Applied Electronics Power Monitoring System Model PM-360

Installation and Operation Instructions

1.0 Scope

This document details the installation and operation requirements for Applied Electronics Power Monitoring System. These Instructions are provided for model PM-360 rack mount unit.

2.0 General

Applied Electronics Power Monitoring System consists of a 3 space rack mountable chassis with user interface on the front panel (see Figure 1). The PM-360 provides the capability to monitor the voltage and current on three input power phases as well as the phase to phase voltages, ground to neutral voltage and frequency. The phase to phase voltage displayed is selectable via the control knob on the front panel. Included with the panel are 3 current sensing coils and a power wiring harness.

NOTE: Due to the wide variety of mounting locations and configurations mounting hardware is not included. Please contact Applied Electronics if unsure of mounting options.

Each PM360 is provided with a standard one-year warranty for parts and labor.

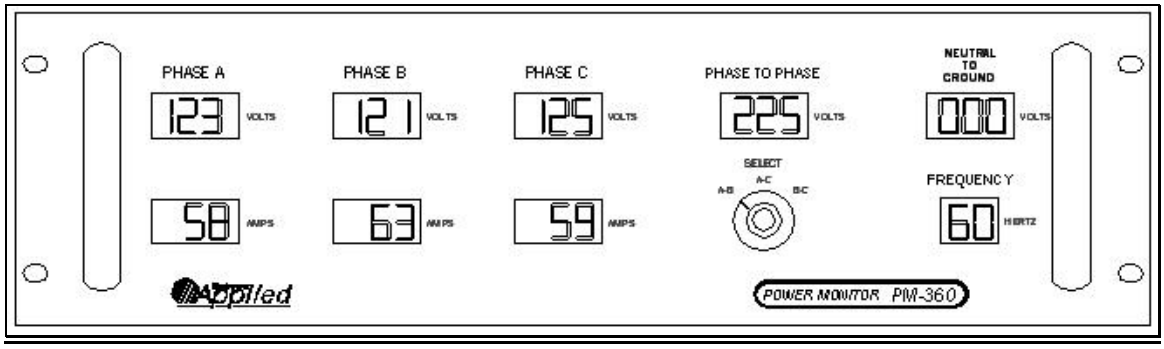

Figure 1
PM-360 (front view)

3.0 Specifications

- Input Voltage: 85 – 132 VAC (3-phase)
- Input Current: 300mA (typical)
- Frequency: 47-440 Hz
- Weight: Panel: 3 lbs. Current Coils: 4.5 lbs.
- Outside Dimensions: 5.25“ high x 19“ wide x 3.25“ deep
- Operational Ambient Temperature: 32^{o} to 104^{o} F (0^{o} to 40^{o} C)

4.0 System Installation

The following sections detail installation and wiring procedures for the PM-360.

4.1 Current Coil Mounting

Included with the PM-360 panel are three current coils (see Figure 2). These coils measure the current draw on the three main power lines in a system. It is recommended that these coils be mounted securely to the base of the rack or if rings are provided, tie wrapped to power cables. Once mounted the individual mains cables can be passed through the hole in each current coil. It is recommended that only one main cable be passed through the coils however multiple cables can be used only if the phase and current direction being measured are the same. For example three input cables from phase A input may pass through a coil but two cables from phase A and one cable from phase B may not. Mixing phases or directions will result in incorrect current readings.

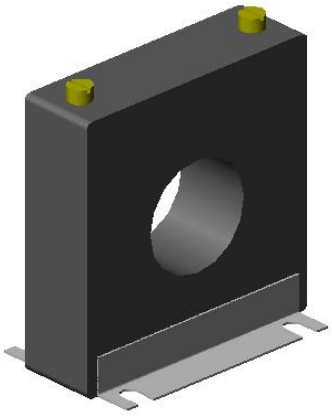

Figure 2
Current Coil

4.2 Panel Mounting

Each PM-360 unit is intended to be mounted in a standard 19” rack enclosure and utilizes 3 rack units of space (5.25” high).

4.3 Wiring Connections

WARNING

VERIFY THAT THE SYSTEM BEING MODIFIED IS DISCONNECTED FROM ITS INPUT POWER PRIOR TO MAKING THE FOLLOWING CONNECTIONS. FAILURE TO DISCONNECT POWER MAY RESULT IN INGURY OR DEATH

The PM-360 comes with a 56” wire harness that is used to connect the unit to the three mains voltages, neutral, ground and the current rings. The connections to the back of the panel are made using the terminal screw block (see Figure 3). The connections to the current coils are made using the two screws on top of each coil or if rings are provided, they are pre-wired to harness. The connections to the three hot phases, neutral and ground should be made so that they are secure.

WARNING

The sensor lines MUST NOT be connected in any manner that would cause them to carry current to any load other than the PM-360 panel.

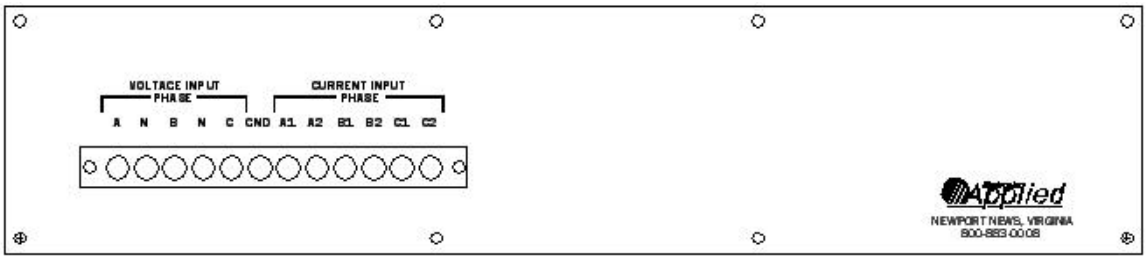

Figure 3
PM-360 (rear view)

PM-360 Wire Connection List

Signal / Panel Connection	Color	Termination
A Phase	Black	A Phase Input
Neutral	White	Neutral Bus
B Phase	Red	B Phase Input
Neutral	White	Neutral Bus
C Phase	Blue	C Phase Input
Ground	Green	Ground Bus
A1	Yellow	A Phase Coil #1
A2	Yellow/White	A Phase Coil #2
B1	Orange	B Phase Coil #1
B2	Orange/White	B Phase Coil #2
C1	Purple	C Phase Coil #1
C2	Purple/White	C Phase Coil #2

5.0 PM-360 Operation

Each PM-360 is calibrated before leaving the factory and has been designed to deliver years of maintenance free service. When powered up the monitor will constantly display the current voltage and current draw on each of the three supply phases as well as the ground to neutral voltage and frequency. The three phase to phase voltages can be selected at any time using the three position rotary switch on the front panel.