



SmartGen
ideas for power

BACM2420 BATTERY CHARGER USER MANUAL



SMARTGEN (ZHENGZHOU) TECHNOLOGY CO., LTD.

4 PARAMETERS CONFIGURATION

Table 3 Parameter Configuration List

Items	Default		Adjustable Range		Description
	24V	12V	24V	12V	
Battery Type	1		(0~2)		0:12V; 1:24V; 2:Self-adaption
Charging Stage	3		(2~3)		2: Two Stage; 3: Three Stage
Max. Rated Current	20.0A		Nonadjustable		Maximum charging current
Rated Current	100%		(0~100)%		Maximum charging current percentage
Absorption Charge Voltage	28.2V	14.1V	(20~30)V	(10~15)V	The charging voltage of "Constant Voltage"
Absorption Charge Time	1		(0~1)		0: Disable; 1: Enable
Absorption Charge Time Setting	1.0h		(0.1~100)h		The charging time of "Constant Voltage"
Absorption Charge Complete Current	1		(0~1)		0: Disable; 1: Enable
Complete Current Setting	0.5A		(0.20~3.00)A		The transition current from "Absorption Charge" transfer to "Float Charge".
Float Charge Voltage	27.0V	13.5V	(20~30)V	(10~15)V	The voltage of "Float Charge"
AUTO BOOST Voltage	25.6V	12.8V	(20~30)V	(10~15)V	When the charger is in "Float Mode", it enters into "Quick Charge" if the battery voltage has fallen below the set value.
Trickle Charge	1		(0~1)		0: Disable; 1: Enable
Trickle Charge Voltage	22.0V	11.0V	(20~30)V	(10~15)V	The voltage of "Trickle Charge"
Trickle Charge Current	50%		(0~100)%		Maximum charging current percentage
Battery Detection	0		(0~1)		0: Disable; 1: Enable
Battery Under Voltage Warn	1		(0~1)		0: Disable; 1: Enable
Under Voltage Set Value	23.0V	11.50V	(16.0~30.0)V	(8.0~15.0)V	"Under voltage" alarm will be initiated if the battery voltage has fallen below the set value.
Under Voltage Delay	120s		(0~3600)s		"Under voltage" alarm will be initiated if the battery voltage has fallen below the set value and the delay timer has expired.
Under Voltage Return Value	24.0V	12.0V	(16.0~30.0)V	(8.0~15.0)V	The transition voltage from "under voltage" transfer to "normal voltage".
Under Voltage Return Delay	10s		(0~3600)s		"Under voltage" alarm will be removed if the battery voltage has exceeded the return value and the delay timer has expired.
Temperature Sensor	1		(0~1)		0: Disable; 1: Enable
Temperature	1		(0~1)		0: Disable; 1: Enable

Items	Default		Adjustable Range		Description
	24V	12V	24V	12V	
Compensation					
Temperature Compensation Set Value	0.036 V/°C	0.018 V/°C	(0.020~0.060) V/°C	(0.010~0.030) V/°C	The Compensation of every 1°C change on 20°C basis.
High Temp. Warn	1		(0~1)		0: Disable; 1: Enable
High Temp. Set Value	55°C		(0~80)°C		“High Temp.” alarm will be initiated if the battery temperature has exceeded the set value.
High Temp. Delay	0.5s		(0~60.0)s		“High Temp.” alarm will be initiated if the battery temperature has exceeded the set value and the delay timer has expired.
High Temp. Return Value	50°C		(0~80)°C		The transition temperature from “High Temp.” transfer to “Normal Temp.”.
High Temp. Return Delay	1s		(0~60.0)s		“High Temp.” alarm will be removed if the battery temperature has fallen below the return value and the delay timer has expired.
Auxiliary Input Port	3		(0~4)		0、Not Used; 1、Shutdown: The battery charger enters into Standby Status if the input is active. 2、Enable Battery Detection: The battery charger enters into Standby Status if the input is active but there is not battery voltage signal. 3、Manual BOOST: The battery charger enters into BOOST if the input is active. 4、12V system: if input is active, charger will be in 12V system.
Auxiliary Input Port Delay	2.0s		(0~60.0)s		The corresponding action will be active if the input is active.
Communication Address	10		1~254		RS485 Communication Address
Baud Rate	0		(0~2)		0、9600; 1、19200; 2、38400 (One Stop Bit)

