Display Shield Arduino

construction and programming manual

Rev.	Date	Description
A	2017-01-18	First release
В	2017-01-23	Bug fix fig. 1
С	2020-09-04	Changed to display shield version 2.x

1.) Electrical connection

Pin	Cable color	Arduino	Description
1	black	N.C.	Optional Interrupt line – not used ¹
2	brown	SCL	SCL – I2C clock
3	red	SDA	SDA – I2C data
4	orange	5V	5V power supply
5	yellow	GND	Ground connection

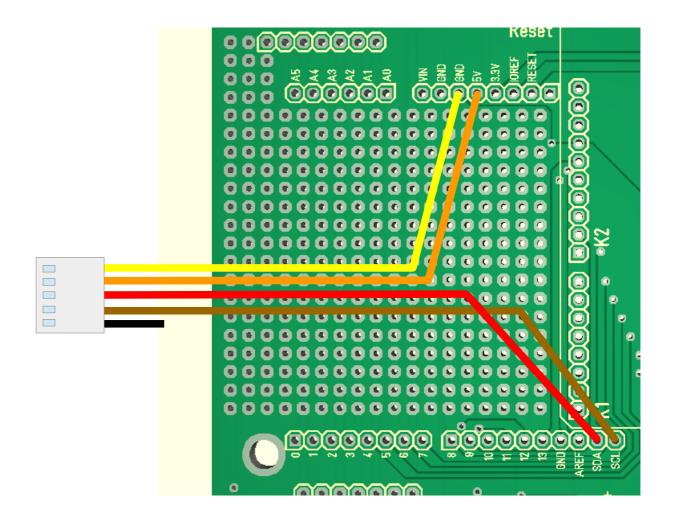


Fig 1: Wiring example for Arduibox Open V2.x

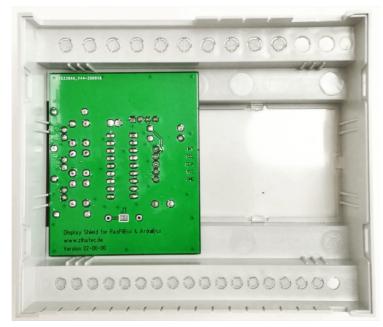
¹ This line will generate an interrupt whenever a button is pressed. If you want, you can connect this wire with a digital input of your choice. In our programming example we don't use this line!

2.) Mechanical assembly in Arduibox enclosure

Remove the protection foil from the double adhesive tape first:



Glue the shield into the top shell:



Place it exactely as in the picture above and close as possible to the left wall!

3.) Programming

3.1) Install SH1106 Library

You've to install the display library first. To open the library manager go to Tools \rightarrow Manage Libraries...

💿 Display_Shield A	rduino 1.8.12	
File Edit Sketch To	ols Help	
	Auto Format Archive Sketch	Ctrl+T
Display_Shield	Fix Encoding & Reload	
u8g2.clearB	Manage Libraries	Ctrl+Shift+I
u8g2.setFon u8g2.setFon	Serial Monitor	Ctrl+Shift+M
u8g2.setDra	Serial Plotter	Ctrl+Shift+L
u8g2.setFon u8g2.setFon	WiFi101 / WiFiNINA Firmware Updater	
u8g2.drawSt u8g2.drawSt	Board: "LOLIN(WEMOS) D1 R2 & mini"	>
u8g2.drawSt	Upload Speed: "921600"	>
u8g2.sendBu	CPU Frequency: "80 MHz"	>
}	Flash Size: "4MB (FS:2MB OTA:~1019KB)"	>

Now search for "u8g2"

💿 Library Manager	×
Type All 🗸 Topic All 🗸 u8g2	
More info	^
U8g2	
by oliver Monochrome LCD, OLED and eInk Library. Display controller: SSD1305, SSD1306, SSD1309, SSD1316, SSD1322, SSD1325, SSD1327, SSD1329, SSD1606, SSD1607, SH1106, SH1107, SH1108, SH1122, T6963, RA8835, LC7981, PCD8544, PCF8812, HX1230, UC1601, UC1604, UC1608, UC1610, UC1611, UC1701, ST7511, ST7565, ST7567, ST7588, ST75256, ST75320, NT7534, IST3020, ST7920, LD7032, KS0108, SED1520, SBN1661, IL3820, MAX7219. Interfaces: I2C, SPI, Parallel. Monochrome LCD, OLED and eInk Library. Successor of U8glib. Supported display controller: SSD1305, SSD1306, SSD1309, SSD1316, SSD1322, SSD1325, SSD1327, SSD1329, SSD1606, SSD1607, SH1106, SH1107, SH1108, SH1122, T6963, RA8835, LC7981, PCD8544, PCF8812, HX1230, UC1601, UC1604, UC1608, UC1610, UC1611, UC1701, ST7511, ST7565, ST7567, ST7588, ST75256, ST75320, NT7534, IST3020, ST7920, LD7032, KS0108, SED1520, SBN1661, IL3820, MAX7219. Supported interfaces: I2C, SPI, Parallel. Features: UTF8, >700 fonts, U8x8 char output. More info	
U8g2_for_Adafruit_GFX	
by oliver Add U8g2 fonts to any Adafruit GFX based graphics library. Use our favorite Adafruit graphics library together with fonts from	~
Close	:

Click the Install button. After some seconds "INSTALLED" will be displayed.

3.2) Install Adafruit MCP23008 Library

Now repeat this procedure with "MCP23008":

💿 Library Manager	×
Type All V Topic All V MCP23008	
Adafruit MCP23008 library by Adafruit Version 1.1.0 INSTALLED Arduino Library for the MCP23008 (and '9) I2C I/O expander Arduino Library for the MCP23008 (and '9) I2C I/O expander More info Select version v	^
	V

Click the Install button. After some seconds "INSTALLED" will be displayed.

3.3) Run the demo

After installing the Adafruit libraries, restart the Arduino IDE.

You have to download our sample code for the OLED Shield from https://www.hwhardsoft.de/english/projects/display-shield/

Please open this sample in the Arduino IDE. After compilation and upload you

have to press the 3 buttons to view different screens and to test the beeper. Our demo contains only some samples of the possiblities of the u8g2 library.

You will find more examples for display driver in the Arduino IDE under

File > Examples > U8g2

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	New	Ctrl+N	EnableInterrupt	2		
	Open	Ctrl+O	ENS210	>		
	Open Recent	;	ESP Async WebServer	>		
	Sketchbook	;	ESP8266 Weather Station	2		
	Examples	;	EspSoftwareSerial	>		
	Close	Ctrl+W	EtherCard	>		
	Save	Ctrl+S	FacebookApi	>		
	Save As	Ctrl+Shift+S	ILI9341_t3	>		
			InstagramStats	>		
	Page Setup	Ctrl+Shift+P	Json Streaming Parser	>		
	Print	Ctrl+P	MFRC522	>		
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	Quit	Ctrl+Q	ModbusMaster	>		
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}			OneWire	>		
			PubSubClient	>		
			RTClib	>		
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