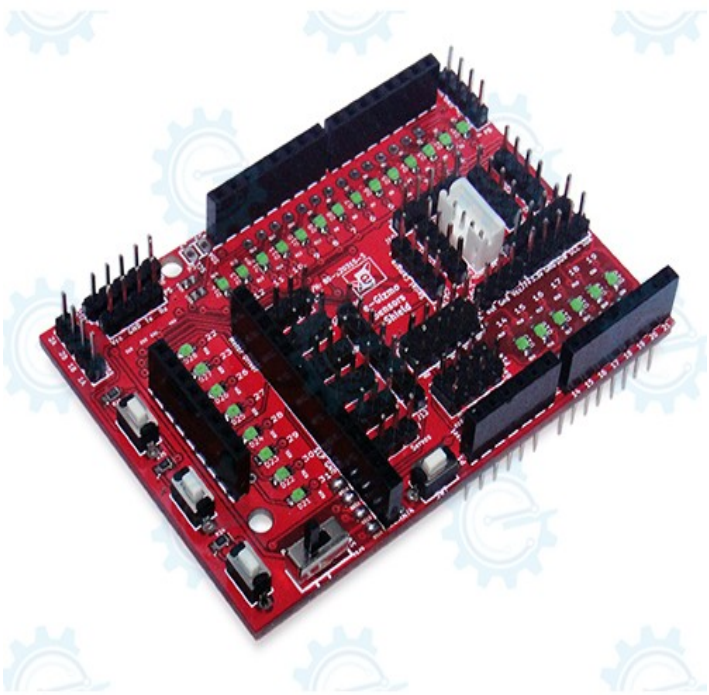
Sensors Shield
Arduino Compatible

Technical Manual Rev 1r0



The e-Gizmo Sensors Shield is for easy connection of modules and sensor device in gizDuino MCU boards. With 28 LEDs Programmable with 3 - switch analog installed directly to the shield, power selection 5V or 3.3V slide switch and 1 reset button.

FEATURES:

- *Build-in connectors on board to connect the sensors/ modules*
- *Arduino Compatible*
- *With 28 LEDs programmable*
- *2ch tiny motor driver connections*
- *See page 3 for the sensor/module Compatibility*

GENERAL SPECIFICATIONS:

- **Operating voltage: *5V***
- **PCB Dimensions: 54mmx77mm**

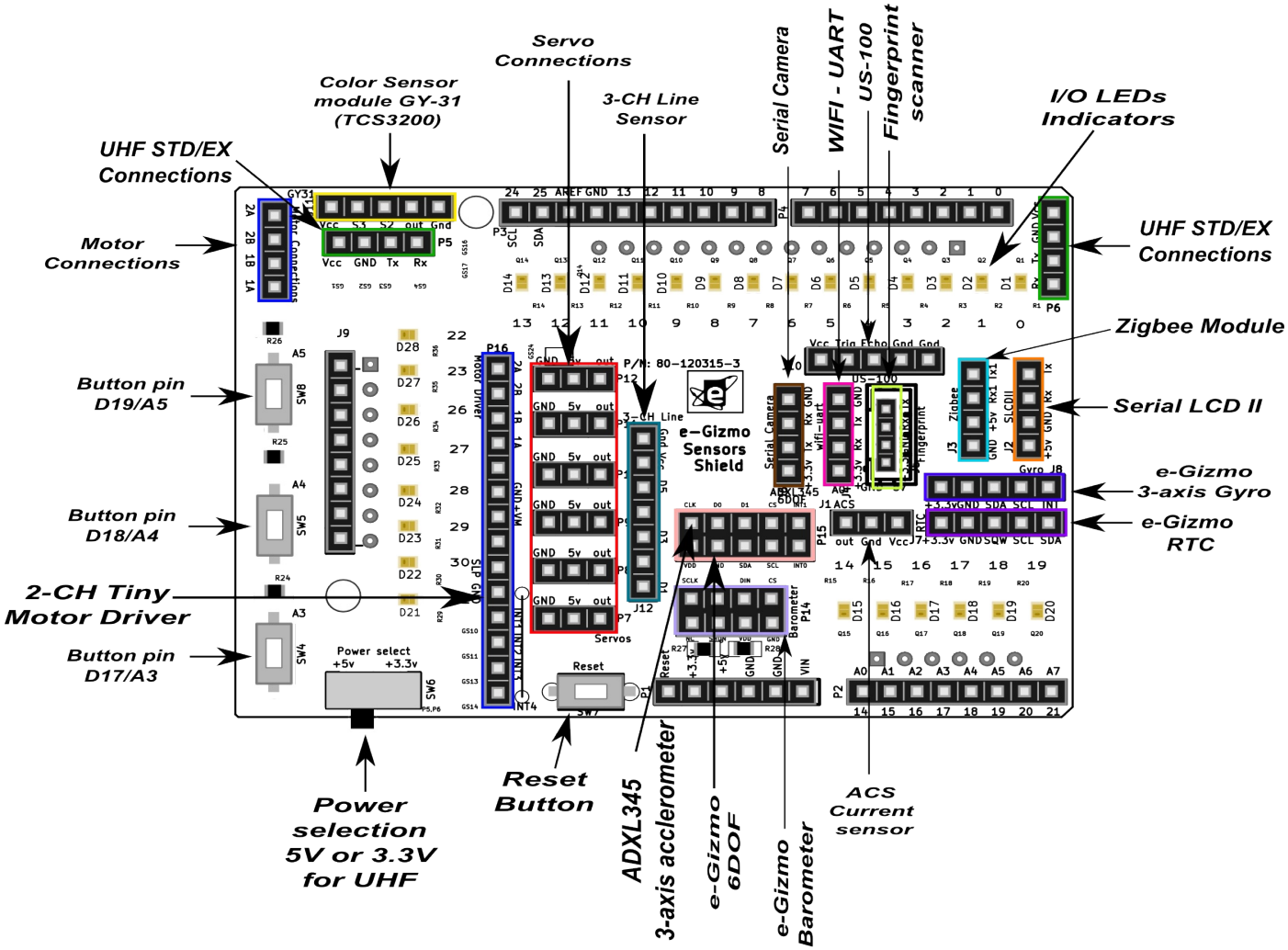


Figure 1. Major Parts Presentation of Sensors Shield

WITH gizDuino w/ ATMEGA328P version 5

Ref.	Sensors/Module	Pin assignments
J1	*ACS (Current sensor)*	D14(A0), GND, +5V
J2	Serial LCD II	+5V, GND, D1(TX),D0(RX)
J3	Zigbee Module	GND, +5V, D1(TX),D0(RX)
J4	WIFI - UART	+3.3V,D1(TX),D0(RX),GND
J5	Fingerprint Scanner	+3.3V,D0(RX),D1(TX),GND
J6	Serial Camera	+3.3V,D0(RX),D1(TX),GND
J7	e-Gizmo RTC	+3.3V,GND,NC,D19(A5),D18(A4)
J8	e-Gizmo 3- axis Gyro	+3.3V,GND,D18(A4),D19(A5),NC
J9	8 Additonal Pins for gizDuino Plus v4.0	
J10	US-100 (Ultrasonic sensor)	+5V,D4,D3,GND,GND
J11	Color Sensor module GY-31	+5V,D13,D12,D5,GND
J12	3-Channel Line sensor	GND,+5V,D7,X,D6,X,D5
P5	UHF STD/EX Connections	VCC,GND,TX,RX(w/ jumper connections)+5V/3.3V,GND,D0,D1
P6	UHF STD/EX Connections	VCC,GND,TX,RX(w/ jumper connections)+5V/3.3V,GND,D2,D3
P7	Servo1 pins connection	GND,+5V,D3
P8	Servo2 pins connection	GND,+5V,D5
P9	Servo3 pins connection	GND,+5V,D6
P10	Servo4 pins connection	GND,+5V,D9
P11	Servo5 pins connection	GND,+5V,D10
P12	Servo6 pins connection	GND,+5V,D11
P14	e-Gizmo Barometric sensor	SCKL,WD,DIN,CS NC,SHDN,VDD,GND D19(A5),NC,D18(A4),D16(A2) NC,D17(A3),+5V,GND
P15	e-Gizmo 6 Degree of Freedom	CLK,D0,DI,CS,INT1 VDD,GND,SDA,SCL,INT0 D17(A3),D16(A2),D15(A1),D14(A0),NC +3.3V,GND,D18(A4),D19(A5),NC
P15	e-Gizmo ADXL345 3-axis accelerometer	CLK,D0,DI,SS INT1,INT2,VDD,GND D14(A0),D15(A1),D16(A2),D17(A3) NC,NC,+3.3V,GND
P16	e-Gizmo 2-Channel Tiny Motor Driver	2A,2B,1B,1A,X,GND,+VM,X,SLP,GND,INT1,INT2,INT3,INT4 [RIGHT MOTOR],[LEFT MOTOR],X, GND,5/7V,X,NC,GND,D8,D9,D10,D11