5 PARAMETERS SPECIFICATION

Table 4 Product Parameters

Items	Contents	Parameters			
		24V		12V	
Input Characteristics	Nominal AC Voltage Range	AC (100~277)V			
	Max. AC Voltage Range	AC (90~305)V			
	AC Frequency	50Hz/60Hz			
	Max. Active Power	680W		340W	
	Max. Current	7A		3.5A	
	Max. Efficiency	87%		81%	
	Power Factor Calibration	AC 110V >0.99	AC 220V >0.95	AC 110V >0.99	AC 220V >0.95
Output Characteristics	No-load Output Voltage	27V, Error±1%		13.5V, Error±1%	
	Rated Charging Current	20A, Error±2%			
	Max. Output Power	580W		290W	
Insulating Property	Insulation Resistance	Between input and output, input and shell all are DC500V1min,: insulation resistance $R_L \geq 50M\Omega$			
	Insulation Voltage	Between input and output, input and shell all are: AC1600V 50Hz 1min leakage current: $I_L \leq 3.5mA$ Between output and shell is: AC500V 50Hz 1min leakage current: $I_L \leq 3.5mA$			
Working Condition	Working Temperature	(-30~+55)°C			
	Storage Temperature	(-40~+85)°C			
	Working Humidity	20%RH~93%RH(No condensation)			
Shape Structure	Weight	2.2kg			
	Dimension	265mm×156mm×68mm (length*width*height)			

