

PDS-1 installation guide

The Phase Detection Sensor (PDS-1) works with the Local Environment Monitor (LEM) and OMNI-Site Watcher to continuously monitor three-phase power.

The PDS-1 is designed to monitor the power for a single three-phase line. Using multiple sensors, you can monitor additional circuits, zones, or rooms at your site. You can connect up to six sensors to a single LEM.



How phase loss detection works

The phase-monitoring relay has adjustable voltage (200 to 480 VAC), unbalance trigger (2 to 10 % variation), and trip delay (0.25 to 30 seconds) settings. When the voltage on a phase varies by more than the unbalance trigger percentage and for longer than the trip delay, the relay on the PDS-1 opens, signaling the Local Environment Monitor.

If phase loss occurs for longer than the fault duration, the LEM signals OMNI-4000 that there is an alarm condition. If you have the OMNI-Alert alarm notification system installed and the alarm is set to active, OMNI-Alert dials the contacts on its call list and notifies them about the condition.

For more information about the Local Environment Monitor, OMNI-Site Watcher, or OMNI-Alert, contact Phason or visit www.phason.ca.

Installing the PDS-1

Read all instructions before installing the PDS-1. Follow all instructions in the order they are listed.

The following parts are included with the PDS-1:

- ◆ General-purpose relay
- ◆ Eight-pin relay socket
- ◆ Mounting rail
- ◆ Phase-monitoring relay
- ◆ Relay socket
- ◆ Installation guide

In addition to the parts included, you need to provide the following:

- ◆ Non-metallic, corrosion-resistant, fire-retardant enclosure
- ◆ AWM general-purpose wire, 14 AWG recommended

Electrical ratings

- ◆ Input: 200 to 480 VAC, 50/60 Hz
- ◆ Unbalance trigger: 2 to 10 %
- ◆ Trip delay: 0.25 to 30 sec



Connecting a PDS-1 to a Local Environment Monitor adds 100 mA to the LEM's current draw. **Make sure you do not exceed the limits of the LEM's power supply.**



Before installing or servicing the PDS-1, switch off the power at the source.

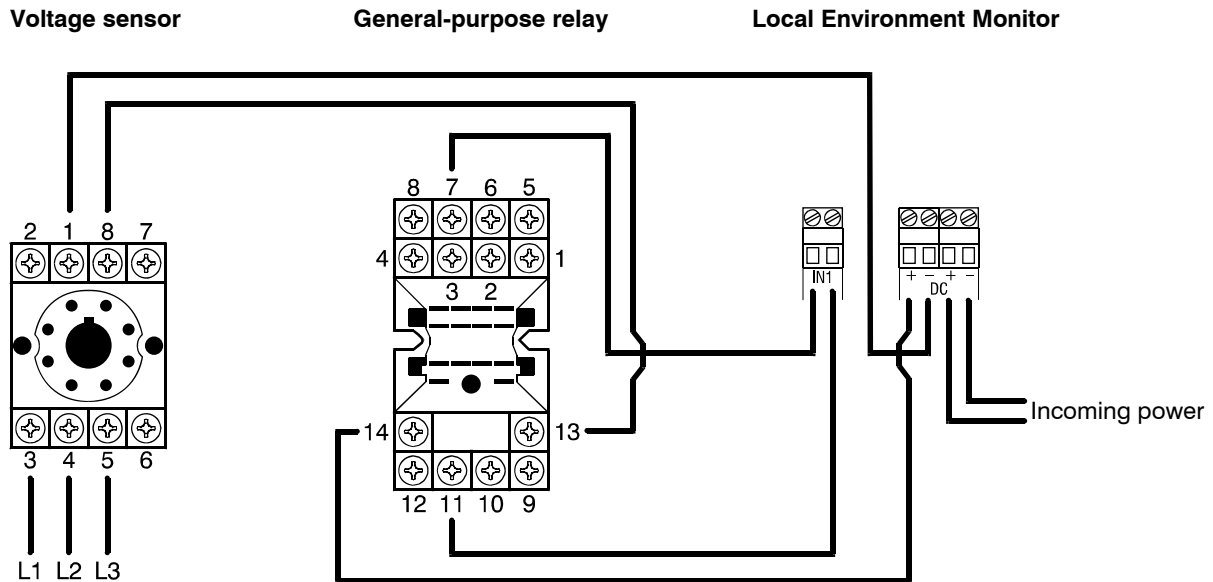
Mounting the PDS-1

Mount the PDS-1 in a non-metallic, corrosion-resistant, fire-retardant enclosure.

1. Mount the rail in the enclosure.
2. Connect the sockets to the rail.

Connecting the PDS-1 to the Local Environment Monitor

Connect the PDS-1 to the LEM as shown below. Refer to the Socket terminal numbering diagram for terminal locations.



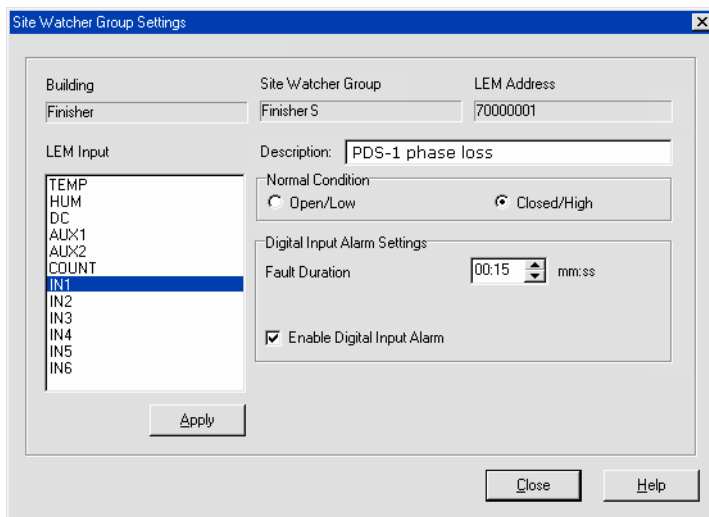
Finishing the installation

1. Verify all wires are properly connected to the correct terminals.
2. Plug the voltage sensor and relay into their sockets.
3. Switch on the power.
4. Fasten the cover to the enclosure.

Setting up the power fail alarm in OMNI-Site Watcher

After connecting the PDS-1 to the LEM, you need to set up the alarm in OMNI-Site Watcher. For more information, see your OMNI-Site Watcher user manual.

For the LEM that the PDS-1 is connected to, select the input (IN1 in this example), and then select the settings as shown below.



When there is a phase loss for longer than the fault duration (15 seconds in this example), the LEM signals the OMNI-4000 that there has been an alarm.