SW4	A3
SW5	A4
SW6	Power selection 5V or 3.3V Slide Switch
SW7	Reset Button
SW8	A5

***WITH gizDuino PLUS w/ ATMEGA644P**

Ref.	Sensors/Module	Pin assignments
J7	e-Gizmo RTC	+3.3V,GND,NC,(SDA-S24)*,(SCL-D25) *
J8	e-Gizmo3- axis Gyro	+3.3V,GND,(SDA-D24)*,(SCL-D25)*,NC
P14	e-Gizmo Barometric sensor	SCKL,WD,DIN,CS NC,SHDN,VDD,GND D19(A5),NC,D18(A4),D16(A2) NC,D17(A3),+5V,GND
P15	e-Gizmo 6 Degree of Freedom	CLK,D0,DI,CS,INT1 VDD,GND,SDA,SCL,INT0 D17(A3),D16(A2),D15(A1),D14(A0),NC +3.3V,GND,(SDA-D24)*,(SCL-D25)*,NC

Jumper Pin Connections

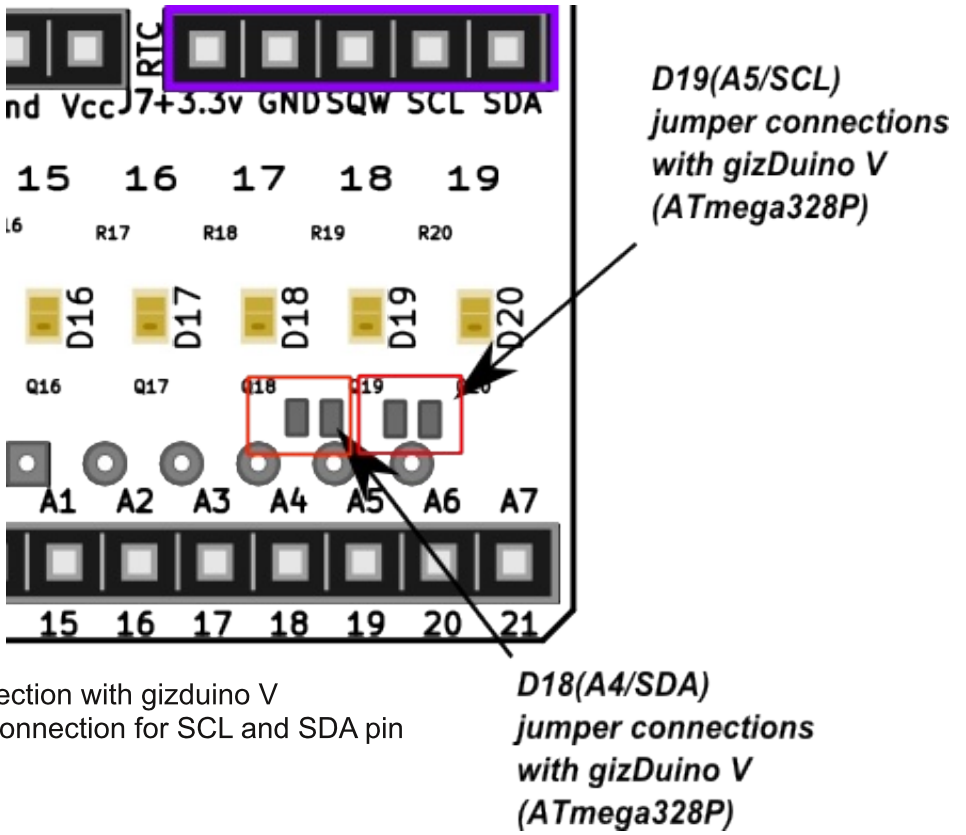


Figure 2. For I2C connection with gizduino V
Jumper connection for SCL and SDA pin

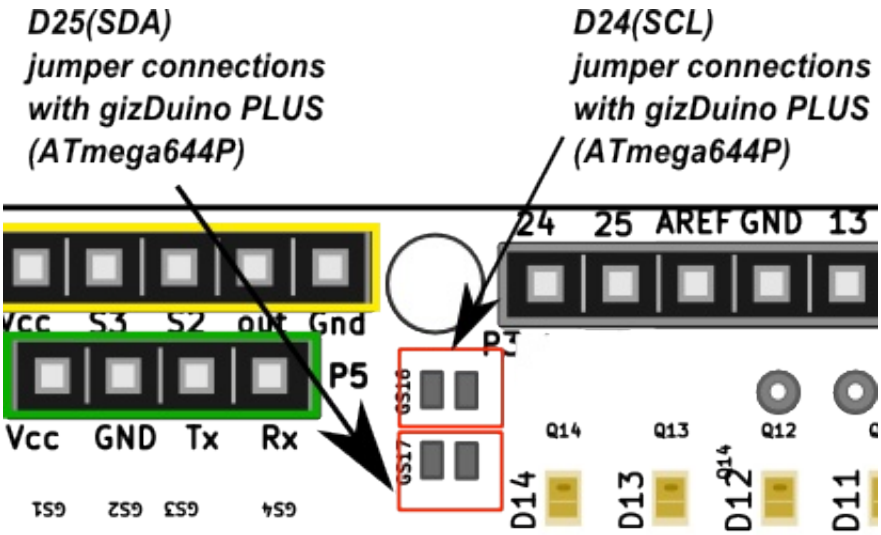
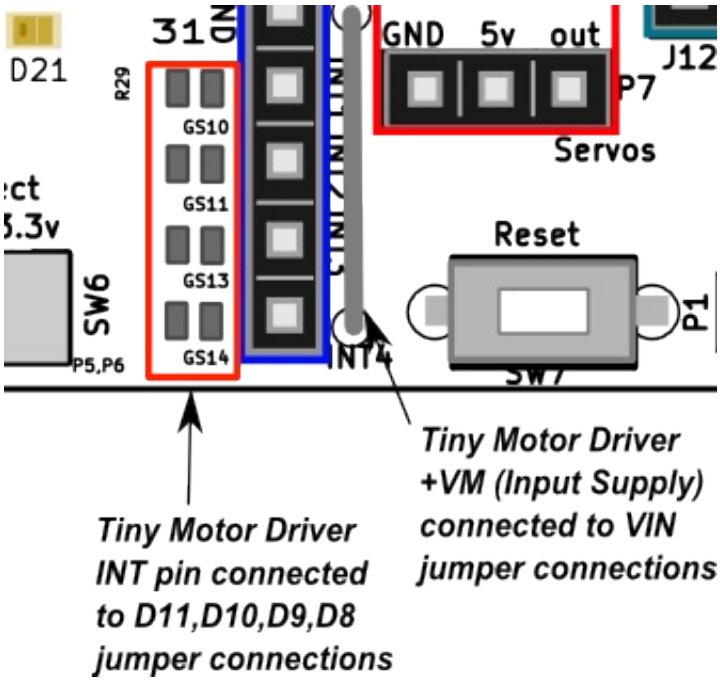


