



ENERTECT

MONITORING WITH CONFIDENCE



SAFEGUARD YOUR BUSINESS FROM UNPREDICTABILITY

Enertect acts as the protector of your critical infrastructure. You can rely on our technology to shield your operations and data from the vagaries of the environment.

We believe that the best way to address Battery and UPS problems is to monitor, detect, correct and prevent any failures from occurring.

DOMINATING THE POWER BACKUP INDUSTRY SINCE 1985

Enertect, an intelligent and innovative UPS and Battery Monitoring System, is the brain child of Global Power Source (GPS), that has dominated the power backup industry since 1985. The synergy of the in house software development team and Battery and UPS field level experience has contributed to the success of Enertect.

Enertect Monitoring Systems are used for large scale power backup installations where system availability is critical to successful business operations.

Most failures occur due to improper UPS and Battery maintenance. Enertect Monitoring Systems allow you to maintain a safe and secure system with real-time monitoring which will minimize the probability of any failures and optimize the service life of the batteries.

Our monitoring systems are designed in accordance with IEEE Battery Maintenance recommendations.



\$100
MILLION

GPS group Annual Turnover



20+
OFFICES

All over the World



350
EMPLOYEES

The best in the field

1 ENERTECT BATTERY MONITORING SYSTEM



ENERTECT

UPS/BATTERY MONITORING

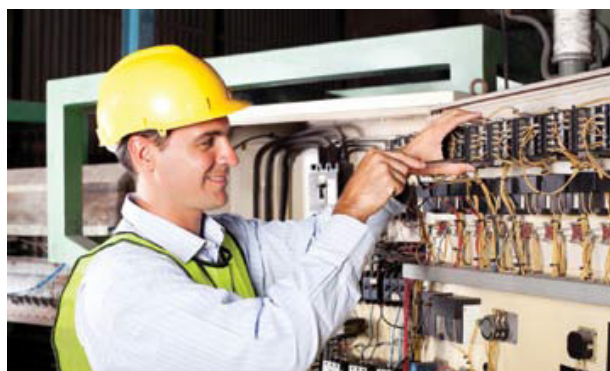
Main Dashboard UPS 1 UPS 2 UPS 3 UPS 4 Alarm Info

UPS 1	UPS 2	UPS 3	UPS 4
String 1 ✓	String 1 ✗	String 1 ✓	String 1 ✓
AT1 20.8°C	AT1 19.5°C	AT1 20.8°C	AT1 20.8°C
AT2 20.8°C	AT2 19.5°C	AT2 20.8°C	AT2 20.8°C
String 2 ✓	String 2 ✗	String 2 ✓	String 2 ✓
AT1 20.3°C	AT1 19.7°C	AT1 20.3°C	AT1 20.3°C
AT2 20.3°C	AT2 19.7°C	AT2 20.3°C	AT2 20.3°C

Updated on: 01/10/2015 | 11:23 AM

Website: www.enernect.com | Email: info@enernect.com

OLD METHOD VS. NEW METHOD



	SCHEDULED		REAL TIME
	MONTHLY	QUARTERLY	
Ambient Temperature	✓	✓	✓
String Float Voltage	✓	✓	✓
String Float Current	✓	✓	✓
Pilot Cell/ Unit Float Voltage	✓	✓	✓
Individual Cell/Unit Float Voltage	✗	✓	✓
Individual Cell/Unit Float Temperature	✗	✓	✓
Inter- Cell Connection Resistance	✗	✓	✓
Inter-Cell Ohmic Messurement	✓	✗	✓

*Common maintenance practices for SMF VRLA batteries recommended by IEEE standard no.1184.

At Enertect, you select what you need to monitor.

We offer customisable packages where you can select exactly what you need to monitor.

FEATURES SERIES	VOLTAGE INDIVIDUAL CELL	CURRENT	TEMPERATURE AMBIENT	IR INDIVIDUAL CELL	TEMPERATURE INDIVIDUAL CELL	CAPACITY INDIVIDUAL CELL	REMAINING RUNTIME
ENERTECT-V	✓	✓	✓	✗	✗	✗	✗
ENERTECT-VR	✓	✓	✓	✓	✗	✗	✗
ENERTECT-VRT	✓	✓	✓	✓	✓	✗	✗
ENERTECT-VRC	✓	✓	✓	✓	✗	✓	✗
ENERTECT-U	✓	✓	✓	✓	✓	✓	✓

*Additional features available on request.

