LCD wiring

Connections

Allocated the Voltage/Ground and LCD controlled signals to GPIO port signals on the MCU. The table below shows the allocations use for the finished code.

Signal Name(LCD)	Description	Direction	MCUBoard(STM32)	Note
E	LCD Enable	Output	PD10	
R/W	Read/Write	Output	Ground	
RS	RegisterSelect	Output	PD8	
DB4	Data Bus 4	Output	PB13	
DB5	Data Bus 5	Output	PB15	
DB6	Data Bus 6	Output	PD9	
DB7	Data Bus 7	Output	PD11	
VDD	Supply Voltage (5 or 3.3v)	Input to LCD	+5V	
VSS	Ground	Input to LCD	Ground	

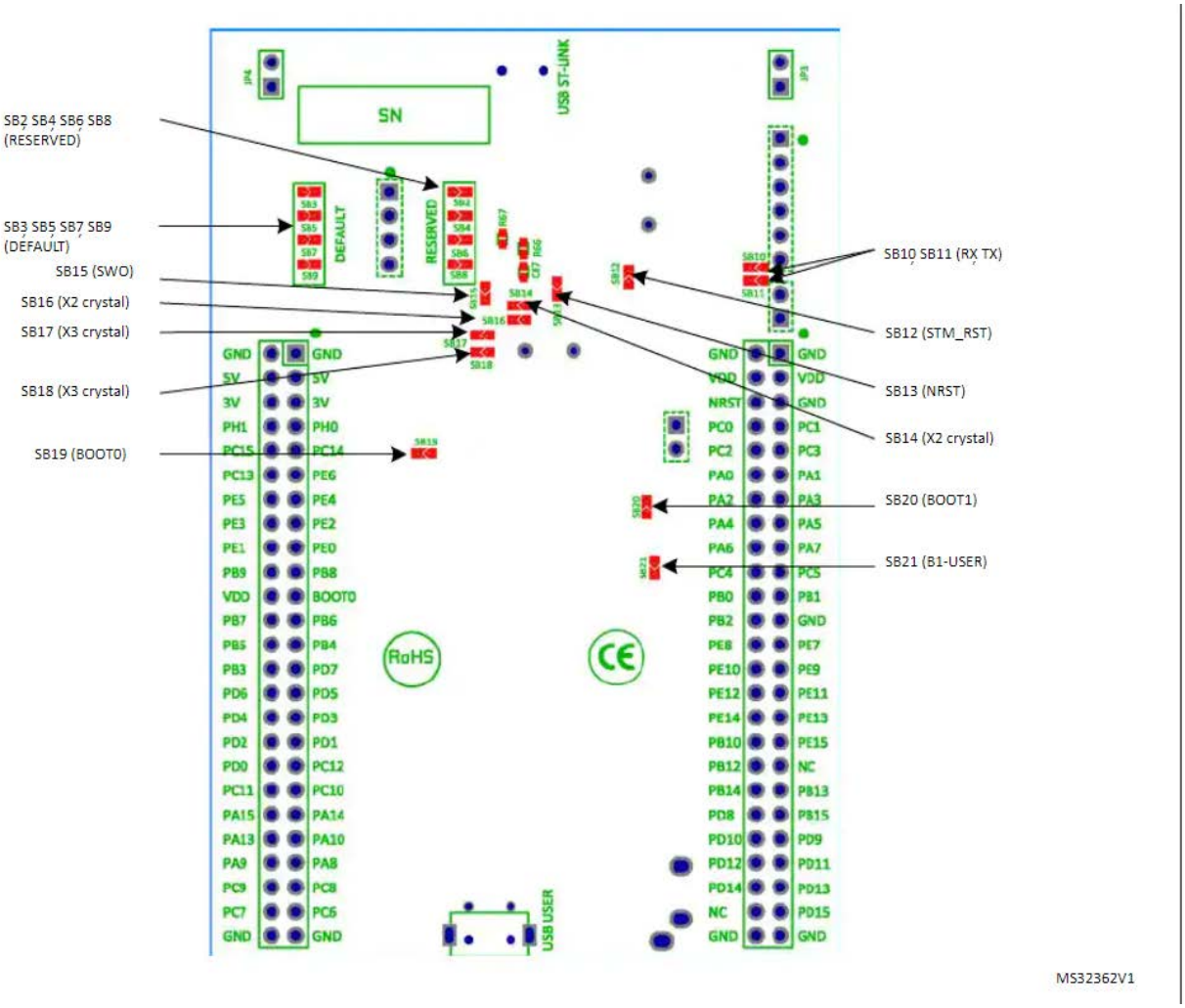
LCD Display

Pin Assignment

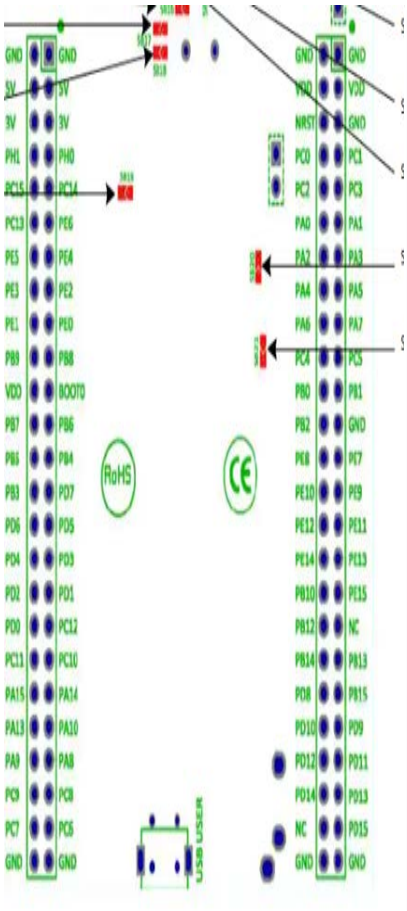
Pin Assignment

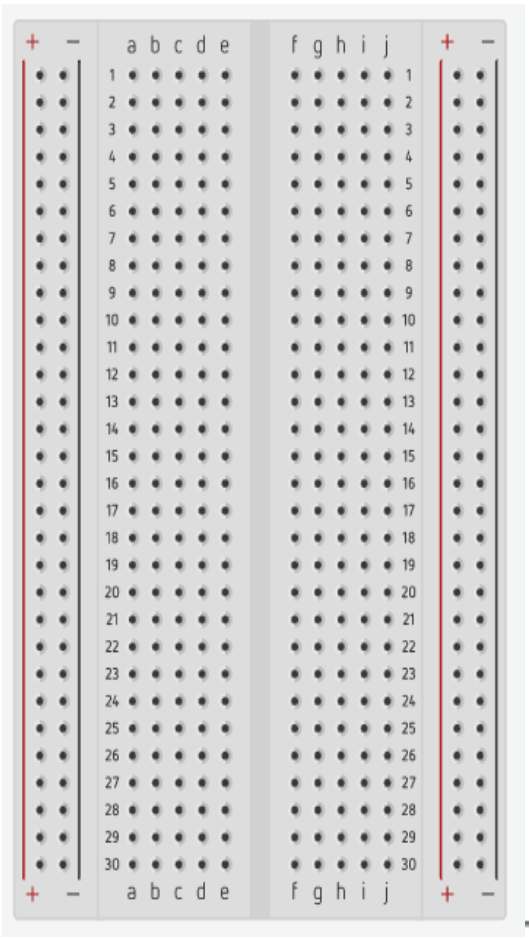
PIN NO.	SYMBOL
1	Vss
2	Vdd
3	Vo
4	RS
5	R/$\overline{W}$
6	E
7	DB0
8	DB1
9	DB2
10	DB3
11	DB4
12	DB5
13	DB6
14	DB7
15	A
16	K

