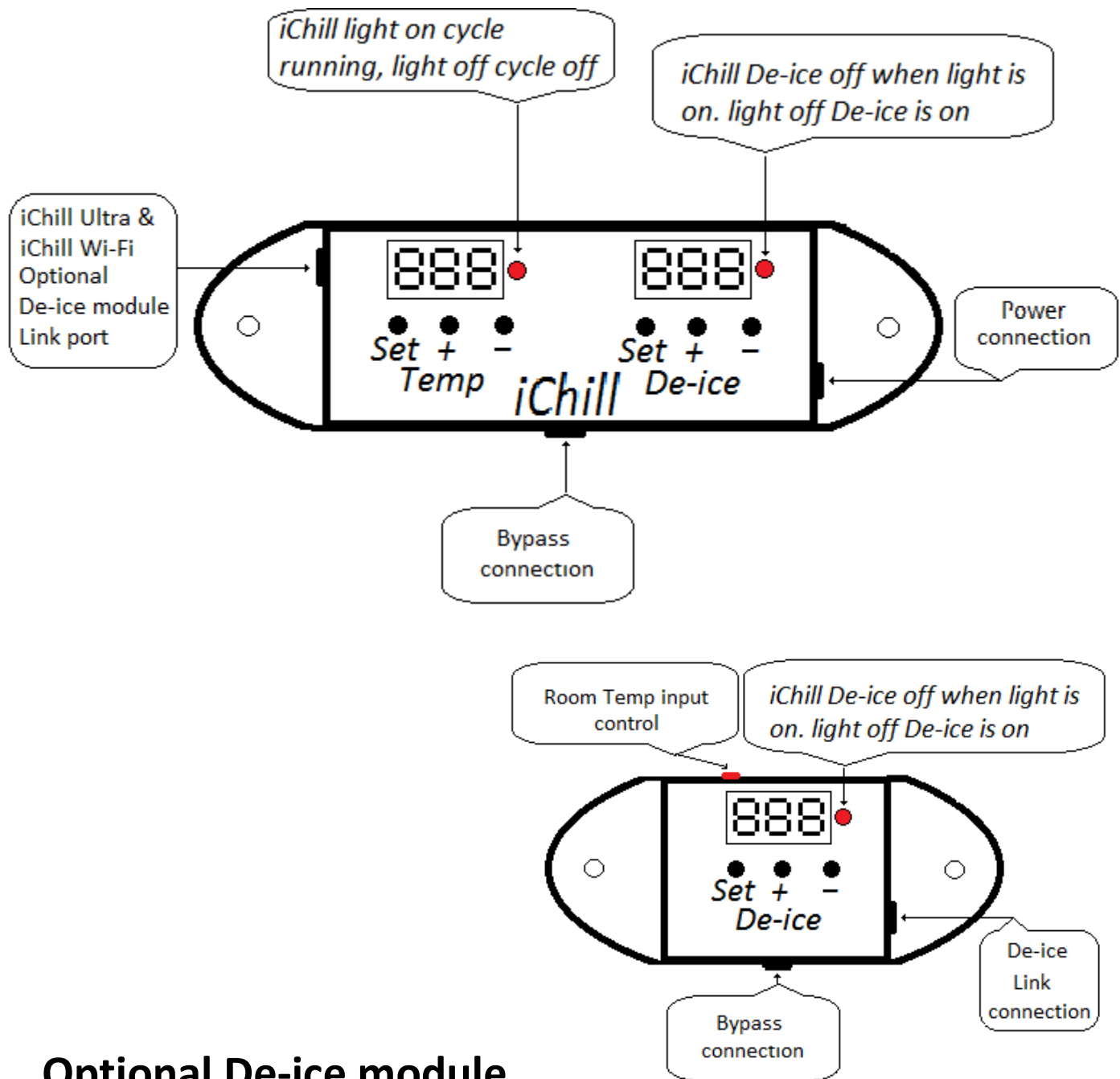


iChill

User manual

IMPORTANT! Make sure all connections are plugged into the iChill prior to plugging in the wall Outlet.

