

## External 3-Digit LED Display

This device is for user interaction and feedback for various NLED controllers and platforms. It features a blue 3-digit, 7-segment LED display and 2 buttons. The device receives SPI data as a slave, and does not transmit. The device handles controlling the LED segments to display the data. Character ID numbers are sent to the device from the SPI master and the device uses it's character map to load and display the selected characters. That means very low overhead for the master device, as it only needs to send 3 bytes to update the display. And does not need to map the characters. The buttons are monitored and handled by the master device and are not pulled up.

The device features a PIC16F1824 and TLC5916 constant current LED driver. The full source code is available for download if a user wants to edit the character map or otherwise make customizations.

### Features:

- Small Size 1.5" x 1.5" x 0.5"(tall)
- 3 digit, 7 segment with decimal place, blue LED display
- Low overhead for master device, 3 bytes to update the display.
- 2x buttons(no pull ups)
- 2x5 DIP Spaced Header for Interaction
- Works with standard 10-pin 2x5 ribbon cables.
- Easy to mount design, cutout and insert.

Careful doing board layouts and wiring, as this display is meant to have it's HEADER connected from the backside. That allows a cutout to be made on the case and the LED display inserted to allow access to buttons and view the LED display. Not all headers in PCB libraries will have the same pinout order. So look over everything carefully

In Cadsoft Eagle, HEADER is part FE05-2(con-Ista.lbr) and the 2x5 header is mounted on the backside. Then a standard 10-pin ribbon cable will mate with MA05-2(con-Ista.lbr) when mounted normally.

Please Contact With Questions  
[Support@NLEDshop.com](mailto:Support@NLEDshop.com)

### Specification:

Input Voltage	5v
Logic Current Draw	< 300mA
Data Communication	SPI Slave
Connections	9
Header	2x5
Connector Spacing	0.1"(Headers)

### Pinout: (Pin#'s as shown)

1 = V+

2 = V-

3 = SPI Data In

4 = Slave Select

5 = SPI CLK

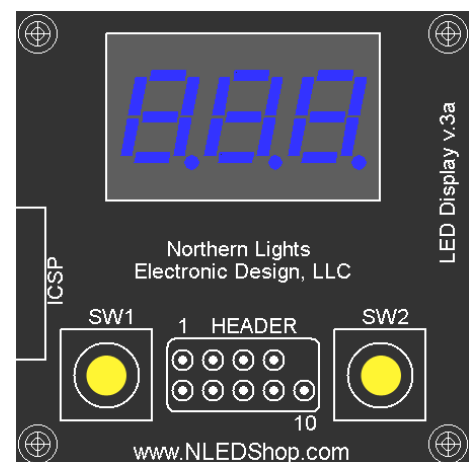
6 = SPI Data Out

7 = SW1

8 = RA3/MCLR

9 = unconnected/key

10 = SW2



## Character Map:

<b>Character ID#:</b>	<b>Character:</b>	<b>Character ID#:</b>	<b>Character:</b>
0	0	45	7 with DP
1	1	46	8 with DP
2	2	47	9 with DP
3	3	48	dash(middle horiz. segment)
4	4		
5	5		
6	6		
7	7		
8	8		
9	9		
10	A		
11	b		
12	C		
13	d		
14	E		
15	F		
16			
17	H		
18	I		
19	J		
20			
21	L		
22			
23	n		
24	o		
25	P		
26			
27	r		
28	S		
29			
30	u		
31			
32			
33			
34	y		
35			
36	Space(blank)		
37	Decimal Place(dot)		
38	0 with DP		
39	1 with DP		
40	2 with DP		
41	3 with DP		
42	4 with DP		
43	5 with DP		
44	6 with DP		

Not fully populated, character ID#s with no character will display as all segments on.

## Dimensions:

