

# **Operation Manual**

# **Control Module BM00CS**

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# 1. Control Module Overview

The local operation of battery monitoring control module is purpose for user on-site viewing and basic setting operation.

2. Controller Appearance



# 2.1 LED Indicator

ALM(Green or Red): Indicate the status of power supply and alarm

- Green Power on and no alarm
- Red Power on and alarm detected
- OFF Power off

COM(Green): Indicate the status of R-bus interface

- ON No data send and receive
- Flash Sending and receiving data

LAN(Green): Indicate the status of LAN interface

- OFF Disconnect
- ON Connect
- Flash Sending and receiving data
- 2.2 Keypad



Number Keypad (0 ~ 9): Select function and input box use ENT: Confirm to enter keypad ESC: Return keypad Arrow keypad: Flip function and move the cursor

2.3 Controller Interface



There have three toggle switch "ISP", "RUN", "CFG" from above red area.

**ISP**: Burning application toggle switch, use for upgrade the system program by the manufacturer of RELAT Technology.

**RUN:** System running toggle switch, use for system normal running.

**CFG:** System configuration toggle switch, use for modify the key system criteria and export the data.

**ON/OFF:** Power on/ off button

**24VDC:** Power supply 24VDC relay for connecting a power supply.

**RS232/485:** RS232/RS485 relay for connecting 3<sup>rd</sup> party monitoring software or BMS software. **RELAYS:** Volts free contact to output alarm

**RS232:** RS232 serial Port for connecting a local laptop PC, the laptop PC may be connected temporarily to the BMS unit on battery site for programming, calibration and viewing purposes. **R-BUS:** Daisy chain R-BUS cable from sensors to controller

LAN: TCP/IP communication port for connecting BMS Software

3. Control Module Operation

All typical data can be monitored, displayed and query by control module BM00CS. Typical Monitoring Data as following,

a. Individual cell/block voltage

- b. Individual cell/block impedance
- c. Individual cell/block temperature
- d. String Current during charge, discharge and float.
- e. String Voltage & Total voltage
- f. Ambient temperature

The BMS will record all battery parameters specified above at the remote central computer. The system will automatically display, sound-ling alarm of all alarm conditions that is outside the user defined pre-set limits. All the alarm can be pre-set from control moduel.



Press Power ON/OFF button, the LCD screen will show up the control module software version at the bottom left of the screen.



The screen will continue to the main menu as following picture.



Buzzer ON/OFF press keypad 8

# 3.1 Query Live Data & History Data

Press Number keypad'1' from Main Menu to query all the live data & history data Press ESC Button will return to previous menu.



#### a) Query the Group Data

Press Number key 1 from Data Menu to query the group data

Show up ambient temperature T, total current I, string voltage and string current show up by list. Press ESC Button return to previous menu

		Group	Data		
Τ:	NC		I:	NC	
Bank 1 V:	NC	I1->A:	NC	I1->B:	XC
Bank 2 V:	NC	12->A:	NC	12->B:	NC
Bank 3 V:	NC	13->A:	NC	I3->B:	NC
Bank 4 V:	NC	I4->A:	NC	<b>I4-&gt;</b> B:	NC
Bank 5 V:	NC	15->A:	NC	I5->B:	NC
Bank 6 V:	NC	<b>16-&gt;a</b> :	NC	I6->B:	NC

b) Query the Single Block Live Data

Press Number key 2 from Data Menu to query individual block live data

Show up live data for individual block voltage, impedance, temperature and alarm status with stamped battery NO. and R-Sensor NO.

Battery NO.: Defined all battery NO. from your battery setup.

Example, there have 4 string x 34 block x 1 set UPS.

Battery NO. of String 1 will defined in order from 1-1 to 1-34,

Battery NO. of String 2 will defined in order from 2-1 to 2-34,

Battery NO. of String 3 will defined in order from 3-1 to 3-34,

Battery NO. of String 4 will defined in order from 4-1 to 4-34.

**R-Sensor NO.:** All R-Sensor from the same control module will defined the number in order.

Status: Show up Alarm or Normal.