Updated July 2022



Optional De-ice module

What comes with the iChill Basic kit:

- 1 – iChill module
- 1 – Bypass module (unless you bought an iChill Combo with the Bypass custom installed)
- 2 – Temp Sensors
- 2 – Temp sensor clips, 4 mounting screws
- 1 – Power Supply.

Tools Required:

- 1- Wire strippers
- 2- Soldering iron or soldering pencil
- 3- Solder
- 4- Electrical tape

Checking Location of A/C temp sensor



You will find the most common temp sensor will be mounted on the front
Of the Evaporator of the A/C unit.

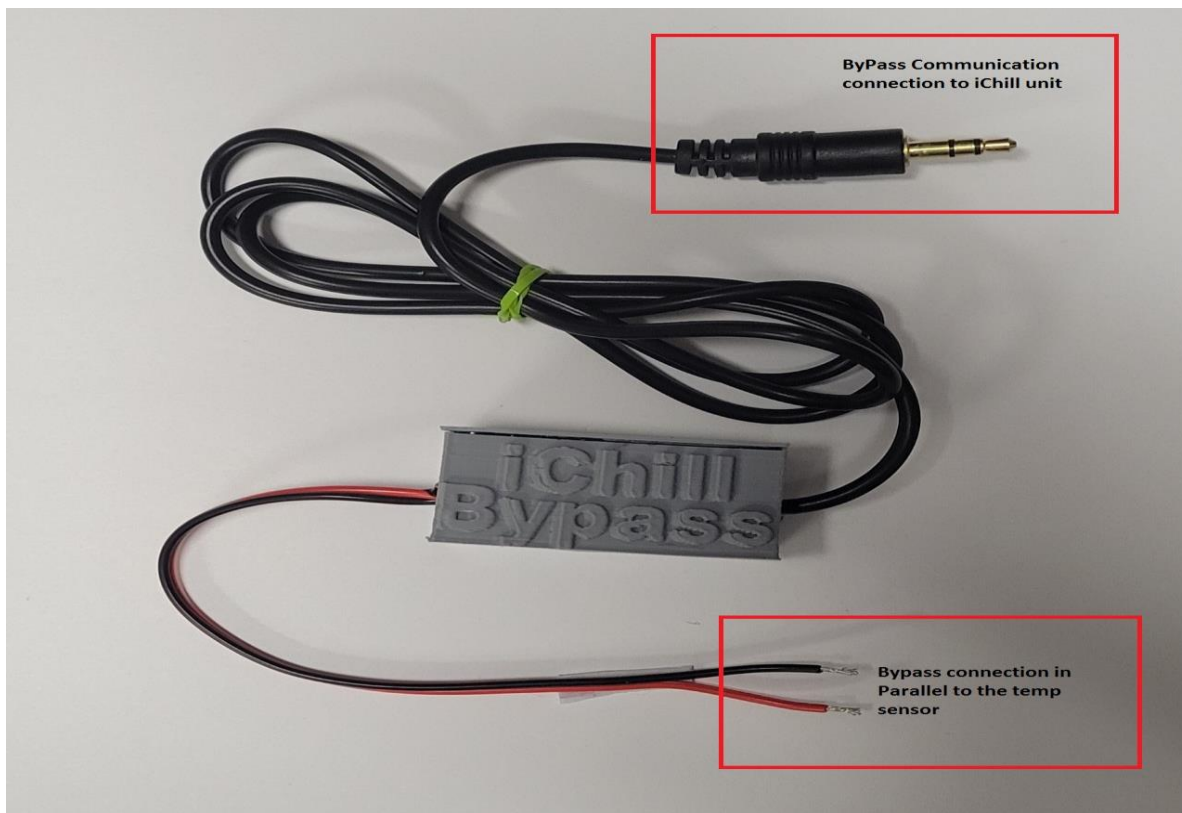
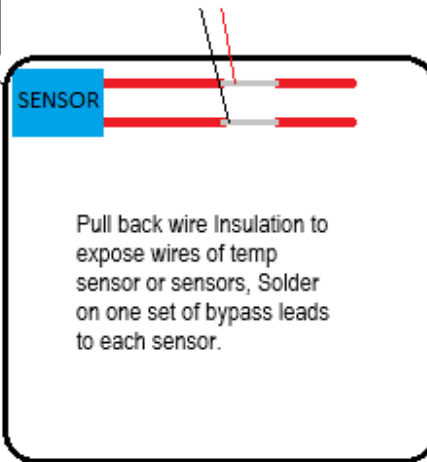
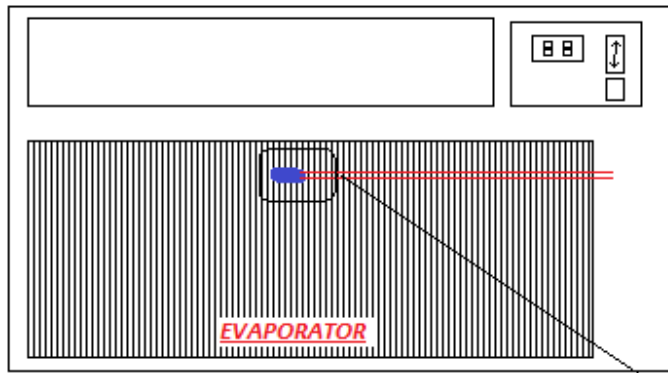
If the A/C unit is Equipped with a secondary sensor it will be inserted inside of a tube on the larger tube going to the back of the

