Thanks for purchasing this item. This PCB consists of two DM134B 16 bit shift registers with open drain outputs and constant current sinking capability. Sinking current is set via a single resistor on each chip. When the brightness is set at maximum this is approximately 20mA and at minimum brightness approximately 2mA.

Note: at lower brightness levels some LED segments may be brighter than others. This is because the DM134B cannot maintain the same current through each LED at less than 10mA. To avoid this set the brightness in software which pulses the output enable pin on and off via PWM. The SoftPWM library will do this as the hardware PWM can interfere with the code and SPI.

Example code which counts from 0-999.9 seconds is available at my blog www.adrian-smith31.co.uk/blog. The direct link is here https://www.adrian-smith31.co.uk/blog/2021/02/the-dm134b-16-bit-shift-register-with-constant-current-led-drivers/

As above the SoftPWM library can be downloaded from the Arduino library manager.

Included are some header pins and sockets you can use to mount the Arduino (or directly to the PCB if you wish) and for the breakout pads. You may want to fit these on the front or rear of the board so I have left them unsoldered so you can solder them as you wish.

Pinouts:-

J1

1 = Reset, 2 = AREF, 3-10 = A0-A7

J2

1 = D8

2 = D7

3 = D6

4 = D5

5 = D4

6 = D3

7 = D2

8 = GND

9 = Reset

10 = D0 (TX)

11 = D1 (RX)

12 = +5V

Please use the sample code to see how this operates. The DM134B operate like two 74HC595 shift registers daisy chained. As they are 16 bit chips and the Arduino is 8 bit the all 16 bits of the shift register must be "filled" before it is latched. But if you were building an equivalent circuit using 4x 74HC595's or TPIC595 etc you would do this anyway. This example uses SPI but shiftout can be used instead. The only difference between the DM134B and the '595 is that the output enable (OE) is active LOW rather than the active HIGH of the 74HC595. In most circuits this is connected to +5V but in this example it is connected to Arduino pin 9 so the display can be turned off by software or used to control the brightness via PWM.

You can also comment on the blog article and I will reply as soon as I can.

Thanks again, Adrian