Normal is running well.

Alarm point out one of individual voltage, impedance or temperature is out of pre-set limit

Batt NO.	Volt(V)	Imp(mΩ)	Temp(°C)	Status	R-sensor
1-1	NC	NC	NC	Alarm	001
1-2	NC	NC	NC	Alarm	002
1-3	NC	NC	NC	Alarm	003
1-4	NC	NC	NC	Alarm	004
1-5	NC	NC	NC	Alarm	005
1-6	NC	NC	NC	Alarm	006
1-7	NC	NC	NC	Alarm	007
1-8	NC	NC	NC	Alerm	008
1-9	NC	NC	NC	Alarm	009
1-10	NC	NC	NC	Alarm	010
ISC: Back			† ↓ P e	se Up/Down	1/6

c) Query Daily history data

Press Number key 3 from Data Menu to query daily history data

Press the menu item to query 24 hours history data of individual block voltage, temperature, impedance and string current

Press ESC button back to the previous menu



Press number keypad 4 from daily history data menu to query the daily string current data. Press Arrow Keypad left and right to viewing the string current at any time in 24 hours. Press ESC button back to the previous menu

Alarm Sta System Ab	tus: 🔴 normal	Da	ily -Curre	nt		2016/04/1	1 10.00.30
							60)
I-Sensor	16:07	16:06	16:05	16:04	16:03	16:02	16:01
001	NC.	NC	IC	NC .	IC	HC .	NC .
002	EC.	NC	NC.	NC .	NC	NC .	NC
003	HC .	NC .	NC.	NC	NC.	xc	NC.
004	NC	NC	NC	NC	NC	NC .	NC
005	HC.	NC.	HC .	NC	NC.	NC .	NC
006	NC	HC.	RC .	NC.	xc	RC .	H.C.
PSC · Back						1/208	

#### d) Query Yearly History Data

Press Number key 4 from Data Menu to query daily history data

Press the menu item to query yearly history data of individual block voltage, temperature, impedance and string current every day.

Press ESC button back to the previous menu



#### e) Query Group Information

Press Number key 5 to enter Group Information from Data Menu



# 3.2 Query Active & History Alarm Data

Press Number key 2 from Main Menu to query all alarm

a) Query Active Alarm Data

Press Number key 1 from Alarm Menu to query the active alarm data

Press number key 8 to on/off the buzzer voice.

Press ESC button back to previous menu

There have 14 variety alarms to the system, kindly check the details from alarm setting menu.

System Abr	normal	Active Alarm Menu	
NO.	Sensor	Start Time	Alarm
001	001	04/11 16:11:28	V COM ERR
002	001	04/11 16:11:28	T COM ERR
003	002	04/11 16:11:28	V COM ERR
004	002	04/11 16:11:28	T COM ERR
005	003	04/11 16:11:28	V CON ERR
006	003	04/11 16:11:28	T COM ERR
007	004	04/11 16:11:28	V COM ERR
008	004	04/11 16:11:28	T COM ERR
009	005	04/11 16:11:28	V COM ERR
010	005	04/11 16:11:28	T COM ERR
SC: Back		8. Buzzer On/Off †	Page Im/Nown 1/13

#### b) Query History Alarm Data

Press Number key 2 from Main Menu to query all alarm

Press Number key 2 from Alarm Menu to query all history alarm data

Press ESC button back to previous menu

When an alarm occurs, it will display in active alarm menu. After process, this alarm will be deleted from the active alarm menu and record in the history alarm menu stamped with alarm start time and end time.

