



BMS battery management system for litium rechargeable battery pack			
Model: BMS NOVA BK6-HP			
Electrical Characteristics			
No.		Test item	Criterion
1	Type of cells	Type	All rechargeable lithium
		Number of cells	7÷15
		Range voltage for single cell	1,5÷4,5 VDC
		Cells in series	yes (7÷15)
		Cells in parallels	yes
2	Voltage	Range min/max	15÷60 VDC
		Minimum voltage measured	1 mV
3	Current	Low Current consumption for single cell with auxiliary charger	≤100 nA
		Continuous charging current	15A
		Maximal charging current for 1 minute	20A
		Continuous discharging current	50A
		Maximal discharging current for 1 minute	60A
		Minimum measured current	10 mA
4	Balance	Type of Balance	Passive
		Number of balance	three type (A,B,C)
		Minimum balance voltage for single cell	1 mV
		Balance current for single cell	84 mA
5	Over charge Protection	Over charge detection voltage	settable ±1mV
		Over charge release voltage	settable ±1mV
6	Over discharge protection	Over discharge detection voltage	settable ±1mV
		Over discharge release voltage	settable ±1mV
7	Over current protection	Over discharge detection current	settable ±1A
		Detection delay time	settable ±1s
8	Shorth circuit	Shorth circuit max current	fuse
		Settable on/off	no
9	Temperature	Number of sensors of temperature (cells)	1
		Number of sensors of temperature (PCB)	1
		Battery temperature misure	settable ±1°C
		PCB temperature misure	settable ±1°C
10	Time	Real time clock	yes
		Auto power off	settable ≥1min



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Communications			
1	Communication	Buzzer	no
		USB	1
		TX opto isolated	1
		RS485 opto isolated	no
		i2C	optional
		Digital output	4
		Digital input	0
		Led command output	4
		Led view system state	2
		Bluetooth	yes
2	Parameters of BMS	Settable by PC	yes
3	Software of communication	windows support	yes
4	Communication with smartphone	Application Android	yes
5	Communication with smartphone	Application ios	In development

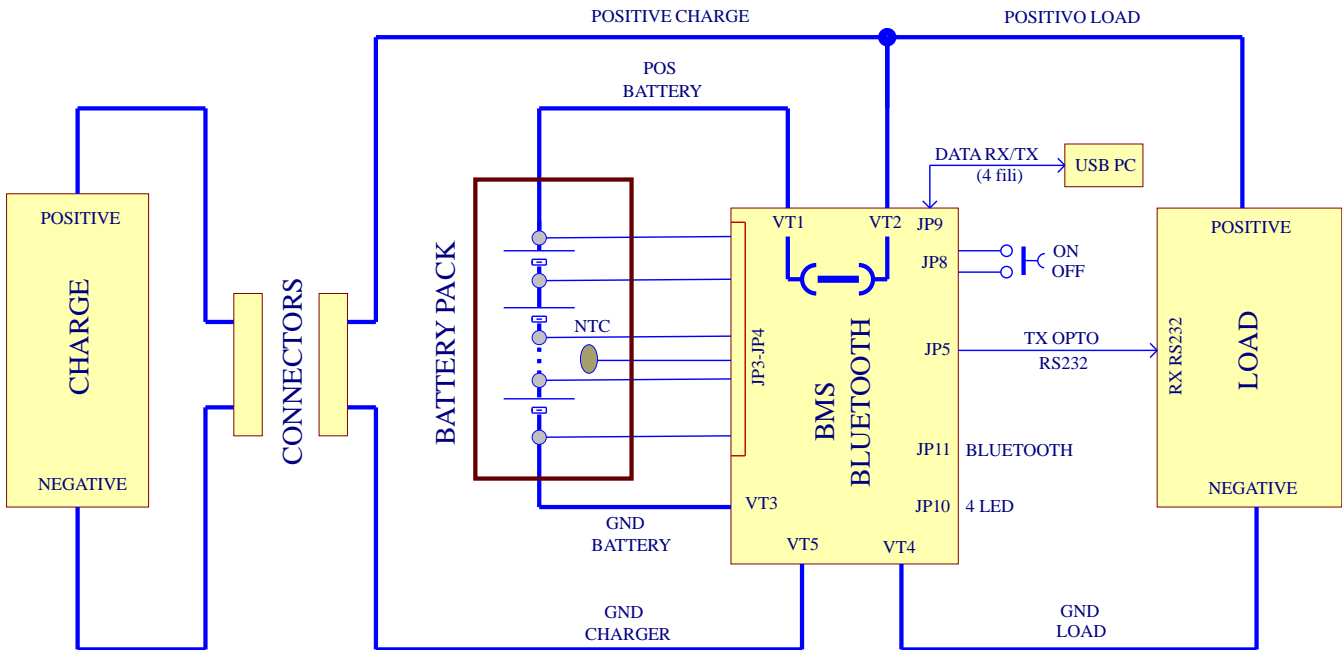
BMS battery management system for lithium rechargeable battery pack			
Model: BMS NOVA BK6-HP			
Internal memory of the BMS			
No.		Test item	Criterion
1	Time	Day last charge	yes
		Data of last charge	yes
		Charge cycles	yes
		Max time between charges counter	yes
2	Current	Register of Amper/hours	yes
3	Operation data	Internal register	11 parameters
4	Production data	Internal register	4 parameters
5	Historical log data short	Register fifo	64 events
6	Historical log data long	Register fifo	400 days



