Light Dependent Resistor (LDR)

Intro

→ *So, in this video, we will see LDR following the four-step process on which I have already created a video, so let's start.*

Light Dependent Resistor (LDR)

→ *It is also known as photoresistor or photocell.*

→ *LDR is a type of variable resistor and its resistance is controlled by the amount of light falling on it.*

→ *When the light falling on the LDR increases the resistance will decrease and the current flowing through the circuit will increase and this will make LED which will be glowing along with the circuit glow brighter.*

→ *If the light falling on the LDR decreases then the resistance will start to increase. If the resistance is higher the current flowing through the circuit will be reduced and the LED will not glow brightly which is connected to the LDR.*

Circuit symbol

→ **Circuit symbol of light dependent resistor**

→ **It is just like a resistor if any arrows are present than it is a variable resistor.**

→ **The upside-down y symbol is the lambda symbol which here means light**

$$\lambda$$
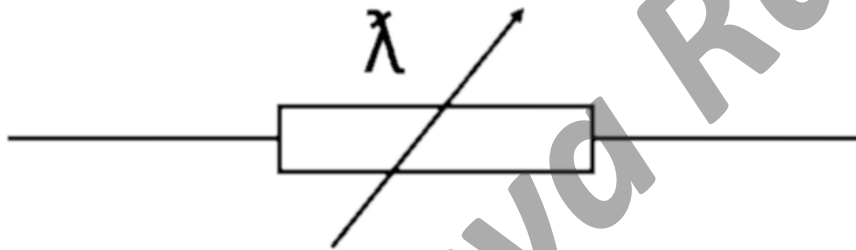
Real-Time Application

- **In the street lights**

Online Circuit Simulation

→ **Let's open our Tinker CAD, then we create a new project, and then we will simply drag some basic components like Bread Board, Battery, and a LED. Now we will drag a Light Dependent Resistor.**

→ *Now let's do the connections, so we will connect the battery terminals to their respective power rails in the Bread Board, then we will connect the LDR to any random strip of the Bread Board, then we will connect the LED's positive filament to the 2ⁿᵈ terminal of the LDR then we will connect the negative filament of the LED to the negative power rail, and then we will simply connect the positive power rail to the 1ˢᵗ terminal of the LDR.*

→ *Now click 'Start Simulation' and your LED will not at all glow, but as you increase the light in the range bar it will glow accordingly.*

Practical Experiment

→ *Required components:*
- *A Bread Board*
- *A LDR*
- *A LED*
- *A Battery*
- *Some jumper-wires*

→ *Now let's do the connections, so we will connect the battery terminals to their respective power rails in the Bread Board, then we will connect the LDR to any random strip of the Bread Board, then we will connect the LED's positive filament to the 2ⁿᵈ terminal of the LDR then we will connect the negative filament of the LED to the negative power rail, and then we will simply connect the positive power rail to the 1ˢᵗ terminal of the LDR.*

$\rightarrow$ *your LED will not at all glow, but as you increase the light by using your phone's flashlight or any other Light-emitting thing it will glow accordingly.*

Circuit Diagram

$\rightarrow$ *First, we will draw the battery, a LED, and an LDR then we will connect the negative line of the battery to the negative Line of the LED, then we will connect the positive line of the battery to the 1^t line of the LDR and then we'll connect the 2nd terminal of the LDR to the positive line of the LED and your circuit is completed.*

Outro

$\rightarrow$ *That's all for this video and I will see you in this next one until then BYE BYE!*