Syste	m Abnorma	1 History	Alarm Menu	
NO.	Sensor	Start Time	End Time	Alarm
001	255	03/14 15:59:05	03/14 15:59:44	Bank V ERR
002	060	03/14 15:58:55	03/14 15:59:44	T COM ERR
003	060	03/14 15:59:05	03/14 15:59:44	V COM ERR
004	059	03/14 15:58:55	03/14 15:59:44	T COM ERR
005	059	03/14 15:59:05	03/14 15:59:44	V COM ERR
006	058	03/14 15:58:55	03/14 15:59:44	T COM ERR
007	058	03/14 15:59:05	03/14 15:59:44	V COM ERR
008	057	03/14 15:58:55	03/14 15:59:44	T COM ERR
009	057	03/14 15:59:05	03/14 15:59:44	V COM ERR
010	056	03/14 15:58:55	03/14 15:59:44	T COM ERR

# 3.3 Manual IR(Internal Resistance) Test.

Press Number keypad '3' to run a impedance (internal resistance) test manually, press arrow keypad to select 'yes' or 'no', the selected item will show up virtual frame as following picture, double press 'ENT' to confirm.

Main Menu	
1 Nata	
Will you wont to start Impade	a. Test2
will you want to start impedan	ce lest?
Yes No	

# 3.4 System Setting

Press number keypad 4 from Main Menu to system menu.

Input the original password: 000000

Or input the super password: 122478

Press arrow keypad to select 'yes' or 'no', the selected item will show up virtual frame as following picture, double press 'ENT' to confirm.

ystem Abrormat	N	
	Main Menu	
P	assword	
	rassword have a	L A
		-
	UK	
	4. System	

a) Date & Time Setting

Press number keypad 1 from System Menu.

Input the proper date for year, month and day

Input the proper time for hour, minitue and second

Press arrow keypad to select 'yes' or 'no', the selected item will show up virtual frame as following picture, double press 'ENT' to confirm.

		5	Syster	n Menu			
1. Data & T	<b>ima</b> ne Setti	ng		/ Pa	session		<b>F</b>
2. Alarm	YY:	2017	MM [	08	DD	17	ince
3. Syste	н	16	M	50	s	34	
			01-				

#### b) Alarm Setting

Press Number Key 2 from System Menu to enter the alarm setting page.

Discharge V 1	11000	mΥ	Temp H	60	r
Floati V H	13500	mγ	Discharge I H	100	A
Float2 V H	13500	mV	Charge I H	10	A
Float V L	11000	mV	Bank V H	1000	y
Charge V H	13500	mγ	Bank V L	200	v
Charge V L	11000	mγ	Ωн	100	10uΩ
(Delta Ω)%	200	%	LCD H	20000	mA

There are total 14 types of alarms from BM3000 Battery Monitoring System.

- 1) **Discharge V(Voltage) L(Low) Limit:** The Control Module will automatically display and sound-ling alarm when individual block battery discharge voltage is lower than the pre-set limit.
- 2) **Float1 V(Voltage) H(High) Limit:** The Control Module will automatically display, sound-ling alarm when individual block nominal floating voltage is higher than the pre-set limit.
- 3) **Float2 V(Voltage) H(High) Limit:** The Control Module will automatically display, sound-ling alarm when individual block floating voltage is higher than the pre-set limit.
- 4) **Float V(Voltage) L(Low) Limit:** The Control Module will automatically display, sound-ling alarm when individual block floating voltage is lower than the pre-set limit.
- 5) **Charge V(Voltage) H(High) Limit:** The Control Module will automatically display, sound-ling alarm when individual block charge voltage is higher than the pre-set limit.

- 6) **Charge V(Voltage) L(Low) Limit:** The Control Module will automatically display, sound-ling alarm when individual block charge voltage is lower than the pre-set limit.
- 7) (Delta IR)% Limit: The Control Module will automatically display, sound-ling alarm when individual block internal resistance percentage variation is higher than the pre-set limit. The basic value of internal resistance should be save in the control module. Press key number 5 from impedance reference menu to save the currently value of internal resistance.
- 8) **Temp(Temperature) H(High) Limit:** The Control Module will automatically display, sound-ling alarm when individual block temperature is higher than the pre-set limit.
- 9) **Discharge I(Current) H(High) Limit:** The Control Module will automatically display, sound-ling alarm when bank discharge current is higher than the pre-set limit.
- 10) **Charge I(Current) H(High) Limit:** The Control Module will automatically display, sound-ling alarm when the bank charge current is higher than the pre-set limit.
- 11) **Bank V(Voltage) H(High) Limit:** The Control Module will automatically display, sound-ling alarm when bank voltage is higher than the pre-set limit.
- 12) **Bank V(Voltage) L(Low) Limit:** The Control Module will automatically display, sound-ling alarm when the bank voltage is lower than the pre-set limit.
- 13) <sup>Ω</sup> (Internal Resistance) H(High) Limit: The Control Module will automatically display,

sound-ling alarm when individual block internal resistance is higher than the pre-set limit.

