

PRODUCT SELECTION GUIDE 2012



Application and Recommended Product

Product Series	BM Rack Unit	BM NEMA System	Sentry Compact Unit
Available Product	BM7500 (BM7510) BM5500 (BM5510) BM3500 (BM3510)	BM6810 (Telecom) BM6820 (Utility) BM6830 (Utility) BM6840 (UPS) BM6850 (UPS)	Sentry-0412S2 Sentry-0412S6 Sentry-1202W2 Sentry-0212S12 Sentry-2402E
Telecom 48V with 6V or 12V batteries			Sentry-0412S2 (2 strings) Sentry-0412S6 (6 strings)
Telecom 48V with 2V cells	BM3500 (BM3510)	BM6810	Sentry-2402E 500Ah or below
Telecom 24V with 12V batteries			Sentry-0212S12 (12 strings)
Telecom 24V with 2V cells			Sentry-1202W2
Utility DC 110/220/240V with 12V batteries	BM5500 (BM5510)	BM6820	
Utility DC 110/220/240V with 2V cells (flooded or VRLA)		BM6820	
Utility DC 110/220/240V with 1.2V Ni-Cad cells		BM6820	
UPS battery cabinet 16 to 24 batteries	BM5500 (BM5510)		
UPS battery cabinet 25 to 42 batteries	BM7500 (BM7510)		
UPS battery rack with 12V batteries		BM6840	
UPS battery room with 2V cells		BM6850	

- 1) Recommendation is based on battery capacity, configuration, environment and cost effectiveness.
- 2) BM7500/5500/3500 rack unit can be located on top of battery cabinet. It can also be rack mounted or wall mounted.
- 3) BM7510/BM5510/BM3510 models are newer version of BM7500/BM5500/BM3500. Communication protocol is compatible. Local touch screen is optional.
- 4) BM6800 NEMA enclosed system has IP65 (NEMA 4) protection grade. It can be installed in battery room to comply with fire/building code or oil refinery facility regulation.
- 5) Different product can be integrated into one system if a site has multiple DC systems. For example, a telecom core site may have 24VDC, 48VDC and high voltage UPS.
- 6) All product can be connected with Ethernet adapter and wireless GPRS (data plan is required.)

Complete battery monitoring solution selection process

<p>1 Battery Details</p>	<ol style="list-style-type: none"> 1) Application (Telecom sites, Utility, UPS, Wind farm, Hybrid Bus etc) 2) Battery (VRLAB, Flooded, NiCad etc), capacity, voltage and terminal type/size 3) Number of battery strings/banks, locations 4) Number of batteries for each string 5) Online request for proposal: http://batterydaq.com/submit.html
<p>2 Choosing Appropriate Monitoring Product</p>	<p>BM7500 (BM7510) High voltage UPS up to 600V, 25 to 42 batteries per unit.</p> <p>BM5500 (BM5510) For UPS battery bank below 350V, 16 to 24 batteries</p> <p>BM3500 (BM3510) For Telecom 24x2V High capacity</p> <p>BM6800 Modular System Pre-installed in a NEMA enclosure. Unlimited number of batteries and voltage range.</p> <p>Sentry Compact Unit Cover most Telecom cell site applications</p>
<p>3 Network Considerations</p>	<p>Ethernet Adapter If the system is within one network, a standard Ethernet adapter will connect multiple devices and provide data access for Battery Analyzer software</p> <p>GPRS wireless Validated with GSM, CDMA, UMTS network in many countries. Customer pays for data plan or supply SIM cards.</p>
<p>4 Software Selection</p>	<p>Battery Analyzer PC Software Multiple to multiple networking. We suggest a dedicated computer in order to save complete historical data. No annual fee. Manage battery data in house or by qualified 3rd party.</p> <p>MyBattery Platform™ for large scale remote monitoring Subscription fee. Web access anywhere. Manage data through Kokii professionals.</p> <p>Battery Analyzer and MyBattery Platform can be utilized at the same time.</p>

1. Large UPS Systems

Nominal Bus Voltage	String Number	Cell Voltage/Capacity	Cell Number in Each String	Total Battery Number in 1 site
480V	2	2V, 200 to 1800Ah	240	480

