



INSTALLATION INSTRUCTIONS TCF-E SERIES OVER TEMPERATURE & SEAL LEAKAGE RELAYS

March 2017, Rev A

901-0000-325

DANGER!



Potentially hazardous voltages are present. Electrical shock can cause death or serious injury. Installation should be done by qualified personnel following all National, State & Local Codes.

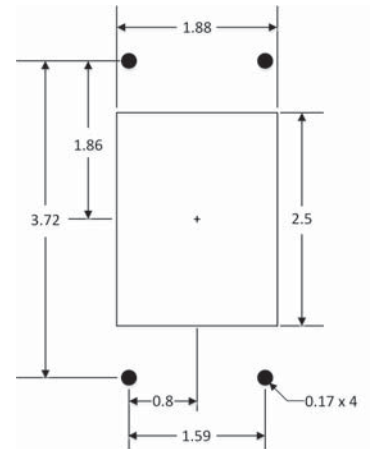
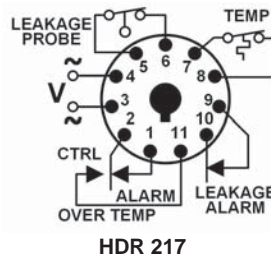


BE SURE TO REMOVE ALL POWER SUPPLYING THIS EQUIPMENT BEFORE CONNECTING OR DISCONNECTING WIRING. READ INSTRUCTIONS BEFORE INSTALLING OR OPERATING THIS DEVICE. KEEP FOR FUTURE REFERENCE.

Installation & Setup

First, use the Cutout Drawing at right to cut the appropriate size hole in the door and drill the four mounting holes. After mounting the relay, use the appropriate 11 pin back-mounted socket (Custom Connector OR11-PC socket included with relay).

Wire the socket per the wiring diagram on the side of the relay or as shown to the right. **Make sure to match the terminal numbers on the socket to the ones shown on the wiring diagram (the wiring diagram on the relay is the view looking towards the bottom of the relay vs. the top of the socket).** Use one or two #12-22 solid or stranded copper or copper-clad aluminum conductors with terminals of the above sockets--a terminal tightening torque of 7 in-lbs (OR11-PC) should be used. Plug the relay into the socket, making sure the key on the center post is in the proper orientation before insertion. **If the relay must be removed from the socket, do NOT rock the relay back & forth excessively—the center post could be damaged.**



All Dimensions in Inches

Operation

Two wires from the Over Temp/Seal Leakage relay are connected to a N.C. thermal switch in the windings of the pump motor to monitor for overheating. A low-voltage DC signal is applied to check the status of the thermal switch. Two additional wires are connected to a N.C. float switch in the Leakage Sensor. A separate low-voltage DC signal is applied to check the status of the Leakage Sensor. These products have isolated output contact relays, one for over temperature and one for seal leakage.

With input voltage applied, normal temperature condition (thermal switch closed) and no seal leakage (Leakage Sensor contact closed), both the over temperature relay and the seal leakage relay are energized. The TEMP & SEAL LEDs are both Green, indicating normal conditions and input voltage applied.

When the motor temperature rises and the N.C. thermal switch opens, the over temperature relay is de-energized, opening a contact that had been closed and turning off the pump contactor. The TEMP LED turns Red. If the over temperature condition is cleared, the unit will reset based on the setting of the Over Temp switch. In the AUTO mode, the unit will reset automatically. In the MANUAL mode, the Over Temp Reset button must be pushed for 1 second to clear the alarm and reset the relay.

If the seal starts to leak, contaminating fluid enters the pump motor cavity. The contact in the Leakage Sensor will open and the seal leakage relay is de-energized, reclosing a contact that was opened and providing an alarm indication of a leaking seal. The LEAK LED turns Red.

Troubleshooting

If the unit fails to operate properly, check that all connections are correct per the appropriate wiring diagram above. If problems continue, contact Macromatic at 800-238-7474 or e-mail tech-support@macromatic.com for assistance.

Warranty

All catalog-listed TCF-E Series products manufactured by Macromatic are warranted to be free from defects in workmanship or material under normal service and use for a period of five (5) years from date of manufacture.