

# 2100 Series Two Pole Voltage Testers

## 2100-Alpha | 2100-Beta | 2100-Gamma

The Beha-Amprobe 2100-Alpha, 2100-Beta and 2100-Gamma are rugged and reliable two pole voltage testers for voltage and continuity checks. Built tough for use in industrial and commercial environments, the 2100 Series is safety rated up to CAT III 1000 V / CAT IV 600 V and measures voltage range up to 1000 V AC and 1200 V DC (2100-Gamma only). Designed with reinforced components for dependable performance, the 2100 Series has an ingress protection degree of IP 64 and is built according to voltage tester standard EN 61243-3:2010 and is GS approved.



## 2100 Series Features

- **Automatic AC/DC voltage detection** with polarity indication
- **Voltage test** up to 1000 V AC / 1200 V DC (2100-Gamma)
- **Switchable load** and 10 mA or 30 mA RCD trip test with two push buttons
- **Automatic continuity test** with visual (LED)
- **Single pole test** to check phase polarity
- **Two pole phase rotation indication**
- **Robust, double insulated cable** with wear indication shows when the test leads are excessively worn or damaged and need replacement
- **Torch light / measurement area illumination** for working in poorly lit areas
- **Audible indication** when detected voltages above 50 V AC and 120 V DC
- **Single-phase voltage detection** using main probe - audible and visual signal when voltage detected
- **Auto power ON/OFF** and OFF button
- **Non-contact voltage indication/ electric field (NCV/EF) - Non-contact voltage detection function** 100-1000 V (2100-Gamma).
- **Resistance measurement** - Measures and displays resistance up to 1999 ohms (2100-Gamma).
- **IP 64 splash and dust proof**
- **GS approved**, built according to IEC 61243-3:2009, EN 61243-3:2010, DIN VDE 0682-401:2011
- **Safety rated** CAT IV 600 V / CAT III 690 (CAT III 1000 V 2100-Gamma)



## 2100-Gamma





### Two Button Switchable Load/RCD Trip Test

When the two buttons are not pressed the unit is in high impedance mode, providing additional safety protection when testing live power sources, and avoiding accidental tripping of residual-current devices/earth leakage circuit breakers (RCD/ELCB). When the buttons are pressed the unit is in low impedance mode, eliminating inaccurate readings as result of ghost voltage. Additionally, in systems with RCDs you can press the buttons to intentionally trip 10 mA or 30 mA RCDs remotely and determine if they are wired correctly.

### Long, durable test leads with wear indicator

Extra-long 1.5 m test leads make testing fast and convenient. The two pole tester's rugged, durable test leads have two layers of insulation for added durability and safety. If the inner, contrasting-colored layer is showing, that's a sign that the test leads require replacement.

### Test probe protector cover with accessory storage

Store the 4 mm test probe extensions and GS38 protective probe caps, ensuring you always have them when needed. The test probe protector cover tip also helps to open UK electrical safety outlets.



## Quick Guide

Features:	2100-Alpha	2100-Beta	2100-Gamma
<b>Safety Rating</b> (overvoltage category)	CAT III 690 / CAT IV 600	CAT III 690 / CAT IV 600	CAT III 1000 / CAT IV 600
<b>Voltage Range</b>	12 - 690 V AC/DC	12 - 690 V AC/DC	6 - 1000 V AC / 6 - 1200 V DC
<b>Voltage Indication - LCD</b>		12 - 690 V AC/DC	6 - 1000 V AC, 6 - 1200 V DC
<b>Voltage Indication - LED (12 - 690 V)</b>	•	•	•
<b>Continuity Test</b> (visual and audible indication)	•	•	•
<b>RCD Trip Test (10 mA or 30 mA)</b>	•	•	•
<b>Single Pole Phase Test</b>	•	•	•
<b>Full Range Polarity Detection</b>	•	•	•
<b>Two Pole Phase Rotation Indication</b>	Right	Right	Right/Left
<b>IP 64 Splash and Dust Proof</b>	•	•	•
<b>Torch Light/Measurement Area Illumination</b>	•	•	•
<b>Double Insulated Cable with Wear Indication</b>	•	•	•
<b>4 mm Test Probe Extensions (screwable) and Removable GS38 Protective Probe Caps</b>	•	•	•
<b>Data Hold Function</b>		•	•
<b>Resistance Measurement and Low Resistance Indication</b>			•
<b>Non-Contact Voltage Detection</b>			•

