

PROTECTION CONTROLS INC.
Skokie, Illinois

MINI UNIFIED
Form No. 76057-B
(Drawing X-348)

Single Burner Supervision, Manual Pushbutton ignition, Plug-in Type SS100A FLAME PAK, Plug-in Type Control Relays, complete with Start P.B., Stop P.B., Flame on Lt., Safety Lockout Switch (providing trial for ignition), and Enclosure.

OPERATING SEQUENCE

Power on PROTECTOFIER terminal 1 (thru safety and cycling limit switch circuits).

- 1 - Press and hold START button.
 - a) "ACF" CHECK relay "C" is energized thru N.C. Contacts of "ACF" FLAME relay "F", SAFETY LOCKOUT switch circuit and component check "TD" circuit.
 - b) Ignition transformer is energized thru contact of START button to provide spark ignition to the pilot. Pilot solenoid valve is energized from terminal 3.
- 2 - With pilot flame established "ACF" FLAME relay "F" is energized.
 - a) FLAME relay "F" contacts transfer.
 - 1) N.C. "F" contact in safe-start checking and SAFETY LOCKOUT circuit opens.
 - 2) N.O. "F" contact between terminal 1 and terminal 7 closes providing holding circuit around START pushbutton contact.
 - 3) N.O. "F" contact in main valve circuit closes to energize main valve. Neon indicator light on PROTECTOFIER chassis will glow to indicate flame is established.
- 3 - Release START button. Ignition transformer is de-energized.

Failure to establish pilot flame during limited ignition trial cycle will cause SAFETY LOCKOUT switch contacts to open circuit to CHECK relay "C" coil. CHECK relay "C" is de-energized, pilot valve is de-energized and electric ignition is stopped. With no flame signal, main valve remains de-energized.

SAFETY LOCKOUT requires manual reset.

Flame failure during operation shuts off fuel supply by de-energizing fuel valves.

Power interruption to PROTECTOFIER terminal 1 de-energizes relays and fuel valves, requiring pushbutton start to relight. start model requires manual pushbutton start to relight.

Failure of CHECK relay "C" to prove safe-start check will prevent opening

N.O. CHECK relay contact in safe-start check circuit closes when CHECK relay "C" is energized jumpering component check "TD" circuit.

Alarm circuit will be energized when SAFETY LOCK-OUT switch trips on failure to light pilot. Alarm load to be limited to 50VA maximum.

