Data Sheet

Handheld Digital Multimeters

Test Bench® Series

High Quality, Ruggedized, Multifunctional

High performance and value priced, the Test Bench® Series offers more features for the dollar than other multimeters. In addition to measuring voltage and current, the meters also measure capacitance, frequency and temperature, and include component test, diode test and logic indicator capabilities. See the chart below for the meter that best fits your needs. A double injection molded case provides improved grip and protection for the meters.

Features and Benefits

- Resistance measurement
- Frequency measurement
- Diode check
- Audible continuity
- All current ranges fused
- Auto power off
- Ruggedized case
- CATIII 1000 V, (all models)
- CATIV 600 V, (392 & 393)

CE HIGH ENERGY FUSED

Features	392 & 393	391A	390A	389A	388B
True RMS	√	√	-	-	-
Ranging	Auto/Manual	Manual	Auto/Manual	Auto/Manual	Manual
DCV Accuracy	0.08%	0.05%	0.1%	0.25%	0.5%
AC/DC Voltage and Current	√	√	√	√	√
Display Digits, Count	60000, 4 5/6	20000, 4 1/2	4000, 3 3/4	4000, 3 3/4	4000, 3 3/4
Bar Graph	√	-	√	√	-
Capacitance Measurement	√	-	√	√	√
Transistor Test	-	-	-	-	√
Temperature Probe	√	-	√	-	-
Logic Probe	-	√	-	-	√
Relative Mode	√	-	√	√	-
Min/Max Hold	√	-	√	√	-
Peak Hold	√	-	√	√	-
Data Hold	√	√	√	√	-
USB	393 only	-	√	-	-

Specifications	392 & 393	391A	390A	389A	388B
Volts	True RMS reading	True RMS reading	-	-	-
DC Ranges	600 mV, 6 V, 60V, 600 V, 1000 V	200 mV, 2 V, 20 V, 200 V, 1,000 V	400 mv, 4 V, 40 V, 400 V, 1000 V		
AC Ranges	600 mV, 6 V, 60V, 600 V, 750 V	200 mV, 2 V, 20 V, 200 V, 750 V	400 mv, 4 V, 40 V, 400 V, 750 V		
Resolution	0.01 mV, 0.1 mV, 1 mV, 10 mV, 100 mV	10 µV, 100 mV, 1 mV 10 mV, 100 mV	100 µV, 1 mV, 10 mV, 100 mV, 1 V		
Basic DC Accuracy	±(0.08% rdg + 5 dgt)	±(0.05% + 3 dgt)	±(0.1% rdg + 2 dgt)	±(0.25% rdg + 2 dgt)	±(0.5% rdg + 1 dgt)
Basic AC Accuracy	±(1.5% rdg + 20 dgt) 500 Hz -1 kHz	±(2% + 10 dgt) 500 Hz - 2 kHz	±(1.5% rdg +5 dgt) 500 Hz - 1 kHz		±(1.5% rdg +3 dgt) 500 Hz - 1 kHz
Overload Protection	1000 VDC or 750 VAC rms	1200 VDC or AC rms 500 VDC/AC rms 15 sec on 200 mV range	1100 VDC or AC rms	1000 VDC or peak AC	1200 VDC or AC rms 500 VDC/AC rms 15 sec on 200 mV range
Input Impedance	10 MΩ, 11 MΩ on 6 V range	10 MΩ	400 mV: >100 MΩ, 4V: 10 MΩ	40 V - 1000 V: 9.1 MΩ	10 MΩ

Technical data subject to change
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B&K PRECISION® ELECTRONIC TEST INSTRUMENTS

