

# European Form-Factor Voltage Testers!

Proprietary Features At Affordable Prices By ASIC Technology!



**BT-60 Series  
Electrical Testers**



BRIGHT PEOPLE'S CHOICE  
<http://www.brymen.com>



**BT-69**



**BT-66**

69	66	FUNCTIONS & FEATURES
●	●	Handy & Stylish
●	●	19mm Probe Pitch For Quick European Receptacle Testing
●	●	2mm Test Tips With 4mm Screw-On Tip Accessories
●	●	User Replaceable Screw-On Stationary (Red) Probe Body
●	●	Standard Detachable (Black) Test Lead For Easy Replacement
●	●	Automatic Power On & Power Off
●	●	Indicator Self-Test Feature
●	●	Automatic DCV, ACV & Continuity Selection
●	●	Auto-Hold Feature (LEDs Flash For Approx. 10 More Seconds)
●	●	Non-Contact EF-Detection (NCV)
●	●	Probe-Contact EF-Detection For More Precise Indication Of Live
●	●	Overload-Alert Warning (1000V LED Flashes When > 1000VAC/DC)
●	●	9 DCV LED Indication Ranges From 6V, 12V, ... To 1000V
●	●	8 ACV LED Indication Ranges From 12V, 24V, ... To 1000V
●		LCD Digital Display For More Precise Indication Of Voltage Level
●		Auto Display Backlit For Easy Viewing In The Dark
●		AC-Detection Shaker
●		Bi-Color LED Hazardous Live Warning (At > 70VDC / 33VAC)
●		RCD Leakage Load for 230VAC/30mA RCD Circuit Breakers
●	●	Continuity: Audible Beeper & Visible LED Indications
●	●	Powered By Internal Batteries For Least System Current Drain
●	●	Low Battery Warning
●	●	Battery Access Door
●	●	Rugged Fire Retarded Double Injected Casing
●	●	Water And Dust Resistance; IP65 Per EN60529
●	●	Transient Protection 8kV 1.2/50µs Lightning Surge
●	●	LVD EN61243 & EN61010 CAT III 1000V & CAT IV 600V
●	●	EMC EN61326(97/98A1)/EN61000-4-2(95)/EN61000-4-3(96)

# Powerful, Ergonomic & Safe To Use!

## User Replaceable Test Probes For Long-Lasting Service!

### Auto Hold LEDs, AC Shaker, RCD Load, Bi-Color LEDs & EF-Detection!

**DETACHABLE (BLACK) TEST LEAD**  
STANDARD 4mm PLUG DESIGN FOR  
EASY USER REPLACEMENT

**SCREW-ON STATIONARY (RED) PROBE BODY**  
SCREW-ON DESIGN FOR  
EASY USER REPLACEMENT

**INTELLIGENT AUTO ON & OFF**  
AUTOMATIC POWER ON & POWER OFF  
TO EXTEND BATTERY LIFE

**AUTOMATIC DCV, ACV & CONTINUITY SELECTION**  
SHORTENS THE TIME TO TEST  
AND INCREASES THE EASE OF USE

**AC-DETECTION SHAKER**  
THE SHAKER SIGNALS THAT  
SIGNIFICANT ACV IS BEING MEASURED

**LEAKAGE LOAD FOR RCD**  
INTERNAL LEAKAGE LOAD PROVIDED.  
TYPICAL LEAKAGE CURRENT 30mA AT 230V  
(USA GFCI VERSION ALSO AVAILABLE)

**UP TO 1kV VOLTAGE TESTING**  
IMPROVED TESTING CAPABILITIES

**OVERLOAD-ALERT WARNING**  
WHEN INPUT > 1000V AC OR DC,  
THE 1000V LED FLASHES

**BI-COLOR LED HAZARDOUS LIVE WARNING**  
WHEN INPUT > 70 VDC/33 VAC, THE  
GREEN VOLTAGE LEDS TURN RED

**AUTO-HOLD**  
LEDS FLASH FOR APPROX. 10 MORE SECONDS  
AFTER SIGNAL IS REMOVED

**AUDIBLE CONTINUITY**  
FOR QUICK OPEN-SHORT TESTS  
ON SWITCHES, FUSES, AND WIRES

**19mm PROBE PITCH**  
FOR EUROPEAN RECEPTACLE TESTING

**2mm / 4mm TEST TIPS SELECTABLE**  
2mm TIP HI-SAFETY TEST PROBES  
WITH SCREW-ON 4mm TIP ACCESSORIES

**AUTO BACKLIT DIGITAL DISPLAY**  
FOR MORE PRECISE INDICATION  
& EASY VIEWING IN THE DARK

**RUGGED & DURABLE**  
HIGH-IMPACT FIRE-RETARDED ENCLOSURE  
FOR REINFORCED SAFETY & DURABILITY

**EMC**  
MEETS EN61326(1997, 1998/A1),  
EN61000-4-2(1995), & EN61000-4-3(1996)

**DOUBLE INJECTION HOUSING**  
SEAMLESS OVER-MOLDED  
PUSH-BUTTON SWITCHES AND  
LED / LCD DISPLAY WINDOWS  
FOR HARSH ENVIRONMENTS

