



## Size indicator caps for Sakura pigma micron pens - Clock style (first layer two tone)



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### Summary

This little indicator hooks into the pencap and indicates the pen size. Two filament colours make this wear-resistant!

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### Why this thing makes life better:

The size indication on the caps of my sakura liner pens disappears before I can even so much as glance at it, so I designed this little indicator that goes on the pencap. Now I can spot the size and color of the pen, wherever it is!

I realised the micron pens go up to size 12, so clock style indication made a lot of sense to me.

## Usage:

The indicators clip into the six holes at the top of the pencaps. The sizes correspond to clock times, with the 005 size being a 24th of a circle. and the rest having increments of 12ths. for the brush I use the crescent moon and for the PN I use the square icon currently.

I use both black and grey pens and have separate color schemes for them.

The little pins are quite fragile, but should slide into the pencap with some careful force. They should then stay in place just with friction.

## Printing in two colours manually:

The files contain two models:

The indicator icon (a single .2mm layer) and the cap part.

## Do not separate the models in the slicer!

1. Set the cap part to be unprintable for each cap
2. Check your settings and slice
3. Print only the indicator icons
4. Don't touch the print. let them relax on the buildplate.
5. Change filament to a contrasting color.
6. In the slicer, set the cap part to be printable and the icons to unprintable.
7. Print the caps on top of the icons.
8. Carefully take the prints off the buildplate.

If you have something like a multimaterial system or IDEX printer, use your best judgement?

**You can also print just the cap part. the icon will be inset a bit and have some bridging texture. This can be coloured in, but looks rather sloppy.** I tried this as my first attempt, with a 0,4mm layer difference. some thinned nail polish and a small needle might also do the trick.

## Recommended print settings:

<b>Material</b>	PLA or similar. Avoid brittle (and/or wet) filaments. TPU might work as well, though this is a very small part...
<b>Nozzle</b>	0,4mm or smaller on Arachne setting.
<b>Perimeter</b>	1
<b>Top and bottom</b>	7 (makes infill irrelevant).

<b>Layer height</b>	0,2mm should be fine (I used ,12mm with a ,2mm first layer).
<b>Surface pattern</b>	top: Concentric Bottom: Archimedian Curves (if these lines show up on your buildplate)

Printer used: Bambulabs p1p with 0.4 brass nozzle.

Filament used: Polymaker Polyterra white and slate grey (the speckled blue) and some leftover black.

### Tips:

- Use contrasting colours (and values: so dark and light) that are opaque! my yellow was somewhat transparent and had the same value so that was not very legible, even against the light blue.
- **FRAGILE. BE CAREFUL.** the little legs can come off easily, especially when taking the prints off the buildplate. carefully use a scraper.
- Modders: draw on top of the bottom of the cap. extrude 0,2mm and make it a new body. then use the combine function to cut the shape out of the cap. keep the tools. export to .3mf.

### Final thoughts:

- Durability remains to be seen, but can probably be addressed if it fails.
  - I might try printing in TPU or PC if necessary.
- If anybody has a smaller nozzle than 0,4, I'd love to see how detailed it can get and if it does anything for the strength of the part.
- Different color schemes make it a nice color indicator too (the grey pens have a silvery ink for their indicator text that can look identical to black in a lot of situations)
- I find the clock style to be very clear, but your mileage may vary. Let me know if you know of a good font for printing numbers this small.
- The Fusion360 file is included for modding. It might be messy there, though.
- Longer legs are (for once!) not preferred. A gentle breeze might knock them off the cap.
- No reason to limit yourself to two colours! Let go and live! Create! Be a true Artist!
- A smooth textured buildplate might yield more legible results. I only have textured PEI at the moment, so I can't test.
- In theory, this design could be made magnetic... but it might be a bit weak for that.

Let me know if there's any changes that should be made or if there's specific designs that would make this better. If this gains any traction, I'll do a pass of cleanup of the files.

Enjoy!

## Model files



### **sakura-pen-clock-cap-v1.f3d**

☐ Simple enough to snoop around in. No parameters are added.



### **sakura-pen-clock-cap-005.3mf**

☐ It's just a lil' line!



### **sakura-pen-clock-cap-01.3mf**



### **sakura-pen-clock-cap-02.3mf**



### **sakura-pen-clock-cap-03.3mf**



### **sakura-pen-clock-cap-04.3mf**



### **sakura-pen-clock-cap-05.3mf**



### **sakura-pen-clock-cap-06.3mf**



**sakura-pen-clock-cap-07.3mf**

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**sakura-pen-clock-cap-08.3mf**

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**sakura-pen-clock-cap-09.3mf**

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**sakura-pen-clock-cap-10.3mf**

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**sakura-pen-clock-cap-11.3mf**

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**sakura-pen-clock-cap-12.3mf**

☐ We've gone full circle. made more sense than the clear cap (see below)

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**sakura-pen-clock-cap-square.3mf**

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**sakura-pen-clock-cap-hex.3mf**

☐ hard to see the angles, but they're there.

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**sakura-pen-clock-cap-moon.3mf**

☐ good for brush pens (cause the sickle shape could be made with a brush)

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**sakura-pen-clock-cap-flower.3mf**

☐ I think this one's lovely

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sakura-pen-clock-cap-clear.3mf

☐ No indicator

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