High Performance DMM
Test Bench® Series

Specifications	392 & 393	391A	390A	389A	388B
Current					
Ranges	600 µA, 6000 µA, 60 mA, 400 mA, 20 A*	200 µA, 2 mA, 20 mA, 200 mA, 20 A*	400 µA, 4 mA, 40 mA, 400 mA, 20 A*		400 mA, 4 mA, 40 mA, 400 mA, 2 A, 20 A*
Resolution	10 nA, 100 nA, 1 µA, 10 µA, 1 mA	10 nA, 100 nA, 1 µA, 10 µA, 1 mA	0.1 µA, 1 µA, 10 µA, 100 µA, 10 µA		100 nA, 1 µA, 10 µA,100 µA,1 mA,10 mA
DC Accuracy	600 µA to 60 mA: ±(0.5% rdg + 10 dgt) 400 mA: ±(1.0% rdg + 10 dgt) 20 A: ±(2.0% rdg + 10 dgt)	200 µA to200 mA:±(0.5% rdg + 5 dgt) 20 A: ±(2% rdg + 10 dgt)	400 µA - 400 mA:±(1% rdg + 5 dgt) 20 A: ±(2% rdg + 3 dgt)	±(1% rdg + 1 dgt) ±(2% rdg + 3 dgt)	400 µA - 400 mA: ±(1% rdg + 1 dgt) 2 A: ±(1.5% rdg + 1 dgt) 20 A: ±(3% rdg + 3 dgt)
AC Accuracy	600 µA to 400 mA: ±(1.5% rdg + 20 dgt) 20 A: ±(2.5% rdg + 20 dgt)	200 µA to200 mA:±(1.2% rdg + 10 dgt) 20 A: ±(2.5% rdg + 20 dgt)	400 µA to 400 mA:±(1.5% rdg + 4 dgt) 20 A: ±(2.5% rdg + 4 dgt)		400 µA - 400 mA:±(1.5% rdg + 1 dgt) 2 A: ±(2% rdg + 4 dgt) 20 A: ±(3.5% rdg + 4 dgt)
Input Protection	µA/mA input: 0.5A/100V fast blow ceramic fuse 20A input: 20A/600A fast blow ceramic fuse	µA/mA input:0.5 A/500 V fast blow ceramic fuse 20 A input: 20 A/600 A fast blow ceramic fuse			µA/mA input: 2 A/600 V fast blow ceramic fuse 20 A input: 20 A/600 V fast blow ceramic fuse
Max. Burden Voltage	500 mV on 600 µA & 60 mA ranges, 2 V on 6000 µA range	600 mV (900 mV on 20 A range)	500 mV (2 V on 4 mA, 400 mA ranges)		600 mV (900 mV on 2 A, 20 A ranges)
Resistance					
Ranges	600 Ω, 6 kΩ, 60 kΩ, 600 kΩ, 6 MΩ, 60 MΩ	200 Ω;2 kΩ,20 kΩ,200 kΩ;2 MΩ,20 MΩ	400 Ω, 4 kΩ, 40 kΩ, 400 kΩ, 4 MΩ, 40 MΩ		
Resolution	10 mΩ, 100 mΩ, 1 Ω, 10 Ω, 100 Ω, 1 kΩ	10 mΩ,100 mΩ,1 Ω,10 Ω,100 Ω,1 kΩ	100 mΩ, 1 Ω, 10 Ω, 100 Ω, 1 kΩ, 10 kΩ		
Accuracy	600 Ω: ±(0.3% rdg + 20 dgt), 6 kΩ to 6 MΩ: ±(0.3% rdg + 10 dgt), 6 MΩ: ±(1.0% rdg + 10 dgt), 60 MΩ: ±(3.0% rdg + 20 dgt)	200 Ω, 2 MΩ: ±(0.25% rdg + 10 dgt) 2 kΩ to 200 kΩ: ±(0.15% rdg + 3 dgt) 20 MΩ: ±(1.0% + 10 dgt)	400 Ω to 400 kΩ: ±(0.5% rdg + 4 dgt) 4 MΩ: ±(1% rdg + 5 dgt) 40 MΩ: ±(2% rdg + 5 dgt)		400 Ω: ±(1% rdg + 4 dgt) 4 kΩ to 4 MΩ: ±(0.8% rdg + 4 dgt) 40 MΩ: ±(2% rdg + 5 dgt)
Open Circuit Voltage	-1.2 VDC typical, -3.0 VDC typical on 600 Ω range	3.2 VDC typical	-0.45 VDC typ. (-1.2 VDC on 400 Ω range)		0.6 VDC typ. (3.2 VDC on 400 Ω range)
Overload Protection	600 VDC or 600 VAC rms	500 VDC or 500 AC rms			
Diode Test	Tested at 0.5 mA, 2 VDC max. typical ±(2.0% rdg + 10 dgt) accuracy	Tested at 1 mA, 3.2 VDC max. typical ±(1% rdg + 10 dgt) accuracy	Tested at 1.2 mA, 3.0 VDC max. typical ±(1.5% rdg + 3 dgt) accuracy		Tested at 1 mA, 3.2 VDC max. typical ±(1.5% rdg + 3 dgt) accuracy
Transistor Test (hFE)	Does not apply	Does not apply	Does not apply		hFE range: 0 - 1000,hFE base current:10 µADC
Capacitance					
Ranges	6 nF, 60 nF, 600 nF, 6 µF, 60 µF, 600 µF, 6 mF	-	4 nF, 40 nF, 400 nF, 4 µF, 40 µF, 400 µF, 4 mF, 40 mF		4 nF, 40 nF, 400 nF, 4 µF, 40 µF
Resolution	1 pF, 10 pF, 100 pF, 1 nF, 10 nF, 100 nF, 1 µF	-	1 pF, 10 pF, 100 pF, 1 nF, 10 nF, 100 nF, 1 µF, 10 µF		0.1 pF, 1 pF, 10 pF, 100 pF, 1 nF