BATTERY MONITORING FEATURES

Enertect monitors and measures a wide range of parameters to keep your batteries protected.



VOLTAGE

Enertect continuously monitors the battery terminal voltage of individual batteries which helps users to determine the health and performance of the batteries.



INTERNAL RESISTANCE

Measures the internal resistance of individual batteries which helps in predicting the health of the batteries. As per IEEE, *“Internal ohmic values are useful as a trending tool. To use these readings effectively, accurate baseline readings should be taken after about six months of battery operation. Internal ohmic readings taken without the benefit of baseline data may be difficult to interpret and of limited value. These readings should be trended over time, and the user should note any significant changes from the baseline”*.

Enertect complies with IEEE's recommendations to use internal ohmic values as a trending tool, and trends the baseline readings over a period and alerts users in case of any significant changes.



BATTERY TEMPERATURE

We measure the battery temperature in accordance with IEEE recommendations. Each individual battery temperature is measured to help users prevent thermal runaway and overheating.



CAPACITY

Enertect measures and indicates the battery capacity in percentage, which helps the user to accurately determine the power of every block.

Enertect is one of the few Battery Monitoring Vendors to measure the battery monitoring features in accordance with IEEE recommendations.



CHARGE/ DISCHARGE CYCLES

Keeps track of the number of charge-discharge cycles of each battery string to help the user monitor the service life of the battery.



RIPPLE VOLTAGE

Measures the ripple voltage which occurs due to incomplete suppression of the alternating waveform within the power supply. This measurement helps users in enhancing the battery life.



CURRENT

Measures the amount of current which flows through each battery bank during the float, charge and discharge mode. This enables the user to optimize the current flow in the system.



AMBIENT TEMPERATURE

Measures the ambient temperature at any given two points per system which helps the user prevent premature failure by ensuring the ambient temperature does not exceed the given threshold.



INTER-CONNECTOR RESISTANCE

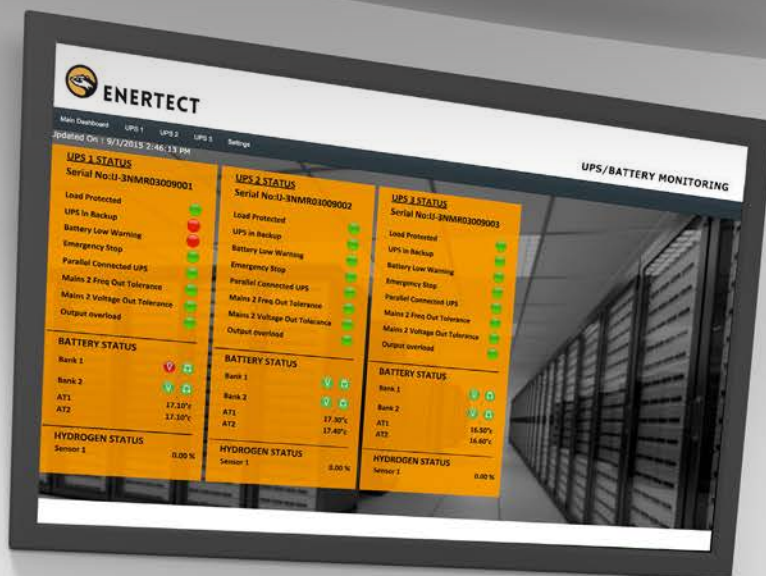
Monitors the resistance of both the inter-cell and inter-tier connectors which helps the user verify the integrity of the battery installation.



HYDROGEN GAS DETECTOR

It is imperative to measure the hydrogen level in the room as hydrogen concentrations of a certain volume can be potentially explosive. Enertect's hydrogen gas detector is designed to display warnings before any concentration in volume reaches the lower explosive limits.

2 ENERTECT UPS MONITORING SYSTEM



The best way to address UPS problems is to prevent them.

The Enertect UPS Monitoring System constantly looks out for warning signs of any trouble, such as deteriorating performance of the UPS systems or any failures.

Enertect immediately sends real-time notifications when potential issues develop, enabling the user to take the necessary steps before a breakdown has a chance to occur.

Enertect improves UPS uptime which allows the user to save time and money.

We offer robust solutions that make robust systems.

The Enertect Network topology seamlessly connects to the UPS communication card and reads and analyses the data at a very high frequency rate. We analyse the data in three ways – local monitoring, remote and centralized monitoring and outsourced monitoring.

Local Monitoring

Monitors your UPS + Battery Parameters locally.



Remote/Centralized Monitoring

Monitors your UPS + Battery information remotely.



