

BITE5 Battery Tester



- Supports battery discharge testing
- Measures impedance on cells up to 200 V
- Supports lead acid, NiCD and lithium-ion
- Measures DC voltages up to 1000 V
- Measures AC voltages up to 600 V
- Touch screen set-up and trending
- USB and micro SD card
- Measures AC and DC current

DESCRIPTION

The BITE5 is a battery tester that will test lead acid batteries, NiCD batteries as well as lithium-ion batteries. The BITE5 will measure and record battery voltage, impedance, and temperature. The BITE5 also supports discharge testing. It will measure the voltage and current throughout the discharge cycle. The BITE5 can also measure the impedance and temperature throughout the discharge cycle.

Battery impedance testing

The BITE5 will measure cell impedance, cell voltage, and temperature. The recorded data can be trended on the unit's touch screen. View the trended data of each test or trend the data of each cell. Set pass, warning, and fail limits for voltage and impedance. Record the ripple voltage, ripple current, and float current and transfer the recorded data via USB or via an SD card to the PowerDB software, then create custom reports and automated analysis.

Battery discharge testing

The BITE5 will record voltage, DC current, impedance, and temperature of each cell throughout the entire discharge test. Measure the average impedance at the end of the commissioning test and use this as a limit for future impedance tests. Trend the recorded data on the BITE5 touch screen and view the trended data of each test, or trend the discharge of each cell. Transfer the

recorded data via USB or via an SD card to the PowerDB software, then create custom reports.

Solar systems

Measure and record combiner DC voltages. Measure the input and output of inverters. Test the lithium-ion batteries.

FEATURES AND BENEFITS

- Tests lead acid (VLA and VRLA), NiCD, and lithium-ion
 - Measures cell impedance
 - Cell voltage
 - Cell temperature
 - Cell voltage ripple
 - AC current (ripple)
 - DC current (float)
- Supports discharge testing
 - Measures cell voltages throughout discharge
 - Measure cell temperature throughout discharge
 - Measure cell impedance throughout discharge
 - Measure DC current throughout discharge
- Measure string voltages up to 1000 V DC
- Measure solar combiner boxes up to 1000 V DC
- Measure DC side of inverters up to 1000 V DC
- Measure AC side of inverter up to 600 V AC
- Wirelessly transfer data to PowerDB

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APPLICATIONS

- Battery impedance testing
- Battery discharge testing
- Solar combiner box measurements up to 1000 V DC
- Lithium-ion battery testing up to 200 V DC

FEATURE DETAILS

- Create string configurations:

- Impedance testing: measure cell impedance, voltage, and temperature

Cell	Impedance	Voltage	Temperature
1	136.4mΩ	21.70 V	24.0 °C
2	149.7mΩ	21.70 V	24.1 °C
3	129.8mΩ	21.70 V	24.2 °C
4	110.8mΩ	21.70 V	24.3 °C
5	112.1mΩ	21.70 V	24.3 °C
6	111.1mΩ	21.70 V	24.4 °C
7	112.5mΩ	21.70 V	24.5 °C
8	107.9mΩ	21.70 V	24.6 °C
9	107.5mΩ	21.70 V	24.8 °C
10	107.6mΩ	21.70 V	24.9 °C
11	104.8mΩ	21.70 V	25.0 °C
12	106.2mΩ	21.70 V	25.1 °C

- Discharge testing: measure cell impedance, voltage, and temperature

- View individual cell data:

Cell	Voltage	Current	Timestamp
001	16.27 Vdc	5.02 Adc	10/22/21 00:14:24
002	17.29 Vdc	5.02 Adc	10/22/21 00:13:46
003	18.61 Vdc	5.02 Adc	10/22/21 00:13:06
004	19.25 Vdc	5.02 Adc	10/22/21 00:12:03
005	19.39 Vdc	5.02 Adc	10/16/21 04:42:17
006	19.61 Vdc	5.02 Adc	10/16/21 01:02:04
007			
008			
009			
010			
011			
012			

- View string data:

Cell	Impedance	Voltage	Temperature	Timestamp	
04	116.4mΩ	21.70 V		21/10/21 04:48:29	
04	116.4mΩ	21.70 V		21/10/21 04:48:29	
04	116.4mΩ	21.70 V		21/10/21 04:48:29	
03	093.8mΩ	21.70 V		21/10/08 5	
03	129.8mΩ	21.70 V	24.2 °C	21/10/21 04:48:57	
02	21/10/08 12	110.8mΩ	21.70 V	24.3 °C	21/10/21 04:49:04
02	095.3mΩ	21.70 V		21/10/21 04:49:11	
01	21/09/02 12	112.1mΩ	21.70 V	24.3 °C	21/10/21 04:49:11
01	112.9mΩ	21.72 V			

