



# INSTALLATION INSTRUCTIONS PBD SERIES THREE-PHASE MONITOR RELAY

December 2020, Rev A

901-0000-344



Potentially hazardous voltages are present. Electrical shock can cause death or serious injury.  
Installation should be done by qualified personnel following all National, State & Local Codes.

*Présence de tensions potentiellement dangereuses. Une décharge électrique peut causer la mort ou des blessures graves.  
L'installation devrait être effectuée par du personnel qualifié suivant tous les codes nationaux, provinciaux et locaux.*

**BE SURE TO REMOVE ALL POWER SUPPLYING THIS EQUIPMENT BEFORE CONNECTING OR DISCONNECTING WIRING.  
READ INSTRUCTIONS BEFORE INSTALLING OR OPERATING THIS DEVICE. KEEP FOR FUTURE REFERENCE.**

## Installation and Wiring

1. Snap the relay onto the 35 mm DIN rail track.
2. Use one or two #14-20 solid or stranded copper or copper-clad aluminum conductors. Recommended terminal tightening torque is 4.4 in-lb.
3. Set initial setting on the UNBALANCE knob to maximum (OFF) position.
4. Connect the three-phase lines-line L1, L2 and L3 to the corresponding terminals (see Wiring Diagram on the side of the relay or on the back of this sheet). A connection to the neutral or ground is not required. DO NOT connect output wires to terminals 11,12,14 until later (Step 9).
5. Apply three-phase voltage. The POWER indicator should illuminate GREEN and the RELAY INDICATOR should illuminate YELLOW.
6. If the relay indicator does not illuminate YELLOW, a fault condition has occurred. Check for proper phase rotation, presence of all three phases, and low, high or unbalanced voltage conditions. Correct if necessary. Re-energization is automatic upon correction of the fault condition.

## Settings

7. Set the UNBALANCE knob. This setting should be the maximum allowable unbalance in phase voltage that the three-phase system can tolerate. Too low of a setting can cause nuisance tripping. Too high of a setting may not adequately protect the system. If unbalance protection is not desired, leave the knob set to the maximum (OFF) position.
8. REMOVE THREE-PHASE VOLTAGE for Step 9.

## Operation

9. Connect the output terminal wires to terminals 11, 12, 14 (see Wiring Diagram on the side of the relay or below).
10. When all connections are made, apply three-phase line-line voltage. The power indicator should illuminate GREEN while the relay illuminates solid YELLOW when all voltage conditions are correct.
11. If the relay indicator does not illuminate YELLOW, a fault condition has occurred. Check for proper phase rotation, presence of all three phases, and low, high or unbalanced voltage conditions. Correct if necessary. Re-energization is automatic upon correction of the fault condition.

NOTE: Under normal conditions (RELAY indicator illuminated YELLOW), the circuit between terminals 11 and 14 is closed and terminal 12 is open. Under fault conditions (RELAY indicator OFF), the circuit between terminals 11 and 12 is closed and terminal 14 is open.

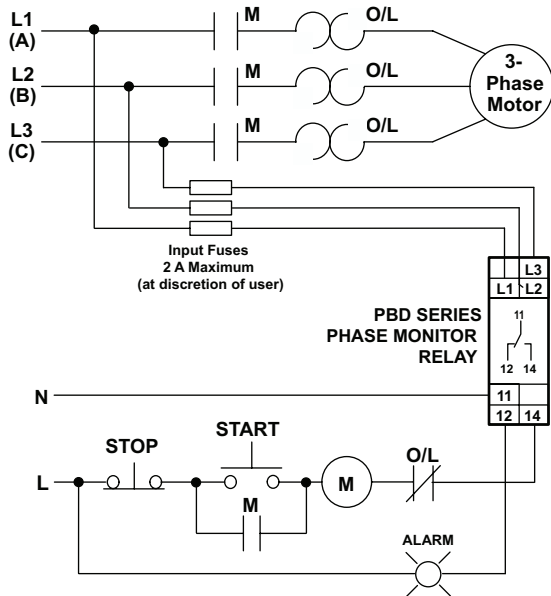
## Troubleshooting

If the unit fails to operate properly, check that all connections are correct per the appropriate wiring diagram on the product. If problems continue, go to [www.macromatic.com/contact](http://www.macromatic.com/contact) for technical support.

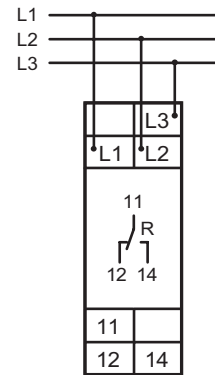
## Warranty

All catalog-listed PBD Series products manufactured by Macromatic are warranted to be free from defects in workmanship or material under normal service and use for a period of five (5) years from date of manufacture.

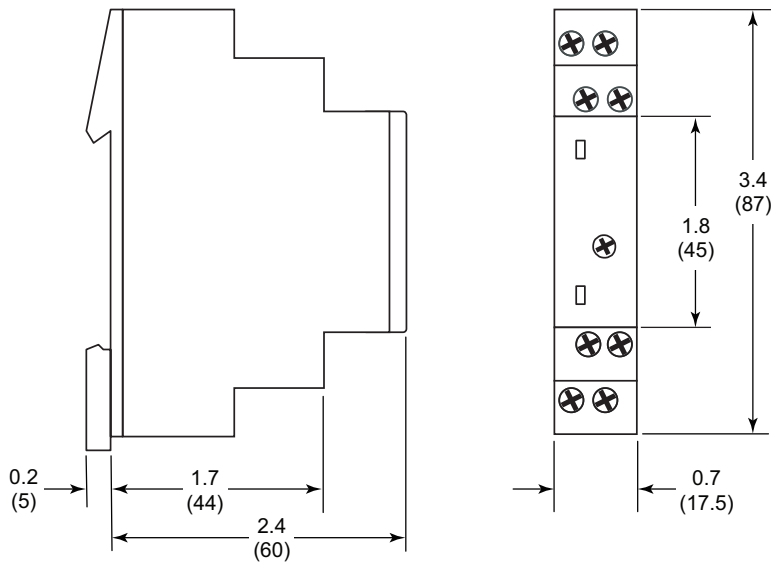
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Typical Connections



Wiring Diagram



Dimension Drawing: Inches (mm)