Outsourced Monitoring

Outsource your infrastructure monitoring requirements to our experts at Enertect.



UPS MONITORING FEATURES

Enertect monitors and analyses all the UPS parameters at a very high frequency rate. Enertect can monitor all the UPS features provided by the user's communication card. Some of the most common features that are monitored include:



CHANGEOVER

Enertect monitors the changeover status from the UPS to the battery and vice versa as it helps users to stay alert and accurately analyse the real-time site conditions.



REMAINING RUNTIME

Enertect measures the remaining runtime of the UPS and immediately notifies the user if the remaining runtime falls below critical levels.



UPS AMBIENT TEMPERATURE

Monitors the ambient temperature which helps the user in detecting and preventing incorrect temperature levels, which allows for an increase in the battery life.



INPUT AND OUTPUT VOLTAGE

Measures the input/output voltage levels and helps in keeping the user's load safe from irregular voltage changes.



INPUT AND OUTPUT FREQUENCY

Measures the input and output frequencies of the UPS which benefits the user as it ensures that the load has an uninterruptable power supply.



POWER

Monitors the power from the UPS and effectively records all the data which helps the user in improving their power distribution efficiency.



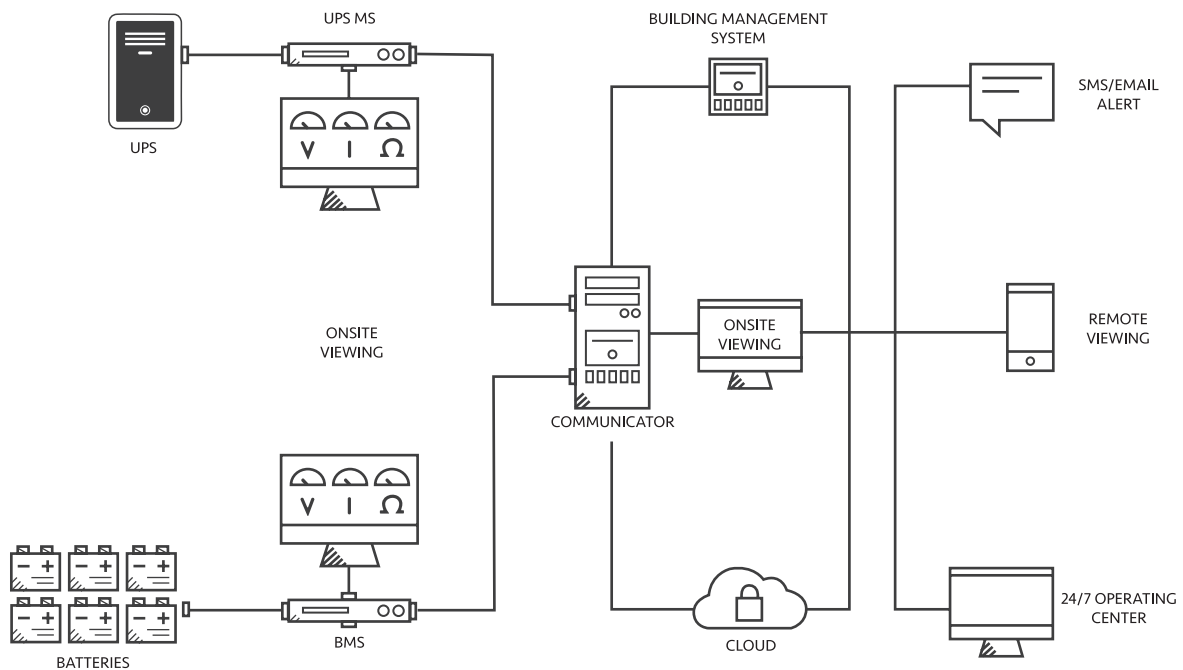
CURRENT

Measures the current distribution across the UPS input/output and across battery strings which detects any uneven distribution and thus prevents an overall failure of the system.

Enertect can seamlessly integrate with any other hardware which supports MODBUS, SNMP and other industrial protocols.

3 CUTTING EDGE TECHNOLOGY

Enertect provides you with cutting edge technology, accessible anytime and anywhere. We allow you to have full coverage of your UPS and battery system status, anywhere you are.



