



The MorningRope: Smart Curtain Opener

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VIEW IN BROWSER

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Summary

Automate your curtain openers and wake up naturally with the sun.

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Tags: [smarthome](#)

Do you struggle **waking up** in the morning?

Do you have a south-facing window and want to **save money on cooling**?

Do you know someone who is **disabled** and has difficulty moving around?

Do you ever want **instant privacy** in your home?

Do you hate when people look into your home at **night**?

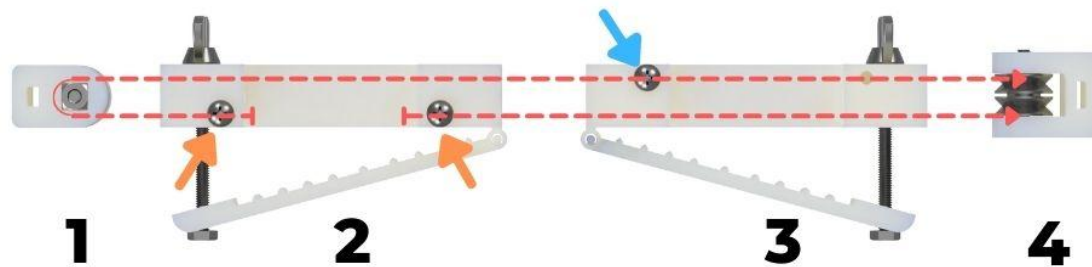
Do you wish people **couldn't tell** when you were on vacation?

The MorningRope will help with all of that. It is a smart curtain opener that automatically opens and closes your curtains for you.

How It Works

The MorningRope works with either back tab curtains like [these](#), or curtains with rings like [these](#). The file includes parts for each of these styles of curtains.

The concept is very simple. Here is a bird's eye view from the top:



1. A single pulley gets attached to the left wall bracket of your curtain rod.
2. The left clamp gets attached to the first tab of your left side curtain.
3. The right clamp gets attached to the first tab of your right side curtain
4. The double pulley gets attached to the right wall bracket of your curtain rod

A string is then connected between all of these pieces (red dashed line)

The motor then clamps to the string below the double clamp. When the motor spins, the string opens and closes both panels.

Smart Home Integration

This device uses an ESP32 that is triggered via simple HTTP REST API requests. It is best to use Home Assistant to trigger it. You can find the HA setup guide [here](#).

How to Build

This build requires a custom PCB and a number of hardware parts. It will be easiest to buy an all-in-one kit from the Valar Systems store [here](#).

You can also view a list of all parts in this [Google Sheet](#).

Limitations

It currently only works with Back Tab curtains and curtain rings. My next goal is to get grommets working which should be fairly straightforward. I just don't have any to test :)

Model files



step-1-body.3mf



step-2-shell.3mf

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