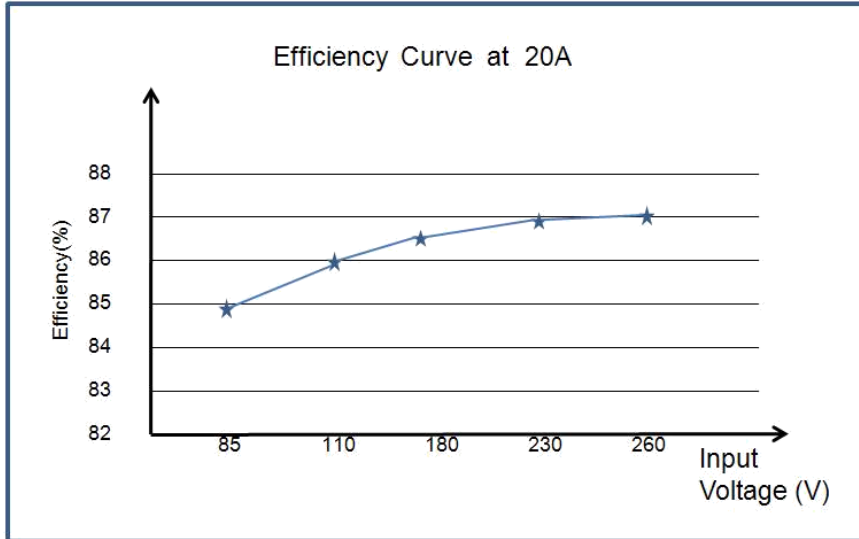


Fig. 3 Efficiency Curve

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7 CONNECTION

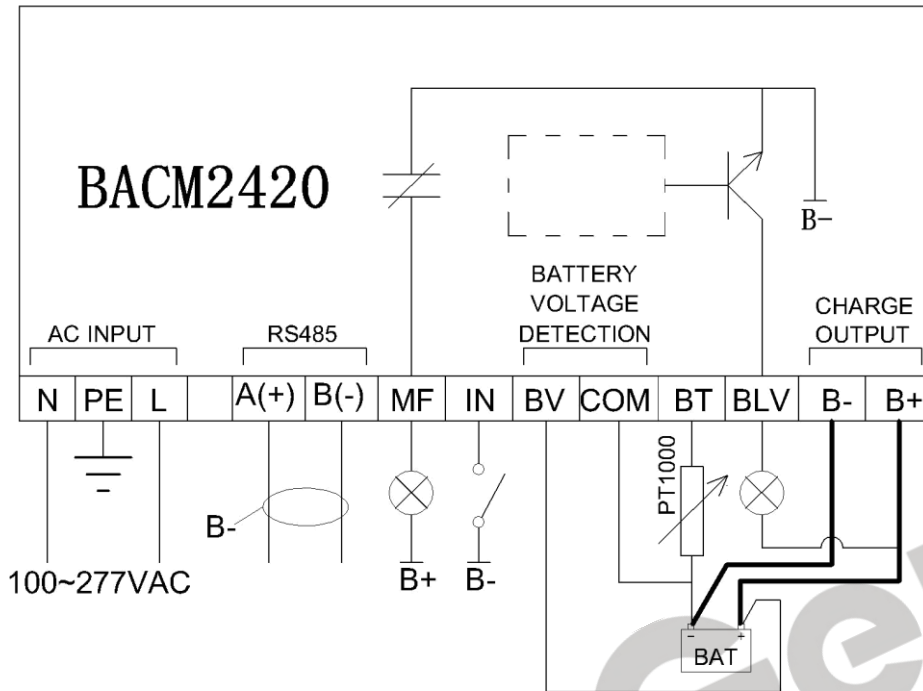


Fig. 5 Wiring Diagram

8 CASE DIMENSIONS

Unit: mm

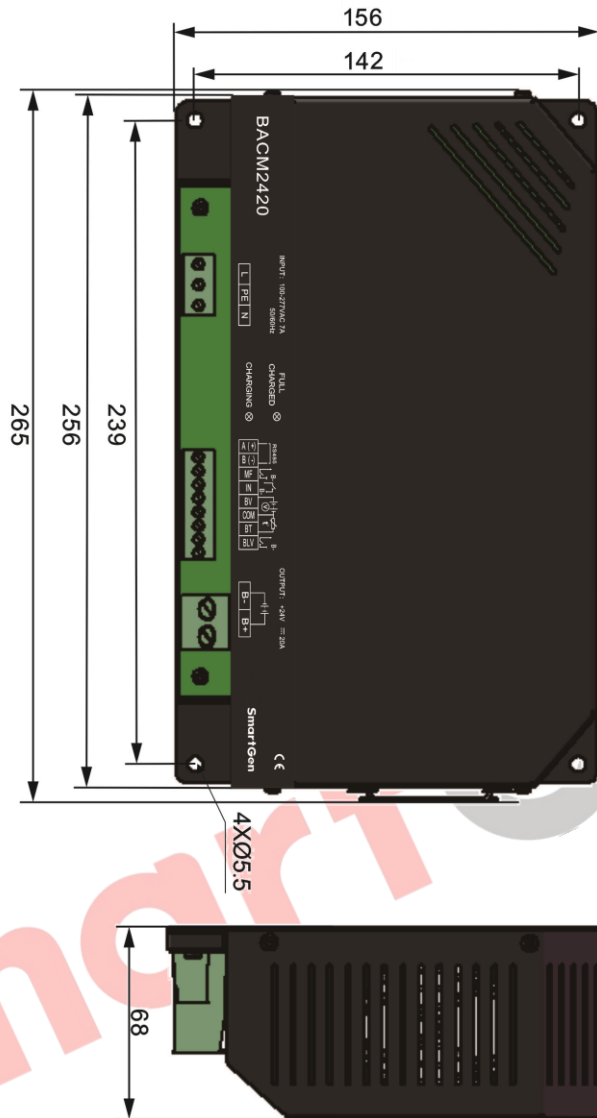


Fig. 6 BACM2420 Installation Size