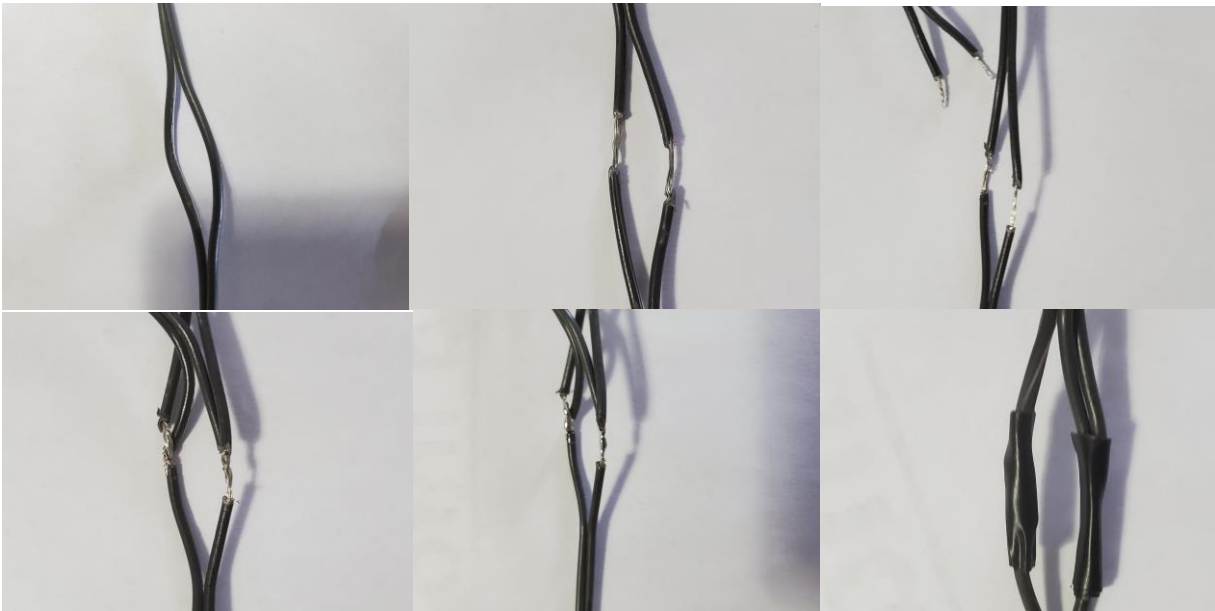


unit .

Installing Bypass wires.

