General Specifications

Nominal voltage	51.2V
Maximum charge voltage	58.4V
Nominal capacity @1C/1C	40Ah
Energy	2.048kWh
Cell chemistry	$LiFePO_4$
Cycle life at 100% DOD	>2,000
Parallel cascade	Up to 15
Serial cascade	Not supported
SOC indicator	YES, multi-color
Button	Multi-function
Vent valve	YES

Discharge

Maximum continuous discharge current	80A
1st Level cut-off	80A @3S
2nd Level cut-off	180A @1S
Short circuit cut-off	1000A @300μS
Discharge cut-off voltage	40V

Charge

Maximum charge current	40A

Others

Charge temperature	-30~65°C
Discharge temperature	-20~65°C
Standby current	<30mA
Sleep current	<100μA
Self-discharge	~3.5%
Standby to Sleep Delay	48 hours

Dimension (L*W*H)	260*180*275mm
Enclosure material	ABS+PC
Enclosure flame class	UL94 V-0
IP rating	IP67
Built-in self heating pad	YES
Design compliance	UN 38.3, IEC 62133, UL2271, UL2580
Shipping	UN3480, Class 9

ATP-GC2-4840 rechargeable battery has been specifically developed to accommodate most deep cycle motive applications such as utility vehicles, golf carts, AGVs, aerial working platforms, GSE and so on

9 THINGS to consider when selecting the right deep cycle batteries for motive applications

1) Energy Density

The primary reason for converting from lead acid to lithium is always energy density. ATP-GC2-4840 is practically alone in the industry in offering 48V40Ah (2.048kWh) in the GC2 size

2) Opportunity Charging

The ATP-GC2-4840 supports up to 1C of charge current, allowing it to charge a totally depleted battery to full in less than 70 minutes

3) Long Cycle Life

The superior cell consistency and cutting-edge battery pack architecture allow for up to 2,000 charge/discharge cycles, even at 100% DOD

4) Cell Safety

ATP-GC2-4840 uses cylindrical cells instead of pouch and prismatic, which are commonly regarded as the most mature cell technology in automotive and motor applications

5) Expandable Capacity

Up to 15 units of ATP-GC2-4840 can be cascaded in parallel to provide up to 600Ah (30kWh) of energy, simultaneous charge and discharge to this battery bank is allowed, thanks to the built-in BMS that safeguarding these operations

6) CAN bus Communication

Batteries, host, and the smart chargers can be connected together by the built-in CAN bus port

7) SOC Estimation by Current Integration

The RSOC is computed using current integration rather than voltage measurement, thanks to the integrated high accuracy coulomb counting ADC

8) Quick Cascade Connection

With the two additional connectors in both positive and negative, users can cascade the batteries in few seconds using specific power-link cables

9) Charging at Low Temperature

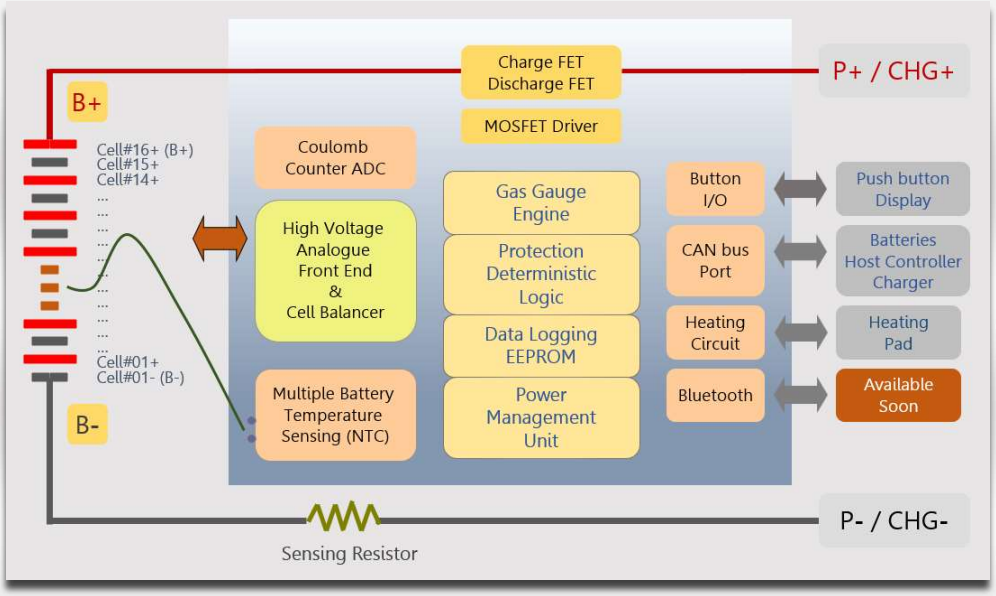
The superior battery cells selected can intrinsically support charge at -20℃ and discharge at -30℃; In addition, the built-in self heating pad and smart algorithm allow charge the battery at low temperature ranges

CORPORATE INTRODUCTION

ATP Battery Company Limited is the industry leader in design & manufacturing lithium batteries for varies industrial & commercial applications. ATP Battery has in-house development team to design the BMS hardware and firmware, we can provide turnkey service from cell selection & qualification, battery pack design, ID & enclosure design, communication protocol design and battery pack manufacturing

NO.	FUNCTION	NO.	FUNCTION
1	CAN bus OUT	8	CAN bus IN
2/9	Lift up handle	10	Status indicator
3	Heat sink	11	Alarm indicator
* 4/5/6	Negative terminal	* 12/13/14	Positive terminal
7	Vent valve	15	Button/SOC indicator

* 4,5 & 6 (12,13 & 14) are connected internally



ATP-GC2-4840 Block Diagram

BATTERY PROTECTIONS
Cell Over Voltage
Cell Under Voltage
Over Charge Current
Over Discharge Current
High Temperature in Charging
High Temperature in Discharging
Low Temperature in Charging
Low Temperature in Discharging
Short Circuit

CHARGER SETUP	
Charge Voltage	57.6V(3.60vpc)
Float Charge Voltage	54.4V
Over Charge Voltage Cut-Off	59.2V(3.7vpc) for 4S
Bulk Charge Current	≤40A
Over Charge Current Cut-Off	45A for 4S
Temperature Compensation	None

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