 2) Remove power from the 3-phase power source then connect the three clip leads.
- 3) Apply AC power and verify connections.
In proper phase sequence, and with all phases present, the ABC lamp, and the three line voltage lamps will illuminate. If the detector indicates all three phases present, but the CBA lamp is illuminated, disconnect power and change any two of the three leads. If there is a loss of one or more phases, both ABC and CBA lamps will flash. Refer to condition chart on page 1 for more details. Check for loss of one or more phases and correct.
- 4) Remove power and connect corresponding leads to your equipment after correcting all issues and verify that the sequence detector indicates all three phases are present and in the proper ABC sequence.

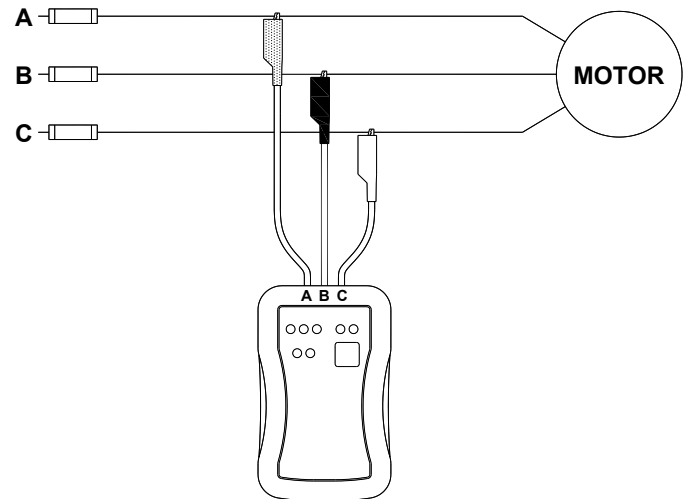
BATTERY REPLACEMENT

- 1) Disconnect test leads from power source.
- 2) Remove the silicone boot on the detector and turn unit face down in palm or on a clean flat surface.
- 3) Gently press in at the top of the battery compartment (located near the bottom of the back side of the unit) and slide the compartment door towards the bottom of the unit.
- 4) Replace old 9V battery with a new 9V battery, observing polarity.
- 5) Replace battery compartment door and silicone boot.

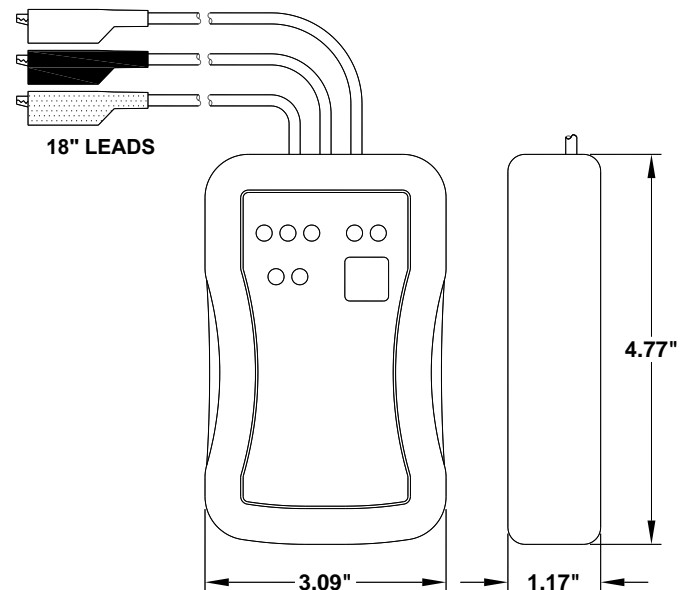
WARRANTY

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.

TYPICAL APPLICATION



DIMENSIONS



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