SANCO2
Hot water, naturally.

INSTALLATION GUIDE

ECO-RDR

RESIDENTIAL DEMAND RESPONSE CONTROLLER

For more information, please call **1-844-SANDCO2** or email **info@eco2systemsllc.com**

ECO2 SYSTEMS

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Eco2 Dealer

REV: 10/24

WARNING!

Qualified Personnel Only:

This controller must be installed by qualified personnel in accordance with state and local building codes.

Electrical Shock Hazard:

- Do not attempt to open the controller while the AC adapter is connected and plugged into an outlet.

For Domestic Water Heating Control Only:

This controller is programmed for potable domestic hot water heating control only. It is not designed for control of other heating applications, such as combined DHW and space heating.

This document covers the RDR Controller Installation only. Consult the SanCO2 heat pump installation instructions to first install the heat pump.

Eco2 Systems LLC PO Box 1358, Walled Lake, MI 48390 844-726-3262

REQUIRED ITEMS

A USB-C data cable and compatible device (PC, smartphone, tablet) with Chrome browser installed are required for initial controller configuration.

A Wi-Fi internet connection is required for user access to cloud / app functionality and firmware updates.

PACKAGE CONTENTS

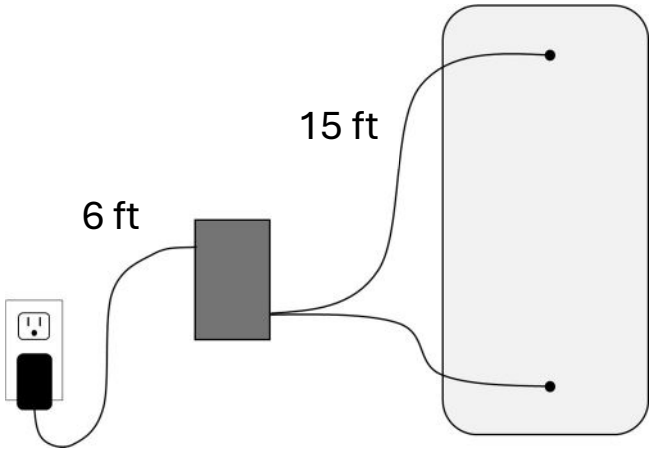
1. ECO-RDR Controller
2. Tank Temperature Probe, “T_H”
3. Tank Temperature Probe, “T_L”
4. Heat Pump Communication Line, “MOD”
5. 110v AC Adapter
6. Wall Mounting Brackets (Optional)

INSTALLATION OVERVIEW

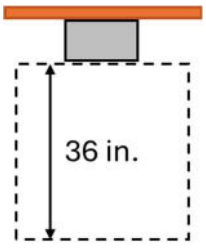
1. Place controller or mount to wall. [Page 3]
2. Install temperature probes. [Page 4]
3. Connect heat pump communication wire. [Page 5]
4. Connect AC adapter and plug in. [Page 6]
5. [Optional] Connect Skybox / EcoPort. [Page 6]

STEP 1: PLACE CONTROLLER

Location: The controller must be installed indoors, either mounted on the wall with included mounting feet or placed on a flat protected surface. The ideal location will be within 6 ft of a 110v wall outlet for power and less than 15 ft from the storage tank for the temperature probes.



Service Clearance: If wall mounted, place the controller where there is **36 in**. of open space in front for service clearance.