14) **LCD(Leakage Current Detection) H(High) Limit:** This alarm will require for install 2 set of Current Detector of each battery bank.

The Control Module will automatically display, sound-ling alarm when the different value of the 2 set Current Detector is higher than the pre-set limit.

Please set the LCD H Limit is 0 if there's only 1 set of current detector of each bank

c) Query System Configure Info

Press Number Key 3 from System Menu to query the system config info.

Input the original password:000000

Or input the super password: 122478

Press arrow keypad up or down to review the system config, alarm limit setting, TCP/IP communication port info.

System Con	fig
Modbus ID: 1	IR Test Date:
Single Block Voltage: 12 V	1 2 3 4 5 6
Total Bank Number: 6	<b>3</b> 9 10 11 12
Battery Number: 60	13 14 15 16 17 18
I-Sensor Type: 400A	19 20 21 22 23 24
Discharge Threshold: 6.0000 A	25 26 27 28 29 30
Charge Threshold: 5.0000 A	IR Test Time: 10:05:00

The system basic info can be setting under CFG MODE(Config Menu), kindly check the details on next section.

**Modbus ID:** The physical address of control module for communicating with PC Software, the ID will set to num 1,2,3... all the ID cannot setting duplication.

**I-Sensor Type:** Range of I-Sensor and CT are based on the battery capacity. e.g.100 AH Current Detector will equip with 100 AH CT for 100 ah capacity battery.

The charge threshold and discharge threshold are judge to charge, discharge or floating status of the battery bank.

**Discharge Threshold:** Control Module will judge to discharge status when the bank current is lower than the pre-set threshold. Discharge status is negative current.

**Charge Threshold:** Control Module will judge to charge status when the bank current is higher than the pre-set threshold. Charge status is positive current.

Control Module will judge to floating status when the bank current is between from the discharge threshold and charge threshold.

**IR Test Date:** The control module will automatically run a IR(Internal Resistance) Test on the setting date, the setting date will show up green background as the picture. If the date is 7,14,21,28 of each month, the system will automatically ran a internal resistance test on each battery.



Press arrow key down to query the TCP/IP communication port info.

System Abnormal	System Config	
	Clacent Coning	
	IP: 192.168.2.222	A distance and and B Constant and a distance and Constant and a distance and
	SUBMASK: 255, 255, 255, 0	ni Ni Historicani
	GWIP: 192.168.2.1	
	MAC: 00-30-6c-13-05-23	
	PORT: 3001	
	Number Power On: 272	
	Start time: 2017/08/22 14:21:57	
	Buzzer: OFF	
800. D 1		12

The buzzer can be set disable from CFG Mode.

#### d) Password Setting

Press number keypad 4 from system menu.

Input 6 figure used password and new password and comfirm the new password.

Press arrow keypad to select 'OK' or 'Cancel', the selected item will show up virtual frame, and double press 'ENT' to confirm.

E	assword Setting	
1. Data	Used Password:	
2. Alarm	New Password:	ince
3. Syste	Comfirm:	
	Ok Cancel	
	OX Califer	

#### e) Query Impedance Reference Value

After install and commission the battery monitoring system, please save the internal resistance value at the first time running the IR test, these are reference value to compare the internal resistance percentage variation.

Press number key 5 from the System Ref Imp Query page to save the currently internal resistance value. Kindly check the red frame below.

Press ESC button go back to the system menu.

Press number keypad 5 from system menu to query the stored impedanc reference value. Found the reference value will be refresh.

