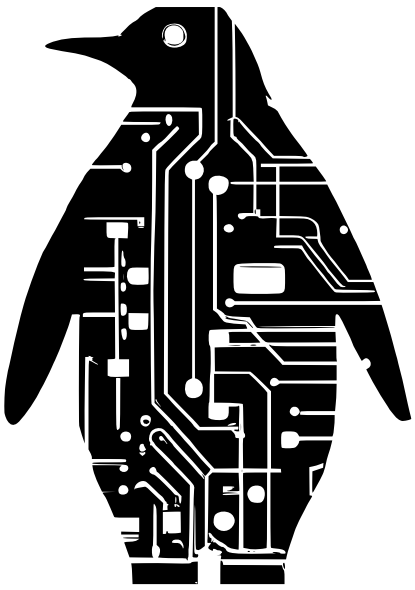
FIRE PUMP SENDER USER GUIDE

Version 3



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Basics

Learn how to power and charge

Power

There is only one external button located on the top of the unit by the antenna.

1. Press the power button, and the power status led will light green to indicate on. Wait 2 seconds for self checks to complete. Status light will flash green once when complete.
2. Normal operation starts and status light will flash blue while pressure is being transmitted.
3. To turn off press the power button again.

Charging

To charge connect the charge cord to a USB power adapter and place the circle end by the charge port. It will magnetically attach itself. The charge light will light orange while it charging and turn off when it is fully charged.

Sensor connections

Suction, discharge and tach connections

Pressure sensors

The suction side has a -15 to 215 psi range sensor to handle pumps drawing from a tank.

The discharge side has a 0-500 psi range sensor to handle high pressures.

The sensors are labeled on the transducer as well with their range. If you have removed them take care to connect them to the proper sensor connection or you will get erroneous readings.

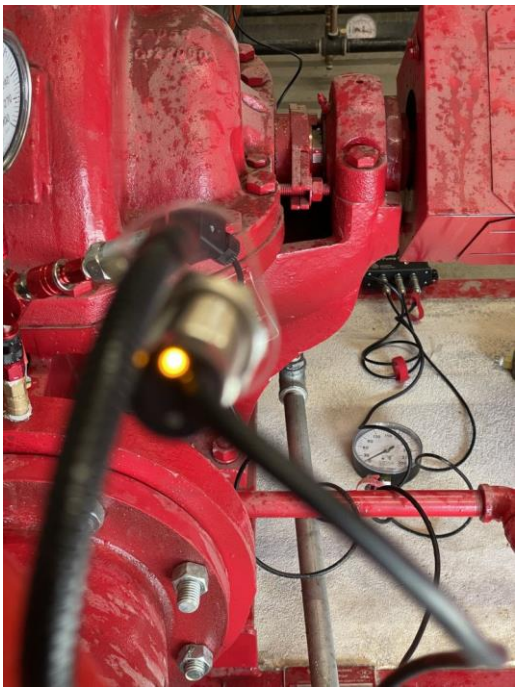
The Pump Sender will not operate without both the Suction and Discharge sensors connected.

The tach sensor is optional and can be removed if desired.

RPM tach sensor

Using the tach sensor to measure RPM

The laser tach sensor measures from 0 - 6000 rpm. The sensing distance is from 0 - 6 feet and has adjustable sensitivity. It has a flexible magnetic mount arm you can stick and bend the arm to point at the rotating shaft. A visible laser dot will help you aim it. Place the magnetic base on a pipe, valve or flange that does not vibrate during operation so the laser aim will stay in place.



The tach sensor uses standard reflective tape to accurately measure rotations. It comes with additional tape strips that can be cut to length as needed. Existing reflective strips will work as well.

The sensor turns on automatically with the unit. Point the laser dot onto the reflective tape and verify the light turns off to ensure that it will detect at your placement. Leave the laser aim at the center of the shaft for good readings.

The yellow indicator light on the sensor will be lit when it is on and does not detect a reflection.

If it is not needed, the tach sensor can be disconnected from the Pump Sender by unscrewing the sensor wire connector.

Accessing internal controls

1. Unscrew the sensor cords and pull straight out to remove them. Remove the nuts on the sensor connectors using a 11mm socket.
2. Remove the black endcap by unscrewing the 4 screws. Screws are self-retaining in the endcap so loosen one halfway until you feel resistance then move to the next. Continue until they are fully removed.
3. Slide the circuit board out 1/2” to see the buttons.

Device group ID's

Understand different group numbers

Setting Device Group

Group ID's are the way to limit communication between multiple sets of Sender/Display sets. Devices will only communicate with other devices that have the same Group ID number. Senders and Displays have a default Group ID set to 1. If you have multiple sets and do not want them to talk to each other, set a different ID on each set.

