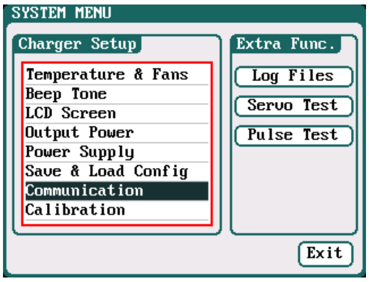
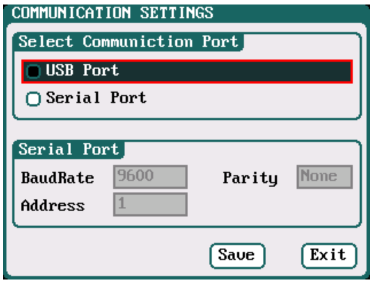
iCharger MODBUS Protocol (V2.1)

Supports two hardware connection: serial-port and USB, adopting MODBUS bus protocol. Click http://www.modbus.org/ for more information.

Select the interface types as pictures shown





Select Communiction Port

● USB Port

○ Serial Port

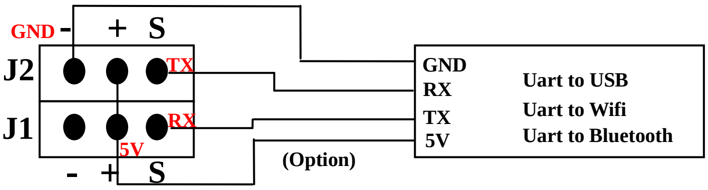
Serial Port

BaudRate 9600 Parity None

Address 1

Serial signal:

TTL level signal, you can easily access uart to USB, uart to wifi, or the uart to bluetooth module



General description:

When connect serial-port, comply with the MODBUS bus protocol completely.

1 start bit

8 data bits

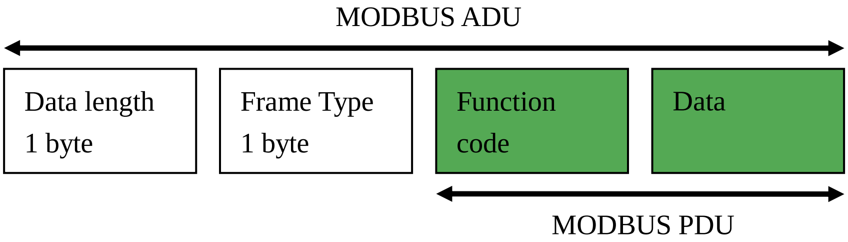
1 parity bit

1 stop bit

baud rate supports "9600bps","19200 bps ","38400 bps ","57600 bps ","115200 bps ","128000 bps "

The iCharge adopts packet length of 64 bytes HID protocol transmission when connecting USB, and on this basis, we have developed a MODBUS-HID protocol:

MODBUS-HID Frame Structure:



Data length 1 byte	Frame Type 1 byte	Function code	Data

Data length: the total length of the MODBUD HID ADU is less than or equal to 64, so that the function codes 0x03, 0x04 a frame can read continuously register number is <= 30; function code 0x10 a frame can write continuously register number is <=28.

Frame Type: MODBUD HID fixed to 0x30. (Compatible with of LogView the frame type uses the 0x10, 0x11, 0x20, and not be elaborated here)
Function code and Data: the MODBUS PDU data, see details on the MODBUS protocol description

iCharge Duo only implements the Modbus 0x03, 0x04, 0x10 function code

HID Modbus Demo Code (VC2005) Download: http://www.hillrc.com/UploadFiles/DemoJunsiModBusHID.zip

iChargeDUO Address Map:

Function code(0x04) Read-only area	0x0000—0x00ff	Device only reads message
	0x0100—0x01ff	Channel 1 only reads message
	0x0200—0x02ff	Channel 2 only read smessage
	0x0300—0x7fff	Reservation
Read and write area Function code(0x03)--read Function code(0x10)--write	0x8000—0x83ff	Control register
	0x8400—0x7fff	System storage area
	0x8800—0xbfff	Memory Index storage area
	0x8c00—0x9000	Memory storage area

The detailed use of address for each area is related with the models.