Measurements and Features

- String Voltage, Current
- Ambient/Pilot Temperature
- Cell Voltage, Cell Internal Resistance
- Inter-cell Resistance (2-wire mode)
- Optional Cell Temperature
- Color coded LED indicator for each cell
- Real-time analyzing PC software
- Advanced database management
- Email, SMS, SNMP alarm notice
- Open connection with Modbus server
- Full web access with MyBattery Platform
- IP65 protection standard



A) Arshanold Modular Systems at 1-wire Mode

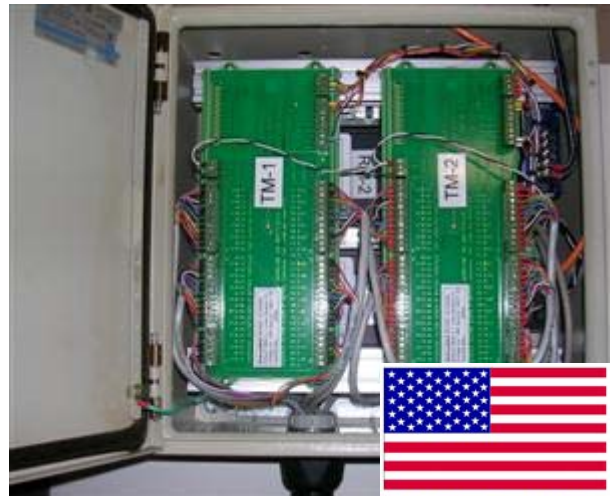
Basic System

1) TM-30 module at 1-wire mode, 60 batteries each module	8 units
2) RM-120H	8 units
3) Connection Plug Set	8 units
4) Temperature Sensor for each zone	8
5) Fused Leads	500
6) Power Adapter	2
7) Network Adapter RS485	2
8) LEM Current Sensor	2
9) NEMA enclosure and pre-assembly	4

B) Arshanold Modular Systems at 2-wire Mode

Basic System


1) TM-30 module at 2-wire mode 30 batteries each module	16 units
2) RM-60H	16 units
3) Connection Plug Set	16 units
4) Temperature Sensor for each zone	16
5) Fused Leads	1000
6) Power Adapter	4
7) Network Adapter RS485	2
8) LEM Current Sensor	2
9) NEMA enclosure and pre-assembly	8



Made in USA

BM6800 is pre-assembled with Arshanold modules in a NEMA 4 (IP65) enclosure in order to meet the highest protection Category.
BM6850 is optimized for 240 x 2V high capacity applications. Check [BM6800 datasheet](#) for details.



One year free access to 
 for all (large, medium, small) UPS applications.

2. Medium UPS Systems

Nominal Bus Voltage	String Number	Battery Voltage/Capacity	Battery Number in Each String	Total Battery Number in 1 site
480V	2	12V, <200Ah	40 (24 to 42)	80

- **Data/Network Centers**
- **Financial Centers and Banks**
- **Manufacturing Facilities**
- **Emergency Response Centers**

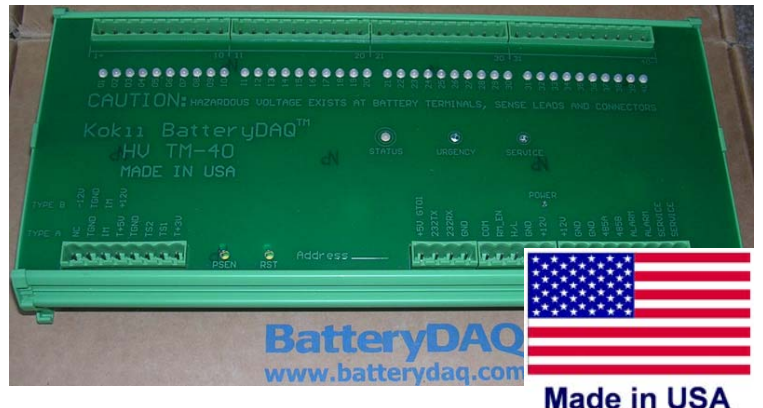
Solution A: 19" rack mounting systems

Basic System	
1) BM7500-12V	2 units
2) Connection Plug Set	2 sets
3) Temperature Sensor	2
4) Fused Leads	90
5) Network Adapter RS485	1
6) Battery Analyzer Software	1 License
Optional Parts	
LEM Current Sensor	2
Generator battery module	1



Solution B: Arshanold Modular Systems

Basic System	
1) TM-40 HV module at 1-wire	2 units
2) RM-400H	2 units
3) Connection Plug Set	2 sets
4) Temperature Sensor	2
5) Fused Leads	90
6) Network Adapter RS485	1
7) Battery Analyzer Software	1 License
Optional Parts	
LEM Current Sensor 400A	2
Generator battery module	1



- ✓ **Reliable**
- ✓ **Cost Efficient**
- ✓ **Streamlined Installation**

BM6800 is pre-assembled with Arshanold modules in a NEMA 4 (IP65) enclosure in order to meet the highest protection Category. Each **BM6840** unit monitors 2 strings of 40 x 12V batteries. Check the [BM6800 datasheet](#) for details.

