SCOPE

BLUe

Battery Loading Unit

Discharge the battery bank as well as monitor each cell...
...with BLUe

The Product

BLUe: Battery Loading Unit

Battery banks are becoming inseparable part of uninterrupted or back-up power supply arrangements in various industries like Power, Telecom, IT etc. In substations the critical protection, control & communication systems run on battery power. Hence the reliability of these battery banks is crucial to ensure smooth operation of equipment which they are serving in above industries. The capacity of battery may get reduced significantly before the expected life span of battery due to various reasons. The only way to assess the continual healthiness of battery banks is periodical maintenance inspection & testing. And conducting a discharge test on batteries is most effective way to check the battery capacity.

SCOPE introduces BLUe series Battery Loading Units; portable instruments for controlled & monitored discharge of batteries. It is designed for integrated site discharge test, design & QC test and also for monitoring discharge process of battery bank with connected load. Single autonomous unit having inbuilt display, keypad and wireless communication with PC makes it very easy to use. It comes in different configurations ranging from 12V to 380V discharge voltages and 50A to 300A discharge currents. Various options are available to control & monitor the discharge process. With the help of optional Cell Monitoring Unit - CELLMon, voltage of each individual cell can be monitored & data sent to main BLUe unit and then from main unit to PC via wireless communication. Each BLUe unit is supplied with PC downloading & analysis software for real time monitoring of discharge process.

Measurement

Various IEEE Standards namely IEEE 450 / IEEE 1188 / IEEE 1106 related to different types of batteries recommend to carry out capacity test (discharge test) on battery banks as follows:

- At the installation (acceptance test)
- Within first two years of service
- Periodically at interval not more than 25% of expected life
- Annually, when battery has reached 85% of expected service life or if capacity drops more than 10% since last test

BLUe has unique design to carry out discharge test on in-service battery bank. The appropriate portion of inbuilt resistor bank is dynamically selected as per discharge current.

BLUe series has various models to discharge battery banks of 12V, 24V, 36V, 48V, 80V, 100V, 220V, 380V; each having cell voltages of 1.2V or 2V or 6V or 12V.

To save battery bank from excessive discharge, BLUe has auto shut-down facility. It will stop discharge process based on set discharge time, discharge Ah capacity, total battery bank cut-off voltage and cell cut-off voltage*.

BLUe Series Models

Parameter	BLUe 1111	BLUe 1112	BLUe 2212	BLUe 2221A	BLUe 2252	BLUe 2221B	BLUe 1121
For Cell Voltage	2V, 6V & 12V	1.2V, 2V, 6V and 12V	2V, 6V and 12V		1.2V, 2V, 6V and 12V	2V, 6V and 12V	
Acc. & Res.	Discharge Current : Accuracy - Value ± 1%; Resolution - 0.1 A or 0.5% of range whichever is higher						
Max Disc Current Range	0-100 A	0-200 A	0-200 A	0-100 A	0-200 A	0-100 A	0-100 A
Max Power	12.6kW	25kW	50kW	25kW	39kW	25.3kW	12.6kW
Discharge Vol. Range (Nominal Voltage / Max.Current)	10V-126.5V (110V)	10V-126.5V (110V)	10V-253V (220V)	10V-126.5V (110V)10V-253V (220V)	10V-13.8V (12V): 0-50A 10V-27.6V (24V): 0-100A 10V-55.2V(48V): 0-200A 10V-132V(110V): 0-75A 10V-260V(220V): 0-150A	10V-55.2V (48V) 10V-253V (220V)	10V-55.2V (48V) 10V-126.5V (110V)
Dimensions & Weight	520* 177* 346mm, 16kg	740* 400* 600mm, 42kg	602*400* 735mm, 40 kg	602*400* 735mm, 40 kg	740*400* 730mm, 52 kg	602*400* 735mm, 40 kg	553*203* 346mm, 18kg