ENERTECT SUPPORTS:

- Building Management Systems
 - Scada Systems
 - UPS
- Third Party Hardware and Software



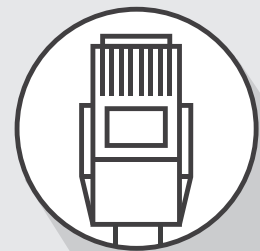
COMMUNICATION PROTOCOLS:

- MODBUS RTU/TCP
- SNMP (Optional)
- TCP/IP (Optional)



COMMUNICATION PORTS:

- Ethernet
- RS 485
- RS 232 (Optional)



REPORTS AND SOLUTIONS FOR EVERYONE

We provide a user-friendly interface with the option of a desktop/web based interface. Web based interface is powered by ASP.Net and Ajax and the software can be intergrated with SDK. Our software and reports are divided into three parts:

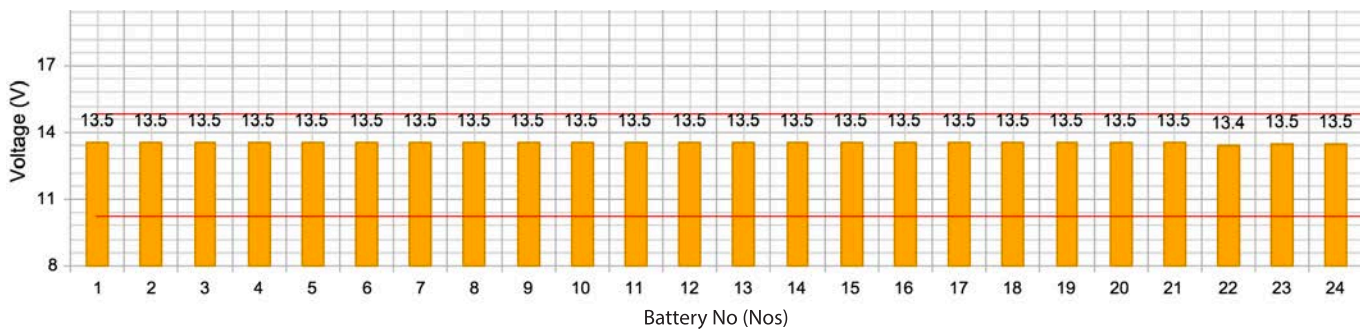
1. REAL-TIME REPORTS

This displays the real/current status of your system.

