SINGLE COMPRESSOR SAFETY CONTROLLER WITH FIXED ANTI-SHORT CYCLE DELAY
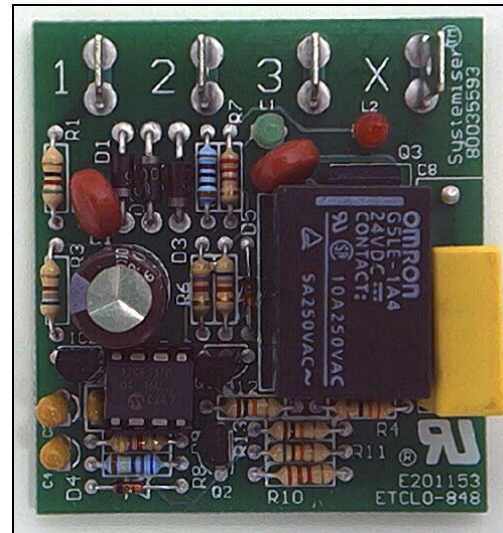## ETCLO-848

The ETCLO-848 Compressor Safety Controller with fixed anti-short cycle delay is designed for use with any single stage air conditioning and refrigeration equipment as compressor protection. If during normal operation any safeties are opened (low or high pressure switches), the compressor will shut off immediately, and then the controller manages the restart of the A/C unit and a warning flag will be set. The compressor will lock-out if safeties are opened for a second time. Manually opening and closing the thermostat can restart the A/C unit and reset the board. The fault can be attended to at any convenient time. The early warning feature will save the compressor from burnout.

FEATURES:
- Microprocessor-based controller
- Anti-short cycle timer delay (3 or 5 minutes fixed)
- Built-in automatic warning flag setting to monitor the fault for a period of 30 minutes from the first fault signal
- TRIAC output fault for alarm signal
- LED status indicators (power and fault)

SPECIFICATIONS:
- Input power supply: 24VAC, 50/60 Hz
- Power consumption: 4 VA @ 24 VAC (board only).
- Output (compressor):   SPST relay contact
- Output (fault):   Solid state, TRIAC
- Relay output current: 1000 mA continuous
- Operating conditions: -40 to + 167°F Temp, 10 to 90% RH
- Dimensions (LxWxH):   2" x 2.375" x 1.250" Mounted in Snap-Track (provided)

OPERATION, WARNING FLAG & LOCK-OUT MODE

When the thermostat demands for cooling, terminal 3 will be energized. Assuming that all safeties (HP & LP) that are connected in series with terminal 3 are closed, the warning flag (in the processor memory) will remain reset and normal operation will continue.

If during normal operation (thermostat contact closed) any safeties contact(s) opens, the warning flag will be set, the compressor will be shut off immediately and terminal 3 will open. This state will remain for the duration of the selected anti-short cycle delay.

Upon completion of the anti-short cycle delay, terminal 3 will re-energize. At this time, the controller monitors the operation of the safeties and takes decision based on:

