

SCAN FOR THE
FULL GUIDE

Set up your Day/Night Cycle Timer

A pump timer with one pattern while the lights are on and another while they are off, set to the second from your phone. No app, no account, no internet.

BEFORE YOU START

Have these on hand:

- The **board with its relay and light sensor**: relay module IN on **GPIO 16**, the light sensor on **GPIO 34** where it can see the grow lights. The wiring drawing is on the guide (QR above).
- The **pump wired through the relay** the way you want it to fail: **NC** keeps it running if the board dies (towers, NFT), **NO** stops it (anything that can overflow).
- **Electricity bites**. With wall power on the relay's screw terminals, that side of the module is live: **unplug the pump and the board every time you touch the wiring**. Keep the module in a closed box, off the floor and away from the reservoir, and plug the pump into a GFCI outlet.
- A **USB phone charger** and cable for the board, and a **phone**. Everything is done from its browser.

FLASH IT (SKIP THIS IF IT CAME FLASHED)

- 1 On a computer with **Chrome** or **Edge**, open openagriculturetechnology.com/build/sketches/cycle-timer/, 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 the board into the USB charger**. It starts timing at once, with the patterns it was last given (new boards: 4:00 every 30:00 with the lights on, 2:00 every 58:00 with them off).
- 3 **On your phone, join the Wi-Fi network** **OAT-Timer-XXXXXX** with the password **oatsetup**. The 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 **Open Setup** (bottom of the page) and say how the pump is wired: **nc** or **no**. Then press **Check the wiring**: the pump must run for 5 seconds and stop. Runs the other way round? Swap the setting.

Network	OAT-Timer-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 , the timer's settings kept

FILL IN YOUR SETTINGS

Write down what you set, so whoever looks after the system next can see it at a glance.

Network name

OAT-Timer-_____ (from your phone)

New Wi-Fi password

set on Setup, 8+ characters

Lights on: water / rest

e.g. 4:00 every 30:00

Lights off: water / rest

e.g. 2:00 every 58:00

Lights count as off below

the switch point, in %

Pump wired to

NC (keeps running) or NO (stops)

When the lights change

start now · finish the step

When the power comes back

water first · rest first

MAKE IT YOURS

- 5 Set the two patterns.** Under **While the lights are on** and **While the lights are off**, pick **Cycle** and enter how long to water and how long to rest, in hours, minutes and seconds. Or pick **Always on** or **Off**. A change applies at once and saves itself.
- 6 Teach it the lights.** With the lights on, press **The lights are on now**; when they go off, press **The lights are off now**. The timer sets the switch point between them. The line under **Light now** says what the timer believes.
- 7 Pull the plug test.** Unplug the board's USB while the pump is resting: an NC-wired pump starts, an NO-wired pump stays off. That is what a failure will do, so make sure it is what you want.
- 8 Change the Wi-Fi password on Setup.** Your phone will need the new one to rejoin.

Updating later: Settings survive unplugging. After a power cut the timer waters first (or rests first, your choice) and carries on. **Pause** stops the pump for a reservoir change and always ends by itself, starting with a watering; or simply unplug the pump while you work and plug it back in after. **What it did** lists the last waterings and light changes, in your phone's clock.

IF SOMETHING'S NOT WORKING

The pump runs when it should rest	The wiring setting is the wrong way round. Setup → the pump is wired to: swap nc and no , then Check the wiring .
The relay never clicks	Setup → the relay switches on with: try the other of low and high . Check the module has 5 V and GND, and IN on GPIO 16.
It never changes to the night pattern	Look at Light now as the lights go off. If it rises instead of falling, set Bright light reads to the other value on Setup. If it hardly moves, the sensor can't see the lights.
It flips day and night at random	The switch point is too close to one of the light levels. Use the two teach links so it sits between them, with room on both sides.
Paused and forgot	A pause ends by itself, after at most 4 hours, and starts with a watering. Resume now ends it early.
No OAT-Timer 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 2026-10-20 · This card and the firmware are open. The full sketch, the supported boards, and the web installer are at openagriculturetechnology.com/build/sketches/cycle-timer/.