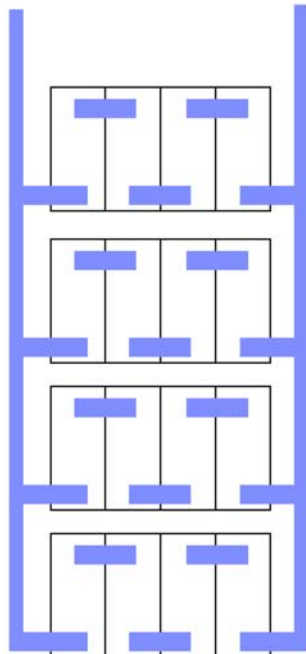


3. Small UPS Power

	Nominal Bus Voltage	String Number	Battery and Capacity	Battery Number in Each String	Total Battery Number for 1 UPS
A	48V	2	12V, <200Ah	4	8
B	48V	4	12V, <200Ah	4	16
C	72V	2	12V, <200Ah	6	12
D	48V	1	6V, <350Ah	8	8
E	48V	2	6V, <350Ah	8	16

Product: SENTRY TM-8 modules

Product	A	B	C	D	E
Basic System					
1) SENTRY TM-8	1 units	2 units	2 units	1 units	2 units
2) Connection Plug/Harness Kit	1 kits	2 kits	2 kits	1 kits	2 kits
3) Temperature Sensor	1	1	1	1	1
4) Battery Analyzer Software	1 license	1 license	1 license	1 license	1 license
Optional Parts					
LEM Current Sensor	1	1	1	1	1
Network Adapter	1	1	1	1	1



4. Electric Utility

	Nominal Bus Voltage	String Number	Battery and Capacity	Battery Number in Each String	Total Battery Number in 1 site
A	120V	2	2V, up to 800Ah	60 (or 58)	120
B	240V (220V)	2	2V, up to 800Ah	120 (or 110)	240

* For 12V switchgear applications, see “#2 Medium UPS System”

Product: Arshanold Modular Systems

2-wire mode for precise internal battery and connection resistance
(Recommended for batteries 500 Ah and up)

Product	A	B
Basic System		
1) TM-30 at 2-wire mode	4 units	8 units
2) RM-60-H	4 units	8 units
3) Connection Plug Set	4 sets	8 sets
4) Temperature Sensor	2	2
5) LEM Sensor 400A	2	2
6) Power Adapter	2	2
7) Fused Leads	250	500
8) NEMA enclosure and pre-assembly	2	4
9) PC Analyzer Software	1 license	1 license
Optional Parts		
Network Adapter RS485	1	1
GPRS Module for Remote Site	1	1



Cost efficient 1-wire mode

Product	A	B
Basic System		
1) TM-30 at 2-wire mode	2 units	4 units
2) RM-60-M	2 units	4 units
3) Connection Plug Set	2 sets	4 sets
4) Temperature Sensor	2	2
5) LEM Sensor 400A	2	2
6) Power Adapter	2	2
7) Fused Leads	130	260
8) NEMA enclosure and pre-assembly	1	2
9) PC Analyzer Software	1 license	1 license
Optional Parts		
Network Adapter RS485	1	1
GPRS Module for Remote Site	1	1



Integration support for SNMP or Modbus.

BM6800 is pre-assembled with Arshanold modules in a NEMA 4 (IP65) enclosure in order to meet the high protection Category.
Each **BM6820** unit monitors 60 x 2V batteries.
Check the [BM6800 datasheet](#) for details.