Application : ■-Power Utility, ■-Telecom, ■-UPS, ■-Wide Voltage Range

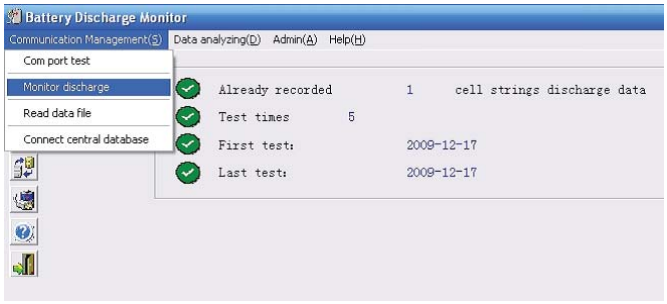
Special Features

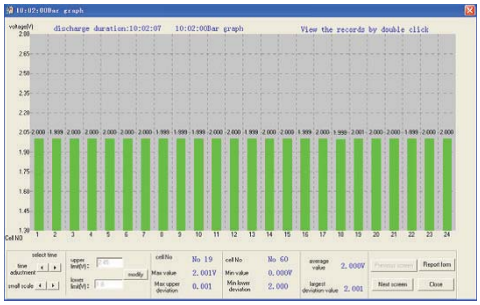
- Portable unit with rolling wheels thus convenient for onsite testing.
- Optional wireless CELLMon enables the process PC monitoring both for discharging and charging.
- BLUe sets 4 conditions for auto shut-down of discharge process so secured and time-saving operation.
- Continue discharge facility is available when previous discharge is stopped abnormally.
- Parallel connection of two discharging units for mass discharge.
- Real-time display of voltage for each cell with the help of Cell Monitoring Unit, CELLMon.
- Accurate data results and vivid waveforms.
- Auto sorting for lag-out batteries during discharging.
- AC & DC power supply modes for different needs.
- Integrated functions for displaying, controlling and discharging.
- Safe circuit design to avoid damage of battery when testing.
- Direct USB drive for convenient data transfer to PC.
- Powerful battery discharge monitor software for data analyzing and report printing
- Thermal cut-off and automatic overload protection.

Battery Discharge Monitor: PC Downloading and Analysis Software

The Analysing Software allows user to real time monitoring for discharging process of battery bank. User need to install/configure software on their PC. By using data base user could backup, save & recover the testing data as per requirement. Measured data could be transferred to a personal computer via USB drive for further analysis. Following are the major features provided.

Real Time Monitor





The facility of Real time monitoring of discharge process is provided in Analyzing Software with BLUe as by wireless communication antenna connected at BLUe main unit & PC. After initialization of discharge process, Analyzing Software will automatically start monitoring the process & receive all data from main unit of BLUe.

BLUe 1122	BLUe 0523	BLUe 0522	BLUe 0512	BLUe 0513	BLUe 0852	BLUe 3810	BLUe 3811
2V, 6V and 12V		1.2V, 2V, 6V & 12V	2V, 6V and 12V		1.2V, 2V, 6V and 12V		2V, 6V and 12V
Voltage Accuracy - 0.5%, Voltage Resolution - 0.1V							
0-200 A	0-300 A	0-200 A	0-200 A	0-300 A	0-200 A	0-50 A	0-100 A
25kW	16.5kW	11kW	11kW	16.5kW	18.4kW	21kW	43.7kW
10V-55.2V (48V) 10V-126.5V (110V)	10V-27.6V (24V) 10V-55.2V (48V)	10V-27.6V (24V) 10V-55.2V (48V)	10V-55.2V (48V)	10V-55.2V (48V)	10V-13.8V (12V): 0-100A 10V-27.6V (24V) : 0-200A 10V-41.4V (36V) : 0-200A 10V-55.2V (48V) : 0-200A 10V-92V (80V) : 0-200A"	10V-437V (380V)	10V-437V (380V)
602*400* 735mm, 40 kg	602*400* 735mm, 40 kg	553*225* 425mm, 19kg	553*203* 346mm, 18kg	553*225* 425mm, 19kg	602*400* 735mm, 40 kg	553*225* 425mm, 19kg	602*400* 735mm, 40 kg

Customised models are also available

Optional

- Cell Monitoring Unit - CELLMon.

CELLMon is optional for wireless communication with BLUe main unit. The new insulation - protected CELLMon is rugged and capable to measure all type of batteries,(1.2V, 2V, 6V and 12V). Single CELLMon could be connected with 12 cells of 1.2V, 2V or 4 cells of 12V , 6V. CELLMon, BLUe and battery discharge monitor software is capable to monitor and record voltage of each cell. Without CELLMon, overall voltage will be recorded instead of voltage for each cell.

- Current Clamp - Current of other load can be monitored by optional C.T.
- Customized models are also offered on request. Technical specifications of customized models are available as Annexture.

Benefits

- Charging & discharging voltage of each cell is monitored by CELLMon.
- Over discharging of cell can be avoided by putting cell voltage discharging limit.
- Identification of faulty cells is possible while at discharge process by Battery Discharge Monitor software so time saving operation.
- BLUe can be used as stand alone discharging instrument without CELLMon and Analysing Software.

Specifications

Sr. No.	Specifications	Particulars
1	Power	AC 220V/110V, 50/60Hz
2	Sampling Frequnecy	5 Samples / min
3	Display	LCD , 128*64 pixel
4	Temperature	-10°C To 50°C
5	Humidity	Up To 95% Relative humidity (non condensing)

Ordering Information

Description	Quantity	Description	Quantity
Standard Accessories			
Load Cables - 1 Red and 1 Black	1 Set	Pen Drive	1 No.
Voltage Measurement Cables with Clamps	1 Set	Carrying Case for test lead set	1 No.
AC Power Cord	1 No.	Instruction Manual	1 No.
Master Earthing Cable	1 No.	Test Report	1 Set
PC Communication terminal with antenna & RS232 - USB Convertor			1 Set
Optional Accessories			
Cell Monitoring Unit, CELLMon	As per order	Current Clamp for measuring current through external load	1 No.
CELLMon Leads	1 Set	Serial Control Cable for connecting to additional BLUe	1 No.

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