	2100-Alpha	2100-Beta	2100-Gamma
<b>Voltage Test</b>			
LED voltage range	12... 690 V AC/DC	12... 690 V AC/DC	12... ≥690 V AC/DC
LED indicator	±12, ±24, 50, 120, 230, 400, 690 V		±12, 24, 50, 120, 230, 400, ≥690 V
LED tolerances	acc. to EN 61243-3:2010		
LCD voltage range	–	12... 690 V AC/DC	6...1000 V AC / 6...1200 V DC
LCD resolution	–	1 V	
LCD tolerance	–	± (3% rdg + 3 LSD)	
Frequency range	DC, 16 2/3 Hz...400 Hz		
LED and LCD response time	<1s		
Acoustic indication	≥50 V AC, ≥120 V DC		
Voltage detection	Automatic (AC/DC)		
Polarity detection	Full range		
Range detection	Automatic		
Current I (load buttons not activated)	≤3.5 mA AC/DC at 690 V AC/DC		≤3.5 mAAC at 1000 VAC / ≤4.5 mADC at 1200 VDC
Internal load (load buttons not activated)	Approximately 2.4 W at 690 V AC/DC		Approximately 3.5 W at 1000 VAC / Approximately 5.4 W at 1200 VDC
Test current switchable load (load buttons activated)	≤350 mA AC/DC at 690 V AC/DC		≤300 mAAC at 1000 VAC / ≤350 mADC at 1200 VDC
Switchable load (load buttons activated)	Approximately 240 W at 690 V AC/DC		Approximately 300 W at 1000 VAC / Approximately 420 W at 1200 VDC
Automatic power ON	LED: >12 V (activated load buttons) >24 V (w/o load buttons)	LED: >12 V (activated load buttons) >24 V (w/o load buttons) LCD: >12V	LED: >12 V LCD: > 6V
<b>Trip Test of RCD (earth leakage circuit breaker)</b>			
Test current switchable load (load buttons activated)	>30 mAAC at 230 VAC		
<b>Single Pole Phase Test</b>			
Voltage range	180...690 VAC against earth		100...1000 VAC against earth
Frequency range	40 Hz...70 Hz		
Acoustic indication	yes		
Indication	Red LED		
<b>Continuity Test (Rx) / Diode Test</b>			
Range	0...500 kΩ		
Tolerance	0% to +50%		
Test current	<5 μA		
Acoustic indication	yes		
Diode test	yes		
Indication	Red LED		
Overvoltage protection	690 V AC/DC		1000 VAC/1200 VDC
Automatic power ON	< 500 kΩ		
<b>Phase Rotation Indication</b>			
Voltage range	340...440 V AC phase to phase		170...1000 V AC phase to phase
Frequency range	47...63 Hz		40...70 Hz
Indication	Red LED		
<b>Resistance Measurement (Ω) / Low Resistance Indication "•" (2100-Gamma only)</b>			
Resistance range on LCD	0...1999 Ω		
Resolution	1 Ω		
Tolerance	± (5% rdg + 10 LSD) at 20°C		
Temperature coefficient	± (5 LSD / 10 K)		
Test current	<30 μA		
Low resistance indication	Acoustic indication <10...50 Ω		
Overvoltage protection	690 V AC/DC		1000 VAC/1200 VDC
<b>Non-Contact Voltage Indication/Electric Field (NCV/EF)</b>			
Voltage range	–	–	100...1000 VAC
Frequency range	–	–	50...60 Hz
Indication	–	–	3 levels shown by LCD segments: —    — =    — = =
<b>Data Hold</b>			
Data hold	–	only voltage measurement (12...690V AC/DC)	voltage and resistance measurement, NCV
<b>Measurement Area Illumination / Torch Light</b>			
Torch light	White LED		
<b>General Specifications</b>			
Operation time (DT)	30 s		
Recovery time	240 s		
Operating temperature	-15°C to +55°C		
Storage temperature	-15°C to +55°C		
Humidity	Max. 95% RH		
Operating altitude	Up to 2000 m		
Safety rating (overvoltage category)	CAT IV / 600V, CAT III / 690V		CAT IV / 600V, CAT III / 1000V
Pollution degree	2		
Protection degree	IP 64		
Safety regulations	IEC 61243-3:2009, EN 61243-3:2010, DIN VDE 0682-401:2011		
Approvals, compliance	GS mark from TÜV Rheinland, CE		
Power Supply	Battery 2 x 1.5V (AAA/ IEC LR03)		
Power consumption	Approximately 60 mA		
Battery lifetime	More than 10000 measurements (<5 s / per measurement)		
Dimensions (HxWxD)	Approximately 280 x 78 x 35 mm (11.0 x 3.1 x 1.4 in)		
Weight	Approximately 320 g (0.71 lb)		