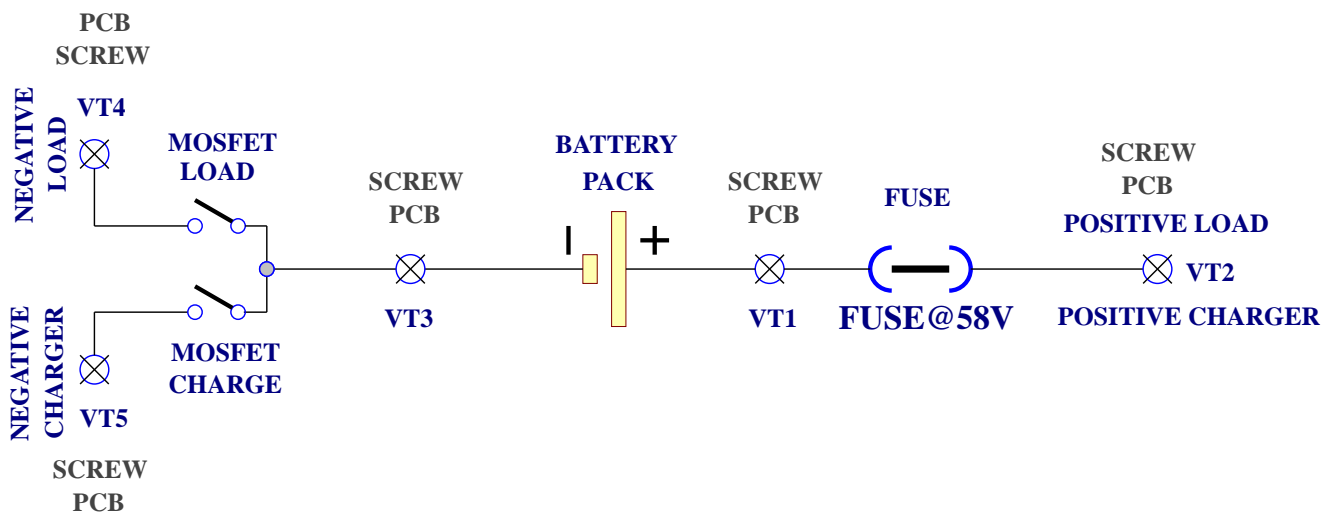
BMS battery management system for lithium rechargeable battery pack			
Model: BMS NOVA BK6-HP			
Electrical and Mechanical Characteristics			
No.	Test item		Criterion
1	Type of core	Micro Controller	16 bit
2	Misure current	Analog-to-Digital Converters	16 bit
3	Misure Voltage	Analog-to-Digital Converters	16 bit
4	Power regulator	Switching Regulators	high efficiency
5	ON/OFF	Single switch SPST	no
		Single push button	yes
6	Start charger	Directly (charger wiht present voltage in out)	Without aux
7	Efficiency BMS	At maximun power	99,98%
8	Led 1 on board	State views	charge/discharge
9	Led 2 on board	State views	on/off bluetooth
10	Led 1 out board	State views, external led	25% SOC
11	Led 2 out board	State views, external led	50% SOC
12	Led 3 out board	State views, external led	75% SOC
13	Led 4 out board	State views, external led	100% SOC
14	Fuse power on board	Fuse 58V (the values depend from the use)	BF1 58V@60Amp
15	Bidirectional charge interruption		yes
16	Precharge output load		no
17	Power consumption	Stand By State	≤400 nA
18	Power consumption	ON State all power on	≤30 mA
19	Signal connector cells and temp	JST connector PH	PHR-7 + PHR-10
20	Various signal connector	JST connector PH	PHR-xx
21	Connection aux charger	Solder pcb	not present
22	Connection negative battery	Power connector Press Fit	screw M5
23	Connection negative load	Power connector Press Fit	screw M5
24	Connection negative charge	Power connector Press Fit	screw M5
25	Connection positive battery	Power connector Press Fit	screw M5
26	Connection positive load/charger	Power connector Press Fit	screw M5
26	Connection power fuse	Power connector Press Fit	screw M5
27	PCB	Command	FR4
		Power	CEM1
28	Weight	Measure (with fuse)	92 g
29	Dimension	Measure	135*65*20 mm
30	IP International Protection	Rating	no
31	Case	Type	no
32	Temperature	Operating Temperature Range	-20, +70 °C
		Storage Temperature Range	-20, +85 °C