System Ab	normal	3)	ystem Re				
R-Sensor	Ref	R-Sensor	Ref	R-Sensor	Ref	R-Sensor	(mΩ) Ref
001	50.000	011	50.000	021	50.000	031	50.000
002	50.000	012	50.000	022	50.000	032	50.000
003	50.000	013	50.000	023	50.000	033	50.000
004	50.000	014	50.000	024	50.000	034	50.000
005	50.000	015	50.000	025	50.000	035	50.000
006	50.000	016	50.000	026	50.000	036	50.000
007	50.000	017	50.000	027	50.000	037	50.000
008	50.000	018	50.000	028	50.000	038	50.000
009	50.000	019	50.000	029	50.000	039	50.000
010	50.000	020	50.000	030	50.000	040	50.000

#### f) IP Address Setting

#### Setting the IP address of Control Module for connectting a PC software.

Connect ethernet cable to the TCP/IP interface of control module.

Press Number Keypad 6 from System Menu.

Input the proper IP address, Subnet mask, Gateway IP and the port number. The default port number is **3001**.

Press arrow keypad to select 'OK' or 'Cancel', the selected item will show up virtual frame, and double press 'ENT' to confirm.

	IP/PORT Set	ting				
1. Data	IP:	192	168	2	222	and a second sec
2. Alarm	SUBMASK:	255	255	255	0	A CONTRACTOR OF A CONTRACTOR OFTA CONTRACTOR O
2 5-4	GWIP:	192	168	2	1	(Ce
o. Syste	PORT :	300	1			

# 4. CFG Interface



How to go CNF interface? Please follow the steps below.

- a) Press ON/OFF to power off the control module
- b) Find the Toggle Switch 'ISP/ RUN / CFG' at the side of control module
- c) Toggle switch to CNF mode
- d) Press ON/OFF to power on the control module.

# **Function Description**

- 1) Clear: Clear up the stored historical data from control module.
  - a) Press number key 1 from config mode page,
  - b) Enter the a menu to clear the daily data, yearly data or history alarm.





- 2) Config: Modify the system parameters of control module.
  - a) Press number key 2 from config mode page,
  - b) Enter the config menu to modify the parameter.
  - c) Press arrow keypad and press ENT to confirm

Co	onfig			
	Modbus ID	1	Block Voltage	12
	Bank Num	2	Num of each Bank	35
	Charge (th) (A)	10	Discharge(th)(A)	100
	Capacity(Ah)	100	Buzzer (1:ON 0:OFF)	0
e: 4		Ok	Cancel	

Modbus ID:

- 3) IR Test Date: Modify the date of automatic IR testing.
  - a) Press number key 3 from config mode page,
  - b) Enter the IR Test Date to modify the parameter.
  - c) Choose Mode 1/2/3 for automatic daily/weekly/monthly IR test
  - d) Input the time Hour and Minute to automaticly IR test.

4		
		2017/08/22 11:17:52
	IR Test Cycle	
	Mode 1:Every Day	
1.	Mode 2:Every Week	(R)
3.	Mode 3:Every Month	
	Choose mode 🗍 for IR test	
Note: Welcome t	H M Ok	ameters as
you need!		

- 4) Search ID (R) of R-Sensor: Automatically search the battery sensor ID which need to modify the ID
  - a) Connect R-bus cable from the battery sensor (need to modify ID) to control module
  - b) Press number key 4 from config mode page,
  - c) Enter the Search ID (R)
  - d) The search result will show up at left top of the screen.
  - e) Press arrow keypad and press ENT to confirm

Config 1	Mode	
1. Clear	4. Search	ID(R)
2. Config	5. Search	ID(I)
3. IR Test Date	6.Modify	ID
Note: Welcome to the BMS Config Mode, N.		e parameters as

- 5) Search ID (I) of I-Sensor: Automatically search the current sensor ID need to modify ID
  - a) Directly connect 1 piece R-bus cable from the current sensor (need to modify ID) to control module
  - b) Press number key 5 from config mode page,
  - c) Enter the Search ID (I)
  - d) The search result will show up at left top of the screen.
- 6) Modify ID: Modify the sensor ID

- a) Directly connect 1 piece R-bus cable from the sensor (which need to modify ID) to control module
- b) Enter the sensor ID number
- c) Modify to the ID number
- d) Press arrow keypad and press ENT to confirm

No found ID:		2017/08/22 11:23:3
	Config Mode	
1. Cle	Operation 1 C	h ID(R)
2. Con		n ID(I)
3. IR	From To	y ID

# 5. BMS Setting

Here will present a live sample to setting battery monitoring system by CM Config Tool.

