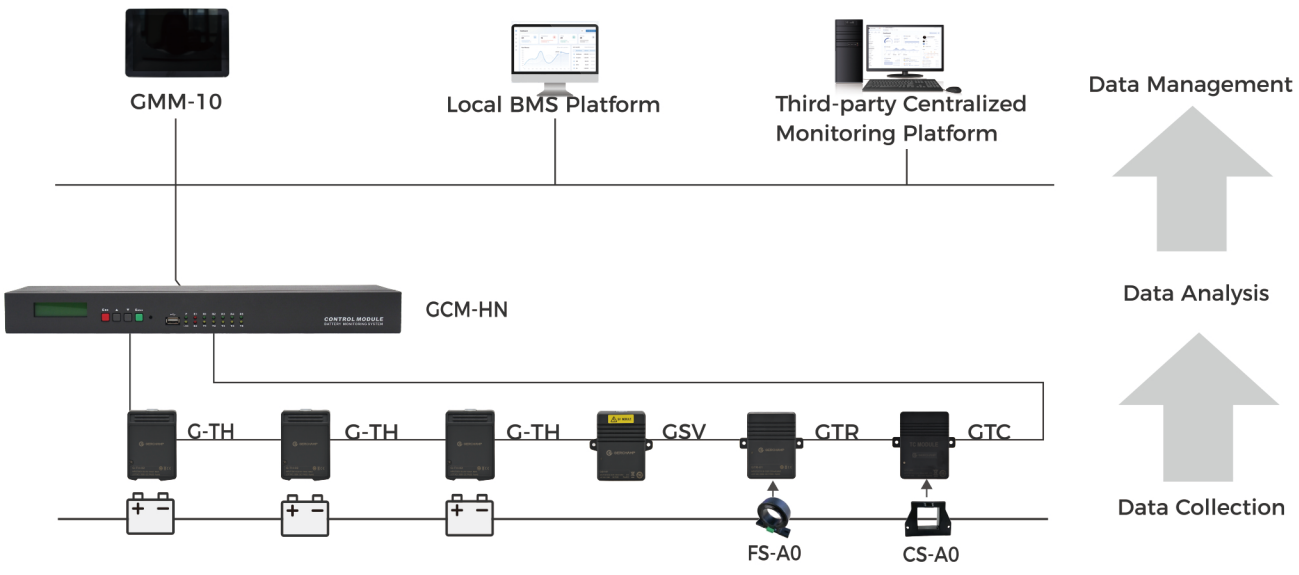
GERCHAMP

G-TH BATTERY MONITORING SYSTEM

ADVANTAGES

- REAL-TIME & ONLINE MONITORING
- COMPREHENSIVE FEATURES
- DISTRIBUTED ARCHITECTURE
- INTELLIGENT ANALYSIS

TOPOLOGY



FEATURES & BENEFITS

Thermal runaway Intelligent Analysis and Early Warning	Adopt intelligent analysis on the thermal runaway trend of the battery and issue early warning in time to prevent the battery from thermal runaway and to protect the battery strings. The thermal runaway phenomenon can be predicted in advance by tracking the float charging current curve, and intelligent calculation ofbattery internal temperature and ambient temperature.
High-accuracy SOC/SOH	Own online parameter identification, self-correction of charging, no jump, which renders SOC error of all working conditions no more than 5%, and hence improves battery utilization ratio and operational safety. Refer to the advantages of various algorithms such as Kalman filter, multi-dimensional, fuzzy network neural, and open circuit voltage method. Provide high accuracy SOC estimation, improving the SOC accuracy otraditional BMS from ±20% to ±5%.
Advanced low power consumption design	Adopt advanced power consumption management method and improved circuit to render the G-TH module working current no more than 3 mA, which is far below the industry average.
intelligent analysis	Apply intelligent analyses to detect low effective battery, monitor the safe operating environmenthelp cell selection, and export analysis report clear and easy to understand. Adopt new collection mechanismto realize the fast data updates, ensure the data accuracy and reduce delay, which makes the data collectionmore precise and reliable.

MONITORED PARAMETERS

- Cell Internal Resistance
- Cell Voltage
- Cell Temperature
- Ambient Temperature
- Charge/Discharge Current
- Float Current
- String Voltage
- Intelligent Balance

SPECIFICATIONS

Item	Name	Parameter
Environment	Operating temperature	-20~+60°C (0~2000mASL)
	Relative humidity	5~95%
	Atmospheric pressure	80~110kPa
Reliability	Automatic restarttrigger	Built-in WDT
	MTBF	100,000 hours
Certification	EMC	EN 55032:2015+A11:2020 EN55035:2017+A11:2020 EN 61000-3-3:2013+A1:2019 ENIEC 61000-3-2:2019
	Safety	EN61010-1:2010
	CE, REACH and TTL certification	
Performance	Up to manage6 strings, a total of 600 cells	
Communictations Interfaces	RS485, LAN, dry contact SupportMODBUS/RTU, TCP and SNMP protocols	

Index	Status (● Normal ● Early Alarm ● Alarm)		
Thermal Runaway	●	●	●
SOC	●	●	●
SOH	●	●	●

Item	Name	Parameter		
Power Requirements & Consumption	Model	Powered By	Current	Consumption
	G-TH-1V2 G-TH-02	Battery	7mA (⩽13mA)	<30mW
	G-TH-06		3mA (⩽7mA)	<50mW
	G-TH-12			<80mW
	GTC	CM module or external power 10.8~13.8VDC	⩽210mA	<2W
	GTR	CM module or external power 10.8~13.8VDC	⩽210mA	<2W
	GCM-HN	100~240VAC(rated) 90~264VAC(max)	⩽0.4A	<15W
Measuring Range & Accuracy	Measuring Content	Range	Accuracy	Resolution
	String Voltage	20~800V	±0.5%	0.1V
	Cell Voltage	1.2V, 2V, 6V, 12V	±0.1%	0.001V
	Cell Internal Resistance	50~65535 μΩ	±2% (repetitive accuracy)	1μΩ
	Temperature	-5~+99.9°C	±1°C	0.1°C
	Charge/Discharge Current	±1500A	±1%	0.1A
	SOC/SOH	—	±5%	1%

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