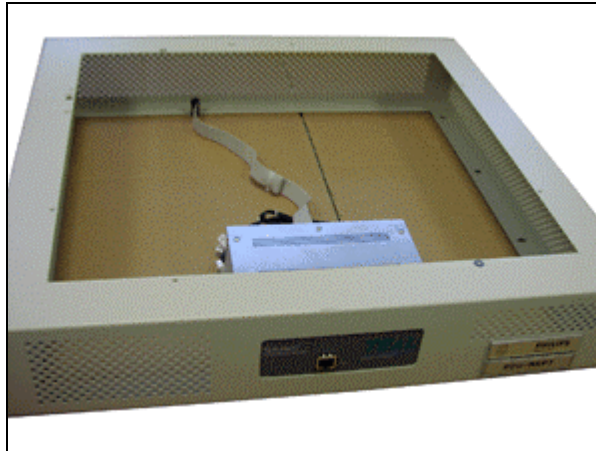


TEALwatch® Power Monitor Retrofit Installation Manual Example

TEALwatch® Power Monitor Retrofit Installation Manual Example

For TEAL PN XXXXXXXX-YY (Model ZZZZZ)

1. TEAL estimates that it should take approximately 30 minutes to install this retrofit kit.
2. Tools needed:
 - Phillips screwdriver
 - Slot screwdriver
 - 11/32" nut-driver or 11/32" socket with socket wrench (or open box wrench small crescent)
 - 5/16" Allen hex wrench
3. Retrofit Kit Parts List:
 - 1 each TEALwatch® power monitor box pre-mounted to replacement PDU top.
 - 1 each TEALwatch® Power/Divider PCBA/bracket assembly.
 - 1 each Interconnect Ribbon Cable, approximately 18" long.
 - 1 each Interconnect Power Cable, TEAL Part # 0830763, approximately 16" long.
 - 6 each tie-wraps, approximately 4".



What is in the kit?

Components of the TEALwatch® Retrofit Kit include the TEALwatch® monitor box pre-mounted to the replacement top, the TEALwatch® Power/Divider PCBA/bracket/harness assembly, Interconnect Ribbon Cable, Interconnect Power Cable #0830763 and several tie-wraps (not shown).

4. **CAUTION** Remove power to the ZZZZZ, and verify that all power is removed and the ZZZZZ is safe to work on.
5. Remove the eight 6-32 x 3/8" screws from the ZZZZZ lid as shown in Figure 1. Retain the hardware, as it will be used to secure the lid back onto the PDU-MRPT. Remove the lid.

PHOTO HERE

Figure 1 – Top lid of the ZZZZZ (TEAL part number XXXXXXXX-YY) showing the location of the screws that need to be removed to gain access to the inside of the unit.

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6. Remove the eight 10-32 nuts and washers securing the top to the PDU. Again, save the hardware for the re-assembly. Remove the top.

PHOTO HERE

7. Mount the new top, with TEALwatch® pre-mounted, on top of the PDU. The TEALwatch® label on the outside of the unit should be right side up, and the connectors on the back of the box should line-up as shown in Figure 3.

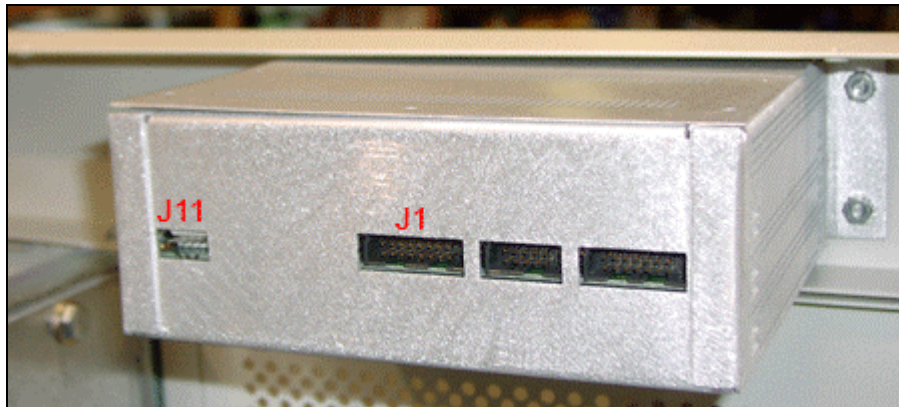
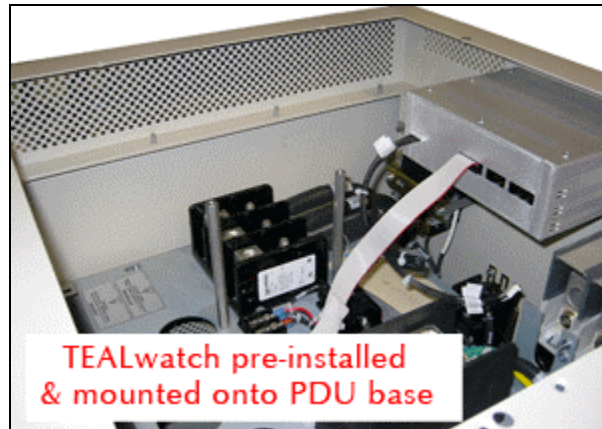
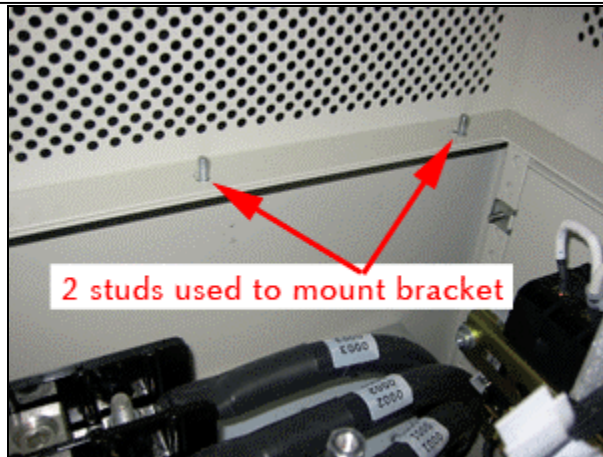