A - If the safety contact(s) are still open, the board will immediately go into lock-out mode, so that terminal 3 will be opened, and the TRIAC output at terminal X will be activated (board will go into lock-out mode).
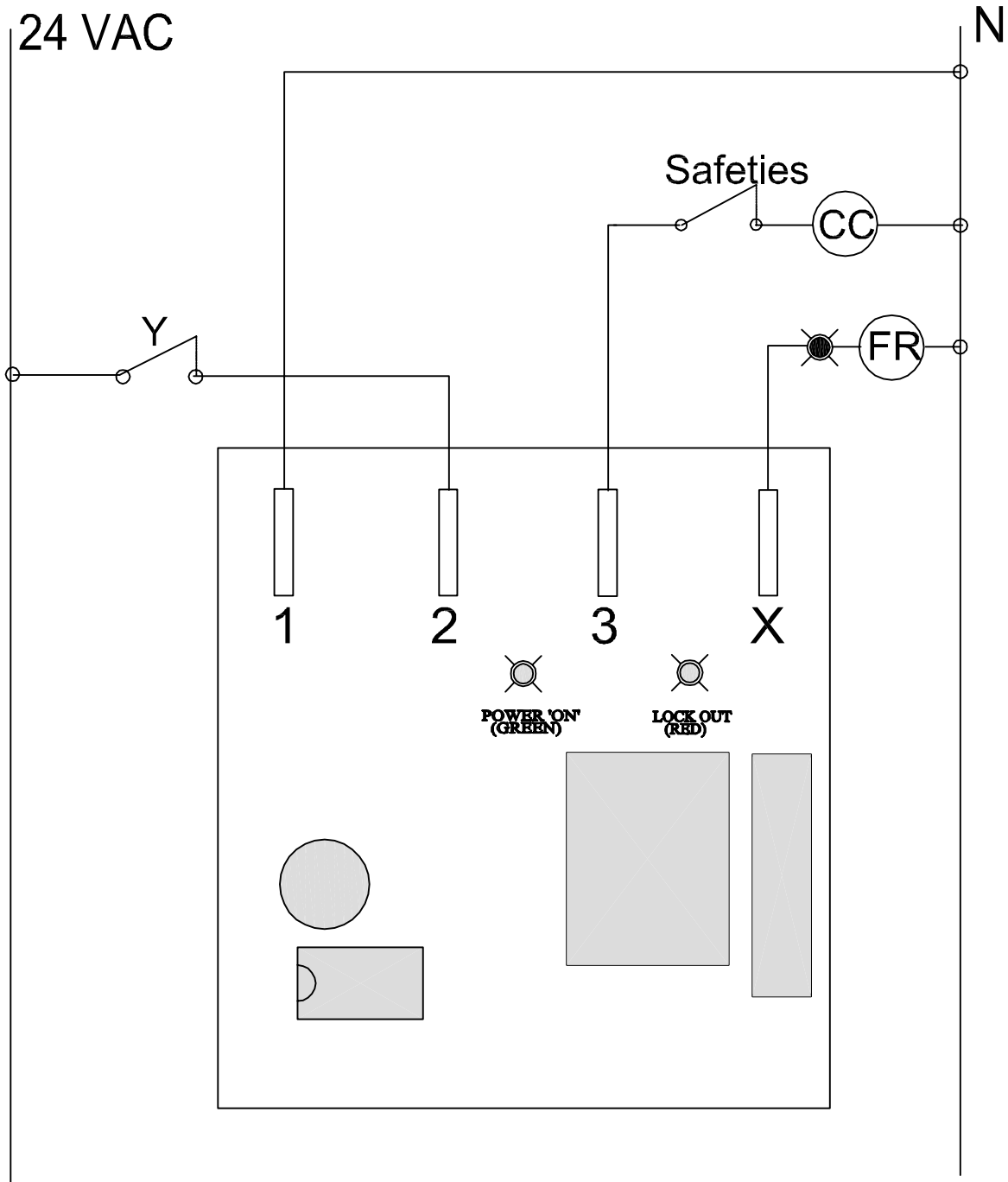
OR

B - If the safety contact(s) are now closed, the compressor will start running again. **The warning flag will remain set.** If safety contact(s) opens, the board will forfeit the anti short cycle delay and will immediately go into lock-out mode.

The warning flag <u>will be reset</u> after a ½ hour (30 minutes) of successful continuous compressor running.

Also, when the thermostat is satisfied, the warning flag will be <u>reset</u>.

The board is equipped with two LEDs. The green LED indicates power to the board. The red LED indicates the lock-out condition.

24 VAC

N

Safeties

CC

FR

Y

1   2   3   X

POWER 'ON'
(GREEN)

LOCK OUT
(RED)

FR - Fault Relay to initiate an alarm if required
CC - Compressor Contactor
Y   - Thermostat
X   - Triac terminal for alarm signal

AC max

Title:
Single Compressor Safety Controller

Model No.:	Rev:	Date:	04/08/2004
ETCLO-848	C	DWG No.:	000504-C