

GT1042 Automotive Battery Management System Summary



Temperature

Cell Balancing

Current Protection

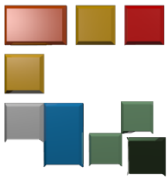
Voltage Protection

The GT1042 Battery Management System (BMS) monitors and controls high power lithium-based battery packs. Typical applications involve electric vehicles, lifts, backup systems, charging systems, and lighting. The modular design allows scalability of up to 212 parallel cells at 700V and as much as 1000A discharge current.

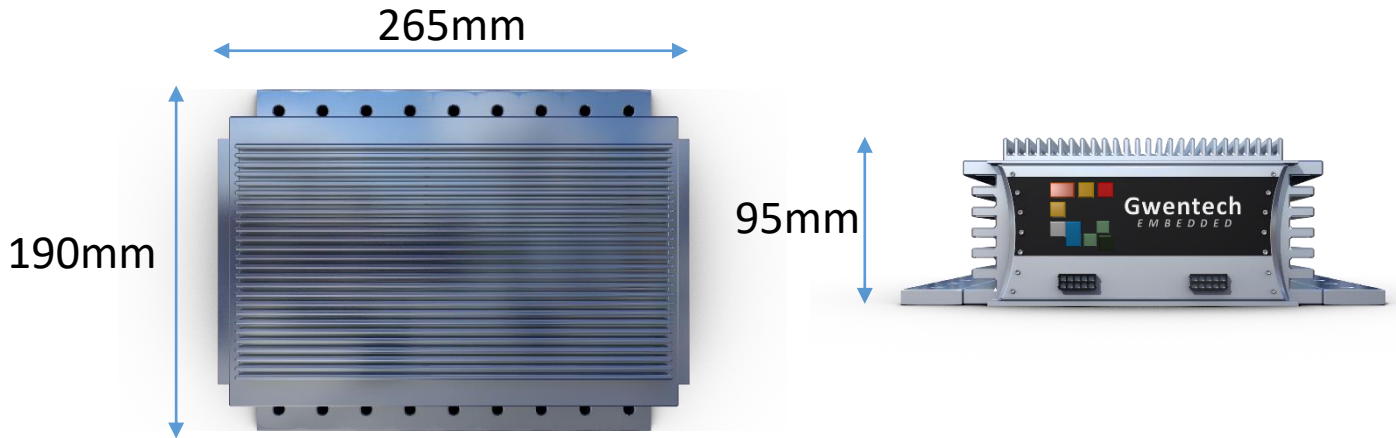
Temperature, current, and voltage are all measured for both charge and discharge modes. Cells are actively balanced as needed to maintain safe and reliable operation.

Customizable CAN bus communication and other system parameters are configured by Bluetooth at install time using a mobile app. Logged data can also be accessed via app.





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Specifications

Parameter	Characteristic	Notes	Min	Nominal	Max	Units
Electrical						
V_{CC}	Supply Voltage		7		16	V
I_{CC}	Supply Current	Active, CAN bus 30% loaded Sleep, CAN suspended		300 <1		mA mA
V_{BC}	Battery Voltage		6.6		700	V
I_{BC}	Battery Load Current	Delivered to load			1000	A
I_{SHUT}	Battery OverCurrent Threshold	Programmable	10		1000	A
I_{BAL}	Balancing Current				2	A
N_{cells}	Number Cells		2		212	cells
V_{cells}	Cell Voltage		0.5		5	V
t_{MEAS}	Cell Measuring Period			5		ms
B_{CAN}	CAN Bus Bit Rate		125	500	1000	kbps
Mechanical						
T_{OP}	Operating Temperature		-40		80	°C
T_{ST}	Storage Temperature		-40		80	°C
L_{DIM}	Dimensions			190 x 265 x 95		mm