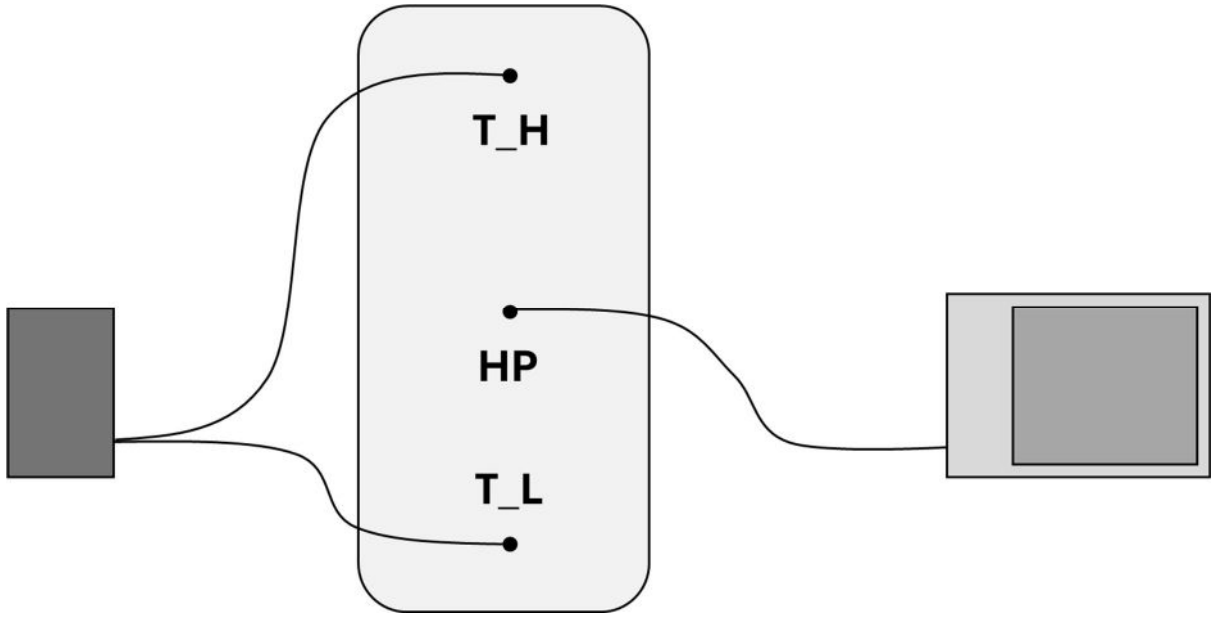


Wall Mounting Procedure:

1. Attached the (4) mounting brackets to the back of the controller using the included screws. Hand tighten only, using a Philips screwdriver.
2. Attach the controller to the wall using the appropriate fasteners (not included) for the wall material. For materials that require wall anchors, first place the controller against the wall and mark the desired hole locations.

STEP 2: INSTALL TANK TEMPERATURE SENSORS

The RDR controller comes with (2) temperature sensors, labeled "T_H" and "T_L". These do not replace the tank thermistor supplied with the heat pump. Insert the "T_H" sensor in the tank well near the top of the tank and "T_L" in the well near the bottom of the tank. The heat pump's sensor is installed in the well in the middle of the tank.



These sensors have 15 ft leads which can be extended using 22 AWG copper wire if necessary. If extending, ensure that splice joints are well connected; failure of these two temperature signals is a critical error that will prevent HP operation.

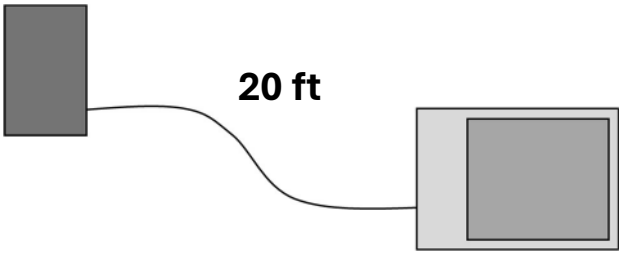
Notes for successful installation:

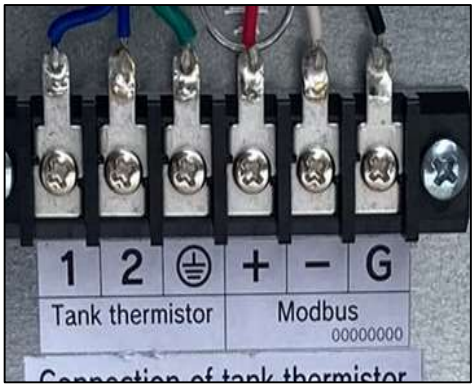
-Coat sensor tips in thermal paste before inserting into tank thermowells.

-Secure sensors in place using clips or a small amount of silicone in well opening.

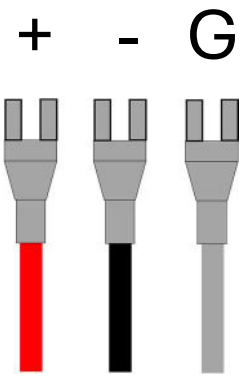
STEP 3: CONNECT HEAT PUMP COMMS WIRE

The controller is provided with a 20 ft communications wire labeled “MOD”. Pull this wire from the controller to the heat pump’s connection panel’s “Modbus” terminals. If 20 ft is not enough cable to reach the HP terminals additional length can be added using 22 AWG wire. Ensure that any splices are firmly connected.





The leads are connected as follows: Red (+), Black (–) and Silver (G).

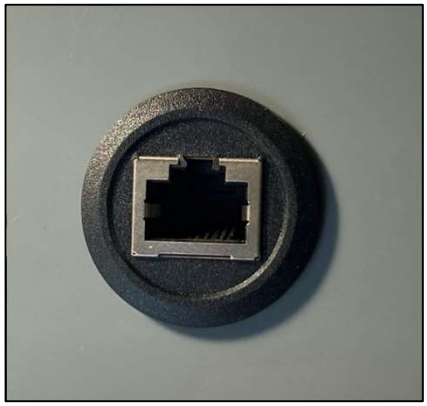


STEP 4: CONNECT POWER SUPPLY

Connect the barrel end of the AC adapter to the power supply port on the controller. Plug the adapter into a standard 110v wall outlet.

STEP 5: CONNECT SKYBOX (FOR GRID RESPONSE)

If a Skybox/EcoPort will be used for Grid Response, connect the Skybox to the controller using an ethernet cable (not included) between each devices RJ-45 ports.



Download the RDR Configuration Utility and Operating Manual at:

https://eco2waterheater.com/residential/residential-controller/

Need Assistance?

Contact Eco2 Systems Technical Support

844-726-3262

techsupport@eco2systemsllc.com