

POWERTRON®



Phase rotation
monitor
integrated in
startup procedure



OWNER'S MANUAL FOR:
Phase Rotation Monitor
WALL MOUNT SERIES UNITS

COMPATIBLE
POWERTRON® SERIES

CONTRACTOR SERIES

STANDARD SERIES

MTS SERIES

BREAKER SERIES

TBQC-MONITOR-KT1

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OWNER'S MANUAL FOR: *Phase Rotation Monitor*

COMPATIBLE POWERTRON® SERIES UNITS

STANDARD SERIES

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208 VAC to 600 VAC

We're committed to providing premier products that are easy to install and safe to operate during use. To help ensure the longevity and performance of your Powertron® Tap Box, refer to this Owner's Manual and by contacting us at 800-221-7665 for any additional questions.

Your General Information:

Apply Product Label Here

General Installation Information:

Date of Installation:

Installed By:

Company Name:

Company Phone #:

Company Website:

Safety Information and Definition

In this manual and in labels located on the Powertron® Tap Box the Safety Signal Words and the Safety Alert Symbol are defined by:

• Safety Signal Words

DANGER: means if the safety information is not followed someone will be seriously injured or killed.

WARNING: means if the safety information is not followed someone could be seriously injured or killed.

CAUTION: means if the safety information is not followed someone may be injured.

• Safety Alert Symbol

This symbol () indicates a potential personal injury hazard and is used to identify safety messages.



All wiring must be made in accordance with the National Electric Code (NEC) and local building codes.



Powertron® Tap Boxes are not intended for use in Emergency Systems as defined by NFPA/NEC Chapter 7, Article 700. Emergency Systems have special requirements as Specified by law.



Refer to the connection diagrams in the electrical connection section of this manual to confirm you have the correct model for this installation.

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Quantity	Part Description
1 pc.	Phase Rotation Monitor Module (208 VAC to 600 VAC)
3 pcs.	1 Amp Time Delay Fuses
3 pcs.	Cable lead with terminated ends (Ring Terminal & Right Angle Disconnect)
4 pcs.	10-32" Lock Nuts
3 pcs.	10-32" Machine Screws
3 pcs.	Lock Washers

Tools for installation of Powertron® Phase Rotation Monitor:

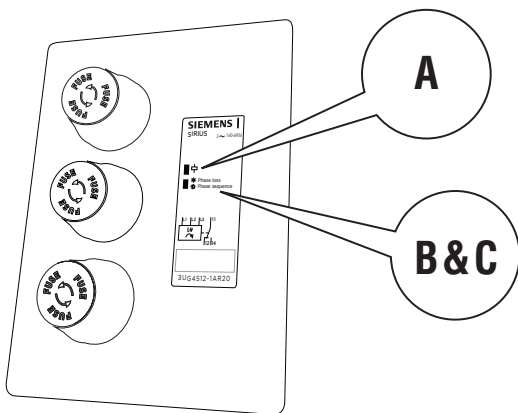
- Hand held Phase Monitoring Relay
- Phillips screw driver
- Adjustable Wrench and/or Extended Socket Ratchet
- Electric Meter
- Some additional tools may be needed for installation

General Use

The Phase Rotation Monitor is an optional “field assembled” component, which monitors power availability/interruption, incorrect phase sequence and phase failure; and indicates all of that to user via LED lights. The Monitor is designed to provide real time information so that the user can respond quickly to the situation.



Prior to connecting your generator to the Powertron® Tap Box inspect all connections. Check that the relay fuses are ready for use.



Condition	Description	Color Light	Instruction
A	Power is being provided to the relay	Green - Continuous	
B	Phase sequence are not matched	Red - Flash	STOP! Do not Proceed!
C	Phase Failure	Red - Continuous	STOP! Do not Proceed!

Note:

The device features an autoreset function. The autoreset function resets the output relay to its original state after condition “B” or “C” is corrected.

The red “phase failure / phase sequence” LED is a fault diagnostics display and does not indicate the current state of the relay.

Installation

Step 1: Ensure all electricity is off during installation.



Hazardous Voltages exist inside the Powertron® Tap Box. Before removing the divider wall cover plate, make sure the generator cables are disconnected and ensure that no power is applied to the tap box so that no part of the tap box is energized. Lock out GFCI receptacle at its breaker. Lock out the transfer switch and any other source of electric power.



Installation of the Phase Monitor Relay Kit to the Powertron® Tap Box must be installed by a qualified licesensed electrician only when the tap box is not energized.

Step 2: Open Powertron® tap box main door and remove divider wall panel.