STM32 Discovery board Pin Layout



Before the wiring, place the LCD on the breadboard with VSS lining with pin 1 on breadboard





Pin Assignment

PIN NO.	SYMBOL
1	Vss
2	Vdd
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15	A
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Pinout from LCD controller 4-bit mode

VSS	VDD	Vo	RS	RW	E	D4	D5	D6	D7	A	K

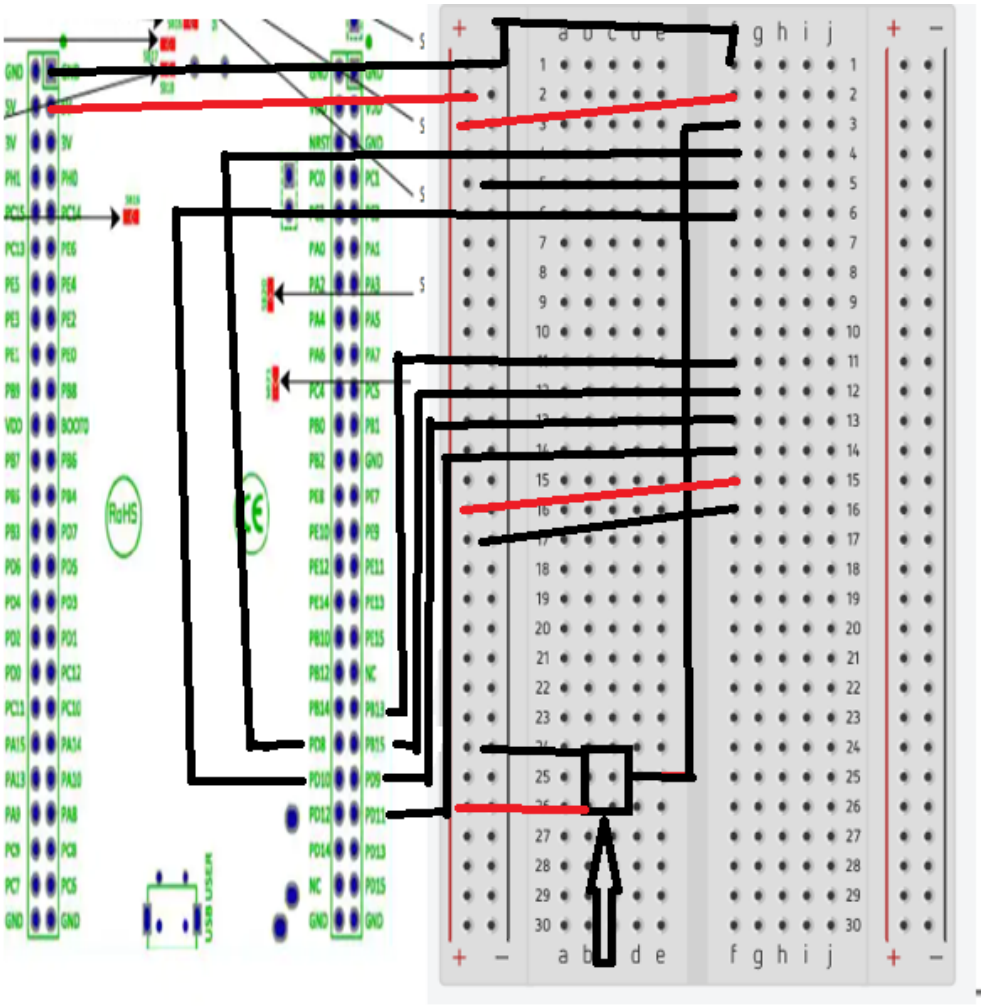
Pot resistor has 3 pin |||(left, middle, right)

STM32	Breadboard	LCD
1. GND	GND	VSS
2. +5V	GRN	VDD
3.	POT middle pin	Vo
4. PD8		RS
5. GND		RW
6. PD10		E
7. PB13		D4
8. PB15		D5
9. PD9		D6
10. PD11		D7
11. +5V		A
12. Gnd		K

Wiring Diagram with numbering on the breadboard

Following breadboard number 1,2,3 by placing the LCD on the breadboard, red line is referring as +5 V from the STM32 board.

