

The diagram illustrates a battery-powered system. At the top, a battery symbol is labeled 'BAT'. A green wire connects the positive terminal of the battery to a point labeled 'VOUT'. A red wire connects the negative terminal of the battery to a point labeled 'GND'. A capacitor, labeled 'C1 10u', is connected in parallel with the battery. A voltage divider is connected to the 'VOUT' point, consisting of a green wire leading to a point labeled 'VOUT' and a red wire leading to a point labeled 'GND'. A component labeled 'CONN1' is connected to the 'VOUT' point, with pins labeled '1 BAT', '2 +5V', and '3 GND'. Below the battery, a voltage divider is shown, consisting of a green wire leading to a point labeled 'VOUT' and a red wire leading to a point labeled 'GND'. A capacitor, labeled 'C2 10u', is connected in parallel with the battery. A component labeled 'U2 AP2112K-3.3' is connected to the 'VOUT' point, with pins labeled '1 VIN', '2 GND', '3 EN', and '5 VOUT'. A resistor, labeled 'R1 100K', is connected between the 'VIN' and 'EN' pins. The output of the regulator, 'VOUT', is connected to a point labeled '+3.3V VCC'. A capacitor, labeled 'C3 47u', is connected in parallel with the output. Another capacitor, labeled 'C4 0.1u', is connected in parallel with the output. The ground reference is labeled 'GND'.

The diagram illustrates the I2C Bus connections for two sensors: a Light source sensor (S1, GY-302) and a Humidity/Temperature sensor (S2, AHT20).

I2C Bus Connections:

- Light source sensor (S1, GY-302):** The I2C_SCL line is connected to the Light_SCL pin. The I2C_SDA line is connected to the Light_SDA pin. The HT_SCL and HT_SDA pins are also shown but not connected to the bus.
- Humidity/Temperature sensor (S2, AHT20):** The HT_SCL pin is connected to the I2C_SCL line. The HT_SDA pin is connected to the I2C_SDA line. The Light_SCL and Light_SDA pins are also shown but not connected to the bus.

Sensor Pin Configurations:

- S1 (GY-302):**
 - Pin 1: VCC
 - Pin 2: GND
 - Pin 3: SCL
 - Pin 4: SDA
 - Pin 5: ADDR
- S2 (AHT20):**
 - Pin 1: Vin
 - Pin 3: GND
 - Pin 4: SCL
 - Pin 2: SDA

The image displays three separate circuit diagrams, each enclosed in a dashed rectangular border.

- Soil EC sensor:** This circuit features three input signals: `SoilEC_A`, `SoilEC_B`, and `SoilEC_SIG`. `SoilEC_A` and `SoilEC_B` are connected to a network of resistors (`R2` = 1K) and a capacitor (`C5` = 0.1u) leading to a common ground. `SoilEC_SIG` is connected directly to ground. The outputs are labeled `PROBE1 SoilEC_ProbeA` and `PROBE2 SoilEC_ProbeB`.
- Soil moisture sensor:** This circuit uses a `TLC555CP` timer (`U3`). It is configured with various resistors (`R3` = 330, `R4` = 2.4K, `R5` = 4.7K, `R6` = 10K, `R7` = 10K, `R8` = 1M) and capacitors (`C6` = 100n, `C7` = 470p, `C8` = 10n, `C9` = 1u). The timer's output (`OUT`) is connected to a diode (`D1` = 1N4148) and a resistor (`R8` = 1M) leading to ground. The output signal is labeled `SoilMoist`. Other components include `SoilMoist_EN` and `SoilMoist_ProbeA` / `SoilMoist_ProbeB` probes.
- Soil Temperature sensor:** This circuit is a simple voltage divider. It consists of a variable resistor (`S3` = MF58 10K) and a fixed resistor (`R9` = 10K) connected to `VCC`. A capacitor (`C10` = 0.1u) is connected to the junction between the two resistors and to ground. The output signal is labeled `SoilTemp`.