

## Zmartec Technology (Shenzhen) Ltd

### Sodium-ion start-stop battery H9-121025

#### 1. Product features

- (1) Utilize cutting-edge technology and processes to manufacture sodium batteries, ensuring high reliability;
- (2) Under standard conditions, it can achieve 100% DOD charging and discharging, with a cycle count exceeding 3000 times;
- (3) Equipped with an internal BMS device to enhance safety;
- (4) Light weight, about 35% to 40% of the weight of lead-acid batteries;
- (5) Replaceable lead-acid batteries and lithium batteries;
- (6) Wide operating temperature range, from  $-40^{\circ}\text{C}$  to  $100^{\circ}\text{C}$ ;
- (7) Maintenance-free.

#### 2. Performance parameters

##### 2.1 Electrical performance

part	category	Specifications
Electrical performance	Product Model	H9- 121025
	Rated voltage (V)	12
	Power parameter / W	1025
	Internal resistance / $\text{m}\Omega$	$\leq 5$
	Cycle life/duration	$\geq 3000$ cycles ( $0.2^{\circ}\text{C}$ , 100 charge-discharge cycles until the capacity drops to 70%)
	Cca/a	1000
	self-discharge	$\leq 3.5\%$ (monthly @ $25^{\circ}\text{C}$ )
Standard loading	Charging voltage / V	$12 \sim 16 \pm 0.5$
	Charging mode (CC/CV)	Under the environment of $0 \sim 55^{\circ}\text{C}$ , first charge at a constant current of 0.2C until reaching 14.4V, then continue charging at a constant voltage of 14.4V until the current drops to 0.05C, and then stop.
	Standard charging current / A	12
The standard allows... to leave	Standard discharge current (in A)	$50 \sim 100$
	Maximum pulse current / A	1000 (<5s)
	Discharge cut-off voltage/V	7.2V
environment	Charging Temperature	$0^{\circ}\text{C} \sim 80^{\circ}\text{C}$ at $60 \pm 25\%$ humidity
	Discharge temperature	$-40^{\circ}\text{C} \sim 100^{\circ}\text{C}$
	Storage temperature	$0^{\circ}\text{C} \sim 45^{\circ}\text{C}$
Material and Size	unit	Sodium-ion battery (NFPP)
	Shell material	PC+ABS
	Size (Length*Width*Height) / mm	378* 175* 190

	Weight / Kg	/
	fatal	T2 (coarse)

### 3. Product appearance