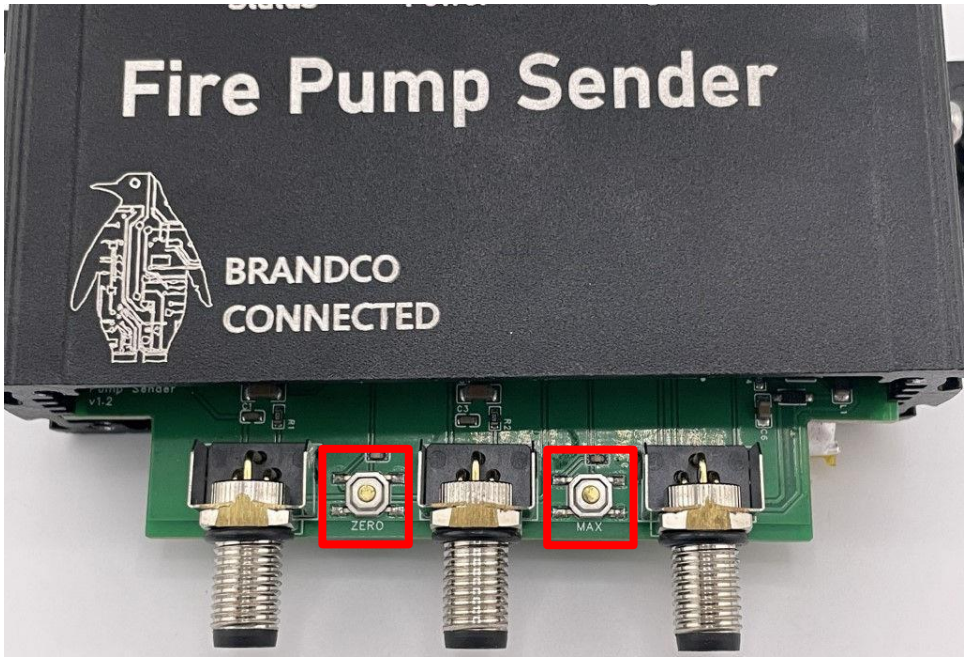
Option 1 - Use the display

The remote display can set Group ID's on connected nodes and is a simpler method. Refer to the display guide on setting Device Group ID's for more information.

Option 2 - Use the hardware button

See section on Accessing internal controls to gain access to hardware buttons.

1. With endcap removed, reconnect suction/discharge pressure sensors and power on.
2. Click the MAX button to increase the Group ID number by 1. The status light will flash yellow the number of the group. For example, pressing once will change to group 2 and the light will flash two times.
3. Once you reach group 8, it will restart back at group 1.
4. Press and hold the MAX button for 1 sec to save your changes.
5. Release the button when the status light flashes green to confirm it is saved.



Radio range settings

How to increase range if needed

Setting radio range

Senders ship with the range set at normal which is 800' with out obstructions impeding the signal. It can be increased for special case scenarios that need additional distance.

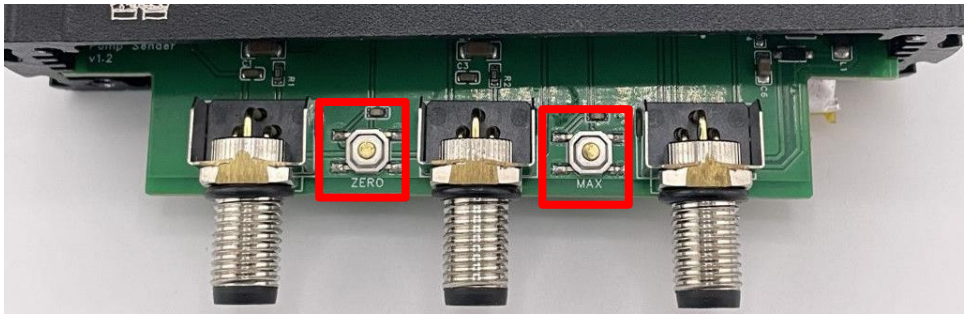
Option 1 - Use the display

The remote display can set radio range on connected nodes and is a simpler method. Refer to the display guide on setting radio range for more information.

Option 2 - Use the hardware button

See section on Accessing internal controls to gain access to hardware buttons.

1. Click the ZERO button to increase to the next higher level setting. The status light will flash yellow to indicate the range setting you are on (one flash = level 1, two flash = level 2, ...). Once you reach the highest level setting the next press will be back to the start at normal.
2. Press and hold the MAX button for 1 sec to save your changes.
3. Release the button when the status light flashes green to confirm it is saved.



Range distance and transmission rate chart:

Range	Transmit rate	Notes
800'	3 times per second	
1400'	2 times per second	
2000'	Once every 2 seconds	Reset display after setting
3000'	Once every 3 seconds	Reset display after setting

***Important**: Display unit and Sender MUST have the same setting to communicate*

Troubleshooting

Learn what the status light is trying to say

On powering up the system performs self checks. This takes about 1 second. When complete the status light will turn green briefly before beginning to transmit pressure.

Error status lights

Status blinks yellow/orange 3 times – low battery voltage. The battery is too low for proper operation. It will take approximately 8 hours to fully charge the battery from this condition.

Status blinks red at start - sensor is not detected. Check your sensor cord connection and restart.

If sensor 1 (suction) is not detected it will flash red once then repeat.

If sensor 2 (discharge) is not detected it will flash twice quickly then repeat.

Try the following to ensure a good connection:

- Over tightening the connector is a common cause of sensor failure. Loosen the connector a half turn and restart the unit to see if the issue continues.
- Disconnect the cord from the body by unscrewing the quick connect. Check the cord end for damaged wires. If it looks good, reinsert and screw back in finger tight.
- Check the transducer. Did the screw on top come loose? Any wire damage?

If there is any wire damage causing the issue, please contact us and a new cord will be sent to replace it. It's a simple 1 screw and 30 seconds to swap it out.

If there is no obvious damage it is likely it will need returned for repairs. Please use the support form or email for a replacement.