

BS502

3 3/4 Digits Auto Range DMM with DC/AC 10A, Frequency, Duty Cycle and Capacitance.

BS502 is a professional auto range digital multimeter, which can measure AC/DC voltage up to 600V, AC/DC 10A current, resistance, continuity, diode, capacitance, duty cycle and frequency.

The large 3 3/4 digits display LCD display (4000 counts) with backlight permits an easy readability also in dim light conditions.

The instrument is complying with IEC/EN61010-1, CAT IV 600V and it is designed for required high safety and accuracy measurement both in domestic and industrial environments use.

Other features are Data hold function and relative measurement to temporary freeze reading or sets the display to zero and saves the actual value as reference. Those functions are important in research and industrial environment use.



Features:

- 3 3/4 Digits 4000 counts LCD display with backlight
- DC voltage 400mV to 600V
- AC voltage 4V to 600V
- DC current 10A
- AC current 10A
- Resistance 400Ω to 40MΩ
- Diode and Continuity Test
- Frequency 99.99Hz to 99.99kHz
- Capacitance 5nF to 100μF
- Relative measurement mode
- DATA/MAX/MIN hold
- Auto Power Off
- Conform to IEC1010/EN61010-1, CE-EMC & LVD CATIV 600V/ CATIII1000V



Accessories:

- Test Lead set x 1
- Instruction manual x 1
- Carrying case x 1
- 1.5V AAA batteries x 2

GENERAL SPEIFICATION

Display	: 3 3/4 digits LCD with maximum reading of 4000.
Sampling rate	: 2.5 samples/second
Polarity	: Automatic, (-) negative polarity indication.
Zero adjustment	: Automatic.
Over range indication	: Only the message "OL" or "-OL" is displayed.
Power	: Two, 1.5V AAA MN2400 LR03 AM4 Batteries
Battery Life	: Typical 170hours
Dimension	: 88 (W) x 163 (H) x 48 (D) mm.
Weight	: Approx. 280 g (including battery).

TECHNICAL SPECIFICATION

Accuracies are \pm (% of reading + number of least significant digits), at $23 \pm 5^{\circ}\text{C}$, less than 80%RH

DC voltage measurement

Range	Resolution	Accuracy	Input Impedance	Overload Protection
400.0mV	0.1mV	$\pm(0.5 + 3)$	10M Ω	600V DC/AC rms
4.000V	0.001V	$\pm(0.5 + 2)$		
40.00V	0.01V			
400.0V	0.1V			
600.0V	1V	$\pm(1.0\%+2)$		

AC voltage measurement

Range	Resolution	Accuracy (40÷400Hz)	Input Impedance	Overload Protection
400.0mV	0.1mV	N/A	10M Ω	600V DC/AC rms
4.000V	0.001V	$\pm(1.0 + 5)$		
40.00V	0.01V	$\pm(1.2 + 3)$		
400.0V	0.1V			
600V	1V			

DC Current measurement

Range	Resolution	Accuracy (*)	Output voltage	Overload Protection
10.00A	0.01A	$\pm(1.2 + 3)$	200mV max	Fuse 10A/600V

(*) Accuracy is guaranteed for current up to: 6A continuous measurement, 7A 3 minutes uninterrupted measurement, up to 10A 2 minutes continuous measurement.

AC Current measurement

Range	Resolution	Accuracy (40~400Hz)	Output Voltage	Overload Protection
10.00A	0.01A	$\pm(2.0\%+5)$	200mV max	Fuse 10A/600V

(*) Accuracy is guaranteed for current up to: 6A continuous measurement, 7A 3 minutes uninterrupted measurement, up to 10A 2 minutes continuous measurement.

Due to our policy of continual product development we reserve the right to amend the specifications of all mentioned products without notice.

Resistance measurement

Range	Resolution	Accuracy	Max Open Circuit Voltage	Overload protection
400.0Ω	0.1Ω	±(1.0 + 5)	Approx. 0.4V	600V DC/AC rms <30sec
4.000kΩ	0.001kΩ	±(1.0 + 2)		
40.00kΩ	0.01kΩ			
400.0kΩ	0.1kΩ			
4.000MΩ	0.001MΩ			
40.00MΩ	0.01MΩ	±(2.0 + 2)		

Capacitance measurement

Range	Resolution	Accuracy	Overload protection
5nF	0.001nF	±(5.0% + 25)	600V DC/AC rms <30sec
50nF	0.01nF	±(3.0 + 5)	
500nF	0.1nF		
5μF	0.001μF		
50μF	0.01μF		
100μF	0.1μF(30s)	±(5.0+10)	

Frequency measurement

Range	Resolution	Accuracy	Overload protection
99.99Hz	0.01Hz	$\pm(1.5\% + 5)$	600V DC/AC rms <30sec
999.9Hz	0.1Hz		
9.999kHz	1Hz		
99.99kHz	10Hz		

Note: Never exceed voltage limits listed below.

Duty cycle measurement

Range	Resolution	Accuracy	Overload protection
20 - 80%	0.1%	$\pm(1.0\% + 5)$	600V DC/AC rms <30sec

Note: Never exceed voltage limits listed below.

Voltage limits for Frequency and Duty Cycle

Working voltage	Frequency
$V_{MIN} \geq 1.5V_{p-p}$ $V_{MAX} \leq 400V_{rms}$	0 – 400Hz
$V_{MIN} \geq 1.5V_{p-p}$ $V_{MAX} \leq 10V_{p-p}$	400 – 900Hz
$V_{MIN} \geq 3.0V_{p-p}$ $V_{MAX} \leq 10V_{p-p}$	900Hz – 100kHz

Continuity Test

Range	Test Current	Buzzer	Max. Open Voltage	Overload Protection
•••)	About 1mA	less than 140Ω	Approx.0.5V	600V DC/AC rms <30sec

Diode Test

Range	Resolution	Accuracy	Max. Open Voltage	Overload Protection
▶+	0.001V	$\pm(0.5\%+3)$	Approx. 1.5V	600V DC/AC rms <30sec

Test Current: 1.5mA



CALTEK INDUSTRIAL (HONG KONG) LIMITED

www.bstcaltek.com

Hong Kong Office

Address: Unit 11 10/F, Kwai Cheong Center, 50 Kwai Cheong Road, Kwai Chung, N.T., Hong Kong

Email: caltek@caltek.com.hk

Tel: (852) 2401-1222

Fax: (852) 2420-3472

Singapore Office

Level 15, Suite 27, Prudential Tower, 30 Cecil Street, Singapore 049712

Email: caltek_sg@caltek.com.hk

Tel: (65) 6232-2903

Fax: (65) 6232-2888

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