The register of 4010DUO is as below

Device only reads message（base address: 0x0000）

Address Offset	**Name**	**Data type**	**Remark**
0	Device ID	U16	
1-6	Device SN	S8[12]	
7	Software version	U16	
8	Hardware version	U16	
9	SYSTEM length	U16	
10	MEMORY length	U16	
11	CH1 the general status word	U16	Bit0-run flag Bit1-error flag Bit2-control status flag Bit3-run status flag Bit4-dialog box status flag Bit5-cell voltage flag Bit6-balance flag
12	CH2 the general status word	U16	As above

Channel X input read-only（base address: 0x0100 (X=1); 0x0200 (X=2)）

Address Offset	Name	Data type	Remark
0-1	Timestamp	U32	
2-3	The current output power	U32	
4	The current output current	S16	
5	The current input voltage	U16	
6	The current output voltage	U16	
7-8	The current output capacity	S32	
9	The current internal temperature	S16	
10	The current external temperature	S16	
11-26	Cell 0-15 voltage	U16	4010DUO only uses 11--20
27-34	Cells 0-15 balance status	U8	4010DUO only uses 27--31
35-50	Cell 0-15internal resistance	U16	4010DUO only uses 35--44
51	The cells' total internal resistance	U16	
52	Line internal resistance	U16	
53	Cycles count	U16	
54	Control status	U16	
55	Run status	U16	
56	Run error	U16	
57	Dialog box ID	U16	

Control register（base address: 0x8000）

Address Offset	Name	Data type	Remark
0	Select to run operations	U16	Values 0—Charge;1—Storage; 2—Discharge; 3—Cycle; 4—Only Balance
1	Select MEMORY	U16	Values 0--63
2	Select CHANNEL	U16	Values 0 or 1
3	Order lock	U16	0x55aa Unlock
4	Order	U16	See enum ORDER
5	Limit current	U16	
6	Limit voltage	U16	

Order register:

Send an order to order register should first unlock order lock, and write **0X55AA** to the order lock register to unlock, write any other values to lock.

Command value	Name	Remark
0	ORDER_STOP	Stop running the selected channel charge/discharge procedures
1	ORDER_RUN	Run the selected channel & MEMORY & PROGRAM
2	ORDER_ MODIFY	Modify the limited current and voltage parameters when running

3	ORDER_WRITE_SYS,	Save System data in the RAM to flash memory
4	ORDER_WRITE_MEM_HEAD	Save MemHead data in the RAM to the flash memory
5	ORDER_WRITE_MEM	Save Memory data in the RAM to the flash memory
6	ORDER_TRANS_LOG_ON	Open Log transmission, this data is used for "Logview" software
7	ORDER_TRANS_LOG_OFF	Close Log transmission
8	ORDER_MSGBOX_YES	Dialog box to respond to <YES>
9	ORDER_MSGBOX_NO	Dialog box to respond to <NO>

System Storage area（base address: 0x8400）

Address Offset	Name	Data type	Remark
0	System parameters	SYSTEM	0 To ((sizeof(SYSTEM)+1)/2-1)

