Multitalented and Compact; Loaded with Nice Up-to-date Features!

AutoHold Real-Read™, BeepPass™ Diode, BeepLit™ Continuity, BeepJack™ InEr, LoZ AutoV, Hi/Lo EF, VFD, REC MaxMinAvg, CREST MaxMin, REL, HOLD, i-APO, PC-Comm!















2257	2251	FUNCTIONS & FEATURES	
•		AutoV Automatic Selection of ACV or DCV	
•		LoZ Ghost-voltage-buster AutoV to Drain Ghost Voltages for Hard Signals	
•		Capacitance; 7 Ranges @ 20.00nF to 10.00mF	
•		Type-K Temperature from -40.0 °C to 1000 °C or -40.0 °F to 1832 °F; °C/°F Selectable	
•	•	3-5/6 Digits 6,000 Counts Large LCD Display	
•	•	5/Sec Nominal Data Update; Fast Auto-Ranging & Measurements	
•	•	60 Segment High-Resolution Analog Bar-graph Updates 40/Sec	
•	•	Amber LED Warm Backlight LCD Display	
•	•	AutoHold with Real-Read™ to Avoid "Blind" Measurements	
•	•	Relative Zero for Readings Comparison & Offset	
•	•	CREST Max/Min >5ms Peaks; Automatic iAPO Disable	
•	•	REC Max/Min/Avg; Auto-ranging; Automatic iAPO Disable	
•	•	Display HOLD Freezes the Displaying Reading for Later Viewing	
•	•	AC True RMS on Voltage and Current Functions	
•	•	DCV Best Accuracy 0.2% + 3d; 3 Ranges @ 6.000V to 600V	
•	•	ACV; 3 Ranges @ 6.000V to 600V	
•	•	VFD_ACV with LPF; Range @ 600.0V	
•	•	High-Resolution AC/DC mV; 2 Ranges @ 60.00mV to 600.0mV	
•	•	AC/DC mA, mA, & A; 6 Ranges 600.0μA to 10.00A	
•	•	Resistance; 6 Ranges @ 600.0Ω To 60.00MΩ	
•	•	AC Line-level Hz via Test leads; 10Hz to 50kHz	
•	•	Logic Level Hz from 10.00Hz to 200.0kHz	
•	•	Fast BeepLit™ Continuity with Beep + Backlight Effects; Response Time <15ms	
•	•	Diode with BeepLit™ (Continuity) & BeepPass™ (Short Beep) Features	
•	•	EF-Detection for Identifying Live Lines; Selectable Hi/Lo Sensitivities	
•	•	BeepJack™ Guards Against Improper Amp Terminals Plug-in	
•	•	Auto Power Off (iAPO) Stays ON While in Measurements	
•	•	PC-Comm Interface Capability; Optional Purchase USB Cable & PC Software Set	
•	•	600V General Input Protection on All Functions and Ranges	
•	•	High Breaking Capacity HBC Fuses Protected on µAmA & A Terminals	
•	•	Transient Protection to 6kV 1.2/50μs + 8/20μs Combo Surges	
•	•	Fire-retarded Housing with Battery Access Door	
•	•	Protective Holster with Probe-Holders & Tilt-Stand; Washable & Replaceable	
•	•	Rugged & Durable; Robust Enclosure and Premium Plated Low Leakage PCB	
•	•	EMC Certified; Superior Immunity to Interferences	
•	•	LVD with cULus Listed to CAT III 600V; UL, CSA, CE, and UKCA Compliance	

Powerful and Handy; High-Performance **Full Functions for Daily Use!**

Speedy Hi-res Bar-graph, VFD-V/Hz, Logic/Line Hz, Wide-range Cx, °C/°F, Speeded MΩ, Hi-res 60.00mV, AC True-RMS, CAT III 600V cULus Listed



EMC Certified

Superior Immunity to Interferences; Reliable Operations and Readings:

