

WARNING WARNING WARNING WARNING

NEVER POWER THE DEVICE THROUGH THE USB PLUG AND THE JST PLUG AT THE SAME TIME.

Never use any battery larger than 1S. 5v is the absolute max input.

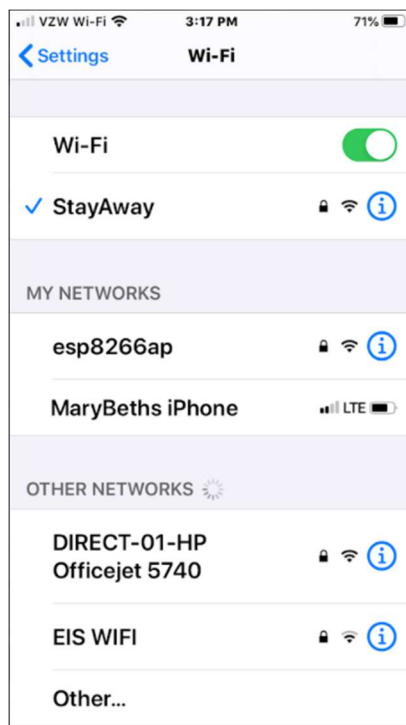
If you unplug a sensor make sure the RED wire is closest to the outside of the sensor when you reconnect it.

The individual rare earth magnets are very strong and will break if they are allowed to ‘slam’ into each other. Be careful.

The following steps only need to be done the first time that you connect the device.

The first time you connect the gauge it'll create an access point.

Within about a minute you should see “esp8266ap” as an available network.



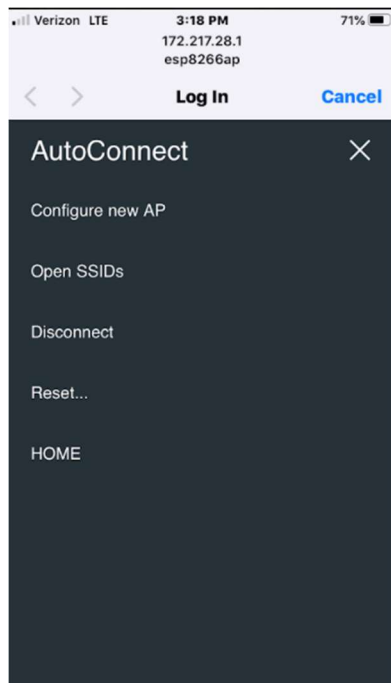
Connect to it and it should present you with a login screen

If it asks for a password use 12345678

You should see the following

Verizon LTE		3:17 PM	71%
172.217.28.1		esp8266ap	
< >		Log In	Cancel
AutoConnect			
Established connection	N/A		
Mode	AP_STA(0)		
IP	(IP unset)		
GW	(IP unset)		
Subnet mask	(IP unset)		
SoftAP IP	172.217.28.1		
AP MAC	F6:CF:A2:D0:7A:82		
STA MAC	F4:CF:A2:D0:7A:82		
Channel	1		
dBm	N/A		
Chip ID	13662850		
CPU Freq.	80MHz		
Flash size	4194304		

Select the 3 Horizontal bars at the top right and you should see the following menu



Select Configure New AP and you should see a list of available WiFi networks.

9:16

LTE

172.217.28.1

esp8266ap

<

>

Log In

Cancel

AutoConnect

DIRECT-01-HP Officejet 5740

78% Ch.11

StayAway

80% Ch.11

FiOS-HX1PV-Guest

78% Ch.11

EIS WIFI

28% Ch.11

Total:8 Hidden:4

SSID

SSID

Passphrase

Passphrase

Enable DHCP ☒

Apply



9:16 172.217.28.1 esp8266ap

< > Log In Cancel

EIS WIFI 28% Ch.11

tal:8 Hidden:4

SSID StayAway

Passphrase ●●●●●●●●

Enable DHCP ☒

Apply

^ v Done

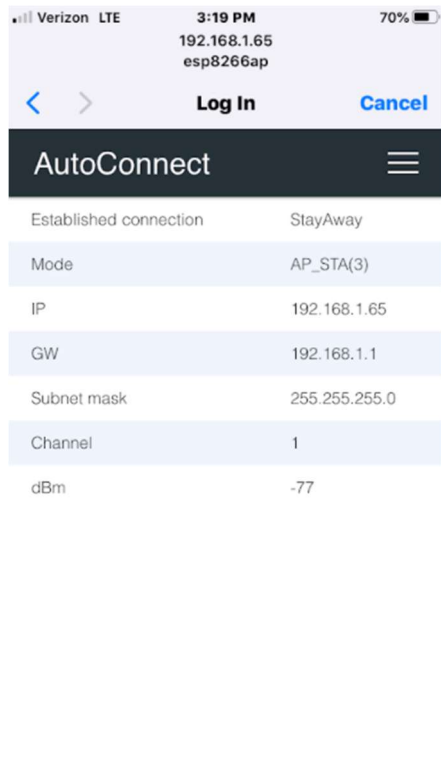
Select the network to use, enter the credential and select Apply.

