SCAN FOR THE FULL GUIDE

Set up your Night Eyes

Two glowing eyes that blink, wink, breathe and vanish in a dark corner, run from your phone on the board's own Wi-Fi. No app, no account, no internet.

BEFORE YOU START

Have these on hand:

- The **board with its eyes** plugged in: the eyes' data wire on **GPIO 23** (through the 470 Ω resistor), every eye on **5V** and **GND**. The wiring drawing is on the guide (QR above).
- Any **USB phone charger** and a USB cable. Two eyes draw about 120 mA, so a power bank runs them all night.
- A **phone**. Everything is done from its browser.
- Optional: a **motion sensor** on GPIO 32 and a **light sensor** on GPIO 34. The eyes work without either.

FLASH IT (SKIP THIS IF IT CAME FLASHED)

1. On a computer with **Chrome** or **Edge**, open `openagriculturetechnology.com/build/sketches/night-eyes/`, plug the board in with a **data** USB cable and press **Connect & Install**. About a minute. If the board came to you already flashed, go straight to step 2.

WAKE IT AND JOIN IT

2. **Plug it into the USB charger.** The red light on the board is just power; it is on whenever the board is.
3. **On your phone, join the Wi-Fi network** `OAT-Eyes-XXXXXX` with the password `oatsetup`. The control page opens by itself; if not, go to `http://192.168.4.1`. Your phone may warn that the network has no internet: that is right, stay connected.
4. **Press Color check.** Every eye glows pure red for 3 seconds. Green instead? Open **Setup** at the bottom of the page and set color order to `grb`.

Network	**OAT-Eyes-XXXXXX** (the last six are this board's own)
Password	**oatsetup** until you change it (8 characters minimum)
Control page	**http://192.168.4.1**
Forgot the password	Hold the board's **BOOT** button **5 seconds** while it runs: back to **oatsetup**, eyes' settings kept

FILL IN YOUR SETTINGS

Write down what you chose, so whoever packs the eyes away next year can set them up the same way.

Network name OAT-Eyes-_____ (from your phone)		New Wi-Fi password set on Setup, 8+ characters	
Character Wolf, Cat, Ghost, Garden Guard…		Brightness the slider, in %	
When Always · Dusk to dawn · Dusk + hours		Motion Ignore · Count · Dark until motion	
Pairs of eyes 1 to 4, chained on one wire		Color order rgb (PL9823) or grb (WS2812)	

MAKE THEM YOURS

5. **Pick a character** under **Who's watching**, set the **brightness**, and leave **Vanish** ticked so each pair fades out now and then and comes back. Everything saves itself.
6. **Choose When and Motion. Auto** (top of the page) follows them; **On** ignores them, which is how you test in daylight; **Off** is off. The line above those buttons always says what the eyes are doing and why, like *Waiting for dark* or *Asleep until someone comes*.
7. **Try the Scare now buttons** from across the yard: Blink, Wink, Vanish, Flare, Pretend motion.
8. **Change the Wi-Fi password** on **Setup**, so the neighbors' kids can't take over your eyes. Your phone will need the new one to rejoin.

Updating later: Settings survive unplugging, so put the eyes out, plug them in, and they pick up where they left off. Unplugged for the year? Plug in, rejoin **OAT-Eyes-XXXXXX** with your password, done. On a dark night the **Visitors** count tells you how many came and when: a trick-or-treat count on Halloween, a who-came-at-night count in the garden.

IF SOMETHING'S NOT WORKING

The eyes stay dark	Look at the line above **Auto** / **On** / **Off**: it says why. *Waiting for dark* or *Asleep until someone comes* is working as set; press **On** to see them now. Still dark on On: the data wire must go into the first eye's **DIN** (not DOUT), and the eyes need **5V**, not 3V3.
Red shows as green	Color order. Setup → color order `grb`. PL9823 pixels are rgb, WS2812 pixels are grb.
Only one eye lights	The second eye's DIN must come from the first eye's **DOUT**. Check **Pairs of eyes** on Setup matches what you wired.
An eye flickers or ignores colors	Keep the wire from the board to the first eye short and put the length between the eyes. Still flickering: a 1N4001 diode in the eyes' 5V line almost always fixes it (the guide explains why).
Motion fires at nothing	A motion sensor needs up to a minute to settle after power-on. On the larger HC-SR501, turn the time dial fully counterclockwise.
No OAT-Eyes network	Give it 15 seconds after plugging in, then refresh your phone's Wi-Fi list. Nothing at all: re-flash from the guide.

Generated 2026-10-10 · This card and the firmware are open. The full sketch, the supported boards, and the web installer are at **openagriculturetechnology.com/build/sketches/night-eyes/**.