Figure 3 – TEALwatch® power monitor box mounted inside the PDU, with connectors J1 and J11 identified (note that they are not labeled on the monitor box).

8. The TEALwatch® Power/Divider PCBA/bracket assembly mounts via the front two studs on the right side (as looking from the front). Secure the top to the PDU by replacing the washers and nuts on the other six studs.

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9. Hold the TEALwatch® Power/Divider PCBA/bracket assembly with the PCB parallel with the floor and the bracket with the fuses on it towards the right side of the PDU. Lower this assembly so that the bracket can be pushed against the side-wall, then lift until it is against the underside of the top. Ref PHOTO. It must be held up to clear the mounting studs as it is slid into its final location.



10. Carefully slide the assembly towards the front of the unit until the mounting studs can line up with their respective holes on the assembly bracket, and lower the assembly over the studs.

TEALwatch® Power Monitor Retrofit Installation Manual Example

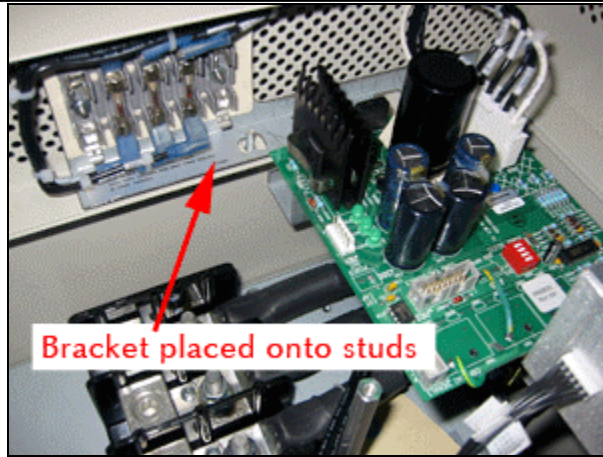
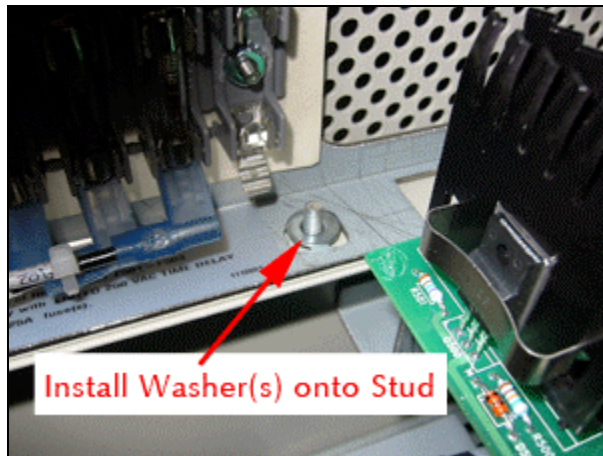
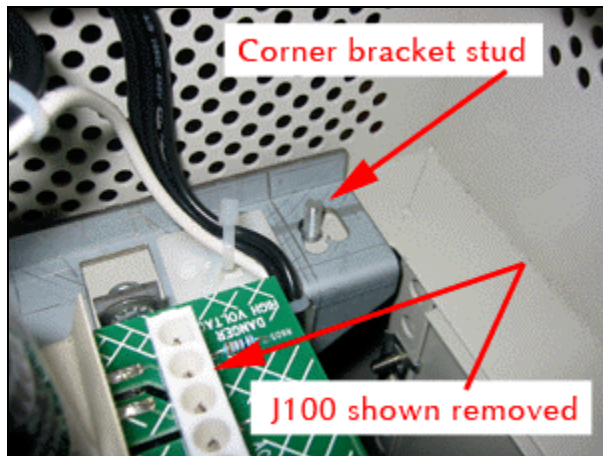


PHOTO HERE

12. Install the washers and nuts securing the assembly (and the top) to the PDU. Removing the J100 plug will facilitate access to the corner stud. Replace the J100 plug.