(Unchecking the use DHCP option when you enter your credentials allows you to set a static IP address)

It may take up to 2 minutes to complete this part. Be patient, it's connected and calibrating the sensors. Do not move the sensors while it is calibrating.

If you entered the credentials wrong it'll prompt you again.

If it successfully connects, you should see the following. If you do not get this screen, see the note on page 8.



Make note of the IP address (in my case it's 192.168.1.65)

Write it down. You may even want to write it on the outside of the sensor. You will need this address to access the sensor. You'll be glad you wrote it down six months from now.

Open your favorite browser and enter that IP address in the address bar.

Or select the 3 horizontal bars, then select HOME

Each time you restart the meter, it SHOULD use this same IP address.

By default the control surface chord is set to 50mm. To change the value, when you enter the address in the address bar, enter

192.168.1.xx/?c=nn where nn is the chord value to use. (that's a forward slash question mark c equals). In place of the ip address on an iPhone you can also use the following (sorry android users)

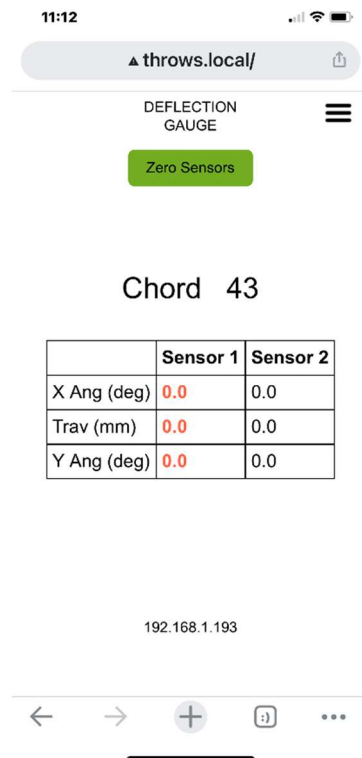
throws.local/?c=nn

(this name is only available after one more reset of the device (power off/power on)).

This may take up to 15 seconds to initially respond while it looks up the address. Using the ip address definitely seems to respond faster.

The chord is measured in mm from the hinge line to the trailing edge of the control surface. It's used to calculate the travel in mm.

You should see the following



Now each time you power up the throw gauge it should be at that same IP address and all you should need to do is go directly to the web page.

Each time the device is powered on it needs to calibrate the sensors. During this time the blue led will be on solid. Place the two sensors on a flat surface before powering on and don't move them until the led starts flashing rapidly. This calibration process takes about two minutes.

Once the calibration process finishes and the LED is flashing rapidly, the device is ready to display data. It will not respond until the calibration completes.

The X/Y angle & travel readings of the RED sensor are shown in RED on the left.

The X/Y angle & travel readings of the NON-RED sensor are on the right. (might be white or black)

Place the sensors on the control surfaces with the enclosed magnets. Pressing the ZERO SENSOR button will Zero the sensors at the current orientation. (the current position will become 0 degrees). Because of the fast refresh rate sometimes you need to press the zero button more than once.

The sensor can be placed on the hinge line or the trailing edge of the control surface. The hinge line is probably better, but it needs to be placed parallel with the hinge line if your control surface does not have a constant chord.

Special Notes:

If the setup failed to complete and does not give you the screen showing your ip address, things are still fine.

If the sensor starts blinking after approximately 2 minutes (or the led is no longer on solid), it's working. You can access the sensor by typing the following in the address bar of your browser. (this only works from an iPhone or iPad. Android users see Known Issues below.

`throws.local/?c=nn`

where nn is the chord value to use. (that's a forward slash question mark c equals).

This may take up to 15 seconds to initially respond while it looks up the address.

At the bottom of the screen will be the ip address that was assigned. Write it down for future reference.

Known Issues:

Occasionally, some users report being unable to connect to their gauge. This usually happens when the gauge restarts and connects to your WiFi network with a different IP address than the one initially assigned.

If the gauge initializes and the LED is no longer on solid, the gauge is working properly and ready to connect and display info.

To connect to the gauge and find its current IP address, from an IOS device (an iPad or iPhone) use **throws.local** in place of the IP address. It should resolve the address and display the webpage within 10-15 seconds. The current IP address will be at the bottom of the screen.

There are also several free apps Android (and IOS) users can download. Among them are 'Network Analyzer' or 'Fing'. Run the app and scan your network. Look for a device called 'throws' and note its IP address.

Also, logging into your router and look at all of your connected devices. The gauge will have a name like **ESP-XXXXXX**. This will also show the current IP address.