

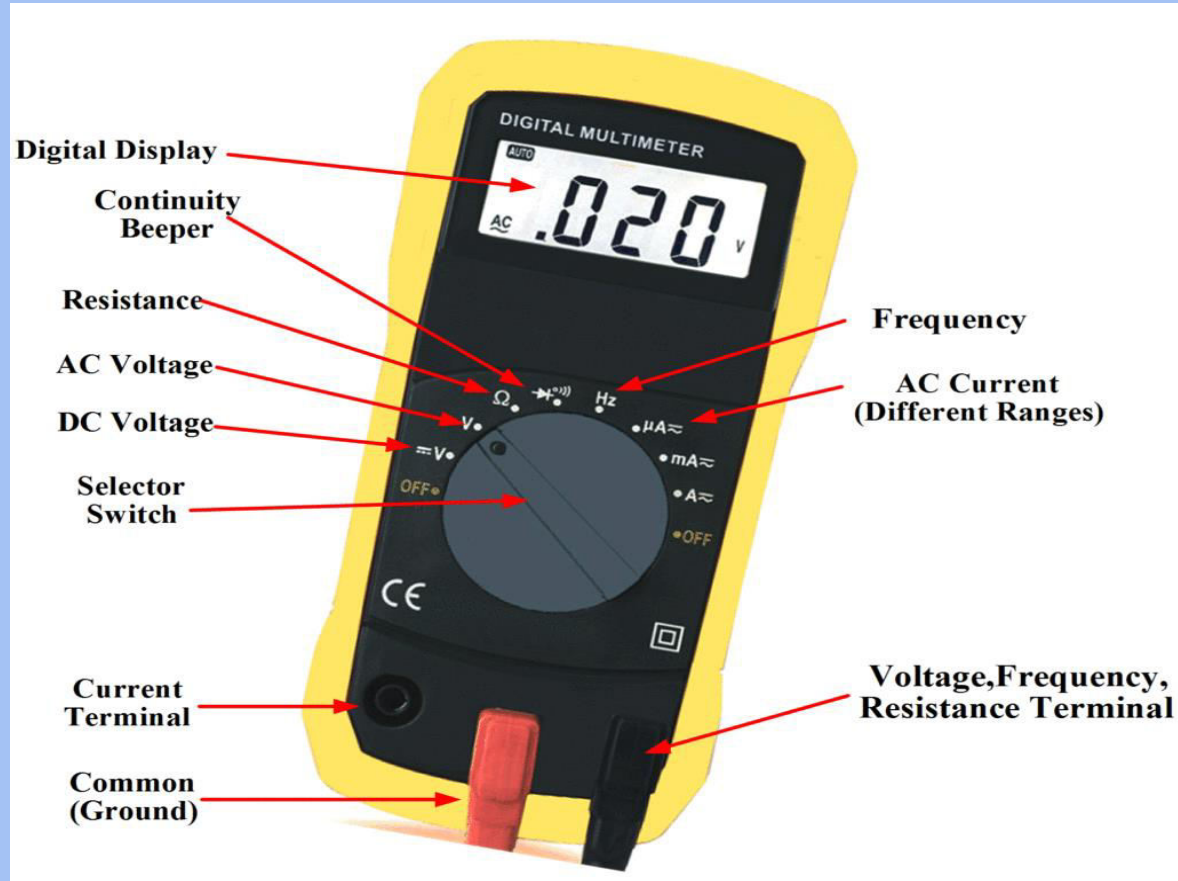
SUBJECT: BASIC ELECTRONICS

Digital Multimeter (DMM)

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Digital Multimeter (DMM)

- ❑ **DMM** stands for **Digital Multimeter**. It is a versatile electronic instrument used to measure multiple electrical parameters such as voltage, current, resistance, capacitance, frequency, and continuity in electrical circuits. DMMs are widely used in various fields, including electronics, electrical engineering, automotive diagnostics, and troubleshooting tasks.



Key Features and Functions of DMM

- ❑ **Digital Display:** DMMs typically feature a digital display, such as an LCD (Liquid Crystal Display) or LED (Light Emitting Diode) display, to provide clear and accurate readings of the measured electrical parameters.
- ❑ **Measurement Modes:** DMMs offer multiple measurement modes for different electrical parameters. Common measurement modes include:

- Voltage (DC and AC)
- Current (DC and AC)
- Resistance
- Capacitance
- Frequency
- Diode testing
- Continuity testing

❑ **Auto-ranging:** Many DMMs feature auto-ranging capability, which automatically selects the appropriate measurement range for the parameter being measured. This simplifies the measurement process and helps prevent damage to the DMM or the circuit under test.

- ❑ **Input Protection:** DMMs are equipped with input protection features such as fuses, circuit breakers, and transient voltage suppression to safeguard the instrument and the user from accidental overloads or voltage spikes.
- ❑ **Data Hold:** Some DMMs include a data hold function that allows the user to freeze the displayed reading for easy viewing, especially in situations where it's difficult to read the display while taking measurements.
- ❑ **Relative Measurement:** DMMs may offer a relative measurement function that enables users to compare measurements to a reference value or zero out test lead resistance for more accurate readings.

- ❑ **Battery Powered:** Most DMMs are battery-powered for portability and convenience, allowing users to take measurements in various locations without the need for an external power source.
- ❑ **Safety Ratings:** DMMs are often rated for safety compliance standards such as CAT (Category) ratings, which indicate the instrument's suitability for specific measurement environments and potential electrical hazards.

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