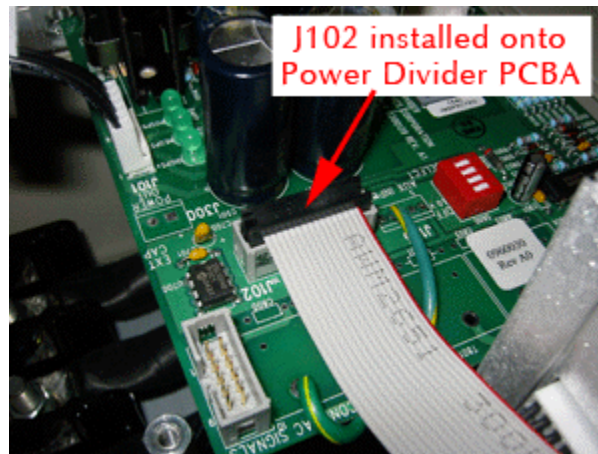
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13. Connect the Interconnect Power Cable #0830763 connector to J101 on the Power/Divider PCBA as shown in Figure 10. Connect the other end of the Interconnect Power Cable #0830763 to J11 on the TEALwatch® monitor box, as shown in Figure 11. The Power Cable has keyed connectors on both ends to prevent it from being inserted backwards. If you have difficulty inserting the connector, reverse it and try again.



Figure 10 – Install power cable #0830763 into J101 of the Power/Divider PCBA, and the opposite end into J11 of the monitor box (note that J11 is not labeled on the monitor box, it is the left-most connector).

14. Connect the Interconnect Ribbon Cable from J102 on the Power/Divider PCBA to J1 on the TEALwatch® power monitor box as shown in Figure 11. The Interconnect Ribbon Cable has keyed connectors on both ends to prevent it from being inserted backwards. If you have difficulty inserting the connector, reverse it and try again.



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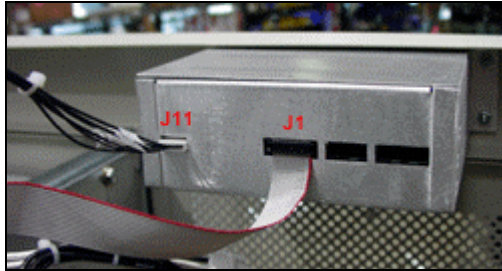
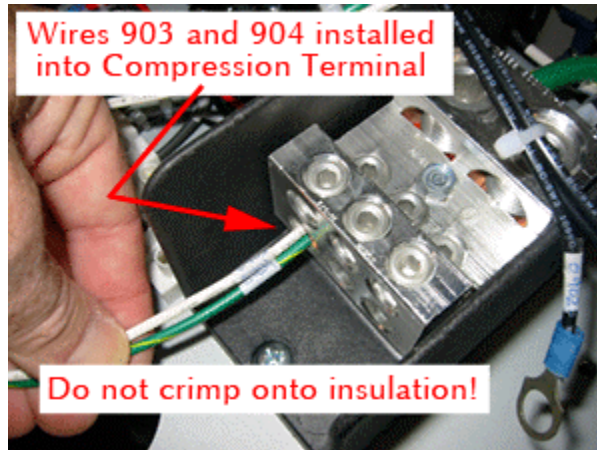


Figure 11 – The Ribbon Cable supplied with this kit is installed between J102 on the Power/Divider PCBA and J1 on the back of TEALwatch® power monitor box.

15. Tie-wrap the Interconnect Ribbon Cable and the Interconnect Power Cable (#0830763) together, routing them AWAY from the power cable that was installed in step 17.
16. Route the White and Green (wires 0903 and 0904) wires from the assembly harness to the rear side of the Output Neutral Ground block, and secure both wires in any compression location. There is no problem if site wiring shares a compression fitting with these two wires.



17. At the output terminal block (TB3/TB4), remove the 7/16" bolts holding the internal conductors and secure wires 900, 901 and 902 from the TEALwatch® wire harness with the internal conductors at each lug. Order is 900, 901, 902 right to left.

