

FAQ's regarding Touch-Plate systems dated 1946-1985

Q: *Nothing is working. My lights are not responding when I press the switches/buttons. What is ON stays ON and what is OFF stays OFF. What should I do or check?*

A: The first thing you need to check is the transverter (power supply). In most systems, the transverter is located near the relays, often on the exterior edge of the enclosure. The model numbers produced in this time frame were as follows: 78K1 & 17C and TVR-1. The transverter is the sole source of power to the relays. If it fails, the relays will not receive power which hinders the lights from operating. To prove the transverter, check for a proper output voltage across the two low voltage wires of the unit (labeled "switch" and "relay." The bullets below address what to do based on the voltage level found:

- **A voltage reading of 0 VDC.** This means the transverter has failed and is no longer operating. Install a replacement transverter to restore the system.
- **A voltage reading of 0.1-5 VDC.** This shows that a switch is stuck in the ON position, causing the transverter to remain at a lower output voltage as it continues to send power to the related relay. You should notice the transverter is warm to the touch, as it is overheating. Click here to read how to [troubleshoot a stuck switch](#).
- **A voltage reading of 28.5 – 44 VDC.** This voltage reading shows that the transverter is putting out the correct voltage. Check the wiring connections on the low voltage side, to ensure that no commons have become disconnected and that the wire has not been damaged. If the wiring is proven, replacing the transverter would be the next step. Although it is showing the proper output voltage, there may be some kind of internal error in the unit which is hindering it from sending power to the relays.
- **A voltage of any other degree.** If your transverter is giving a differing voltage than listed above (greater than 5 VDC but less than 28.5 VDC or greater than 45 VDC) the unit should be replaced. The system will not operate properly without the correct voltage being supplied. A replacement unit should solve the problem.

Q: *I can't find my Transverter. Where would it be mounted / installed?*

A: Typically, the transverter is located near the relays, often on the exterior edge of the enclosure. The model numbers produced in this time frame were as follows: 78K1 & 17C and TVR-1. If you have several locations of relay panels, there may be a transverter at only one location, as one transverter can power an unlimited number of relays. Depending on how your system was originally wired, you could have one or multiple transverters. If your system is wired with remote relays (relays mounted behind the switch or behind the fixtures), the transverter is likely in a central area of your home where all of the low voltage common wires would meet. Some recommended places to look would be in an attic, basement, crawlspace, or near the breaker box.



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Q: *My transverter feels hot. What is causing this?*

A: The transverter being warm or even hot to the touch indicates that there is a stuck switch in the system. See [*Troubleshooting a Stuck Switch*](#) to correct the problem. Please do so as soon as possible as the transverter will weaken in this state and eventually fail.

Q: *It doesn't look like I have a transverter. I don't have a TVR-1 or a new TPS-0120. I do have two components in my relay panel that are larger than the relays. Is one of these the transverter?*

A: If your home was built before 1957, your system would have two components powering it instead of one. The original systems used a transformer (78K1) and converter (17C) to power the relays. After 1957, the model TVR-1 was introduced which did both functions (converting AC to DC and powering the relays). When the time comes to replace the power supply for a system dated 1957 earlier, be sure to remove both the 78K1 and 17C.

Q: *I just purchased a new transverter, model TPS-0120. My electrician tested it before installing and it is reading 44 VDC. I thought my relays needed 28.5 VDC...isn't that right? Is my new transverter faulty?*

A: No, your unit is perfectly normal, but it is a good question. The replacement transverter models have been redesigned from the original units. They contain an automatic shut off feature to protect it from quickly failing if a stuck switch occurs. If a switch does stick and the transverter begins to overheat, it will shut down for a time to cool itself off and then restart again. This added feature among other design changes caused the output voltage to rise. It is common to get a voltage reading between 40-44 VDC if testing without a load. This overall higher voltage is not a concern for the system. The relays (both original and new) will respond correctly and are not in danger from this voltage variance.

Q: *I am redecorating my home and was wondering if I could change the style of switches that I have. Can I use one of the newer styles or do I need to stay with the 5000 Series?*

A: All of our contact closure switches are compatible with the existing Touch-Plate system. You are free to pick the style that best fits your décor. One important thing to keep in mind, however, is that the LED versions will only operate if your existing switch lights up. An existing non-lit switch will not have sufficient wires to connect with a new switch with LEDs. All of our switch styles have a non-LED option for this reason. If having LED status is important to you, upgrading to a digital system will allow the option of adding LEDs to existing stations that are not currently lit WITHOUT the need to run more wiring.