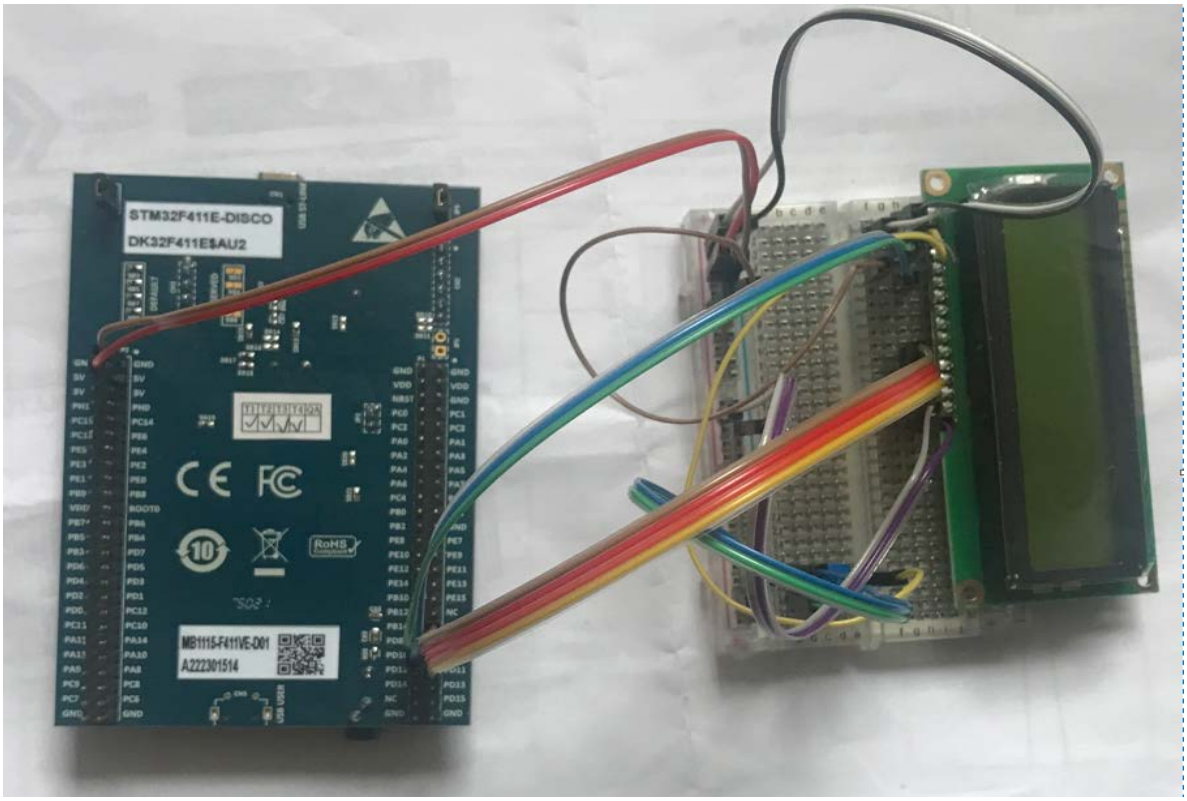
STM32 Board **Breadboard** **LCD**



POT

PIN NO.	SYMBOL
1	Vss
2	Vdd
3	Vo
4	RS
5	R/$\overline{W}$
6	E
7	DB0
8	DB1
9	DB2
10	DB3
11	DB4
12	DB5
13	DB6
14	DB7
15	A
16	K

Top View (with USB connection on the other side the top of the board)



Side View