Figure 3. For I2C connection with gizduino Plus 4.0 board jumper connections to SDA and SCL.
* Follow the pin description for gizduino plus v4.0



In +VM there must be a jumper wire connection to supply the Motor driver from VIN of gizDuino board

Figure 4. For Tiny motor pin INT and +VM connections.

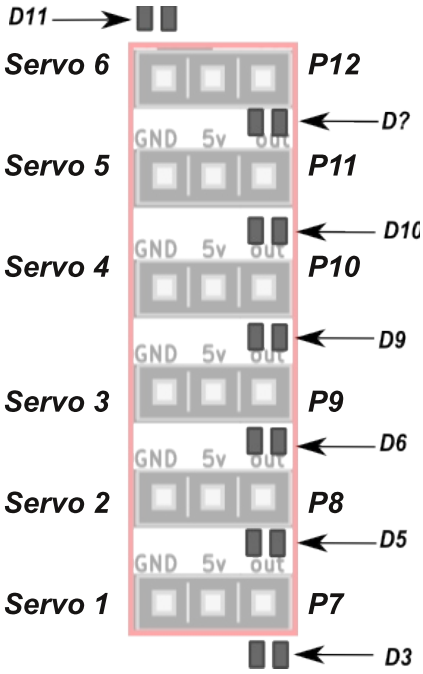


Figure 5. For Servo assigned pin connections

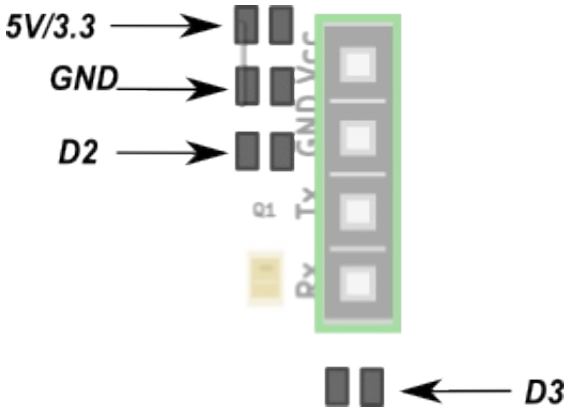


Figure 6 . For UHF EX/STD Connections Using Software serial, if you are using gizDuino V while Hardware serial1 in gizDuino Plus

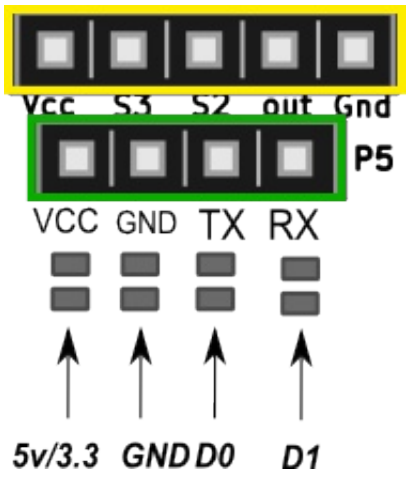


Figure 7. For UHF EX/STD Connections Using Hardware Serial of gizDuino boards.