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Q: *My bathroom light will not come on. It turned off the last time and now I can't get it to turn back on. I've tried both the switch in the bathroom as well as the Master switch in my bedroom. What is wrong?*

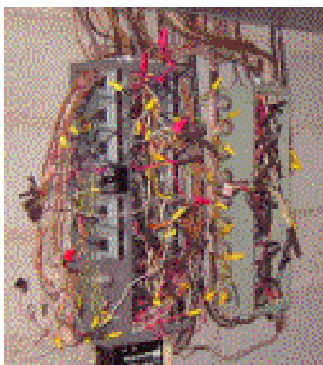
A: In the case where only one light is not responding, the cause is likely a burned out light bulb, a tripped breaker, or a failed relay. Check them in that order. If you can hear the relay clicking when the switch is pressed but do not see the light changing state, it is for certain a bulb or breaker issue. If you prove the bulb and breaker, replace the relay controlling the bathroom and the light should begin working again. If a new relay does not solve the problem, then check the switches controlling this room. Switches can fail but it is unlikely that two controlling the same room light would fail at the same time.

One other thing that could be the cause is that a wire for that relay has become disconnected. This is a seldom occurrence, but any electrician would be able to find this sort of problem. If you have electrical experience, check the low voltage wire connections inside the relay panel before calling an electrician.

Q: *My home was built in the late 1950's. Is the 3000 relay a compatible replacement to my original relays? If so, will it fit within my existing box?*

A: Yes. The newer model 3000 relay is a compatible replacement for systems installed in 1946-1985. It will fully replace the following models: 1550-A, 1550-B, 2500-B, and 4000.

The 3000 includes screw terminals for the high voltage wire connections, eliminating the need for wire nuts on the HV side. This addition caused the base of the relay to be ½" wider than the original. The larger base is not a problem for most systems. It will only pose a problem if your existing system has relays that are double-stacked or if the relays are mounted behind pilot transformers. The extra ½" will not allow the 3000 to be mounted behind another relay or transformer; it must be in the front most position. If the relay you need to replace is in the back row, simply change positions with other existing component, so the new 3000 can be on the front and the larger base accommodated for.



Q: *My older system is a mess of wires! Are replacement parts still available or should I upgrade?*

A: Upgrading is a good step to consider. Upgrading cleans up the wiring of an old system and restores value to your home. The wiring in your home is an investment that can be retained. Additional control features are also possible with a newer system. Replacement components are still available but will not be forever. Eventually an upgrade will need to occur, so it is good to consider your options. A lot of time and money can be invested in simply keeping the older system running. A better alternative is putting that investment towards something current.

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Q: *Why do some of my lights not work properly when it gets really hot or cold outside?*

A: The original relays used an oil-based lubricant which overtime can accumulate dust and cause the relay to stick in extreme temperatures. The relays do not operate well below freezing or in high temperatures. For an immediate fix to this problem, replace the existing relay(s) having temperature related issues. Newer replacement relays do not use the oil-base lubricant which should eliminate most of the problems. To completely remove this vulnerability, the system should be upgraded and relocated to a controlled environment.

Q: *What would make my lights work intermittently, regardless of weather?*

A: Intermittent operation is most often caused by a weakened transverter. The voltage output of the transverter should be 28.5 – 32 VDC. As a transverter weakens, the output voltage drops below 28.5 VDC which is not enough for all of the relays to respond.

Q: *I have a silver box mounted in front of each relay. What are these units? Are they a different type of relay or a power supply for each relay?*

A: These small devices you see are pilot light transformers (original part numbers: PL-6 and PL-120). Their sole purpose is to power the pilot lights in the master control stations. When the relay changes to the ON position, the pilot transformer powers the light in the switch to provide a status light for control. If a pilot transformer were to fail, the only effect on the system would be that the corresponding pilot light would not light up. The control of the room lights would not be affected.

Q: *What were the advantages of having a Touch-Plate lighting system installed in a home? Are new systems still installed today?*

A: Having a Touch-Plate® system installed in your home provides a combination of convenience, security, and energy savings. A big savings can be gained in wire expense, as much smaller wire is used with low voltage. That was a primary reason Touch-Plate systems were installed initially. Also the ability to control lights all over a home or building without actually having to be in that room was an unheard of concept in the 1940's-1950's. This feature alone became a huge desire for home and business owners as it allowed an ease of control and promoted energy savings and efficiency.

Technology has greatly changed since the 1940's. There is still a dollar savings as far as the wire expense goes; however, low voltage systems are installed today primarily for energy savings, building automation, and greater control capability. Advanced Touch-Plate systems allow timing control, day-lighting, dimming, scheduling, and scene control. Also our web interface allows the lighting system to be programmed, monitored, and controlled from a browser based device like a Smartphone or Tablet.



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General Notes:

- Two relays will not operate from a single button press in systems prior to 1986; they were designed to operate one at a time.
- 3-Way, 4-Way and even 5-Way switching is a standard feature of low voltage control systems. Almost all original Touch-Plate installations have multiple switches controlling the same relay.
- Never attempt to replace a low voltage Touch-Plate switch with a high voltage toggle switch (maintain / latching style). This will cause the system to immediately fail.
- Painted switch plate covers, cracked covers, and wall-papered covers are very vulnerable to sticking. We recommend replacing these stations to avoid a stuck switch scenario. Keeping your switches in good condition is a necessary step in retaining a working system.
- An existing system requires only one transverter to operate. There is no limit on the number of relays one transverter can power as it simply switches them one at a time.