# a. Connect from control module to PC

Step 1, Prepare a USB to Serial Adapter Cable as Picture 1,



Picture 1

Step 2, Use the cable connect from CM to Computer, Connection as Picture 2



Picture 2

- b. Go into CNF Mode
- 1) Press ON/OFF to power off the control module
- 2) Find the Toggle Switch 'ISP/ RUN / CFG' at the side of control module, kindly check picture 3.
- 3) Toggle switch to CNF mode
- 4) Press ON/OFF to power on the control module.
- 5) Go into CNF Interface as picture 4.



**Picture 3** 



**Picture 4** 

# 6) Open CM Config Tool

Step 1, Click and open CM Configuration Tool Package 'CMcfgV2.0.0.1', kindly find the window as Picture



#### **Picture 5**

①Com Port Set: Select a serial port number of connected PC.

(2)CM ID: Modbus ID address of control module

③Setting: Setting basic parameter and alarm threshold of control module, which will follow

to the UPS battery setup.

(4)Configuration list: Alarm setting List from PC and CM by list, the reading alarm setting w

ill show up in CM List, and new writing alarm setting will show up in PC list

### 7) Reading Configuration List

- 1. Click 'ON/OFF' to turn on the tool
- 2. Click 'Scan' to search CM ID
- 3. Click 'Read' to read configuration information, the information will show up in CM List of the Configuration List. If reading fail, the prompt message will show up from the operate Log at the bottom of the window.



Picture 6

# 8) Writing Configuration List

If you need to modify the system configuration or alarm, please follow up the steps in red. For example, we need to modify the parameter 300 ah of Current Transducer, kindly check Picture 7

- 1. Choose the proper ah rating value from the select box on 'Current Transducer'
- 2. Left mouse click and select 'Current Transducer' from Configuration List

CM CONFIG V2.0.1	A R R R R R R R	- 10 - 10 - 10 - 10 - 10 - 10 - 10 - 10	-	a second second		×
-COM Port Set	CONFIGURATION HISTORY DATA EXPORT		T	Configuration List	100	
Port: COM6 V	CM CONFIG			Items	PC	CM 🖌
		1		New CM ID:	1	1
Baud Rate: 9600 💌	Write Kead Set Time Get Time	New CM ID: 001		String:	1	1
OV (OTT	Settings	Alarm Threehold		Cell Rated Voltage:	12	12
UN/UFF		Discharge	200	Cell Number fer Str.:	254	254
	Cell Nated Voltage.			Current Transducer	3	1
	Cell Number Per Str.: 254	Charge I 4	100	PL . I NIL I.	5	50
NO. ID Version	String Number: 1	String V	1000	Float I Max[ A]:	5	8
	Cell Rated Capacity[Ah]: 100	String V Min[V]:	100	Date of IR Test:	0	16384
1 ==	Current Transducer: 300A 💌	Cell Rated Dis C V[mV]:	11000	Time of IR Test: (H)	1	9
	Float I Min[-A]: 5	Cell Rated Float C V[mV]:	13500	lime of IK lest: (M) Discharge T Mex[=4]:	200	200
	Float I Max[A]: 5	Cell Float C V Max[mV]:	13500	Charge I Max[ A]:	100	100
	Date of TR Test	Cell Float C V Min[mV]:	11000	String V Max[V]:	1000	3333
		Cell C V Mey[mV]	13500	String V Min[V]:	100	100
	1 6 11 16 21 26		11000	Cell Rated Dis C V[mV]:	11000	11000
	2 7 12 17 22 27	Leii U V Min[mV]:	11000	Cell Kated Float C V[mV]:	13500	13500
	3 8 13 18 23 28	Cell Temp Max[C]:	60	Cell Float C V Max[mV].	11000	11000
	4 9 14 19 24 29	Cell Delta IR [%]:	200	Cell C V Max[mV]:	13500	13500
	5 10 15 20 25 30	Cell Rated IR Max[10u $\Omega$ ]:	100	Cell C V Min[mV]:	11000	11000
CM ID: 1		Cell No.:	0	Cell Temp Max[°C]:	60	60
	Time of IR Test:	IR Ref Value[10uΩ]:	500	Cell Delta IR [%]:	200	200
Scan 100%	H: 01 M: 58			Cell Rated IK Max[[Uu44]: Cell Rated Conceitr[Ab]:	100	320
		Export		block1 int res(100 $\Omega$ )	500	500
				11.10 : (10.0)	500	E00
Operate Log						
[PC-XCM] 2016/4/6 10: [CM->PC] Downloading J [PC->CM] 2016/4/6 10: [CM->PC] Downloading J	<ul> <li>[41:3] Downloading Configuration Instruction OKI</li> </ul>					III V
Send 544	Receive 1300 CM Time:		Status A	arm Relat Technology	Eng	lish/中文

