Ohmmeters: BK Precision 2831E (22:33)

Compare and contrast benchtop and hand held digital multimeters.

Identify where the test leads are placed in the BK Precision 2831E DMM for the ohmmeter function.

Identify the default mode assumed by the BK Precision 2831E DMM upon power up.

Identify how to place the BK Precision 2831E DMM into ohmmeter mode.

Identify how the BK Precision 2831E DMM indicates an open.

Identify how to test the leads of a DMM.

Identify two important considerations when measuring the resistance of an element using an ohmmeter.

Differentiate between an auto ranging and manually ranged meter. Identify if the BK Precision 2831E DMM is auto ranging or manually ranged.

Identify how to place the BK Precision 2831E DMM into audible continuity test mode.

Identify the resistance of an open switch. Identify the resistance of a closed switch.

Use the four band color code to determine the nominal value for these 3 resistors. Identify the upper and lower limits for these resistors given the specified tolerance.

R_A = RED RED BROWN GOLD
R_B = PURPLE GREEN BROWN GOLD
R_C = BROWN BLACK RED GOLD

Given these experimentally observed resistance values:

$R_A = 219.2\Omega$
$R_B = 762.3\Omega$
$R_C = 992.3\Omega$

Determine the total resistance of these series combinations:

$R_A + R_B$
$R_B + R_C$
$R_A + R_B + R_C$

Identify how the total resistance magnitude of a series combination of resistors relates to the individual resistors constituting the relationship.

Identify the how the order of arrangement affects the total resistance of a series combination of resistors.

Identify the consequences of opened elements in a series circuit.

Identify the consequences of opened elements in a series circuit.

Given these experimentally observed resistance values:

$R_A = 219.2\Omega$

$R_B = 762.3\Omega$

$R_C = 992.3\Omega$

Determine the total resistance of these parallel combinations:

$R_A \,||\, R_B$

$R_B \,||\, R_C$

$R_A \,||\, R_B \,||\, R_C$

Identify how the total resistance magnitude of a parallel combination of resistors relates to the individual resistors constituting the relationship.

Identify the how the order of arrangement affects the total resistance of a parallel combination of resistors.

Identify the consequences of opened elements in a parallel circuit.

Identify the consequences of shorted elements in a parallel circuit.

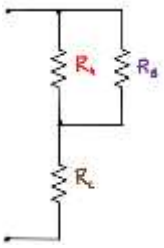
Given these experimentally observed resistance values:

$R_A = 219.2\Omega$

$R_B = 762.3\Omega$

$R_C = 992.3\Omega$

Determine the total resistance of this series-parallel circuit.



Identify the consequences of measuring the resistance of R_A in the above circuit while R_A is still in the circuit.

Identify how to properly measure the resistance of R_A in the above circuit.

Identify how a source, even in the unpowered state, can improperly influence resistance measurements of elements inside a circuit.

Identify how to properly measure the resistance of elements inside circuits.

Identify the tool used to accurately measure extremely low resistance paths like a transmission line.

Identify the tool used to accurately measure extremely high resistance paths like insulation.