You will need a solder pencil and solder, wire strippers, and electrical Tape





- STEP 1: Separate the two wires of the sensor.
- STEP 2: With wire strippers remove a small amount of insulation off the wires (NOTE: if you cut the wire just reattach when soldering).
- STEP 3: Strip wire ends off bypass line if not already done.
- STEP 4: twist bypass wires onto temp sensor bare wires.
- STEP 5: solder the connections.
- STEP 6: tape the solder points and make sure the two wires will not touch.
- STEP 7: Mount De-Ice sensor making sure the sensor touches the evaporator fins.

Note: Some Air conditioning units have 2 temp sensors, The iChill comes with the dual sensor tie in, the dual sensor bypass will work on single temp sensor unit just tie in one, and cover the other with tape (**Do Not twist together**). Some custom install will have a single Bypass module Tie in.



iChill has 2 displays: TEMP and DE-ICE and both Displays have Mode Indicator Light beside each display. When the light is on the Bypass for that function is on, behind the Temp Display will be the Room temp sensor, the same for the De-Ice function behind that display is the de-ice temp sensor.

TEMP shows current **Room Temperature** , Pressing the temp Set button will show the current setting for room temperature limit and it will be flashing, pressing the “+” button will increase the temp setting and pressing the “-” will decrease the room temp settings. After about 5 seconds the temp will revert back Temp mode or (Room Temp) will display showing the current room temperature.

De-ice See the Image above where typical placement of the De-Ice sensor, Mounted on the front Evaporator about 3cm from the bottom, Centered, and must have Full contact with the fins using provided sensor mount.

Display show current **Evaporator Temp** or the A/C Fin Core temperature. To set De-ice Mode press Set button and the current De-ice Temp set will be displayed and flashing ,press the “+” button to increase temp or the “-” button to decrease temp, After 5 seconds the display will stop flashing and return to the current evaporator/core/fin temp. The indicator light beside the De-ice display show the functionality of the De-ice mode if the light is on the De-ice mode is not on, once the indicator light turns off the mode is on and De-icing removing all the ice and frost from the Evaporator core. De-ice setting adjusts the sensitivity of the Evap/FINS Sensor to prevent freeze up. Adjust this setting **ONLY** if you are experiencing problems. The factory default setting is “1.0°C” Some users need to bump up to “3” or “4” to keep from icing up. For most people, going below “0” may cause random freeze or icing up, if you are experiencing ice ups and the problem has not been solved by increasing your De-ice setting, then raise your Hysteresis Delay setting in the De-ice display press set once and again and hold P0 will display and flash then press the “+” button till it gets to P1 then press the set and then the “+ or –” to desired temp limit normally stock temp is 1 degree threshold or you can increase to from 0.5 to 7.0 degrees. **NOTE: this setting must and can be set on the optional De-Ice modules As well**

Using the iChill

iChill uses 2 sensors (ROOM and Evaporator/Fin sensors), you then Program the controller to direct your air conditioner to operate in such a way as to cool the room to a set temperature in between 0.5°C and 18°C without freezing up. And how does it do it? The Bypass Module communicates with your A/C’s sensor warm to make the A/C “think” it is warmer than the actual room temperature. By doing this, the compressor on your A/C keeps running and cools down the space. It is Important to have your de-ice setting around the +1°C to -1°C, if the room is empty you can drop de-ice to help cool the room quicker. But once you have meat or produce in your cooler the humidity can freeze up the Evaporator. There is no parts to wear out making it the way to go for life long use and less services needed and spare parts on hand.

The Temp and the De-ice sensors are in charge of telling the Air conditioner compressor to stop running. When the Bypass signals it to turn off, the A/C's sensor cools down and shuts off the compressor in response. If the room temperature reaches the set value, If the fins of your A/C are reaching the freezing set point (1.0°C factory default), Your A/C's Temperature sensor will cool down and shut the compressor off to allow for a De-ice cycle. This is normal even if the room has not reached its set point.

