Smart Mirror Display on/off

Motion detector on display lighting

Why did I tap the display light and not the complete power supply of the mirror?

I didn't want the mirror to have to reboot every time the motion detector switches. I wanted to immediately image and not wait. ☺

So I went to the display illumination. That means the mirror is always on and so is the Raspberry Pi. Only the backlight is switched on and off. This saves about 7W with a 17" display.

In "standby" the mirror now consumes about 13W.

What you need to do

First I found out from the display controller which cables are responsible for the supply of the backlight. It is a small white connector with 6 cables (2xred, 2xblue, 2xblack) (see Image 1).

Image 1

The two red ones are (+), the two black ones are (-) and the two blue ones bring the control signal for the backlight. Theoretically, the backlight should be dimmable, but the display controller somehow does not allow this, with me it was always "full asse", no matter what I had set in the display menu.

Now that I knew which cables were responsible for the backlight, I disconnected them individually. My assumption was, since there were 2 pieces of all lines, that the left and the right display lighting are controlled separately. So I disconnected a red one and looked what

the display does. But it continues to light both sides of the display lighting (the same game with the other cable).

That was then the point at which I had thought to clamp a motion detector in between. Still quickly checked what voltage is present on the cables (12V) and searched on E-Bay for a suitable motion detector.

e.g. Mini Motion Detector 12V PIR 360° Recessed Sensor f. LED Strip Spot MR16

- https://amzn.to/2HpOMjS

I connected the then as follows:

A red cable pulled out of the connector. To do this, you can use a small screwdriver to attach the small plastic nose to the red cable of choice and then pull it out (see Image 2).
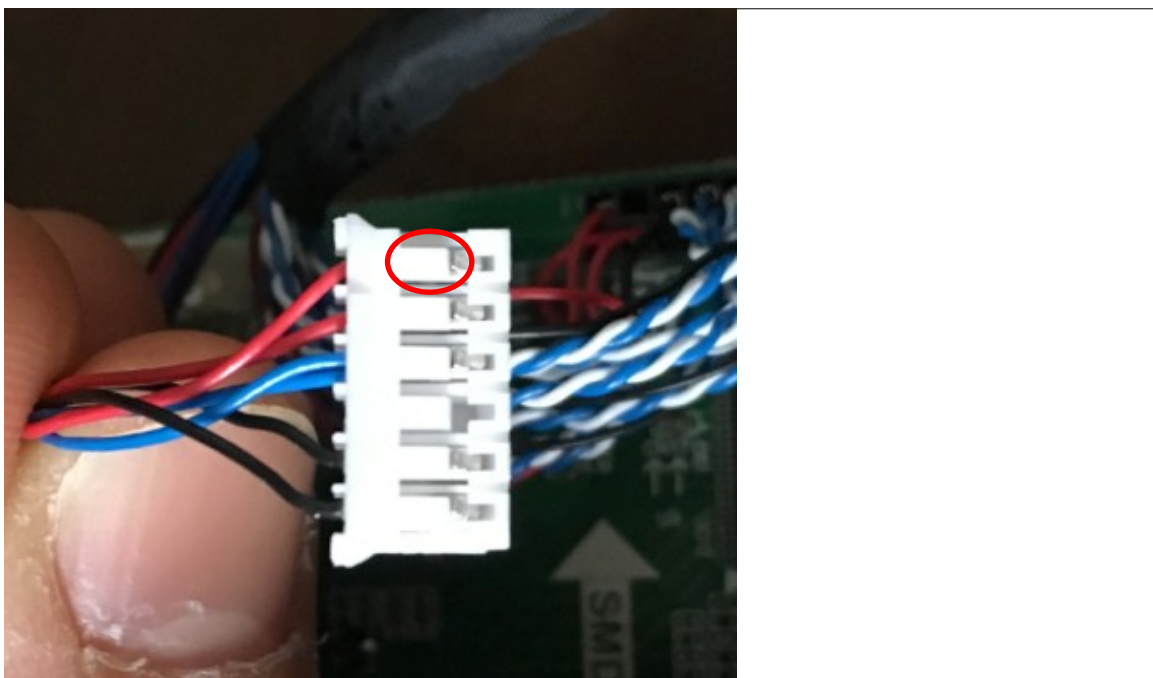

Image 2

I then insulated/taped this cable with heat shrink tubing (or insulating tape) and simply left it on the strand.

I cut the other red cable about 2cm after the plug and connected it to the plus pole of the motion detector.

The negative pole of the motion detector is simply clamped to one of the two black cables on the plug. To do this, simply strip a piece of insulation off one of the two black cables from the plug and connect the motion detector (again, insulate everything nicely).

The brown cable of the motion detector is then connected to the red cable that was cut earlier and goes to the display. Again, insulate the connection point.

Now you can find a nice place for the motion detector (either drill a 12mm hole in the mirror or hang it under/over/next to the mirror). How the motion detector works behind the mirror, I have not tested yet.

Now set the sensitivity and the desired "on time". For me, I had to set to "insensitive", because the mirror has also always gone on, even if no one ran past. For my mirror, I set the small switch on the motion detector to the 30s.

Notes

- Always work on the display driver/mirror without voltage (i.e. disconnect the plug beforehand).

- For defects caused by this modification, I also assume no liability ☺ … goes without saying.

I can only say one thing, I've had the motion detector integrated into my mirror for just under a week now and so far it's still working great.

Greetings, Felix