



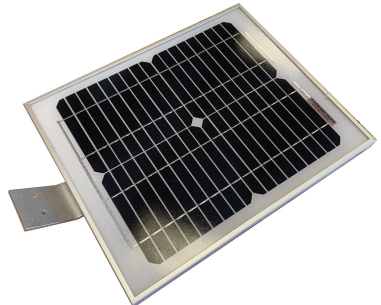
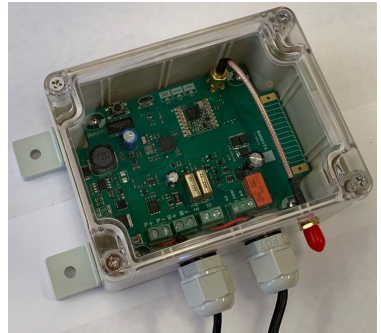
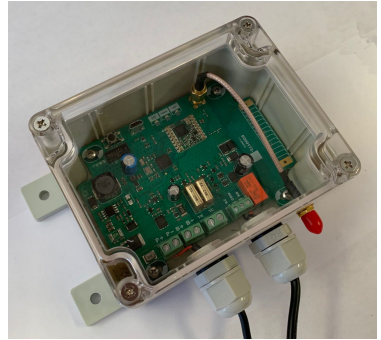
**Wireless Tank
Level Switch
B40-WTS**

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Kit Contents

Item	Qty
Transmitter w/ Antenna (installed at tank and attaches to sensor or float)	1
Receiver w/ Antenna (wires to controller or AC power)	1
Solar Panel (Note: 1 panel for AC systems)	2
Tank Full Sensor or Float (not shown)	1
Sensor Splice Kit (not shown)	1
Mounting Parts Kit (not shown)	1

Images

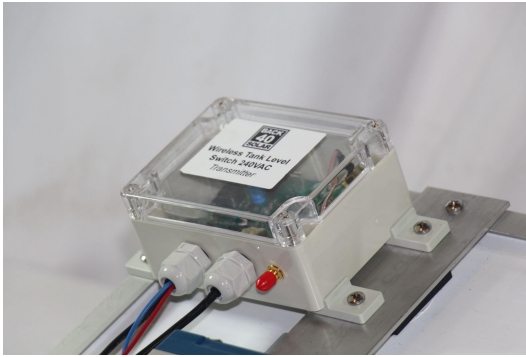


Assembly

1 Solar Only: Mount Controllers

Controllers will come mounted to the solar panels. If you do not want them mounted to the panels, you can remove and mount the two controllers (transmitter and receiver) using the provided screws and mounting feet on the controllers. It is best to mount them in the shade with the wire glands facing down

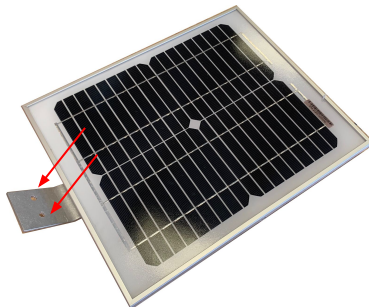
Mount the transmitters at the tank and the receiver at the pump controller.



2 Solar Only: Mount Solar Panels

Use the provided screws to mount your panels. Panels can be mounted to either a horizontal or vertical surface. There are two screws to hold each solar panel.

Solar panels should be facing true south and have plenty of sun exposure. Make sure there won't be any shadows from poles or other equipment.

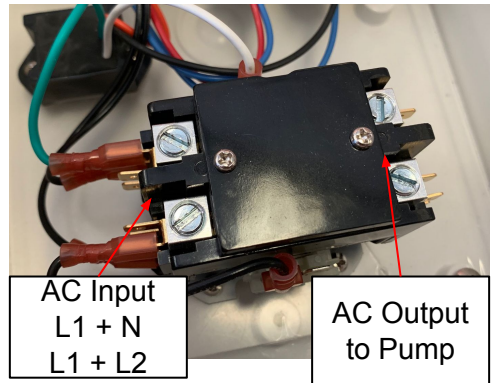
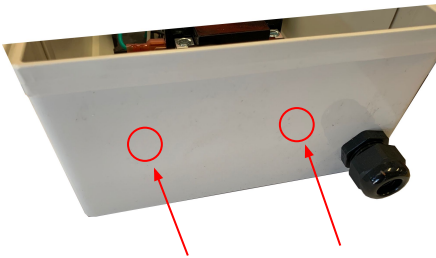


1 AC Only: Drill Holes

Drill holes as needed to connect conduit to the bottom of the enclosures. AC input is on the left side of the contactor and AC output (to the pump or starting box) is on the right side of the contactor. Use appropriately size wires based on your pump's power. The maximum current is 30A FLA, based on the contactors UL rating. Do not exceed!