NOTE:

- The De-ice of your A/C is not heat assisted, it defrosts by turning your compressor off and circulating air over the frosted Evaporator fin/coils. **Making sure the Air Conditioner fan runs at all times, and the Economy Mode is OFF.**
- After installing iChill, we strongly advise you to run your cooler for a test period to let the cooler get to desired Temperature. This is to assure the system is performing correctly and to your needs.
- The iChill will remember all your last settings even if it is unplugged or a power failure and will resume after power is restored.
- The link connection is used for the iChill optional De-ice module is used to connect a second or third air conditioner in larger Coolers,
- The iChill Ultra and iChill Wi-Fi units also have a link port for additional De-Ice modules. Basic iChill modules do not have this link port.
- Make sure the Air conditioner BTU Size is appropriate for Cooler Cubic foot area see Chart provided.
- iChill is powered by a 12 volt 1 Amp DC power adapter, the iChill unit itself contains a 0.5 Amp auto resetting fuse.
- If you have purchased An iChill Ultra or Wi-Fi unit the same adapter and the same internal fuse is used, the Link port on these unit are protected with a separate 0.5 Amp fuse as well.

Area To Be Cooled (Cubic feet)	Capacity Needed (BTUs per hour)
100 to 150	5,000
150 to 250	6,000
250 to 300	7,000
300 to 350	8,000
350 to 400	9,000
400 to 450	10,000
450 to 550	12,000
550 to 700	14,000
700 to 1,000	18,000
1,000 to 1,200	21,000
1,200 to 1,400	23,000
1,400 to 1,500	24,000
1,500 to 2,000	30,000
2,000 to 2,500	34,000

**BE SURE TO HAVE THE CORRECT BTU RATED AIR
CONDITIONER FOR YOU COOLER SIZE.**

Programming The iChill.

NOTE: All units are tested and Temps preset with Room temp @ 3°C and De-ice @ 1°C

To set Press the “SET” button and hold for more than 5 seconds, the thermostat switches to the settings.

The available settings are:

P0 - Selection of the heater or cooler.

P1 - Hysteresis (0.1-15° C, the default 2° C) **Some A/C unit this can be set at 0.5°C**

P2 - The task of the upper working temperature limit (default 110° C)

P3 - The task of the lower working temperature limit (default -50° C)

P4 - Temperature correction (-7 + 7° C, default 0)

P5 - The delay on / off switch (0-10 sec., Default 0)

P6 - Over temperature alarm signal (0 +110° C, the default is off)

Use the “+” or “-” buttons to select between P0 and P6.

Use the “Set” button to enter a desired field.

Once all the settings have been made you may use the “+” or “-” buttons to change the set point

Hysteresis Temp setting definition.

The temperature difference that is needed between the set point and actual reading, To switch the iChill on again after switching off. Thus meaning if our set point is 5°C and our Hysteresis is 2°C following steps will occur.

- 1) Temp Bypass = ON
- 2) Temperature drops to 3°C
- 3) Temp Bypass = OFF
- 4) Process medium warms up to 5°C (2°C higher than Set Point)
- 5) Temp Bypass = ON
- 6) Return to step 2

Delay - Time taken for the relay to respond to a change in the process. The Air Conditioner will have a built in delay to start the compressor again, and at some points if you set the (Hysteresis) P1 to 0.5°, this will help the unit to cycle faster.

DISCLAIMER AND WARRANTY

By using the iChill temperature controller Module

You (the "User") acknowledge there are inherent hazards in getting an air-conditioner to do something it was not originally designed to do, and that these inherent hazards cannot be, mitigated,

Obviated or ameliorated while still maintaining the essential functionality of the iChill. User accepts all responsibility in the use of and monitoring of the iChill and A/C Unit. And proper servicing and cleaning of A/C unit. User assumes all risk of loss of property or product due to improper functioning of the iChill (or A/C) Unit.

All Users assume all risk of injury and warrants that he/she will defend, indemnify and hold

The seller harmless for any direct or consequential harm or damage that may result from

The use of this product. Users that don't accept this responsibility must return the iChill for a FULL REFUND before use.

LIMITED WARRANTY:

iChill are warranted against defects, not including damage due to misuse or accidents.