Ideal for Non-sinusoidal & Complex Waveforms

Measures Noisy High Voltage Frequency

Measures Digital Logic Level Frequencies

2 Ranges @ 60.00mV to 600.0mV

Measures from -40.0 °C to 1000 °C or -40.0 °F

Latches the Last Stable Reading for Later Viewing

Durations > 5ms; Automatic iAPO Disable

Leakage PCB, and Reliable Rotary Switch

Durations > 5ms; Automatic iAPO Disable

Superb Protection for Misinput on All

Fully Certified by Independent Test Lab;

6 Ranges @ 600.0Ω To 60.00MΩ

Diode with BeepLit™ & BeepPass™

Battery Access Door

Fire-retarded Housing with Battery Access Door

Single-Pole Contact Voltage Detections;

Selectable Hi/Lo Sensitivities ACV

Measures ACV: 3 Ranges @ 6.000V to 600V

GENERAL SPECIFICATIONS

Display: 3-5/6 digits 6,000 counts

Update Rate:

3-5/6 digits: Max 5 per second nominal 60 Segment Bar-graph: 40 per second max Operating Temperature: -10°C to 50°C continuous operating (except on A function, see Electrical

Specifications below for more details)

Relative Humidity: Maximum relative humidity 80% for temperature up to 31°C decreasing linearly to 50% relative humidity at 50°C

Altitude: Operating below 2000m

Storage Temperature: -20°C ~ 60°C, < 80% R.H. (with

battery removed)

Temperature Coefficient: Nominal 0.15 x (specified accuracy)/°C @ (-10°C ~ 18°C or 28°C ~ 50°C), or otherwise specified

Sensing: True RMS sensing Ingress Protection: IP40 Pollution Degree: 2

Safety: Certified per IEC/UL/EN/BSEN 61010-1 Ed. 3.1, IEC/UL/EN/BSEN 61010-2-033 Ed. 2.0, IEC/UL/EN/BSEN 61010-031 Ed. 2.0 and the

corresponding CAN/CSA-C22.2 regulations to Measurement Categories: CAT III 600V and CAT IV 300V AC & DC Transient Protection: 6.0kV (1.2/50µs surge)

E.M.C.: Meets EN61326-1 In an RF field of 3V/m:

Temperature function is not specified

Ohm function:

Total Accuracy = Specified Accuracy + 15 digits

Other functions:

Total Accuracy = Specified Accuracy Performance above 3V/m is not specified

Overload Protection:

μA & mA: 0.63A/1000V DC/AC rms, IR 30kA, F

fuse; or better

A: 12A/600V, IR 50kA for Vdc & 100kA for Vac, F fuse; or 11A/1000V DC/AC rms, IR 30kA, F fuse; or

V & AutoV: 1100V AC rms & 660V DC mV, Ohm & others: 600V DC/AC rms Low Battery: Below approx. 2.5V Power Supply: 1.5V AAA size battery X 2 Power Consumption (typical): 4.0mA iAPO Consumption (typical): 20µA iAPO Timing: Idle for 30 minutes

Dimension: 161*80*50mm L*W*H (With Holster)

Weight: Approx. 334 gm (With Holster)
Special Features: AutoHold; AutoV (LoZ); VFD-ACV & VFD-Hz; Hi/Lo EF-Detection (NCV & Single pole);
BeepLitTM Diode w/BeepPassTM indication; BeepLitTM Continuity; Auto-ranging REC MAX/MIN/AVG; Autoranging CREST (Instantaneous Peak) MAX/MIN; Backlighted LCD; Auto-ranging Relative-zero; Display Hold; BeepJack™ audible & visible input warning

Accessories: Test lead pair; Batteries; User's manual;

BKP60 banana plug type-K thermocouple

Optional Purchase Accessories: BKB32 banana plug to type-K socket plug adaptor; BMH-01 magnetic

hanger; USB interface kit BRUA-20X

ELECTRICAL SPECIFICATIONS

Accuracy is given as $\pm (\%$ of reading digits + number of digits) or otherwise specified @ 23° C $\pm 5^{\circ}$ C ACV & ACA accuracies are specified from 1 % to 100 % of range or otherwise specified; Maximum Crest Factor <2:1 at full scale & <4:1 at half scale, and with frequency spectrum limited to the specified bandwidth of the AC functions for non-sinusoidal waveforms