Accuracy	6 nF: ±(3% rdg+30 dgt), 60 nF to 600 µF: ±(3% rdg +10dgt), 6 mF: ±(5% rdg+10 dgt)	-	4 nF: ±(3% rdg+20 dgt) 4 nF to 40 µF: ±(3% rdg +5dgt) 400 µFto 40 mF: ±(5% rdg + 10 dgt)		±(3% rdg + 4 dgt)
Test Voltage	<1 V	-	<1V		<3.5 V
Overload Protection	600 VDC or 600 VAC rms	-	500 VDC or AC rms		
Frequency					
Ranges	60 Hz, 400 Hz, 6 kHz, 60 kHz, 600 kHz, 6 MHz, 10 MHz	2 kHz, 20 kHz, 200 kHz	4 kHz, 40 kHz, 400 kHz, 4 MHz, 40 MHz		4 kHz, 40 kHz, 400 kHz, 4 MHz
Resolution	0.0001Hz, 0.01 Hz, 0.1 Hz, 1 Hz, 10 Hz, 100 Hz, 1 kHz	0.1 Hz, 1 Hz, 10 Hz	1 Hz, 10 Hz, 100 Hz, 10 kHz, 100 kHz		1 Hz, 10 Hz, 100 Hz, 10 kHz
Accuracy	±(0.1% rdg + 10 dgt)	±(0.1% rdg + 3 dgt)	±(0.1% rdg + 3 dgt)	±(0.25% + 4 dgt)	±(0.1% + 2 dgt)
Sensitivity	>100 ns	50 mVrms min. (At>30 & <70% duty cycle: 400 mVrms min.)	1 Hz - 4 MHz: 1Vrms 4 MHz - 40 MHz: >2 Vrms, <5 Vrms		250 mVrms min. on 10 Hz to 1 MHz 500 mVrms min. on 1 MHz to 4 MHz
Minimum Pulse Width	>25 ns	>25 ns	>25 ns		>2 µs
Duty Cycle Limits	>30% & <70%	>30% & <70%	>30% & <70%		
Minimum Input Range	>0 Hz	2kHz:10Hz:20kHz:>60dgt; 200kHz>60dgt	-	-	-
Overload Protection	600 VDC or 600 VAC rms	500 VDC or 500 AC rms			
Logic Test					
Logic Threshold	-	Hi: 2.8±0.8 V, Lo: 0.8 ± 0.5 V	-	-	Hi: 2.8±0.8 V, Lo: 0.8 ± 0.5 V
Frequency Response	-	20 MHz	-	-	20 MHz
Pulse Width	-	25 ns	-	-	25 ns
Pulse Limits	-	>20% and <80%	-	-	>20% and <80%
Indication	-	40 ms beep at logic 1 (Hi)	-	-	40 ms beep at logic 1 (Hi)
Overload Protection	-	500 V DC or 500 AC rms	-	-	500 V DC or 500 AC rms
Temperature					
Range, Resolution	-58° to +2372°F, 0.1F°, (-50°to + 1300°C, 0.1C°)	-	-58° to +2372°F, 1F°, (-50°to + 1300°C, 1C°)	-	-
Accuracy	±(2.0% rdg + 6°F) -58°F to 32°F & 750°F to 2372°F, ±(1.0% rdg + 2°F) 32°F to 750°F ±(2.0% rdg + 3°C) -50° to 0°C & 400°C to 1300°C, ±(1.0% rdg + 1°C) 0°C to 400°C	-	±(0.8% rdg + 2°C) -50° - 400°C, ±(1% rdg + 2°C) 400° - 1300°C	-	-
Duty Cycle					
Range, Resolution	5 to 95%, 0.1%	0 to 90%, 0.1%	-	-	-
Accuracy (5V logic)	±(2.0% rdg + 10 dgt)	±(2.0% rdg + 10 dgt)	-	-	-
Minimum Pulse Width	10 µs	10 µs	-	-	-
Frequency Range	40 Hz to 20 kHz	40 Hz to 20 kHz	-	-	-
Overload Protection	600 VDC or 600 VAC rms	500 VDC or 500 AC rms	-	-	-
General					
Display	60000 count, 4 5/6 digit LCD	20000 count, 4 1/2 digit LCD	4000 count, 3 3/4 digit LCD with 41 segment analog bar graph		4000 count, 3 3/4 digit LCD
Polarity	Automatic, positive implied, negative polarity indication				
Operating Temperature	32° to 122° (0° to 50°C), 0 to 70% R.H.				
Dimensions (HxWxD)	7.8 x 3.5 x 1.57" (198 x 90 x 40 mm)				
Weight	14.1 oz. (400 g)	11.3 oz. (320 g)			
					Three-Year Warranty
Included Accessories	9 V battery, test leads, instruction manual, thermocouple probe (models 390A, 392, & 393), software and USB interface cable (models 390A & 393)				

* 10 A continuous, 20 A for 30 seconds maximum

Mouser Electronics

Authorized Distributor

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B&K Precision:

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