

Wiring colours harmonised.  
New 3 sensor design.  
Flash socket added  
Light meter added  
V3.16  
Encoder added  
Stepper added  
tft Touch\_CS move to pin 17  
V3.1.7  
orange button wire changed to white  
Laser & flash pins changed  
V3.18 added LCD, LED matrix & Button5

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V\_3\_0\_9\_0\_0 - Hardware Change from Firmware 3\_0\_9\_0  
- pins 5 & 15 swapped  
- button 5 moved to pin 0  
- wiring for touch screen removed  
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Transparent three legged sensors must be fitted with the flat surface at the rear and the little dome pointing over the board and towards the laser. Connecting them incorrectly WILL destroy them.

Caution  
To avoid sensor damage, wire up the rx modules BEFORE plugging the transparent sensors into them. Double check wiring BEFORE powering up the board & ensure LEDs light. Then de-power the board and insert sensors ENSURING the sensor is fitted the correct way round.

Note:-  
DO NOT use the GND pin on the EPS32 board, that is located between pins 19 & 21.

Optional LED Matrix (shown upside down) (5V)

Optional Light Sensor GY-302 module (5V)

Optional Flash plug. Centre pin -Green Outer - Black

Optional LCD  
Connections to iic on rear of LCD  
Black GND  
Red VCC (5V)  
Orange SDA - 21  
Yellow SCL - 22

Optional 4" / 3.95" SPI TFT  
ILI9488 Driver  
480 X 320  
Note Text prints in portrait mode, so tft shown here is on it's side

TFT pins in order	ESP32	Wire Colour	
TFT_VDD	3V3	Brown	
TFT_GND	GND	Black	
TFT_CS	5	green	Chip select
TFT_RST	4	white	Reset pin
TFT_DC	16	Grey	Data Command
TFT_MOSI	23	blue	
TFT_SCLK	18	yellow	
TFT_LED	3V3	Brown	
TFT_MISO		do no connect	
Wiring below not required			
Touch_CCLK	18	yellow	
Touch_CS	17	orange	
Touch_DIN	23	blue	MOSI
Touch_TFT_DO	19	violet	MISO
Touch_IRQ		do not connect	