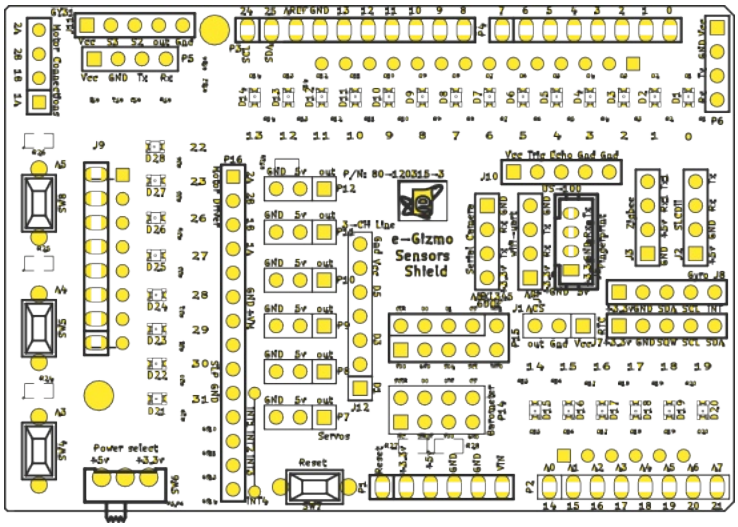


Figure 8. Parts Placement.

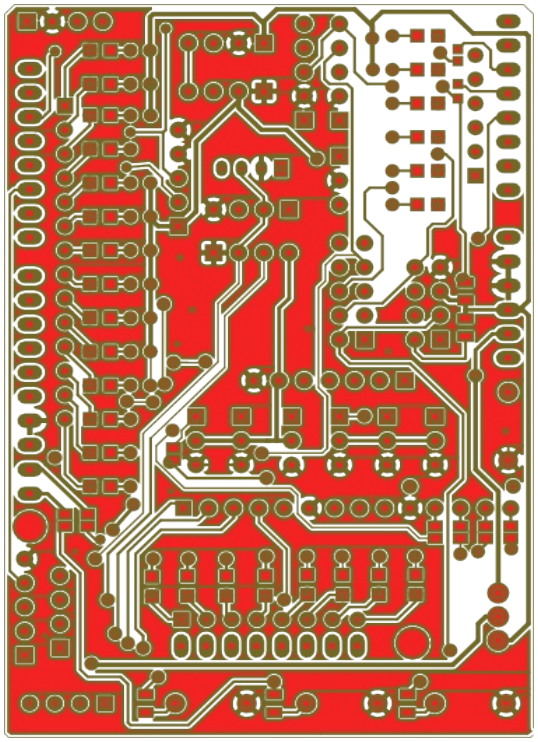


Figure 9. Parts Placement.

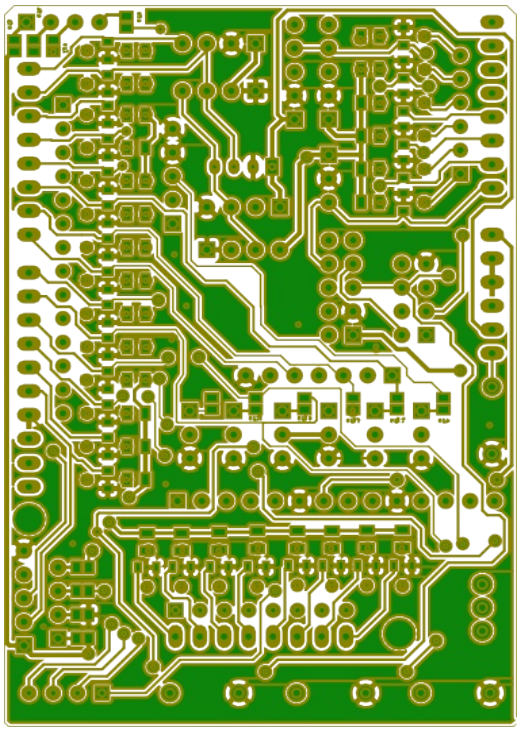


Figure 10. Bottom Guide Layout.