İ	RANGE	Accuracy	
	50Hz ~	- 60Hz	
6.000V , 60.00V, 600.0V		0.7% + 3d	
	45Hz ~ 500Hz		
	6.000V, 60.00V, 600.0V	1.0% + 5d	
	45Hz ~	500Hz	

Input Impedance: 10MΩ, 54pF nominal Overload protection: 1100Vrms for AC; 660V for DC

ACmV

RANGE	Accuracy
40Hz ~	500Hz
60.00mV 1), 600.0mV 2)	1.0% + 3d
500Hz	~ 1kHz
60.00mV 1), 600.0mV 2)	2.0% + 3d

Input Impedance: 10MΩ, 54pF nominal

VFD_ACV (with Low Pass Filter)

RANGE Accuracy 1)	
10Hz ~	· 100Hz
600.0V	1.0% + 3d
100Hz -	~ 400Hz
600.0V	10% + 3d ²⁾

Overload protection: 1100Vrms for AC; 660V for DC

Not specified for fundamental frequency > 400Hz Accuracy linearly decreases from 1% + 3d @100Hz to 10% + 3d @400Hz

itoV ACV (Model 2257 only)

101 5 101 (model 2201 0m)			
RANGE	Accuracy 1)		
50Hz ~ 60Hz			
6.000V, 60.00V, 600.0V	1.0% + 5d		

Overload protection: 1100Vrms for AC; 660V for DC

11Not specified at <1.5VAC

Threshold: > 1.5VAC nominal

Inreshold: > 1.5VAC nominal Input Impedance: hittally approx. 2.1k0, 164pF nominal; Impedance increases abruptly within a fraction of a second as display voltage is above 50V (typical). Ended-up impedances vs display voltages typically are: $2k\Omega$ @ 100V $00k\Omega$ @ 300V $40k\Omega$ @ 600V

100kΩ 240kΩ

DCV

RANGE	Accuracy
6.000V	0.3% + 4d
60.00V	0.4% + 3d
600.0V	0.2% + 3d

Overload protection: 1100Vrms for AC; 660V for DC Input Impedance: $10M\Omega$, 54pF nominal

 			
RANGE	Accuracy		
60.00mV, 600.0mV	0.3% + 4d		

Input Impedance: 10MΩ, 54pF nominal

AutoV DCV (Models 2257 only)

RANGE	Accuracy 1)
6.000V, 60.00V, 600.0V	1.0% + 4d

Overload protection: 1100Vrms for AC; 660V for DC

1)Not specified at <1.5VDC

Threshold: >+1.5VDC or <-1.5VDC nominal

Threshold: > +1.5VDC or < -1.5VDC nominal Input Impedance: Initially approx. 2.1kΩ, 164pF nominal; Impedance increases abruptly within a fraction of a second as display voltage is above 50V (typical). Ended-up impedances vs display voltages typically are: 2kΩ @100V 00kΩ @300V 40kΩ @600V

100kΩ 240kΩ

mode (Instantaneous Peak Hold)
Accuracy: Specified accuracy ± 250 digits for changes > 5ms in duration
Availability: Voltage and Current functions
Resolution: 6000 counts

Accuracy: Specified accuracy ± 50 digits
Availability: Resistance, Continuity, LoZ AutoV, VFD Volts, Voltage and
Current functions

RANGE 1)	Accuracy
600.0Ω, 6.000kΩ, 60.00kΩ, 600.0kΩ	0.5% + 4d
6.000MΩ ²⁾	0.7% + 4d
60.00MΩ ³⁾	2.0% + 4d ⁴⁾

¹⁾Open Circuit Voltage: 1.6VDC typical ²⁾Constant Test Current: 0.2μA Typical ³⁾Constant Test Current: 0.02μA Typical ⁴⁾5%+20d @ >30MΩ

BeepLit™ Continuity Tester
Continuity Threshold: Between 30Ω and 480Ω
Continuity ON Response Time: <15ms
Audible Indication: Beep sound Visible Indication: LCD Backlight

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Capacitance (Models 2257 only)	
RANGE	Accuracy
20.00nF, 200.0nF	1.5% + 8d
2000nF, 20.00μF, 200.0μF, 2000μF	1.5% + 2d
10.00mF	4.5% + 10d

