

Sensor Amplifier

Technical Manual Rev 1r0



The e-Gizmo Sensor Amplifier or so called Instrumentation amplifier is a type of differential amplifier because of its great accuracy and stability output for the sensor. It is an amplifier that particularly use in measurement and test equipment. It acts as a bridge sensor from the board to the sensor kit. Sample Application is Load cell (See page 6).

FEATURES:

- Compatible in all sensor and gizDuino Board.
- With output offset adjustable.
- "SET GAIN" placement for other value of resistor (Through-hole or SMD)

GENERAL SPECIFICATION:

- Supply Input: 9 - 12V DC
- ICs: TLE2141 Differential Amplifier
- PCB Dimension: 65 mm x 47 mm

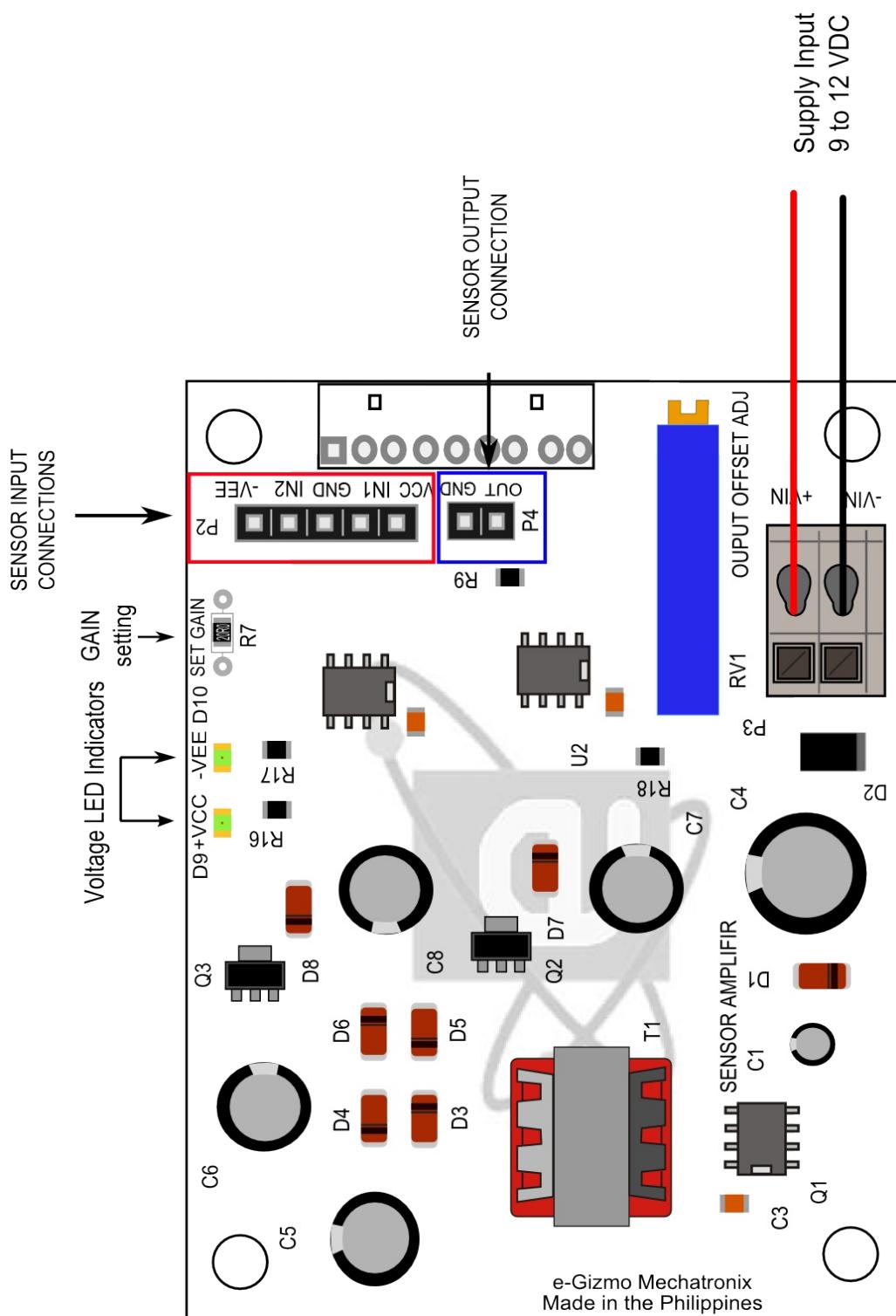
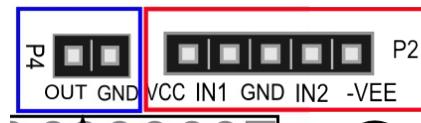


Figure 1. Major parts presentation of Sensor Amplifier, power supply input connections, Sensor input connections, and LED indicators.

