SEA FROST®

148 OLD CONCORD TURNPIKE BARRINGTON, NH 03825 USA TEL (603) 868-5720 FAX (603) 868-1040 1-800-435-6708
E-Mail:sales@seafrost.com www.seafrost.com

IR33 Digital Thermostat - Single probe

INSTALLING THE THERMOSTAT

The IR33 can be located anywhere as long as it is protected from water and spray. The leads to the probe may be extended if the connections are soldered and sealed with heat shrink. The IR33 thermostat has no off switch. The compressor must be installed with a power switch disconnect to be able to shut off the system.

WIRE ROUTING

The gray 4-wire cable connects at the compressor. The black probe wire must enter the refrigerated space.

COMPRESSOR CONTROL WIRING HOOKUP

12/24-Volt DC 5000

Connect the white and green wires from the ETT gray cable to T1 and T1 on the junction box.

DC 5000 Twin Valve Systems

When connecting to a dual solenoid a second ETT is required. One green and white pair is connected to T1 and T1 and the second green and white pair is connected to T2 and T2.

Ett power input - 12/24-Volt DC5000

Connect the black wire with a 3/8" ring terminal to the negative supply grounding stud. Connect the red wire with a #8 ring terminal to the positive supply at the power solenoid. The red wire must be fused. (3 amps)
On twin valve systems, two ETTs must be connected to the DC 5000 Dual solenoid panel. Connect the red wires from the ETT to terminal L with a 3-amp fuse. Connect the black wires to B-.

110 VOLT UNITS
Connect the green and white wires from the IR33 gray cable to the two red wires from the compressor cabinet.

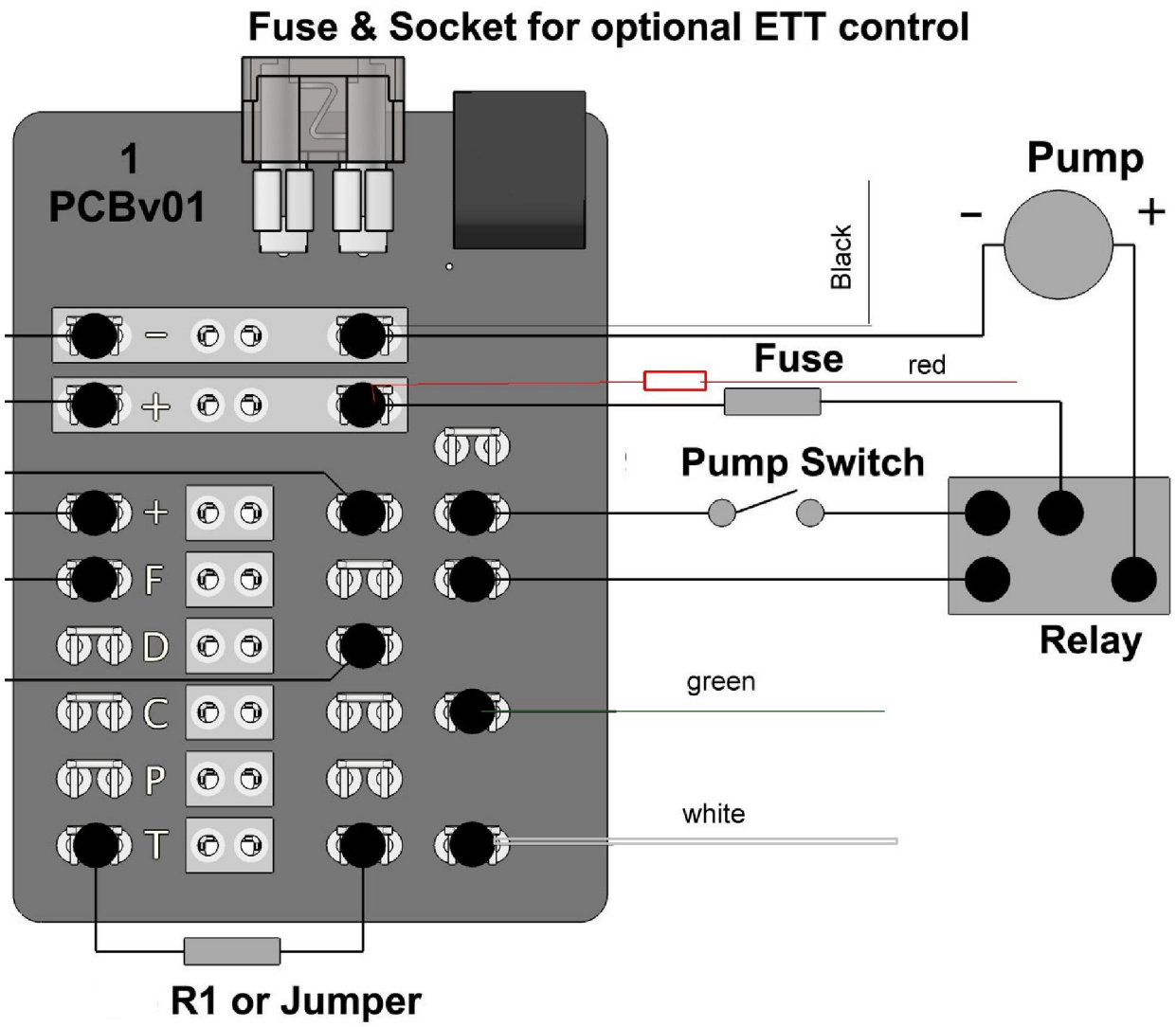
110 VOLT Twin Valve Systems
When connecting to a dual solenoid a second ETT is required. One green and white pair is connected to T1 and T1 and the second green and white pair is connected to T2 and T2.