Reading register is read from the flash memory of the device iChargerDuo, and refresh at the same time the mirror in RAM; writing register is write changes to the mirror in RAM. Write the mirror to the flash memory of the device must through the ORDER_WRITE_SYS order.

```
#define MODEL_MAX        2
typedef __packed struct _SYSTEM
{
        u16 TempUnit;                   //Temperature unit (P1_1)
        u16 TempStop;                   //Cut-off temperature(P1_2)
        u16 TempFansOn;                 //Fans on temperature(P1_4)
        u16 TempReduce;                 //Power reduce temperature(P1_3)
        u16 Dump1;                      //Reservation
        u16 FansOffDelay;               //Fans off delay (P1_5)
        u16 LcdContraste;               //LCD contrast   (P2_1)
        u16 LightValue;                 //backlight value(P2_2)
        u16 Dump2;                      //Reservation
        u16 BeepType[4];                //Beep type   long beep, short beep, continuous beep (P3_3)
        u16 BeepEnable[4];              //Beep enable (P3_1)
        u16 BeepVOL[4];                 //Beep volume (P3_2)
        u16 Dump3;                      // Reservation
        u16 SelectAdj;                  //The current calibration(P4_1)
        u16 Dump4;                      // Reservation    fixed 0
        u16 SelInputSource;             //select input source =0:DC =1:Bat. (P5_1)
        u16 DCInputLowVolt;             //DC input low voltage protection (P6_1)
        u16 DCInputOverVolt;            //DC input over voltage protection
        s16 DCInputCurrentLimit;        //DC input current maximum limit (P6_2)
        u16 BatInputLowVolt;            //BAT input low voltage protection (P7_1)
        u16 BatInputOverVolt;           //BAT input over voltage protection
        s16 BatInputCurrentLimit;       //BAT input current maximum limit(P7_2)
        u16 RegEnable;                  //Regenerative enable(P7_3)
        u16 RegVoltLimit;               //Regenerative voltage limit(P7_4)
        s16  RegCurrentLimit;                 //Regenerative current limit(P7_5)
        u16 ChargePower[MODEL_MAX];           //Charger power(P8_1 and P8_3)
        u16 DischargePower[MODEL_MAX]; //Discharge Power(P8_2 and P8_4)
        u16 ProPower;                         // Power priority (P8_5)
        u16 MonitorLogInterval[MODEL_MAX];    //Sampling interval    0.1S as an unit(P9_1)
        u16 MonitorLogSaveToSD[MODEL_MAX];//=0:do not output log to SD =1:output log to SD(P9_2)

        u16 ServoType;                        //Servo type    (P10_1)
        u16 ServoUserCenter;                  //servo pulse center (P10_2)
        u16 ServoUserRate;                    //servo frame refresh rate (P10_3)
        u16 ServoUserOpAngle;                 //45 degrees pulse width (P10_4)

        u16 ModBusMode;                       // ModBus Mode    (P11_1)
        u16 ModBusSerialAddr;                 // Serial communication address (P11_4)
        u16 ModBusSerialBaudRate;             //Serial communication baud rate (P11_2)
        u16 ModBusSerialParity;               // Serial communication parity (P11_3)

        u16 Dump[8];                          // Reservation
}SYSTEM;
```

Address Offset	Name	Data type	Remark
0	Temperature unit	U16	= 0: degrees Celsius = 1: Fahrenheit
1	Cut-off temperature	U16	60.0—75.0 (default 75.0)
2	Fans on temperature	U16	30.0—50.0(default 40.0)
3	Power reduce temperature	U16	5.0—20.0(default 10.0)
4		U16	
5	Fans off delay	U16	0—10min(default 2min)
6	LCD contrast	U16	0—32(default 16)
7	Backlight value	U16	1—33(default 17)
8		U16	
9-12	Beep type	U16[4]	
13-16	Beep enable	U16[4]	
17-20	Beep volume	U16[4]	
21		U16	
22	The current calibration value	U16	=0:system calibration value =1:user calibration vlaue
23	System parameter version	U16	
24	Select input source	U16	=0:DC (default) =1:Bat.
25	DC input low voltage protection	U16	90—480(default 100)
26	DC input over voltage protection	U16	Fixed 505
27	DC input current maximum limit	U16	10—650(default 650)
28	BAT input low voltage protection	U16	90—480(default 100)
29	BAT input over voltage protection	U16	Fixed 505
30	BAT input current maximum limit	U16	10—650(default 650)
31	Regenerative enable	U16	=0:not enable (default) =1: enable
32	Regenerative voltage limit	U16	90—480(default 145)
33	Regenerative current limit	U16	10—650(default 100)
34	CH1maximum charge power	U16	5—1400(default 1400)
35	CH2maximum charge power	U16	
36	CH1 maximum discharge power	U16	5—130(default 130)
37	CH2 maximum discharge power	U16	
38	Power priority	U16	0= average distribution (default) 1=CH1 priority 2=CH2 priority
39	CH1 monitor sampling interval	U16	5—600(default 10) 0.1S as an unit
40	CH2 monitor sampling interval	U16	
41	CH1 allow Log output	U16	=0:do not output log to SD =1:do not output log to SD
42	CH2 allow Log output	U16	
43	Servo type	U16	=0:1500us analog servo(default) =1:1500us

