

Motwane's **M21C handy** is a Technician Grade, "M"-series pocket-sized, general purpose, handy Digital Multimeter. M21C handy comes with the trustworthy Motwane reliability, 2400 Counts, Basic accuracy of 0.5%, Voltage measurement up to 1000V DC/750V AC, Current measurement up to 10A AC/DC, Resistance measurement up to 24M Ω , CE and CAT II 600V protection.

In addition to the standard DMM features such as measurement of basic Power parameters – V, A & R, M21C handy also offers capacitance, frequency & duty-cycle measurement, Diode & Continuity Testing with audio-visual indication addressing a wide range of general purpose, low voltage applications.

M21C handy is provided with a magnet which enables the user to stick the multimeter on to a metallic surface and perform handsfree operations.

FEATURES

- 0.5% Accuracy, 2400 Count LCD display with large digits for easy visibility
- Voltage range up to 1000V DC/750V AC
- AC/DC current range up to 10A
- Resistance measurement up to 24M Ω
- Capacitance, Frequency, Duty-cycle, and Diode measurement facility
- Continuity measurement with audio-visual indication
- CE, and CAT II 600V protection
- Pollution Degree 2 for enhanced safety in outdoor use
- Highly Rugged casing
- Overload protection on all ranges
- Calibration Certificate

APPLICATIONS

The new DMM M21C handy can serve a wide range of Low Voltage indoor applications to suit the general purpose needs of Electrical Contractors, Medium~Large Industries, SMEs, Educational Institutions, Hobbyists and Students.

Motwane Reliability in Your Pocket



M21C ^{handy} Digital Multimeter

M21C^{handy} TECHNICAL SPECIFICATIONS

DC Voltage

Range	Resolution	Max. Reading	Accuracy $\pm(\text{reading}+\text{digit})$	Overload Protection
240mV	0.1mV	240.0mV	$\pm(0.5\% + 3)$	1050V DC/AC rms
2.4V	1mV	2.400V	$\pm(0.5\% + 3)$	
24V	10mV	24.00V	$\pm(0.5\% + 3)$	
240V	100mV	240.0V	$\pm(0.5\% + 3)$	
1000V	1V	1000V	$\pm(0.8\% + 3)$	

Note : Input impedance 10M Ω approx.

AC Voltage (50Hz - 500Hz) only sine wave (Average)

Range	Resolution	Max. Reading	Accuracy $\pm(\text{reading}+\text{digit})$	Overload Protection
2.4V	1mV	2.400V	$\pm(1.0\% + 5)$	1050V DC/AC rms
24V	10mV	24.00V	$\pm(1.0\% + 5)$	
240V	100mV	240.0V	$\pm(1.0\% + 5)$	
750V	1V	750V	$\pm(1.2\% + 8)$	

Note : Input impedance 10M Ω approx. shunted by 30pF approx.

Resistance Range

Range	Resolution	Max. Reading	Accuracy $\pm(\text{reading}+\text{digit})$	Overload Protection
240 Ω	0.1 Ω	240.0 Ω	$\pm(0.5\% + 3)$	250V DC/AC rms (For 30 sec.)
2.4K Ω	1 Ω	2.400K Ω	$\pm(0.5\% + 3)$	
24K Ω	10 Ω	24.00K Ω	$\pm(0.5\% + 3)$	
240K Ω	100 Ω	240.0K Ω	$\pm(0.5\% + 3)$	
2.4M Ω	1K Ω	2.400M Ω	$\pm(1.5\% + 3)$	
24M Ω	10K Ω	24.00M Ω	$\pm(3.5\% + 5)$	

Note : Open circuit Voltage on 240 Ω - 24M Ω ranges are 0.400V DC approx.

Diode Test

Range	Resolution	Open Circuit Voltage	Test Current	
1.5V	1mV	1.52VDC	0.5mA approx.	250V DC / AC rms (For 30 sec.)

Continuity Test

Range	Resolution	
240 Ω	0.1 Ω	Meter beeps at < 50 Ω approx.

Note : Open Circuit Voltage on continuity range is 0.400V DC approx.

