



High & Low Limit Control Setup Procedure

For models 3300 / 9300 / 9400

Preface: See page two in the User Manual for function key descriptions and page three for Functions Menu. This procedure is intended as a supplement to the Users Manual and is specific to the set-up and operation for using the instrument as either a high limit controller or low limit controller. Steps below must be followed in order and set exactly as listed in order to be used under FM specifications.

Initial set-up*

inPt = Set appropriate sensor type**

unit = Set desired units to be displayed (i.e., F = Fahrenheit)

SP1.d = SSd

LEVEL 2

SP2.A = Set desired alarm mode, either dV.hi for high limit or dV.lo for low limit

SP2.b = LtCh - activates latching option (Note: Select LtHo if low limit alarm selected and should be ignored during the initial warm-up)

LEVEL 1

bAnd = 1.0

CYC.t = on.oF

Set.2 = 0

bnd.2 = 1.0

CYC.2 = on.oF

SP.LK = on (Note: Set this value only *after* the alarm setpoint has been entered)

ALARM SETPOINT

After exiting the program mode, while holding in the * button, press the ▲ or ▼ button to increase or decrease (respectively) the value at which the alarm will occur.

LEVEL 4***

LoCK = ALL – Locks ability to change program values (Note: This value must be set *last*, after all others listed above)

* Follow instructions for “Initial Set-Up” on page four in the User Manual.

** See chart on page eleven for description of sensor types and their characteristics.

*** Access to Level 4 is gained through UER in Level 3. Press and hold ▲ and ▼ for ten seconds.

Description of Operation:

- Display readout (green on models 93/9400, red on model 3300) shows the current process value.
- Orange display (bottom row, model 9400 only) is the alarm setpoint value.
- To view alarm setpoint value for models 33/9300, press and hold in * button.
- An alarm condition is indicated when the instrument displays -AL- and the red LED (left side model 9400, right side 33/9300) is illuminated. These indicators persist until the unit is reset.
- LED in upper left corner (red for 3300, green for 93/9400) indicates process value is in a safe range and/or may be reset.
- Reset is accomplished by momentarily pressing the ▲ and ▼ buttons simultaneously.



Limit Controller Wiring Examples

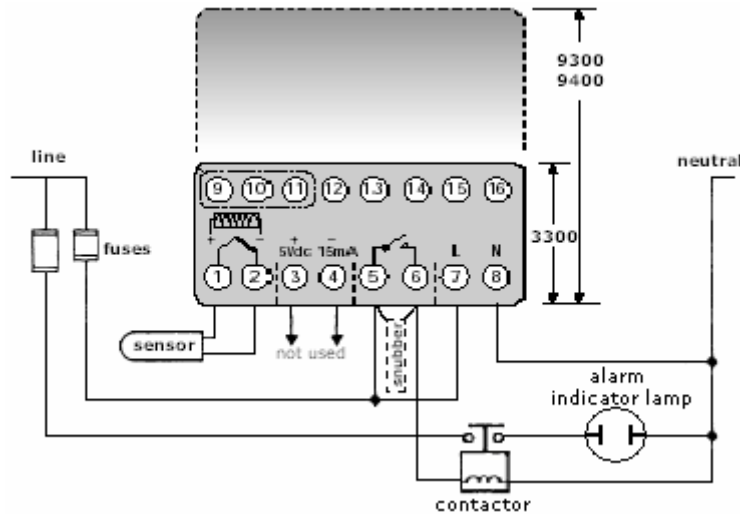


For models 3300 / 9300 / 9400

Note: Switching inductive loads with the relay -- To prolong contact life and suppress interference it is good engineering practice to fit a snubber (.01uf/100). CAL recommends *Quencharc* brand available under *part# 070.001*

Example A

The relay output is allocated to SP2 (SSd output allocated to SP1) and wired to switch the load (alarm indicating lamp) using a contactor.



Example B

The relay output is allocated to SP2 (SSd output allocated to SP1) and wired to switch the load (via the SSR driven by a temperature controller).

Note: Load current wired into internal miniature relay should not exceed 2A/250V~; use of external contactor may be necessary.