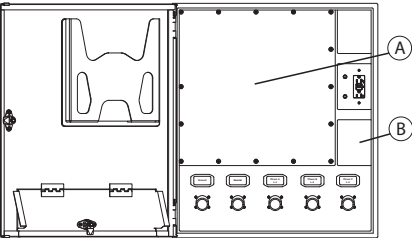


Figure 1

Components of Interest	
A	Divider Wall Panel Cover
B	Blank Plate

This manual applies to the enclosures, represented by Figures 1 and 2.

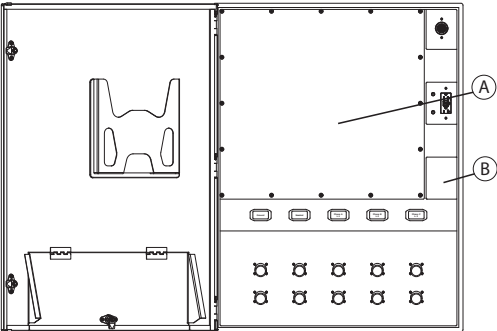


Figure 2

Installation

Step 3: Reach inside the enclosure compartment and remove the indicated cover plate from the backside, see *Figure 4*.

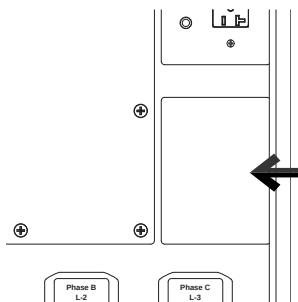


Figure 3

Remove nuts (4X)
and blank plate

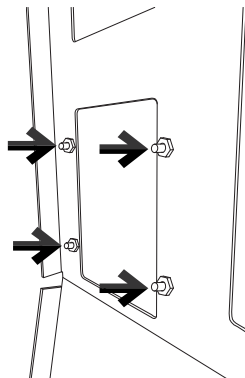


Figure 4

Step 4: Insert the Phase Rotation Monitor module in the opening. First, hand tighten 10-32" locknuts to the backside of the module (4X). Then use a wrench to securely fasten the locknuts (quarter turn to securely tighten). Blank plate may be discarded.

Installation

Step 5: Connect cable leads to the backside of the fuse holders (3x). It is very important all connections are made to the correct terminal tab. See chart below for details.

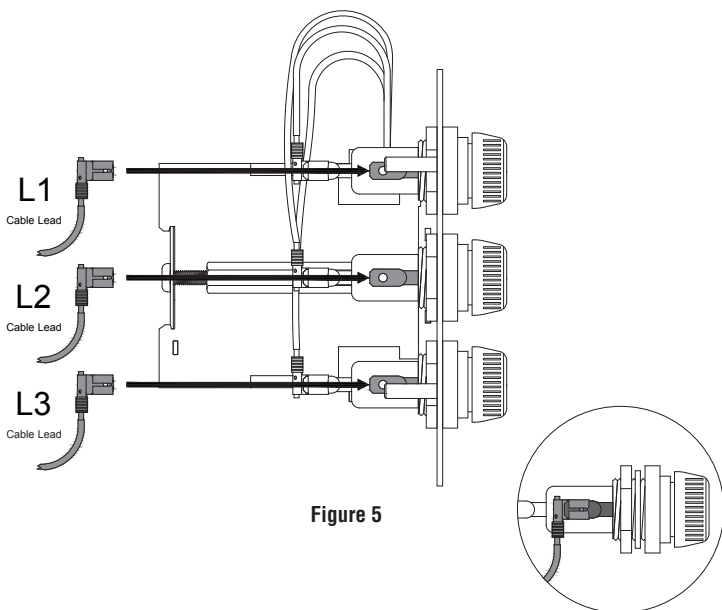


Figure 5

240/120 VAC or 600/347 VAC	
Color	Phase
Black	L1
Red	L2
Blue	L3

480/277 VAC	
Color	Phase
Brown	L1
Orange	L2
Yellow	L3

Chart 1



If the leads are not connected correctly, this may cause false phase rotation which could cause damage to the connected load if the generator powers the load with improper phase rotation.

Installation

Step 6: Connect the opposite end of the cable lead to the corresponding bus bar. Use the provided screws to connect cable leads (3X). Use phase monitoring relay meter to check all connections are made correctly.

Screw torque: 2.0
lb-ft (3 N-m)

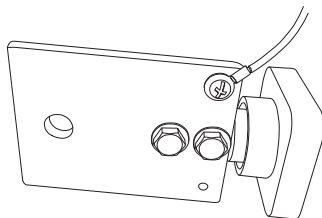


Figure 6

Step 7: Check that all connections are made correctly. Check that all cable leads (6 total connections, 2 per phase) are securely fastened.

[illegible]

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P/N: TBQC-MONITOR-KT1-MAN

