



Arbin Instruments  
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Created On:  
Created By:  
Reference:

04/18/18  
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QUOTEAC021018

General Description		
System Name	LBT21024-0~10V-100/25/5/0.5A-8CH-208V3P	
Number of Channels	8 channels	
Circuit Type	True Bipolar Linear; allows cross-zero linearity.	
Hardware Specifications		
Voltage	Range (min/max) (V)	0~10
	Measurement Resolution 24 bit ( $\mu$ V)	~2
	Measurement Precision, ppm	200
	Control Accuracy 0.02%FSR (mV)	$\pm$ 4
	Input Impedance ( $G\Omega$ )	~10 $G\Omega$
Current	Current Ranges	100A/ 25A/ 5A/ 500mA
	Measurement Resolution	24 bit
	Control Accuracy 0.02%FSR	1 <sup>st</sup> range: $\pm$ 40mA 2 <sup>nd</sup> range: $\pm$ 10mA 3 <sup>rd</sup> range: $\pm$ 2mA 4 <sup>th</sup> range: $\pm$ 200 $\mu$ A
	Minimum V at Max Current (V)	0
	Current Rise Time (mS)	~1 Time required for current output to get from 10% to 90% of requested value; There is no switching time between charge and discharge.
Max. Continuous Power Output (W)	1000	
Time	Minimum Step Time (mS)	5
	Data Logging Rate	2000 points per second per system
	Measurement Resolution ( $\mu$ s)	100
Main Channels Chassis		
Chassis Size (W x D x H) (inch)	20 x 34 x 72	
Colling method	Air-cooled with variable speed fans; no infrastructure is required. Three feet clearance around chassis.	
Working Temperature Range ( $^{\circ}$ C)	0 ~ 30	
Connection to PC	TCP/IP (Ethernet)	
AC Power Input	Single Phase Requirement	Three Phase Requirement
Voltage (VAC)	NA	208
Max Power (VA)	NA	13650
Max Current/Phase (A)	NA	38
Circuit Breaker (A)	NA	63
Frequency (Hz)	NA	50/60

Note:

<b>Included Auxiliaries</b>			
<b>Type</b>	<b>General Description</b>	<b>Specifications</b>	<b>#CH</b>
Temperature Measurement (thermocouple) TC-T-8CH	The Temperature Measurement option allows temperature measurement via thermocouples (E, J, K, or T) that can be mapped within your testing setup in any configuration. The value of temperature can be recorded in the results file and/or used to further control the experiment. Thermocouples are purchased separately.	Input Range: -200~400°  Accuracy: 0.1%  Sampling Speed: 3.2S	8
<b>Auxiliary Chassis</b>			
Chassis Dimensions (W x D x H) (inch)	15.4 x 6.2 x 12		
Cooling Method	Air-cooled with variable speed fans; no infrastructure is required. Three feet clearance around chassis.		
Working Temperature Range (°C)	0 ~ 30		
Connection to PC	TCP/IP (Ethernet)		
AC Power Input	Single Phase Requirement		
Voltage (VAC)	88-264V		
Max Power (VA)	120W		
Max Current/Phase (A)	2A / 110VAC or 1A/220VAC		
Frequency (Hz)	50/60		

## Software Features

Arbin's MITS7 software uses logical menu-driven programming to set control types, termination conditions, and data logging conditions for tests. All results data is automatically saved in an SQL database. The MITS7 software provides tremendous control to customize tests with over 90 meta variables in addition to using numeric values. Each step can have multiple modes of data logging, and a wide array of auxiliary options is available to expand the interface and control capabilities. Arbin's legacy Access (.res) database format is available upon request.

Features	Control Type	Description
Basic Controls	<ul style="list-style-type: none"> <li>• Current</li> <li>• Voltage</li> <li>• C-Rate</li>   <li>• Rest</li> <li>• Power</li> <li>• Load</li> <li>• Set Variables(s)</li> <li>• Current Ramp</li> <li>• Voltage Ramp</li> <li>• Current Staircase</li>   <li>• Internal Resistance</li> <li>• CCCV</li> </ul>	<p>Output constant current.</p> <p>Output constant voltage.</p> <p>Output value is based on device capacity as entered in batch file.</p> <p>Open circuit voltage measurement.</p> <p>Output constant power.</p> <p>Output constant resistance.</p> <p>Perform loops, cycles, reset capacity values, etc.</p> <p>Generate a current ramp with specified scan rate.</p> <p>Generate a voltage ramp with specified scan rate.</p> <p>Generate a current staircase with specified magnitude.</p> <p>Apply 10 pulse trains that will indicate the IR trend.</p> <p>Combines constant-current and constant-voltage in one single step.</p>
Simulation Control	<ul style="list-style-type: none"> <li>• Current Simulation</li>   <li>• Power Simulation</li> </ul>	<p>Time-vs-Current data may be input directly from a text file.</p> <p>Time-vs-Power data may be input directly from a text file.</p>
Formula	The Formula option enables the user to control and limit schedule steps according to dynamic mathematical equations using variables rather than fixed control value	
One-to-Many Virtual Mapping	Add flexibility of mapping auxiliary channels.	
Parallel Channels	Ability to group channels together to increase the current capability. Channels must be securely attached to the device being tested. An improper or loose connection may damage the system.	

## Available Auxiliaries & Options

Option	Description
EIS Interface	Allows connection of Gamry 5000P, 5000E, and 1000E EIS module that is multiplexed across all channels. Channels automatically queue with simultaneous EIS requests. No change in connection is required. Gamry EIS device is sold separately.
Auxiliary Voltage	+/-5V OR +/- 10V measurement range.
Auxiliary Temperature	Inputs for T, K, E, or J-type thermocouple, or 10kOhm thermistor.
Arbin Life Cycle Chamber	A basic temperature regulation chamber for life cycle testing between 10 and 60 degree C. Each chamber holds up to 16 cells.
Temperature Chamber Interface	Allows interface to an approved 3rd party temperature chamber.
Digital Input/Output Relay	Send and receive a simple digital on/off signal.
AutoCal	Automatic calibration for all channels in a system. Required digital multi-meter is sold separately.
External Charger/Load	Provides input for an external charger or load that can be automatically connected and disconnected from the device under test. The Arbin system will collect data during these periods as well.
Smart Battery SMBus	SMBus communication; Allows Arbin system to send and receive signals using SMBus protocol with the battery under test.
CAN	CANBus communication; Allows Arbin system to receive and send CAN signals with battery pack under test.
Cables	Various lengths of cables available. Connection is four-point (+I, -I, +V, and -V) terminating with alligator clips, lugs, banana plugs, or bare leads.
Battery Holders	Coin cell, cylindrical cell, and flat cell holders available.
Battery Trays and Rack	Various designs of battery trays and rack for cell holders available.
UPS	1500Wh UPS provides backup power to PC only and allows tests to resume automatically if power is restored quickly.