ETT power input - Connect the black wire the negative supply and connect the red wire the positive supply. The red wire must be fused. (3 amps)

12/24-Volt BD and Tradewinds
Connect the white and green wires from the IR33 gray cable to terminals T and C on the PCB board on module. There is no polarity. On older units with a yellow wiring harness - connect the white and green wires from the ETT gray cable to the end of the yellow harness. There is no polarity.

12/24-Volt BDXP and Tradewinds XP
Connect the white and green wires from the IR33 gray cable to terminals T and C on the PCB board on module. There is no polarity.

12/24-Volt BD and Tradewinds
See electrical connections in the unit manual. Crimp the red and black wires from the power source to the 12-10 gauge yellow piggyback terminals. Crimp a female 22-18 (red) terminal to the red and black wires from the ETT gray cable. Be sure to fuse the red wire with a 3-amp fuse. Slide onto the yellow 12-10 gauge piggyback terminals. Attach these to the positive and negative terminals of the compressor module. **Observe polarity, red is positive and black is negative.**



OPERATION

The temperature of the probe is displayed when the thermostat head is powered. When the compressor is running the #1 and the ↑D↓ on the thermostat display will be illuminated.

To change the set point temperature
Hold the SET button until ST1 appears. The display shows ST1 and then the current set temperature of 35 degrees. Use the ↑ and ↓ arrows to navigate to the desired temperature. Press SET to accept the new value. The display will return to standard view.

To change the degrees of differential
Hold the Program button for more than 5 seconds. Use the ↑ and ↓ arrows to navigate to the P-1. Press SET to view the current factory setting of 5 degrees. Use the ↑ and ↓ arrows to navigate to the desired temperature. Press SET to accept. This will bring you back to P-1. To save and exit hold the program button for 5 seconds.

PROGRAMMING THE HEAD

If you need to change all parameters back to factory default values
Power down the controller. Press and hold the PRG and SET button. Power up the controller holding the PRG and SET button until the message "std" is shown on the display. Then follow directions below to change the programming.

Enter the password for programming the head.
Hold the program (PRG) and (SET) buttons at the same time for 5 seconds. Use the ↑ and ↓ arrows to navigate to the #77. Then press SET to accept. You are now in programming mode. A red wrench will light up.

C-O=1 (This sets the mode of operation – to direct- cooling mode.)
Use the ↑ and ↓ arrows to navigate to C-O. Press SET to accept. Use the ↑ and ↓ arrows to navigate to the #1. Press SET to accept.
This will brig you back to C-O.

C-13=0 (To change type of probe to NTC.)
Use the ↑ and ↓ arrows to navigate to C-13. Press SET to accept. Use the ↑ and ↓ arrows to navigate to the #0 (NTC Probe). Press SET to accept.
This will bring you back to C-13.

C-18=1 (To change the head from Centigrade to Fahrenheit.)
Use the ↑ and ↓ arrows to navigate to the C-18. Press SET to accept.
Use the ↑ and ↓ arrows to navigate to the #1 for Fahrenheit. Press SET to accept. This will bring you back to C-18.

P-1=5 (To set the degrees of differential.)
Use the ↑ and ↓ arrows to navigate to the P-1. Press SET to accept. Use the ↑ and ↓ arrows to navigate to the #5. Press SET to accept.
This will bring you back to P-1.

C-52 =0 (To display the temperature of probe 1)
Use the ↑ and ↓ arrows to navigate to the c-52. Press SET to accept. Use the ↑ and ↓ arrows to navigate to the #0. Press SET to accept.

To exit programming mode and save changes. Press the PRG button and hold for 5 seconds. This will take you out of programming mode and save all changes. The temperature will again be displayed.

ST1=35 (To set the set point temperature.)
Hold the SET button until ST1 appears. The display shows ST1 and then the current set temperature. Use the ↑ and ↓ arrows to navigate to the desired temperature. Press SET to accept the new value. The display will return to standard view.