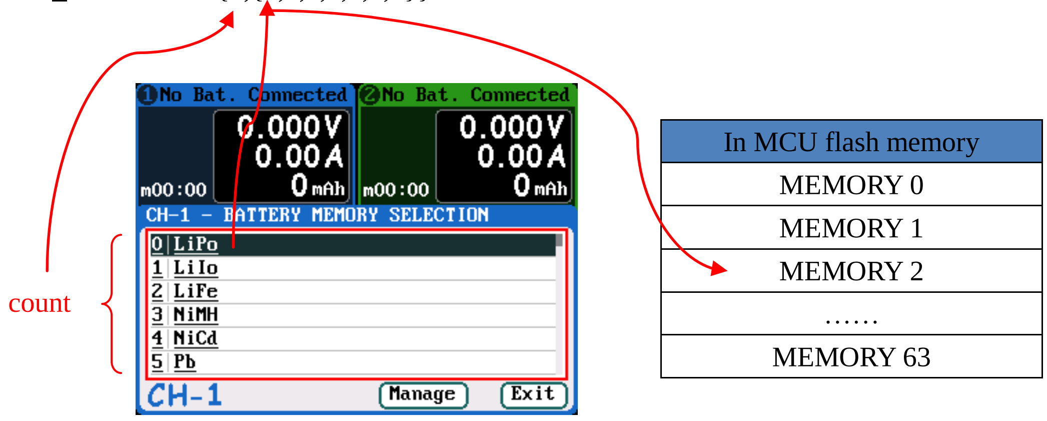
			digital servo =2:760us digital servo =3:user -defined
44	Servo pulse center	U16	7000—16000(default15000)
45	servo frame refresh rate	U16	40—700(default1 50)
46	45 degrees pulse width	U16	1000—10000(default1 5000)
47	ModBus mode	U16	=0:do not enable ModBus (default1) =1:enable HID ModBus =2:enable Serial ModBus
48	Serial ModBus address	U16	1-247(default 1)
49	Serial ModBus BaudRate	U16	=0:9600bps(default) =1:19200bps =2:38400bps =3:57600bps =4:115200bps =5:128000bps
50	Serial ModBus Parity	U16	=0:None(default) =1:Even =2:Odd
51-58	Dump[8]	U16	Reservation

Memory Index Storage Area（base address: 0x8800）

```
#define LIST_MEM_MAX          64
typedef __packed    struct _MEM_HEAD
{
        u16 Count;    //0—LIST_MEM_MAX
        u8 Index[LIST_MEM_MAX];    //0xff-- empty    0xfe--hidden    0-LIST_MEM_MAX
}MEM_HEAD;
#define MEM_HEAD_DEFAULT {7,{0,1,2,3,4,5,6}}
```

For example:

MEM_HEAD = {7,{2,1,0,3,4,5,6}}



Address Offset	**Name**	**Data type**	**Remark**
0		MEM_HEAD	0 TO ((sizeof(MEM_HEAD)+1)/2-1)

Reading register is read from the flash memory of the device iChargerDuo, and refresh at the same time the mirror in RAM; writing register is write changes to the mirror in RAM. Write the mirror to the flash memory of the device must through the ORDER_WRITE_MEM_HEAD order.

