HWT-1004-7AB

Han-Win Technology Co., Ltd.
漢穎科技股份有限公司

Down Tube Pack for 36V e-Bike with Bafang System

Product Description

HWT-1004-7AB is a removable pack and installed on down tube of e-Bike. It is designed as a 10S4P battery pack by using Li(NiCoMn)O2 cells. Its nominal output voltage is 36V and nominal capacity is 11.4 Ah (@0.2C). This battery pack also meets waterproof IPX4.

Fully comply with Bafang RS232 communication, HWT-1004-7AB can be integrated with Bafang e-Bike system easily which is one of most popular motor system in Europe. HWT-1004-7AB provides two-level protections, first level protection is done by software (SW) which typically slow to act; second level is done by hardware which react very fast, on the order of microseconds or milliseconds, usually at still-higher activation thresholds which also cause the protection MOSFETs to interrupt current flow in the battery pack.

HWT-1004-7AB supplies one auxiliary power – USB 5V, so that can satisfies the demand of variety electronical gadgets such as smart phones, MP3 player and head light.

Key Features

- Comply with Bafang drive system
- Integrated Hardware and Software protection scheme for more safety
- Support 5 SOC LEDs and SOC/Wake-UP button
- Real time cell balancing
- Very low power consumption
- Soft start function without power-on inrush
- Auto-Power-Down after Idle time expired.
- USB BC1.2 DCP Port (5V@1.5A)

Specifications

Electrical Rating

- Nominal Voltage 36V
- Nominal Capacity 11.4Ah (0.2C)
- Max output current 30A
- Recommended charging current 5.5A @ 155min

Protections

- 2-level Over-Voltage (Over-Charge) protection
- 2-level Under-Voltage (Over-discharge) Protection,
- Over-Current protections
- Short-Circuit Protection
- Over-Temperature Protection
- Under-Temperature Protection

Other Protections

- TVS protection > 48V Transient Voltage
- Fly wheel for main loop protection
- Soft start to minimize inrush current
- Low voltage lock up

Cell Balancing/Pack Bleeding

- Passive Balancing while charging
- Cell Balancing current up to 90mA

Communication Capability

- RS232 comply with Bafang UART V5.2

Power Consumption

- Power Down mode: < 5uA
- Power-On/Wake up by charging for charger-In
- Power-On/Wake up by pushing SOC/WAKEUP button

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Operating Temperature

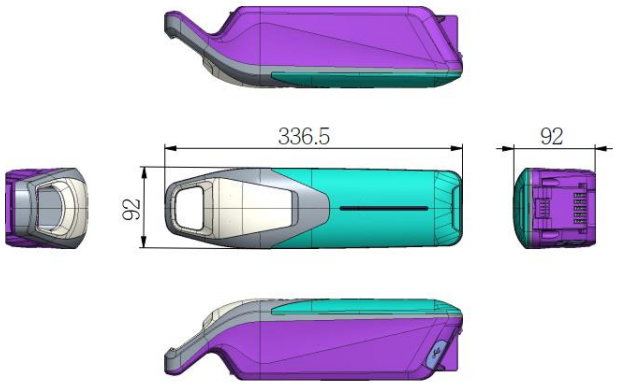
-20°C ~ 60°C

Dimensions

- 336.5x 92 x 92 (mm)

Weights

- 4.5Kg



Protection Parameter setting Example

Parameter		Min	Typ	Max	Unit
OV (Cell, HW)	Detection Voltage	4.175	4.20	4.225	V
	Delay Time	0.750	1	1.25	S
	Release Voltage	4.1	4.125	4.150	V
	Delay Time	0.2	0.3	0.4	S
UV (Cell, HW)	Detection Voltage	2.575	2.60	2.625	V
	Delay Time	7.750	8	8.25	S
	Release Voltage	2.775	2.8	2.825	V
	Delay Time	0.2	0.3	0.4	S
UV (Cell, SW)	Detection Voltage	~~	2.9	~~	
	Delay Time	7.750	8	8.25	S
	Release Voltage	~~	3.1	~~	
	Delay Time	~~	0.3	~~	
COC (SW)	Detection Level	~~	10	~~	A
	Delay Time	~~	1	~~	S
	Release Method	Release by removing charger or entering into Discharge Mode			
DOC (HW)	Detection Level	~~	33	~~	A
	Delay Time	~~	1.28	~~	S
	Release Method	Pressing SOC/Wake-Up button for 10 seconds (to shutdown)			
SC (HW)	Detection Level	~~	67	~~	A
	Delay Time	~~	100	~~	uS
	Release Method	Pressing SOC/Wake-Up button for 10 seconds (to shutdown)			
COT (HW)	Detection Level	50	53	55	℃
	Release Level	47	50	52	℃
CUT (HW)	Detection Level	-2	0	2	℃
	Release Level	3	5	7	℃
DOT (HW)	Detection Level	58	60	62	℃
	Release Level	55	57	59	℃
DUT (HW)	Detection Level	-17	-15	-12	℃
	Release Level	-1	3	5	℃
UT/OT (HW)	Delay Time		10		S

*All above parameters are programmable and it depends on cell specification and customer's application requirements

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