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18. Verify all newly installed hardware and all connectors are securely attached.
19. Replace the PDU lid with the eight 6-32 x 3/8" screws (previously removed in step 5) and re-apply power to the PDU.
20. The TEALwatch® power monitor, a Linux based web-server, will take approximately 60 seconds to start up upon application of power. Check the operating status of the TEALwatch®. You can check the operating status of the TEALwatch® either remotely or locally as described below:

Local Status Check - To check the TEALwatch® status locally, there are three status LED indicator on the front panel (see the Figure 13 below). If the TEALwatch® is working normally and connected to an Ethernet 10Base-T compatible network or device, there are two LED indicators on the Ethernet connector that show system status.

On the bottom left side of the Ethernet connector is a green LED, which flashes ON to indicate that a compatible network has been found. This green LED, when flashing, will mean that the TEALwatch® and the network are connected. If this LED is OFF, this indicates that a network connection has not been established.

On the bottom right side of the Ethernet connector is an orange LED, which flashes ON to indicate Ethernet communication is in process. This orange LED, when flashing, will mean that both the TEALwatch® and the network are communicating normally. If you still cannot access the TEALwatch® web site, then there may be a connection problem or network problem with your PC.

TEALwatch® Power Monitor Retrofit Installation Manual Example

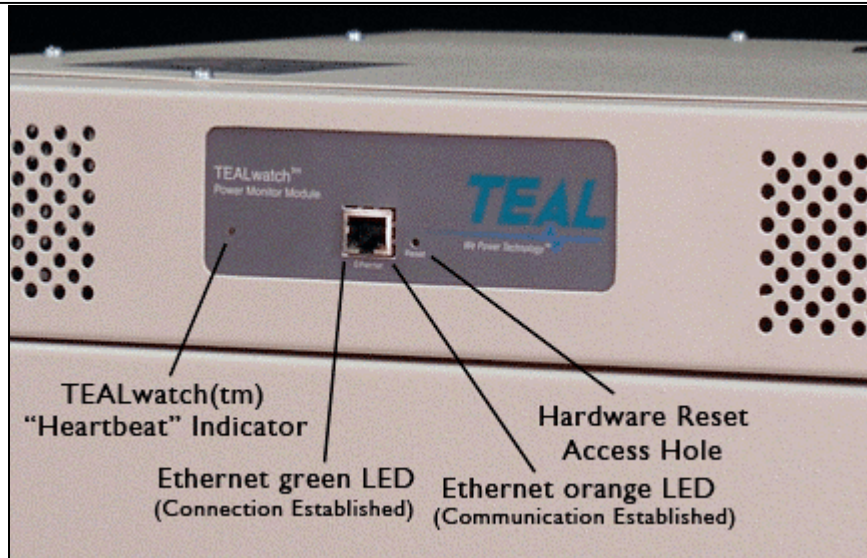


Figure 13 - TEALwatch® power monitor installed in a TEAL power subsystem showing the location of the LED indicators and the hardware-reset access.

The main TEALwatch® indicator is located to the left of the Ethernet connector. This green LED is the heartbeat indicator of the TEALwatch®. When things are operating normally, this indicator pulses about 2 flashes per second, similar to a heartbeat. If this LED is ON solid, aside from the first 60 seconds of turn-on, then the TEALwatch® may require a hardware reset. If the LED is not lit, this could indicate 1 of 2 things. First, there is no power to the TEALwatch®, which may be caused from an upstream circuit breaker being shut off, etc. If power is being supplied to the TEAL power subsystem, but the LED is not lit, the TEALwatch® may require a hardware reset.

A hardware reset is accomplished by using a paper clip (or equivalent device) to push the recessed RESET button, accessed through a small hole to the right of the Ethernet connector. Press and hold the RESET for 3 seconds. Normal operation should resume within about 60 seconds, indicated by the flashing green status indicator to the left of the Ethernet connector. If normal operation does not resume, please refer to the Frequently Asked Questions (FAQ's) and Troubleshooting Guide in this manual.

CAUTION: A hardware reset will clear the DRAM, so only the maximum of 7 full waveforms and 93 summary event data sets that are stored in Non-Volatile RAM will be preserved, all other data will be cleared. Software settings and previously customized settings will be preserved as well.

Remote Status Check - You can always check the status remotely by opening your web browser to a connected TEALwatch® using its IP address (default IP address is 192.168.1.200). If the TEALwatch® is operating normally, you will be able to open the web site and review data, etc.

If the web site for that TEALwatch® does not respond, there could be several reasons. First, the power may be removed from the subsystem, which will remove power from the TEALwatch®, and the web server will not be operating. Second, it could be your local network is not responding, and you can check this by trying to access other web sites. Third, the TEALwatch® may require a software or hardware reset. If this is the case, TEAL recommends that you try a normal refresh of your web browser software. If the web site is still not responding, you may need to apply the software reset located under the Advanced tab of the TEALwatch® user interface (see section 1.12 of the TEALwatch® Users Manual for details). If the web site is still not responding, you may need to check the hardware status of the TEALwatch® locally.