Table 1. P2 - P4 connections and descriptions**PIN I.D Descriptions**

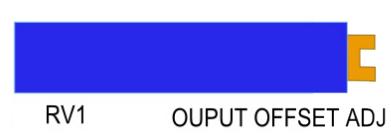
P2	Sensor Input Connections
P3	Input Power Supply Connection
P4	Sensor Output Connection

**Figure 2. P3 and P4 Illustration****Table 2. D9 - D10 LED Indicators****LED Pin I.D Descriptions**

D9	+VCC	Positive Supply Indicator
D10	-VEE	Negative Supply Indicator

**Figure 3. D9 and D10 Illustration****Table 3. RV1 Output offset adjustment****POT Pin I.D Descriptions**

RV1	OUTPUT	Output Offset Adjustment
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**Figure 4. RV1 Illustration****Table 4. R7 Set Gain****Pin I.D Pin Name Descriptions**

R7	SET GAIN	GAIN Setting 200 ohms (default)
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**Figure 5. R7 Illustration**

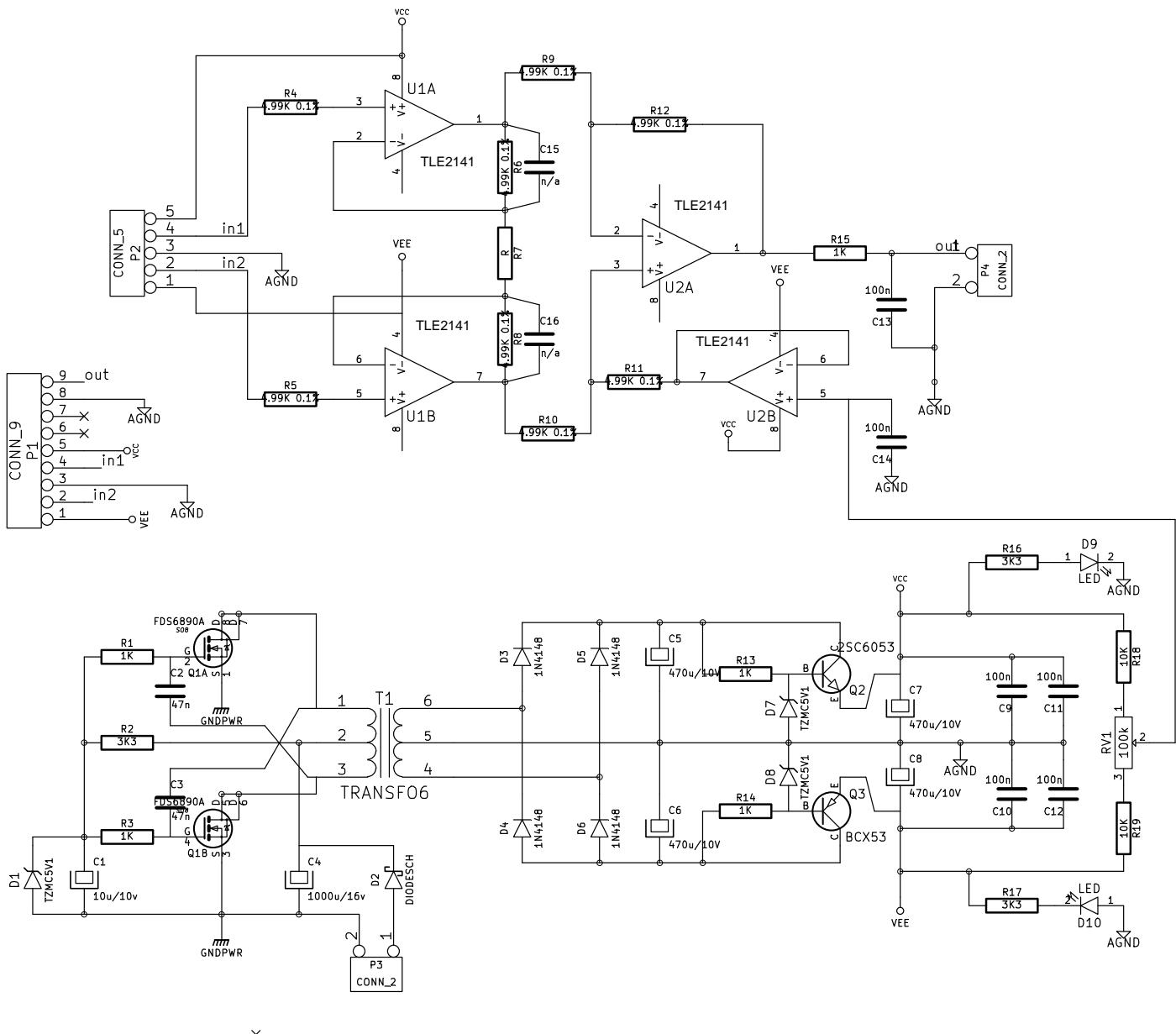