Memory storage area（base address: 0x8c00）

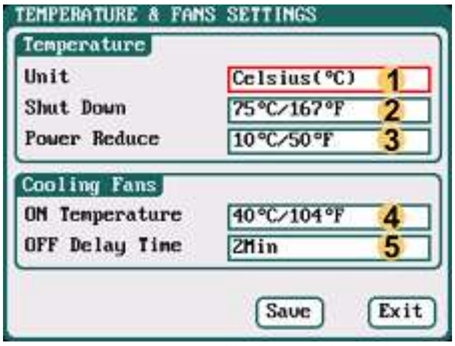
Address Offset	Name	Data type	Remark
0		MEMORY	0 TO ((sizeof(MEMORY)+1)/2-1)

Reading register is read from the flash memory of the device iChargerDuo, and refresh at the same time the mirror in RAM; writing register is write changes to the mirror in RAM. Write the mirror to the flash memory of the device must through the ORDER_WRITE_MEM order.

```
#define MEM_NAME_LEN  37
typedef __packed    struct _MEMORY
{
    u16 UseFlag;             //Use flag       0xffff—EMPTY    0x55aa—USED    0x0000— FIXED
    s8 Name[MEM_NAME_LEN+1]; // Program name (M1_1)
    u32 Capacity;            // Nominal capacity (M1_4)
    u8 AutoSave;             // The program runs automatically saved(M2_2)
    u8 LiBalEndMode;         //Li -battery balance end current mode(M8_1)
    u8 Dump1[7];             // Reservation
    u16 OpEnable;            //Enable module or not, represents with bit0-15 respectively
                             //Charge(bit0) ,Storage(bit2) ,Discharge(bit3) ,Cycle(bit4) ,OnlyBalance(bit5)
                             // (M6_5) (M10_5) (M11_4) (M12_4) (M15_1)
    u8 ChannelMode;          //=0: channel asynchronous mode = 1: channel synchronous mode (M2_1)
    u8 SaveToSD;             //=0:do not output log to SD =1:output log to SD (M2_5)
    u16 LogInterval;         //sampling interval    0.1S as an unit (M2_4)
    u16 RunCounter;          //run counter    (M2_3)

    u8 Type;                 //Bat. Type: LiPo,LiLo,LiFe,NiMH,Nicd,Pb    (M1_2)
    u8 LiCell;               //Li-battery number of cells (M1_3)
    u8 NiCell;               //Ni-battery number of cells (M1_3)
    u8 PbCell;               //Pb-battery number of cells (M1_3)

    u8 LiModeC;              //Charge mode (M6_2)
    u8 LiModeD;              //Discharge mode(M14_1)
    u8 NiModeC;              //Charge mode: Normal,REFLEX (M19_2)
    u8 NiModeD;              //Discharge mode: Reservation
    u8 PbModeC;              //Charge mode: (M16_2)
    u8 PbModeD;              //Discharge mode: Reservation

    u8 BalSpeed;             //Balance speed: 0--slow 1--normal 2--fast (M6_2)
    u8 BalStartMode;         //Balance start mode (M7_1)
    u16 BalStartVolt;        //Balance start voltage Reservation
    u8 BalDiff;              // Balanced stop accuracy (mV) (M7_2)
    u8 BalOverPoint;         //Balance over point(M7_4)
    u8 BalSetPoint;          //The minimum voltage difference and set point when balance charge terminates
                             //for example: 4.2Vcharges LiPo,BalSetPoint=5, then stops at 4.195V
                             //(M7_3)
```

```
u8 BalDelay;                    //Balance delay end time(M7_5)

u8 KeepChargeEnable;            //keep charging(M9_4)

u16 LiPoChgCellVolt;            //LiPo cell charge voltage (M6_4)
u16 LiLoChgCellVolt;            //LiLo cell charge voltage (M6_4)
u16 LiFeChgCellVolt;            //LiFe cell charge voltage (M6_4)

u16 LiPoStoCellVolt;            //LiPo cell storage voltage(M11_1)