Accuracies with film capacitor or better

BeepEit Blode rester			
RANGE	Accuracy	Test Current (Typical)	Open Circuit Voltage
3.0000V	1.0% + 3d	0.3mA	< 3.2 VDC

BeepPass™ Indication (Short-beep): Drop Across 0.850V BeepLit™ Indication (Continuity) Threshold: < 0.100V Audible Indication: Beep Sound Visible Indication: LCD Backlight

DC Current

RANGE	Accuracy	Burden Voltage
600.0μΑ, 6000μΑ	0.5% + 5d	0.1mV/μA
60.00mA, 600.0mA	0.5% + 50	1.9mV/mA
6 000A 10 00A 1)	1.0%+5d	0.04V/A

10A continuous up to ambient 40° C only, and is <3 mins on per >15 mins off @ 40° C ~ 55° C; >10A to 20A for <30 seconds on per >15 mins off

RANGE	Accuracy	Burden Voltage	
50HZ ~ 400HZ			
600.0μΑ, 6000μΑ		0.1mV/μA	
60.00mA, 600.0mA	1.0% + 5d	1.9mV/mA	
6.000A, 10.00A 1)		0.04V/A	

 $^{1}0A$ continuous up to ambient $40^{\circ}C$ only, and is <3 mins on per >15 mins off @ $40^{\circ}C\sim55^{\circ}C;$ >10A to 20A for <30 seconds on per >15 mins off

Temperature (Models 2257 only)

RANGE	Accuracy 1) 2)
-40.0 °C ~ 99.9 °C	1.0% + 1°C
100 °C ~ 1000 °C	0.3%+3°C
-40.0°F ~ 99.9°F	1.0% + 2°F
100 °F ~ 1832 °F	0.3%+6 ℉

"Accuracies assume the meter interior and the ambient have reached the same temperature (isothermal stage) for a correct junction voltage compensation. Allow enough settling time for a significant change in ambient temperature. It can take up to an hour for changes > 5°C. 2)Type-K thermocouple range & accuracy not included

Logic Level Hz (DCmV Function)

RANGE	Sensitivity (Square wave)	
10.00 Hz ~ 200.0 kHz	3Vpeak	

Accuracy: 0.03% + 3d

Line Frequency

Available Function	Trigger Level	Sensitivity (Sine RMS)	Range	
ACV/DCV	0	1V	10Hz - 50kHz	
	1	4V	TUTIZ - SUKTIZ	
	2	40V	10Hz - 1kHz	
	3	400V		
VFD-ACV	2	40V	10Hz - 1kHz	
	3	400V	IUNZ - IKNZ	
μА	0	40µA		
	1	400µA	10Hz - 5kHz	
mA	0	4mA	IUHZ - JKHZ	
	1	40mA		
A	0	0.6A	50Hz - 1kHz	
	1	6A	SUMZ - IKMZ	

Accuracy: 0.03% + 3d

-Contact EF-Detection

Bar-segment	EF-H (Hi Sensitivity)	EF-L (Lo Sensitivity)
Indication	Typical Voltage (Tolerance)	
-	10V (3V ~ 19V)	40V (16V ~ 71V)
	20V (10V ~ 38V)	80V (32V ~ 142V)
	40V (21V ~ 79V)	160V (63V ~ 285V)
	80V (40V ~ 156V)	300V (105V ~ 608V)
	160V (>80V)	500V (>300V)

Indication: Display bar-segments, backlight flashing, & beep tones in proportion to the field strength Detection Frequency: 50/6014. Detection Antenna: Top-right end of the meter Probe-Contact EF-Detection: For more precise indications of live wires, such as distinguishing between live and ground connections, use direct contact testing with one single test-probe via the input terminal COM or V. The COM terminal (Black) has the best sensitivity.



BRYMEN TECHNOLOGY CORPORATION



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น impedance 10MΩ, 34pr 10Militai "Signal peak absolute values, including DC bias, less than 130mV_{peak} ²Signal peak absolute values, including DC bias, less than 1300mV_{peak}