Picture 7

3. And right mouse click the select item of 'Current Transducer', choose 'Write the Select Data' in

the pop-up menu. Kindly check Picture 8 and Picture 9

		Configuration List				T I I I I I I I I I I I I I I I I I I I	
		Items	PC	CM			
		New CM ID:	1	1			
001		String:	1	1			
a] d		Cell Rated Voltage:	12	12			
	000	Cell Number Per Str.:	254	254			
Max[=A]:	200	String Number:	_1	1			
[ A]:	100	Current Transducer	3	1		Write All Data	F9
[V]:	1000	Float I Min["A]:	5	58	С		
rv1·	100	Data of TR Tart	0	1638/	L	Write The Select Data	F11
	11000	Time of TR Test: (H)	1	9		Read All Data	F10
is U V[mV]:	11000	Time of IR Test: (M)	58	58		Read The Select Data	F12
loat C V[mV]:	13500	Discharge I Max[-A]:	200	200 -	_		1.14
V Max[mV]:	13500	Charge I Max[ A]:	100	100			
V Min[mV]:	11000	String V Max[V]:	1000	3333			
F_17].	13500	String V Min[V]:	100	100			
Lm ¥ J .	10000	Cell Rated Dis C V[mV]:	11000	11000			
.[mV]:	11000	Cell Rated Float C V[mV]:	13500	13500			
x[°C]:	60	Cell Float C V Max[mV]:	13500	13500			
R [%]:	200	Cell Float C V Min[mV]:	11000	11000			
B H[100].	100	Cell C V Max[mV]:	13500	13500			
v max[10/177];	100	Leff C Y Min[mY]:	11000	00011			
	0	Cerr remp max[C].	00	00			

**Picture 8** 

If Successful write the data, the parameter 'Current Transducer is 3 from CM list '

Items	PC	CM
New CM ID:	1	1
String:	1	1
Cell Rated Voltage:	12	12
Cell Number Per Str. :	254	254
String Number:	1	1
Current Transducer:	3	3
Float I Min[-A]:	5	58
Float I Max[ A]:	5	8

#### **Picture 9**

Turn off CM, and make toggle switch to 'RUN' position, and restart CM, kindly check the I-Sensor Type is modify to 300A,

Al, w Synt	n Status 🧶 an Absornal	2016/04/07 01-05-20
	System Can	
	N-D-0 10 1	IR Test Date
	Single Block Yoktage: 12 7	
	Total Basic Busher 1	
	Sattary Busher 254	10 14 B 18 17 18
	1-Sensor Type 2004	18 25 21 22 23 28
	Discharge Threshald: 50,000 A	25 25 21 23 29 30
-	Charge Threshold: 8,0000 A	IN Test Time: 09:58-00

Picture 10