

Remote Weight Monitoring

Connects to WiFi using provided credentials.

Measures weight using an HX711 module and displays it on an LCD.

Sends the weight to a server via an HTTP POST request when a button is pressed.

Provides feedback using an LED that blinks upon successful data transmission.

A **load cell** measures weight by converting physical force (like the weight of an object) into an electrical signal. Here's a simple explanation of how it works:

1. **Sensitive Structure:** The load cell has a small metal piece that bends slightly when weight or force is applied to it.
 2. **Strain Gauges:** On this metal piece, tiny sensors called **strain gauges** are attached. These sensors detect how much the metal bends or stretches.
 3. **Change in Resistance:** When the metal bends, the strain gauges change their electrical resistance. This change is very small but directly proportional to the weight.
 4. **Electrical Signal:** The load cell combines these small changes into a single electrical signal.
 5. **Amplification:** Since the signal is weak, a device like the **HX711** amplifies it and converts it into a digital value, which is then read by a microcontroller or displayed.
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