

KINEMATIC MIRROR MOUNT • USB & WI-FI CONTROL

Up and running in five steps

Two motorized axes, driven over USB or Wi-Fi. Full details in the Command Reference Manual.

1 MOUNT IT ON A POST

Fix the mount to a standard post with an **8-32 set screw**, holding it by the **black plastic part** while you tighten.

⚠ WARNING — Do not over-tighten: excess force permanently damages the monolithic flexure structure. Tighten by the black plastic part only, and stay under **50 mN·m**.

2 INSTALL THE CLIENT

Everything below is typed into the physiverse client — clone the repository and install it first:

```
git clone https://github.com/physiverse/\
physiverse_monolithic_motorized_mirror_mount_client.git
cd physiverse_monolithic_motorized_mirror_mount_client
pip install .
```

3 PLUG IN AND SAY HELLO

Connect a USB-C cable. No password is needed over USB, and the port is found for you:

```
physiverse status --usb      # name, both axes, wifi state
physiverse connect --usb     # interactive session; Ctrl-C quits
```

The first line is the unit's name, e.g. mount: planksprank — also its address, planksprank.local.

4 PUT IT ON WI-FI (ONCE)

```
physiverse provision --ssid MyNetwork --wifi-password wifipass \
--device-password mountpass
```

Credentials are stored on the mount, which rejoins by itself on every power-up. `--device-password` is the Wi-Fi login (kept hashed), not your Wi-Fi password. From then on:

```
physiverse connect planksprank.local mountpass
```

5 MOVE THE MIRROR

Type commands one per line. `home` parks both axes, `seek1 2300 150` drives axis 1 to sensor 2300, `tick2 -5` nudges axis 2 down, `r 16` reads the sensors and `s` stops everything. Positions are raw sensor counts (0–4095); the full set is on the back.

ON YOUR COMPUTER

Command	What it does
<code>physiverse connect -usb</code>	Interactive session over the cable
<code>physiverse connect</code>	Interactive session over Wi-Fi
<code><name>.local <pw></code>	
<code>physiverse status [-usb]</code>	One-shot: name, axes, Wi-Fi state
<code>physiverse provision -ssid <s></code>	First-time Wi-Fi setup (USB)
<code>-wifi-password <pw></code>	
<code>-device-password <pw></code>	
<code>physiverse factory-reset</code>	Clear Wi-Fi + login password (USB)

Add `-usb` PORT if several boards are plugged in.

INSIDE A SESSION

Command	What it does
<code>status</code>	Unit name, then both axes
<code>home homeN [spd]</code>	Park both axes one axis
<code>seekN <target> <spd></code>	Closed-loop move to a sensor value
<code>tickN <±n></code>	Fine nudge, n minimal steps
<code>r [n]</code>	Read both sensors (avg of n)
<code>s</code>	Stop both motors
<code>?</code>	List the commands
<code>setpass <pw></code>	Set the Wi-Fi login password (USB)
<code>wifi <ssid> <pw> wifi</code>	Join a network show status (USB)
<code>factory-reset</code>	Clear both secrets; calibration kept (USB)

IF SOMETHING IS OFF

- **Name will not resolve** — mDNS does not cross subnets. Use the same LAN, or the IP address from `physiverse status -usb`.
- **Authentication failed** — wrong login password, or none was ever set. Set a new one over USB with `setpass <pw>`; passwords are hashed, so there is no recovery.
- **Not on the network** — check `physiverse status -usb`: anything but `wifi: CONNECTED` means re-provision.
- **Moves stop early** — travel is clamped to the calibrated range, and a stalled move gives up.

Technical support

hello@physiverse.com — answered within one business day.