Made in USA

5. Telecom Central Offices

Nominal Bus Voltage	String Number	Battery and Capacity	Battery Number in Each String	Total Battery Number
48V	2	2V, up to 3500Ah	24	48

Monitoring System name: BM6810-2402W2-048H-2

2-wire mode for precise internal battery and connection resistance
(Recommended for batteries 500Ah and up)

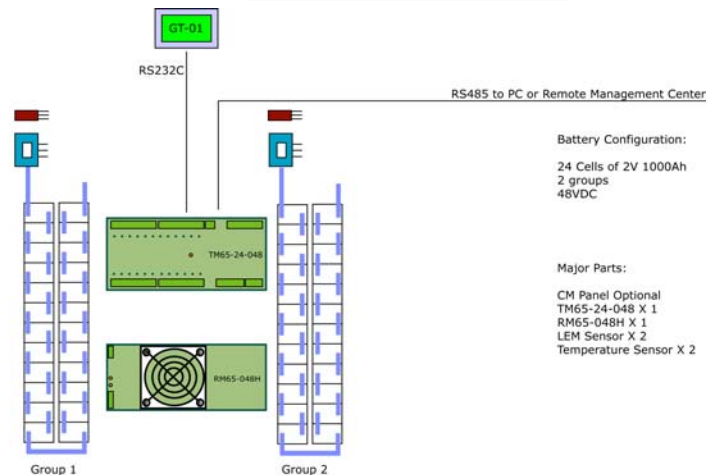
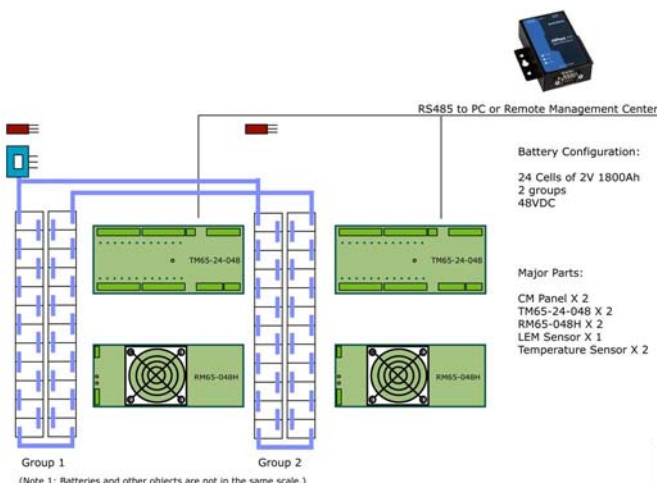
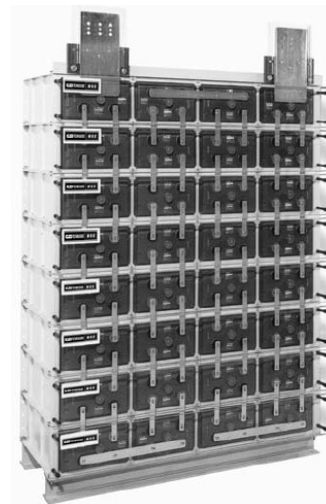
Basic System	
1) TM65-24	2 units
2) RM-48-H	2 units
3) Connection Plug Set	2 sets
4) Temperature Sensor	2
5) Power Adapter 48V IN	1
6) Fused Leads	100
7) PC Analyzer Software	1 license
Optional Parts	
GT-01 HMI	1
LEM Sensor 2000A, split core	1
Network Adapter RS485	1
Virtual GPRS to MyBattery Platform	1



Monitoring System name: BM6810-2402W1-048H-2

Cost efficient 1-wire mode

Basic System	
1) TM65-24	1 unit
2) RM-48-H	1 unit
3) Connection Plug Set	1 set
4) Temperature Sensor	1
5) Power Adapter 48V IN	1
6) Fused Leads	50
7) PC Analyzer Software	1 license
Optional Parts	
GT-01 HMI	1
LEM Sensor 2000A, split core	1
Network Adapter RS485	1
Virtual GPRS to MyBattery Platform	1



6. Telecom OSP Cabinets



Telecom outside plant solutions available through our OEM partners or authorized distributors

7. Telecom Cell Sites



Telecom cell site solutions available through our OEM partners or authorized distributors

MyBattery Platform™



Contact us for OEM partner/distributor information and MyBattery Platform™ live demo.