**ERGONOMIC STREAMLINE DESIGN**  
FITS COMFORTABLY IN ONE'S HAND

**INDICATOR SELF-TEST FEATURE**  
ILLUMINATES THE LEDS FOR  
FULL INDICATION CHECK

**UNAMBIGUOUS AC INDICATION**  
INDIVIDUAL LED IS USED  
FOR AC INDICATION

**EF-DETECTION**  
BOTH NON-CONTACT & SINGLE-  
PROBE VOLTAGE DETECTION  
FOR IDENTIFYING LIVE LINES

**TRANSIENT PROTECTION**  
UP TO 8kV 1.2/50 $\mu$ s LIGHTNING SURGE;  
SUPERB PROTECTION FOR SERIOUS USERS

**LVD CAT III & CAT IV SAFETY**  
MEETS EN61243 VOLTAGE CLASS B,  
EN61010-1 AND IEC61010-1 2ND EDITION  
TO CAT III 1000V & CAT IV 600V



## BT-66 & BT-69 GENERAL SPECIFICATIONS

**LCD Display:** 3 digits 1000 counts (BT-69 only)

**Update Rate:** 5 per second nominal

**Operating Temperature:** -10°C ~ 55°C

**Relative Humidity:** Maximum relative humidity 80% for temperature up to 31°C decreasing linearly to 50% relative humidity at 55°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 ~ 55°C), or otherwise specified

**Sensing:** Average sensing

**Type of Protection:** IP65 (Approval Pending)

**Pollution Degree:** 2

**E.M.C.:** Meets EN61326 (1997, 1998/A1), EN61000-4-2 (1995), & EN61000-4-3 (1996):

For both models: Performance is specified in an RF Field of 3V/m. Performance above 3V/m is not specified.

For BT-69 LCD display only: In an RF Field of 3V/m, total accuracy = Specified accuracy + 45d. Performance above 3V/m is not specified

**Safety:** Meets EN61243 voltage class B, EN61010-1 and IEC61010-1 2nd Edition (2001)

**Measurement Category:** CAT III 1000V & CAT IV 600V AC & DC

**Transient Protection:** 8kV lightning surge (1.2/50µs)

**Overload Protection:** 1000VDC & VAC rms

**Low Battery:** Below approx. 2.4V; Below approx. 2.6V for BT-69 with shaker ON

**Power Supply:** Standard 1.5V AAA Size (NEDA 24G or IEC R03) battery X 2; or 1.5V AAA Size (NEDA 24A or IEC LR03) alkaline battery X 2

**Power Consumption (typical):** 3mA at Power-on ready; 30mA at 1000VAC full LED indication. 75mA at 1000VAC with shaker ON (BT-69 only)

**APD Consumption (typical):** 10µA

**APD Timing:** Idle for 30 seconds

**Dimension:** L233mm x W57mm x H40mm

**Weight:** Approx. 220 gm

**Special Features:** High Input Impedance, Indicator Self-Test, Auto-Hold, Overload-Alert Warning, EF-Detection, Auto Display Backlit (BT-69 only), AC-Detection Shaker (BT-69 only), Bi-Color LED Hazardous Live Warning (BT-69 only), and RCD Leakage Load (BT-69 only)

**Accessories:** Detachable (Black) Test Lead, Screw-on Stationary (Red) Probe, 2 Screw-on 4mm Tip Accessories, batteries installed and User's manual

## BT-66 & BT-69 Electrical Specification

Accuracy is given as +/- (% of reading digits + number of digits) or otherwise specified @ 23 °C +/- 5 °C and less than 75% R.H.

### DC & AC Voltage (LED)

DCV MARKING	ACV MARKING	Typical Threshold
6V		4.8V
12V	12V	9.6V
24V	24V	19.2V
50V	50V	40V
120V	120V	96V
230V	230V	184V
400V	400V	320V
690V	690V	552V
1000V	1000V	800V

LED Threshold: < 85% of Voltage marking. Typical @ 80%

Input Impedance: 460kΩ, 160pF nominal

ACV Frequency Response: 45Hz ~ 65Hz

Duty ratio: Continuous duty

### Audible Continuity

Open Circuit Voltage: 0.4VDC typical

Audible Threshold: between 50kΩ and 2000kΩ

### DC & AC Voltage (BT-69 LCD only)

RANGE	Typical Threshold	Accuracy
DC 999V	> +4.5VDC or < -4.5VDC	1.0%+2d
AC 999V (50Hz/60Hz)	> 8VAC	2.5%+4d

Input Impedance: 460kΩ, 160pF nominal

Duty ratio: Continuous duty

### AC Detection Shaker Threshold (BT-69 only)

Shaker ON: > 15VAC nominal

Shaker OFF: < 8VAC nominal

### RCD Leakage Load (BT-69 only)

Load Current: 30 mA typical at 230V

Path Impedance: 7.7 kΩ nominal, PTC protected

RCD Leakage Load feature is for 230V nominal circuits only. It is disabled above 270V and below 120V

### Non-Contact EF-Detection

Indication: EF LED flashing & audible beep tones proportional to the field strength

Detection Frequency: 50/60Hz

Detection Antenna: Top end of the meter

Probe-Contact EF-Detection: For more precise indication of live wires, such as distinguishing between live and ground connections, use the Red (+) test probe for direct contact measurements.

BT-69 also displays Bar graph segments proportional to the field strength on LCD. Typical values are shown in the following table:

Typical Non-Contact Voltage Range	LCD Bar Graph Indication (BT-69 only)
15V to 55V	-
30V to 95V	--
55V to 170V	---
Above 120V	----



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