Capacitance

Range	Resolution	Max. Reading	Accuracy $\pm(\text{reading}+\text{digit})$	Overload Protection
2.5nF	0.001nF	2.500nF	$\pm(5.0\% + 50)$	250V DC/AC rms (For 30 sec.)
25nF	0.01nF	25.00nF	$\pm(5.0\% + 10)$	
250nF	0.1nF	250.0nF	$\pm(5.0\% + 10)$	
2.5 μ F	1nF	2.500 μ F	$\pm(5.0\% + 10)$	
25 μ F	10nF	25.00 μ F	$\pm(5.0\% + 10)$	

Note : 1. Capacitance measurement accuracy is specified after pressing REL at zero input

2. Settling time on 25 μ F range in 30 sec. approx.

Frequency

Range	Resolution	Max. Reading	Accuracy $\pm(\text{reading}+\text{digit})$	Overload Protection
5Hz	0.001Hz	5.000Hz	$\pm(0.3\% + 3)$	250V DC/AC rms (For 30 sec.)
50Hz	0.01Hz	50.00Hz	$\pm(0.3\% + 3)$	
500Hz	0.1Hz	500.0Hz	$\pm(0.3\% + 3)$	
5KHz	1Hz	5.000KHz	$\pm(0.3\% + 3)$	
50KHz	10Hz	50.00KHz	$\pm(0.3\% + 3)$	
500KHz	100Hz	500.0KHz	$\pm(0.3\% + 3)$	
5MHz	1KHz	5.000MHz	$\pm(0.3\% + 3)$	

Duty Cycle

Range	Resolution	Max. Reading	Accuracy $\pm(\text{reading}+\text{digit})$	Overload Protection
0.1-99.9%	0.1%	99.9%	$\pm(0.5\% + 20)$	250V DC/AC rms (For 30 sec.)

Note : Measurement Accuracy is specified at < 20VAC rms

Note : Sensitivity 5Hz- 50KHz > 400mV rms, 500KHz to 5MHz > 6V rms

DC Current

Range	Resolution	Max. Reading	Accuracy $\pm(\text{reading}+\text{digit})$	Overload Protection
24mA	0.01mA	24.00mA	$\pm(1.0\% + 5)$	250mA/250V DC/AC fast blow, Ceramic Fuse
240mA	0.1mA	240.0mA	$\pm(1.2\% + 5)$	
2.4A	1mA	2.400A	$\pm(2.0\% + 5)$	10A/250V DC/AC fast blow, Ceramic Fuse
10A	10mA	10.00A	$\pm(2.0\% + 5)$	

AC Current (50Hz - 500Hz) only sine wave (Average)

Range	Resolution	Max. Reading	Accuracy $\pm(\text{reading}+\text{digit})$	Overload Protection
24mA	0.01mA	24.00mA	$\pm(1.0\% + 5)$	250mA/250V DC/AC fast blow, Ceramic Fuse
240mA	0.1mA	240.0mA	$\pm(1.2\% + 5)$	
2.4A	1mA	2.400A	$\pm(2.0\% + 5)$	10A/250V DC/AC fast blow, Ceramic Fuse
10A	10mA	10.00A	$\pm(2.5\% + 5)$	

GENERAL SPECIFICATIONS

- Display : 2400 Count LCD Display
- Polarity : Automatic
- Display Update Rate : 3 times per sec. nominal
- Sensing : Average sensing calibrated for rms
- Dimension (W X H X D) : 63 x 138 x 28 mm approx.
- Weight : 180g. approx.

Power:

- Power Supply : Battery 1.5V x 2 (AAA size or equivalent)
- Power Consumption : 1mA Typical
- Low Bat Indication : ' ' is displayed below 2.3V approx.
- Auto Power OFF : After 30 minutes, idle sleep mode consumption 2.5 μ A approx.

Environmental:

- Operating Temperature : 0 $^{\circ}$ C to 50 $^{\circ}$ C
- Storage Temperature : -20 $^{\circ}$ C to 60 $^{\circ}$ C
- Relative Humidity : 80% RH at 5 $^{\circ}$ C to 31 $^{\circ}$ C, 50% RH at 31 $^{\circ}$ C to 40 $^{\circ}$ C non-condensing

Safety:

- Measurement Category : CAT II (600V)
- Pollution Degree : 2

ACCESSORIES

Standard Accessory

- Pair of test leads
- Battery 1.5V X 2(AAA or equivalent)

Optional Accessory

- Magnet

Note : For current measurement, 10A AC/DC for 30 sec. max. after every 15 min. cool down interval.
Electromagnetic Compatibility : In RF Field, overall accuracy is equal to 10% of reading + 30 digits.
For AC voltage measurement from freq. 400 Hz to 500 Hz add 1% extra tolerance

Notes 1.For FREE calibration certificate, log-on to : "http://www.motwane.com/calibration" 2.Stated accuracies are valid from 10% of the range to 95% of the range. 3.Tests can be conducted at the factory with the available test set-up only.
4.The company policy is continuous improvement of its products. We therefore reserve the Right of any deviation from illustration & specifications without notice.