**SCHEMATIC DESIGN:**

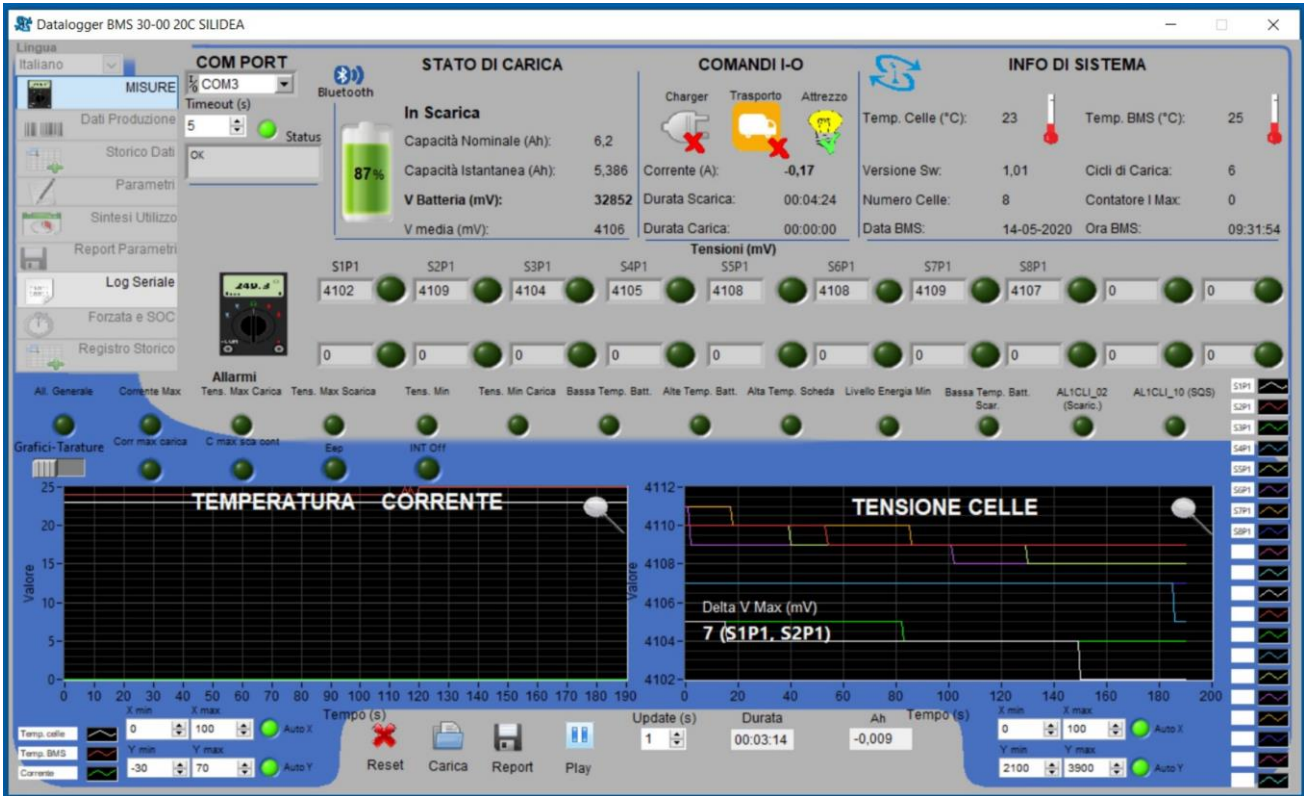


**SCHEMATIC CONNECTIONS:**

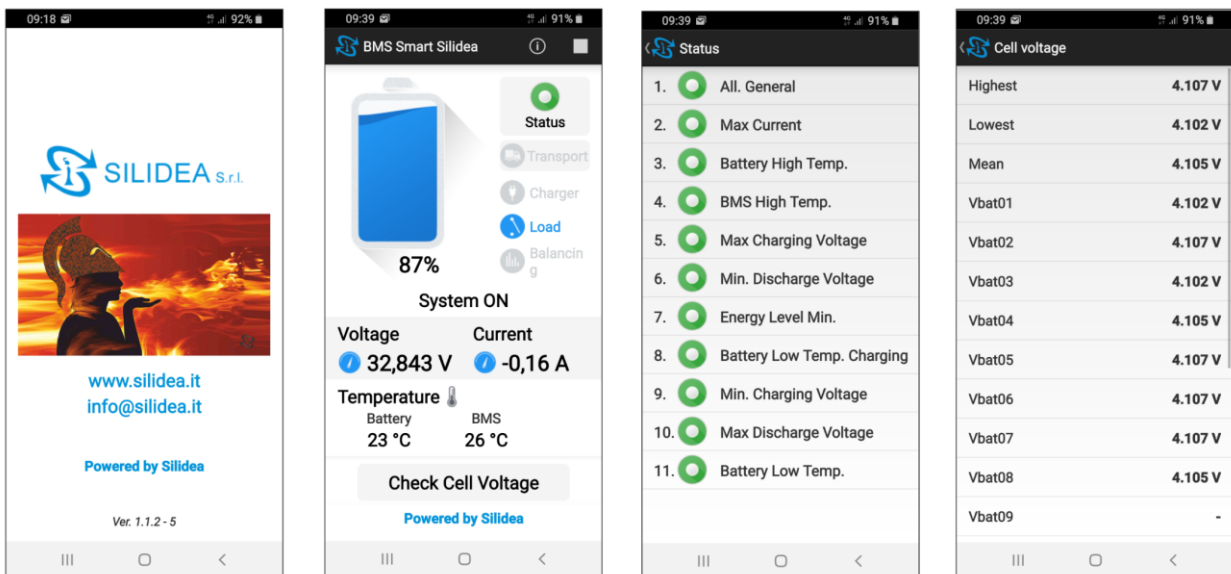




SOFTWARE CONNECTION PC:



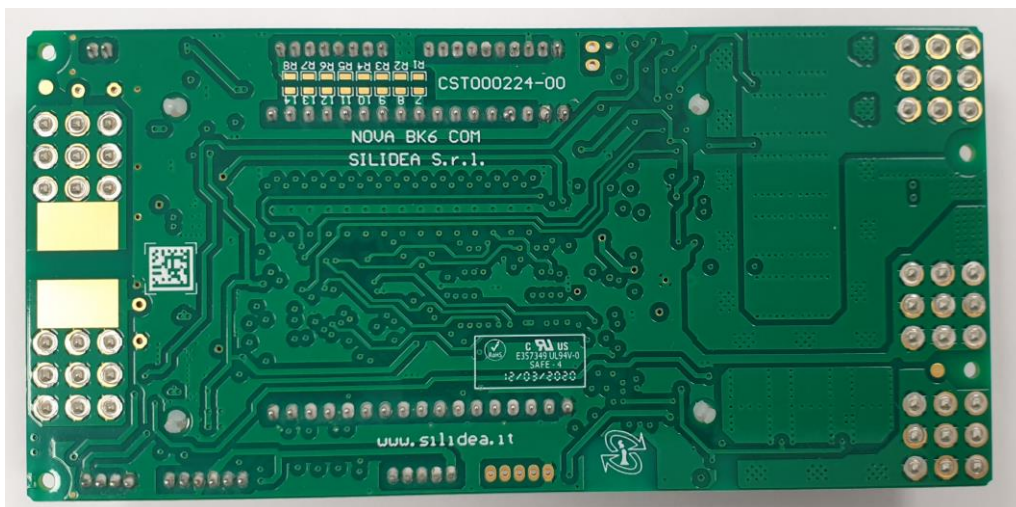
APP SMARTPHONE:



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PHOTO OF THE PRODUCT:



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