8. Renewable Energy Hybrid Power Systems

Example 1: Solar Power for Oil Pipeline

Nominal Bus Voltage	String Number	Battery and Capacity	Battery Number in Each String	Total Battery Number in 1 site
24V	1	Ni-Cad, 1100Ah	18	18

Basic System

1) TM65-24	1 unit
2) RM-24-H	1 unit
3) Harness Set	1 set
4) Temperature Sensor	1

Optional Parts

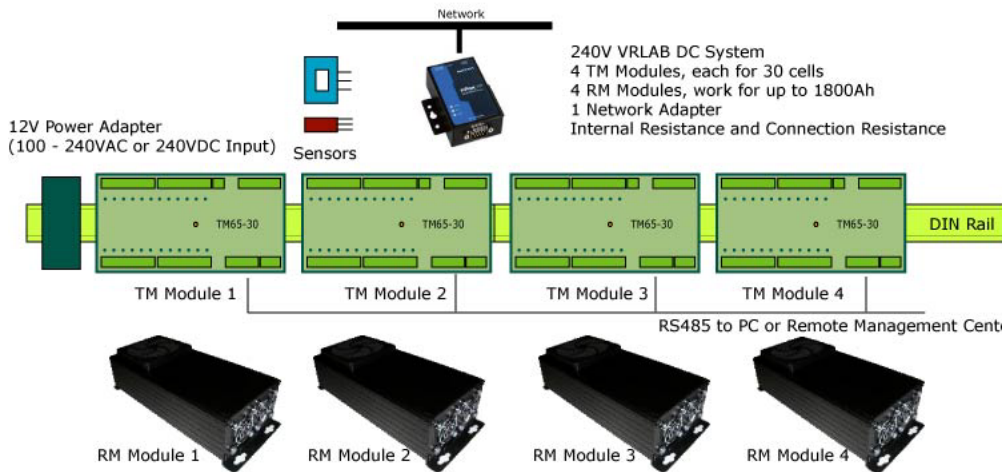
GT-01 HMI service tool	1
LEM Current sensor 200A	1

* TM links to SCADA remote system

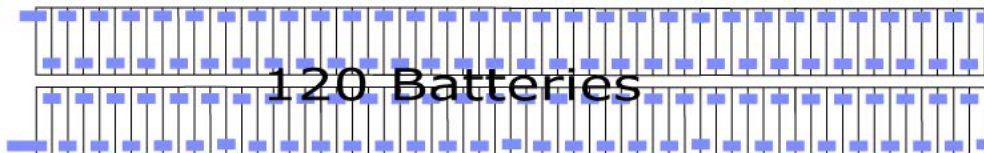


Example 2: Wind Farm

Nominal Bus Voltage	String Number	Battery and Capacity	Battery Number in Each String	Total Battery Number in 1 site
240V	1	2V, 1200Ah	120	120



- ❖ Flexible
- ❖ Reliable
- ❖ Remote
- ❖ Intelligent
- ❖ Cost Effective



MyBattery Platform™



wind power
generation



9. Battery Powered Electric (or Hybrid) Buses

It is an increasing challenge for public transportation administration to manage large amounts of batteries for thousands of electric (or hybrid) buses. Traditional battery monitoring systems and communication methods can not provide essential information for centralized management.

	Nominal Bus Voltage	String Number	Battery Voltage/Capacity	Battery Number in Vehicle
A	288V	1	2V, 260Ah	144
B	192V	1	2V, 200Ah	96

Product	A	B
Basic System		
1) TM65-30	3 units	2 units
2) Harness Set	3 units	2 units
3) Temperature Sensor	3 sets	2 sets
4) Power Adapter	1	1
Optional Parts		
GT-01 HMI service tool	1	1
LEM Current Sensor	1	1
Wireless GPRS Module	1	1

Customized for your city
Customized for your city

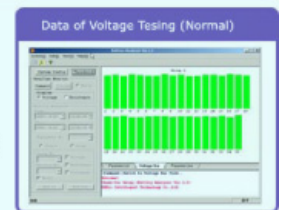
- Centralized battery management system
- GPRS wireless connection
- Thousands of buses in one system, powered by
- Intelligent analysis to identify weak batteries
- Database connectivity to enterprise informatics system



Ultimate Solution for Large Scale, Efficient Battery Maintenance



- Centralized battery management system
- GPRS wireless connection
- Thousands of buses in one system
- Intelligent analysis to identify weak batteries
- Database connectivity to enterprise informatics system
- Streamlined battery maintenance



Customized for your city