Figure 6. Schematic Diagram of e-Gizmo Sensor Amplifier

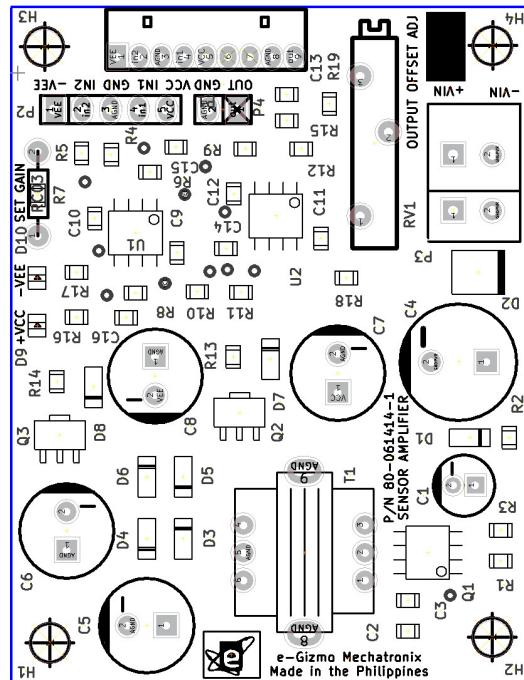


Figure 7. Parts Placement

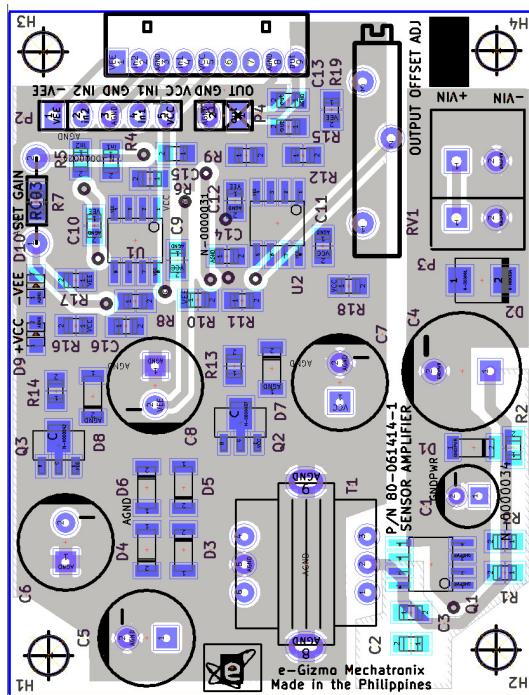


Figure 8. BottomPCBGuide

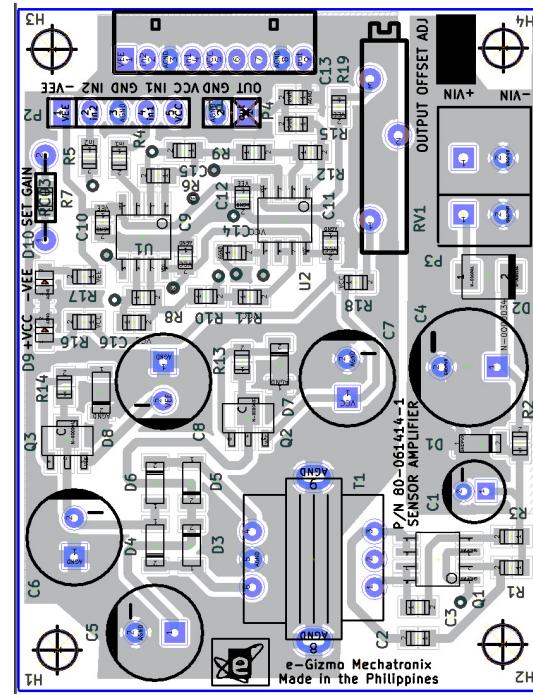
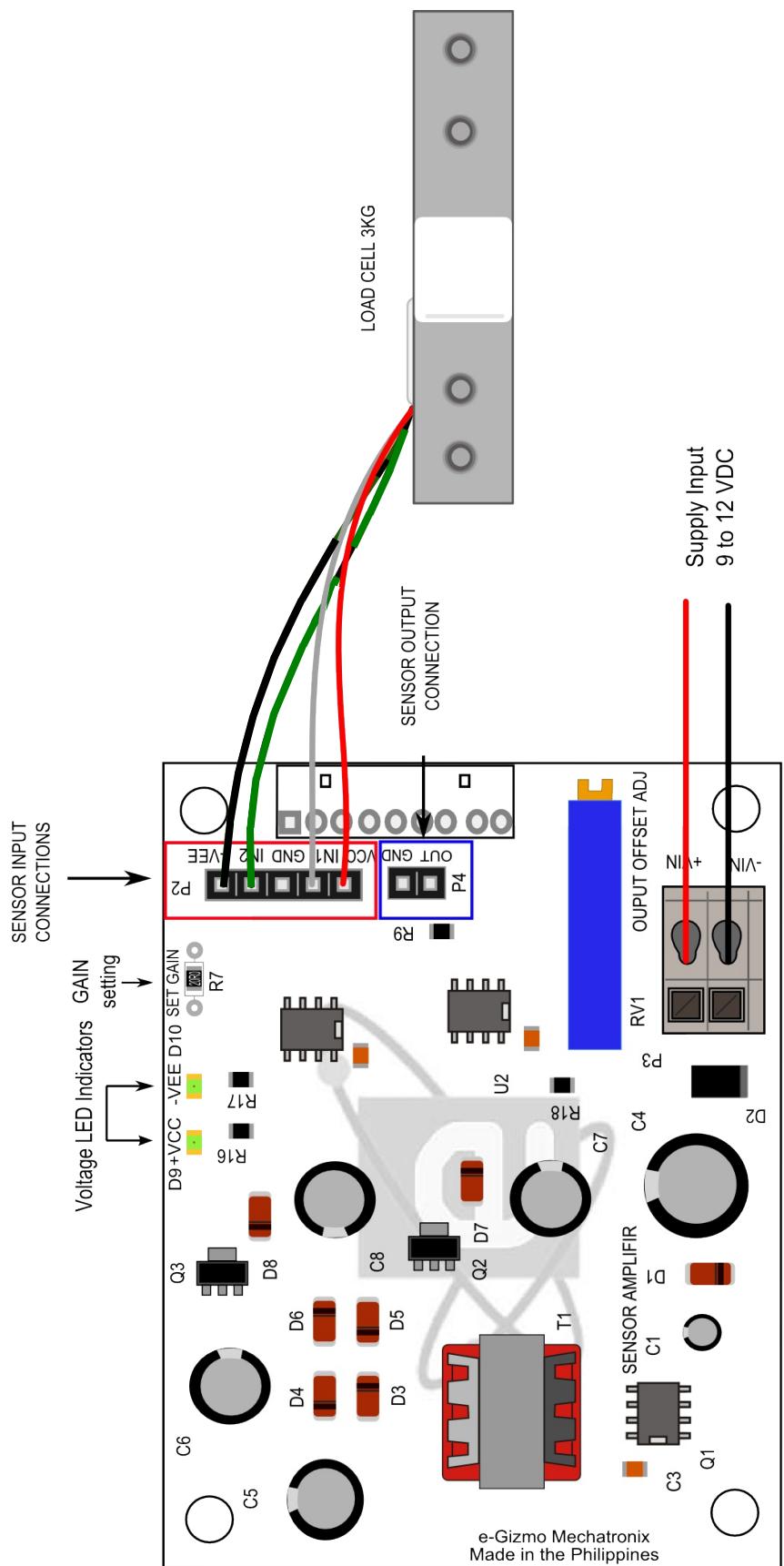


Figure 9. TopPCBGuide



e-Gizmo SENSOR AMPLIFIER

Sample Application

Figure 10. Sample Application of e-Gizmo Sensor Amplifier with Load cell 3kg(sensor).