- Measure currents (DC/AC) and ripple:

Cell	Voltage	Ripple	Timestamp
003	21.72 Vdc	0.027 Vripp	00:12:03
003	21.72 Vdc	0.029 Vripp	00:12:14

- Measure voltages up to 1000 V DC and 600 V AC:

Cell	Voltage	Ripple	Timestamp
003	21.72 Vdc	0.027 Vripp	00:12:03
003	21.72 Vdc	0.029 Vripp	00:12:14

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SPECIFICATIONS

Input Power

AC/Adapter

Input 100 – 240 V AC (50/60 Hz)

Output 12 V DC at 2.5 A

Battery

Li-ion rechargeable pack > 5.4 Ah

Voltage rating 7.4 V

Charge time 4 hrs

Battery life > 8 hrs

300 charge/discharge cycles

Internal impedance

Range	Resolution	Accuracy
3 mΩ	1 μΩ	+/- 1 % of reading +/- 10 digits
30 mΩ	10 μΩ	
300 mΩ	100 μΩ	
3 Ω	1 mΩ	
30 Ω	10 mΩ	
300 Ω	100 mΩ	

Voltage DC/AC

Range	Resolution	Accuracy
5 V DC	0.001 V	+/- 0.5 % of reading +/- 5 digits
50 V DC	0.01 V	
500 V DC	0.1 V	
1000 V DC	1 V	
5 V AC	0.001 V	+/- 0.75 % of reading +/- 10 digits (40 Hz – 100 Hz)
50 V AC	0.01 V	
500 V AC	0.1 V	
600 V AC	1 V	

Current DC/AC

Range	Resolution	Accuracy
4 A DC	0.001 A	+/- 0.5 % of reading +/- 5 digits + (CT Tolerance)
40 A DC	0.01 A	
400 A DC	0.1 A	
1000 A DC	1 A	
4 A AC	0.001 A	+/- 0.75 % of reading +/- 10 digits + (CT Tolerance)
40 A AC	0.01 A	
400 A AC	0.1 A	
1000 A AC	1 A	

Temperature

Range	Resolution	Accuracy
10 °C ~ 100 °C	0.1 °C	+/- 1 °C +/- 2 digits

Ripple Voltage

Range	Resolution	Accuracy
0-5 V	0.001 V	+/- 0.5 % of reading +/- 10 digits (40 Hz – 10 KHz)

Repeatability 0.1 %, 2 σ

Record Capacity

Memory 8 G up to 16 G flash storage
Impedance record: Max 1000 records

VA record: Max 512 records

Environmental

Operating 0 ~ 50 °C (32 ~ 122 °F)

Storage -20 ~ 50 °C (-4 ~ 122 °F)

Charging temperature: 10 ~ 40 °C (50 ~ 104 °F)

Relative humidity 10 ~ 85 % NC non-condensing

Altitude Operational 0 ~ 2000 m (non-operational)
0 ~ 10 000 m)

Ingress protection IP54

Display (transmitter and receiver)

160 x 90 mm touch screen

Safety/EMC/Vibration/Compliance

Meets the requirements of IEC61010-1, CE, UKCA, CAT IV at 600

CAT Rating: 500 V CAT III, Pollution Degree 2

Shock and vibration EN61010-1
EN60529

IEC61010-1:2010 (3rd Ed)

EN61010-1:2010 (3rd Ed)

IEN61326-1:2013

EN55011/A1:2010 (Class A)

EN61000-3-2:2014

EN61000-3-3:2013

Weight/Dimensions

Dimensions 240 x 160 x 65 mm
(9.45" x 6.30" x 2.56")

Weight 0.9 kg (1.98 lbs)

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ACCESSORIES



Concentric Probe – The concentric probe allows for battery testing on batteries with safety caps or safety lugs. Users can easily access the terminals through the access hole. The concentric probe comes in two styles. One probe comes with a 11.75 mm (1/2") tip the other has a 25.4 mm (1") tip. This allows access to terminals even on batteries with the deepest safety lugs.

90037-560/(11.75 mm tip)

90037-565/(25.4 mm tip)

ORDERING INFORMATION

Item (Qty)	Cat. No.	Item (Qty)	Cat. No.
CATALOG NUMBER		Micro SD Card USB reader	90037-571
BITE5	BITE5	USB cable	90037-569
Duplex probes (With temperature probe)	90037-555	Stylus	90037-570
Voltage test leads	90037-576	Carry bag	90037-573
Charger	90039-077	Pouch bag	90037-574
Neck strap	90037-529	OPTIONAL ACCESSORIES	
Zero bar	90037-575	Concentric probes (1/2" tip)	90037-560
16G Micro SD Card	90037-572	Concentric probes (1" tip)	90037-565

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