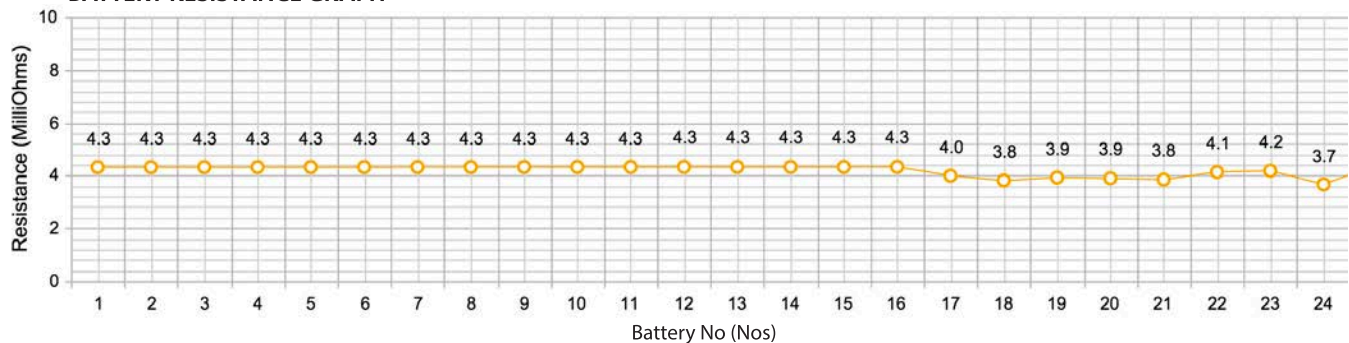


2. HISTORICAL REPORTS

BATTERY VOLTAGE GRAPH



BATTERY RESISTANCE GRAPH

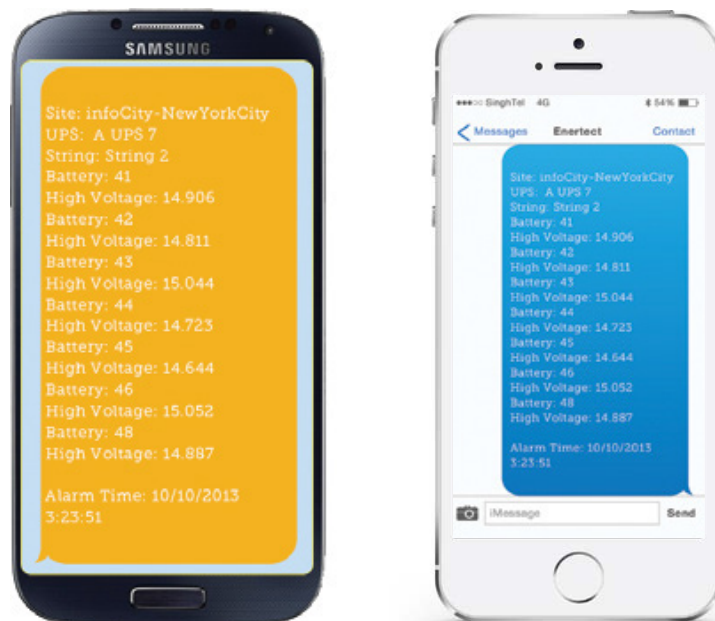


3. ANALYSIS AND NOTIFICATIONS REPORTS

Enertect analyses all the critical parameters and provides users with detailed and accurate reports. The Battery Alarm details are presented in an easy to read graphical format. Additionally, users receive detailed SMS notifications when their system crosses defined parameters.

Alarm Date & Time	Alert Type	UPS Name	String Name	Battery No	Alert Value
14/09/2015 07:53 PM	Low Voltage	BFL-1000VA HSB UPS	String 1	1	9.000
14/09/2015 07:53 PM	Low Voltage	BFL-1000VA HSB UPS	String 1	32	0.000
14/09/2015 07:54 PM	High IR	BFL-1000VA HSB UPS	String 1	28	7.112
14/09/2015 07:54 PM	High IR	BFL-1000VA HSB UPS	String 2	10	7.012
14/09/2015 07:54 PM	High IR	BFL-1000VA HSB UPS	String 2	14	7.024
18/09/2015 02:13 PM	Low Voltage	BFL-1000VA HSB UPS	String 1	1	0.000
18/09/2015 02:13 PM	Low Voltage	BFL-1000VA HSB UPS	String 1	2	0.000
18/09/2015 02:13 PM	Low Voltage	BFL-1000VA HSB UPS	String 1	3	0.000
18/09/2015 02:13 PM	Low Voltage	BFL-1000VA HSB UPS	String 1	4	0.000
18/09/2015 02:13 PM	Low Voltage	BFL-1000VA HSB UPS	String 1	5	0.000
18/09/2015 02:13 PM	Low Voltage	BFL-1000VA HSB UPS	String 1	6	0.000
18/09/2015 02:13 PM	Low Voltage	BFL-1000VA HSB UPS	String 1	7	0.000
18/09/2015 02:13 PM	Low Voltage	BFL-1000VA HSB UPS	String 1	8	0.000
18/09/2015 02:13 PM	Low Voltage	BFL-1000VA HSB UPS	String 1	9	0.000
18/09/2015 02:13 PM	Low Voltage	BFL-1000VA HSB UPS	String 1	10	0.000
18/09/2015 02:13 PM	Low Voltage	BFL-1000VA HSB UPS	String 1	11	0.000
18/09/2015 02:13 PM	Low Voltage	BFL-1000VA HSB UPS	String 1	12	0.000
18/09/2015 02:13 PM	Low Voltage	BFL-1000VA HSB UPS	String 1	13	0.000
18/09/2015 02:13 PM	Low Voltage	BFL-1000VA HSB UPS	String 1	14	0.000
18/09/2015 02:13 PM	Low Voltage	BFL-1000VA HSB UPS	String 1	15	0.000
18/09/2015 02:13 PM	Low Voltage	BFL-1000VA HSB UPS	String 1	16	0.000
18/09/2015 02:14 PM	Low Voltage	BFL-1000VA HSB UPS	String 1	17	0.000
18/09/2015 02:14 PM	Low Voltage	BFL-1000VA HSB UPS	String 1	18	0.000
18/09/2015 02:14 PM	Low Voltage	BFL-1000VA HSB UPS	String 1	19	0.000
18/09/2015 02:14 PM	Low Voltage	BFL-1000VA HSB UPS	String 1	20	0.000
18/09/2015 02:14 PM	Low Voltage	BFL-1000VA HSB UPS	String 1	21	0.000
18/09/2015 02:14 PM	Low Voltage	BFL-1000VA HSB UPS	String 1	22	0.000
18/09/2015 02:14 PM	Low Voltage	BFL-1000VA HSB UPS	String 1	23	0.000
18/09/2015 02:14 PM	Low Voltage	BFL-1000VA HSB UPS	String 1	24	0.000
18/09/2015 02:14 PM	Low Voltage	BFL-1000VA HSB UPS	String 1	25	0.000