*****Warning***:** AC voltage can kill or injure. Consult with a licensed electrician for proper installation.

Note: There are different contactors for 120VAC versus 240VAC systems. Make sure you have the correct one with the label on the top or damage may occur.



2 AC Only: Mount Controllers

Mount the transmitters at the tank and the receiver at the pump controller.



3 Install Tank Sensor or Float (Transmitter)

This system is compatible with both stainless steel moisture sensing probes and mechanical float switches. Mechanical float switches must be used with AC systems to avoid frequent turn on and turn off, by setting the proper throw. Other types of floats may be used as long as the signal is Normally Open (operating when the switch is open, off when the switch is closed).

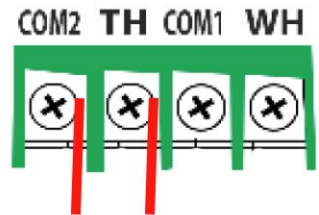
Polarity of the two wires does not matter whether you are using the stainless probes or float switch.

If longer wire is needed, splice the wire using provided crimps and heat shrink tubing to the pigtail coming out of the **Transmitter**. Wire gauge of extension wire is not important and anything from 14 to 26 awg wire can be used.

4 Connect to Tank Full Input (Receiver)

3in Solar Pump Controllers (PSC100, CU200)

Connect the pigtail coming from the **Receiver** to the tank full inputs of your solar pump controller. These are labeled TH and COM2. Polarity does not matter, so connect either wire.



4in Series - (PSC200, PSC200)

Connect the pigtail coming from the **Receiver** to the WWL inputs of your PSC200 solar pump controller. Low water sensor wires can share these terminals. Polarity does not matter.

Generic Controllers (VFD's, etc)

Connect the pigtail to the Operating Open (pump operating when open) terminal inputs. If the controller logic is reversed, remove the cover of the controller and swap the pigtail wire from "AO" (Active Open) to "AC" (Active Closed) terminals.



*****Warning***:** The controller's built in relay is only rated for small signals and should not be used for 120/240 AC voltage, nor driving contactors directly. Interface module (included with AC systems) required for driving inductive loads such as contactors.

5 Mount Antennas

The antennas have a magnetic base and can be attached to any magnetic metal. They can also be glued to non magnetic surfaces.

Location Considerations: Mount antennas vertically (tip pointing to the sky) as high as possible for maximum signal strength. The antennas should be mounted in an elevated location with line of site between the transmitter and receiver. Avoid mounting right behind metal structures and buildings. The signal can travel through trees and other objects that can obscure actual line of site, however the signal can not travel between two valleys with a mountain or hill in between.

The signal has been tested up to 2.5 miles and could potentially reach 5+ miles with the right antenna mounting location.



6 Plug in Power Source

Solar: After all connection have been made, plug the solar panels into the controllers using the attached barrel connectors. Screw housing together to help prevent water and debris from entering, and to prevent the plugs from pulling apart.

AC: Feed the wires through the gland, starting with the power wire, then the antenna then the pigtail. Screw gland closed to prevent bugs and moisture from entering.

For Battery systems, the systems ship with the + terminal disconnected. Connect the terminal, to enable battery backup for nighttime operation.



7 Test the System

With both the transmitter and the receiver hooked to the power source, manually test the system by placing the stainless probe in water or lifting the float to the vertical position. Both the transmitter and receiver's tank full light should illuminate and the pump will shut off.

This can take up to 10 seconds, as it is a periodic transmission and is not immediate.

Once the system shuts off, allow the float to go to the lower position. The tank full light should go out and the system should turn back on. Again this can take up to 10 seconds.

Congratulations, if it all went well, you have successfully connected your wireless tank full sensor!

Issue	Possible Causes	Test/Fix
No flashing power light	Solar panel not sufficiently illuminated	Move solar panel to sunny area, avoid shadows Clean solar panel
All Lights Flashing	Not enough power to commence start-up If battery is installed, battery voltage may be low	Usually the solution is to wait til the morning! Check battery voltage with a multimeter, illuminate solar panel, if still low, may need to replace battery
Tank full light on transmitter and not receiver when tank is full	Possible communication error between the transmitter and receiver. Units are not paired (replacement units need to be paired before use)	Move both antennas to open or higher location to improve signal strength. Or move units close together for testing and slowly move further apart while checking communication status. Re-pair units, contact place of purchase for instructions.
Pump not shutting off	Controller input not operating open Receiver wire damaged or splice damaged	Confirm controller input is operating open. Move wire to "AC" terminal if controller is Active Closed. Check for damaged wires or open connections

Controller Lights

There are two lights on the controllers. One turns on when there is power (red light in top left) and the other flashes green on the right side depending on the state of the wireless connection. Both lights can be very faint in direct sunlight and you may need to hold your hands over the cover to see the lights.

Light	Description
Tank Full	Illuminated when the tank is full.
Power	Flashes every one second when there is sufficient power.
COM	Quick flashes when status is transmitted or received.



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