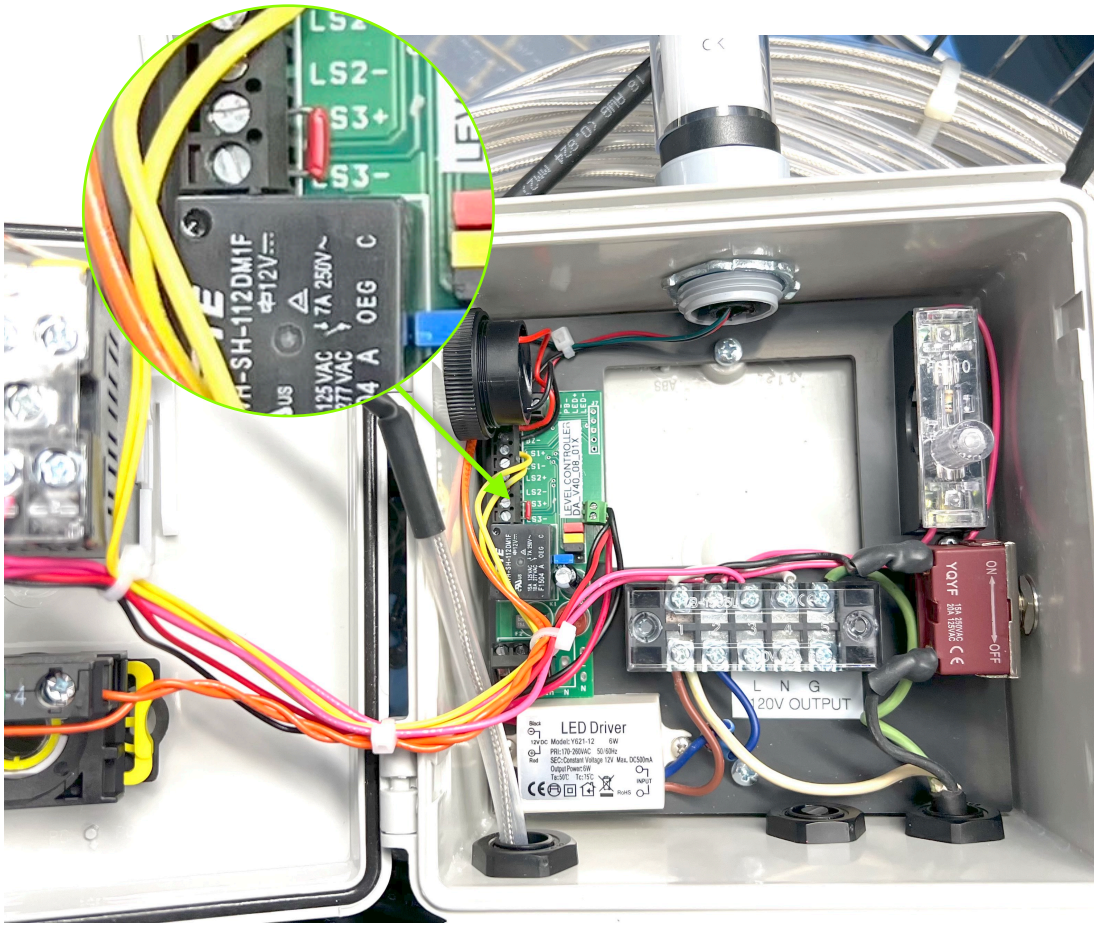
# TCA-1 TEMPERATURE CONTROLLER

## 1. GENERAL

- The TCA-1 is used for controlling solenoid valves for steam heating of tanks applications. The maximum relay load is 3A.

## 2. SETUP

- Wire your solenoid valve to the empty terminals “L,N,G” (G being for ground).
- If you want to connect a float-switch to provide a low liquid level alarm, connect it to terminals LS3+ and LS3-. (N.C.)
- Mount the enclosure in your preferred location with the mounting tabs provided. (they are stainless steel)



## 3. OPERATION

The most common alarm is a simple high limit and low limit. This is pre-set for a low alarm of 70º and a high of 80º from the factory. To change this:

- Enter the sub-menu by pressing the key on the module.
- Enter the "secret" code of 800 using the arrows and then press "enter" which will take you to the first submenu item - the high alarm.


- Change this value with the up or down keys to your preference.
- Pressing enter will confirm this entry, and take you to the next submenu item "low alarm".


- This is probably all you need to do. You can just exit by pressing .

More useful parameters that can be set in the submenu are below.

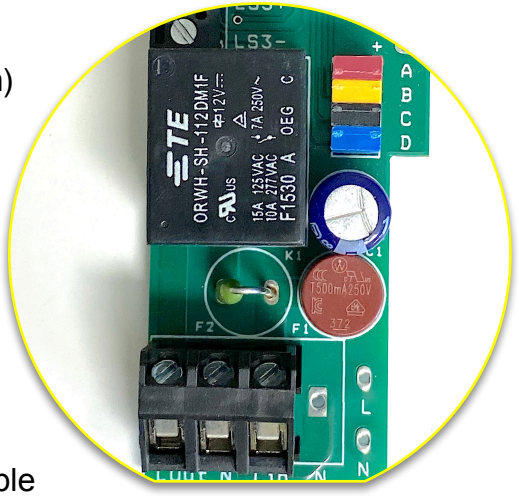
- A moveable range is also possible instead of a fixed high and low. (as above) This works by setting a *deviation* from the set point. Let's say the set point is set for 77º and the high deviation is 1º, then an alarm will happen when temperature reaches 78º. This might be convenient if the set point is adjusted frequently. This is set by adjusting the next items in the submenu known as the "deviation" alarms. (high and low)
- The "Alarm Exemption" feature will stop the unit from alarming when it is first powered up. After the temperature is in range, then any temperature excursions will cause alarms. Set for "7" to enable.


- Another setting of possible interest is the Hysteresis. (how far the temperature has to recover after an alarm before the alarm resets) So for example, let's say the temperature exceeds 80º and then goes into alarm. If the hysteresis is set for the factory default of 0.2º, then the alarm will stop when temperature recovers down to 79.8º.


- Sensor Compensation. To adjust the thermocouple reading, simply enter the offset in degrees.


- There are many other settings in the temperature module which are all on our website under "detailed Instructions for Temperature Module".

## 4. GREEN PCB




- SNOOZE ALARM The alarm can sound every 30 minutes after it has been silenced by the front (green) button, or a single press of the green button can stop it for good. The default is to have the snooze alarm feature enabled. (yellow jumper) on the ‘B’ pins. To disable this, remove the yellow jumper.
- LATCHING ALARM. The relay can reset automatically when temperature is corrected, or it can latch. This is the red jumper on position ‘A’. To have a latching alarm, remove jumper ‘A’.
- RELAY OUTPUT. The black terminal block (on the green PCB) is a dry contact relay output. It is available for connections. It changes state when there is an alarm. The black jumper changes state from N.O. to N.C..
- SECOND FUSE. If the module display goes dark even though the fuse in the fuse block is good, then the “hidden” fuse in the backplate is blown. Contact Gizmo for service.