Battery Alarm Details



Detailed SMS Notifications

4 ADDITIONAL SERVICES

1. OUTSOURCED ENERTECT MONITORING

You can outsource your critical power monitoring requirements to us to monitor and safeguard. With our Enertect Network Operations Centre (ENOC) and a 24/7 dedicated team of Battery and UPS experts, we ensure your infrastructure is always secure and running seamlessly. Additionally, our Advanced Technical Support (ATS) team are constantly prepared to troubleshoot and resolve complex technical issues related to the customers' critical assets.

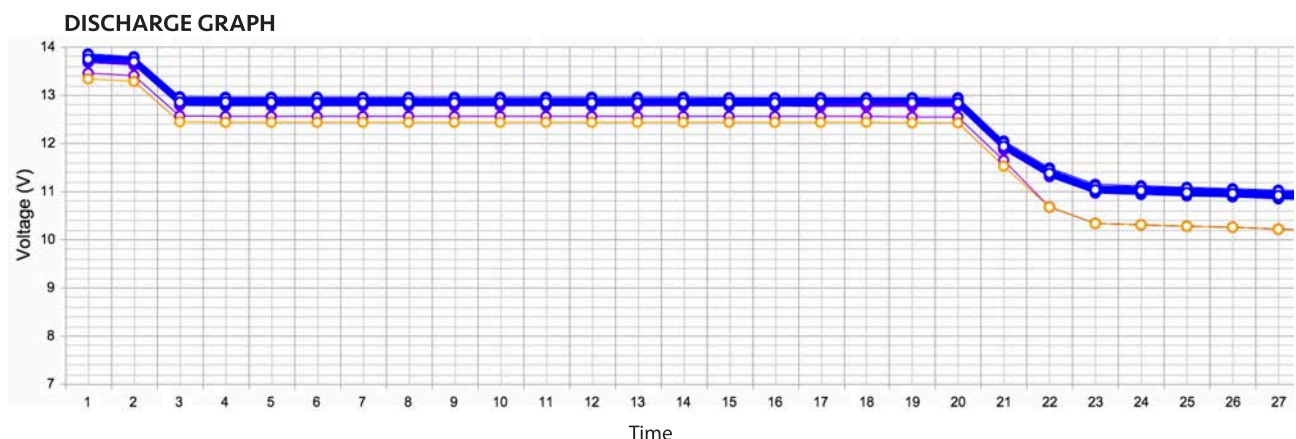
a. Enertect Network Operations Centre (ENOC)

- 24/7 monitoring of batteries, UPS or any smart devices installed at customers' locations
- State-of-the-art advanced monitoring tools
- Highly skilled manpower monitoring the network infrastructure
- Managing and monitoring of Customer Premises Equipment (CPE)
- Level 2 support for customer related problems

b. Advanced Technical Support (ATS)

- ATS provides telephonic support to all field engineers for resolution of technical issues online
- Field ATS engineers resolve escalated issues as and when required.
- Technical analysis of generic problems faced by a group of customers as specifically assigned by City Network Head

2. LOAD TEST



We monitor individual batteries in strings during the discharge/load test to analyse the battery's discharge performance and identify its health during discharge. It is impossible to constantly conduct manual checks to analyse and record the voltage and temperature of each individual battery in a string during discharge. However, Enertect makes it possible to achieve this data and provides users with detailed battery voltage and temperature graphs. Furthermore, with the use of Enertect's load test services, users can secure themselves from unwanted events such as battery fires, which are usually caused during discharge tests due to thermal runaway conditions.

Parameters monitored during the load test include:

- Battery Voltage
- Battery Temperature at negative post
- String Current
- Ambient Temperature

5 OUR CUSTOMERS

Enertect has consistently been a trusted name with a strong network of esteemed corporations across the world. The following clients have trusted our products and solutions to protect their infrastructure:



accenture



GENPACT



Goldman Sachs

SANDVIK



Deutsche Bank

HCL



Singtel

GIC

MEDIA CORP

PACNET



citibank

Honeywell



CISCO

EMC²

J.P.Morgan



LAGOS AIRPORT
AFRICA

Infosys

DBS

HSBC

IBM

Morgan Stanley

Standard Chartered



ORACLE

BARCLAYS



TAJ

ING

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