u16 LiLoStoCellVolt;            //LiLo cell storage voltage(M11_1)
u16 LiFeStoCellVolt;            //LiFe cell storage voltage(M11_1)

u16 LiPoDchgCellVolt;           //LiPo cell discharge end voltage(M10_2)
u16 LiLoDchgCellVolt;           //LiLo cell discharge end voltage(M10_2)
u16 LiFeDchgCellVolt;           //LiFe cell discharge end voltage(M10_2)

u16 ChargeCurrent;              // Set charge current(M6_1)
u16 DischargeCurrent;           //Set discharge current(M10_1)

u16 EndCharge;                  //Charge end current(M6_3)
u16 EndDischarge;               //Discharge end current(M10_3)
u16 RegDchgMode;                // Discharge mode(M10_4)

u16 NiPeak;                     // Ni-battery sensitive voltage(M18_1)
u16 NiPeakDelay;                // deltaV check delay(M18_2)

u16 NiTrickleEnable;            //Enable trickle charge(M18_3)
u16 NiTrickleCurrent;           //Trickle charge current(M18_4)
u16 NiTrickleTime;              // Trickle charge(M18_5)

u16 NiZeroEnable;               // Ni charging 0 voltage allowed (M18_6)

u16 NiDischargeVolt;            //Ni discharge voltage (M20_2)
u16 PbChgCellVolt;              //Pb cell charge voltage (M16_4)
u16 PbDchgCellVolt;             //Pb cell discharge voltage (M17_2)
u16 PbFloatEnable;              //Pb cell float enable   Reservation
u16 PbFloatCellVolt;            //Pb cell float voltage   Reservation

u16 RestoreVolt;                //Low voltage restore voltage (M3_1) (M9_1)
u16 RestoreTime;                // Low voltage restore time (M3_2) (M9_2)
u16 RestoreCurent;              // Low voltage restore current (M3_3) (M9_3)

u16 CycleCount;                 //Cycle count(M12_2)
u16 CycleDelay;                 //Cycle interval(M12_3)
```

```
    u8 CycleMode;                   //Cycle mode(M12_1)

    u16 SafetyTimeC;                //Safety time (M4_3)
    u16  SafetyCapC;                //Safety capacity%(M4_2)
    u16 SafetyTempC;                //Safety temperature(M4_1)
    u16 SafetyTimeD;                //Safety time(M5_3)
    u16  SafetyCapD;                //Safety capacity%(M5_2)
    u16 SafetyTempD;                // Safety temperature(M5_1)

    u8 RegChMode;                   //Channel regenerative mode(M13_1)
    u16 RegChVolt;                  // Channel regenerative limited voltage(M13_2)
    u16 RegChCurrent;               // Channel regenerative limited current(M13_3)

    u8 FastSto;                     //Li-battery fast storage   (M11_3)
    u16 StoCompensation;            //Storage compensation voltage(M11_2)

    u16 NiZnChgCellVolt;            // NiZn cell charge voltage (M6_4)
    u16 NiZnDchgCellVolt;           // NiZn cell discharge end voltage(M10_2)
    u8 NiZnCell;                    // NiZn-battery number of cells(M1_3)

    u8 Dump;                        // Reservation
}MEMORY;
```



TEMPERATURE & FANS SETTINGS

Temperature

Unit: Celsius(°C)

Shut Down: 75°C/167°F

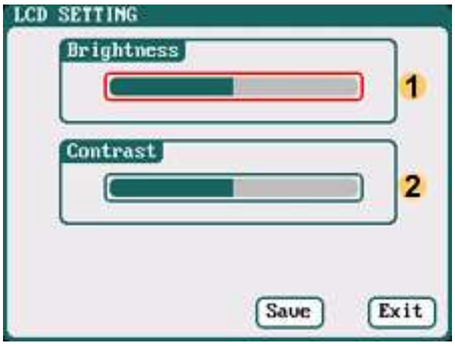
Power Reduce: 10°C/50°F

Cooling Fans

ON Temperature: 40°C/104°F

OFF Delay Time: 2Min

P1

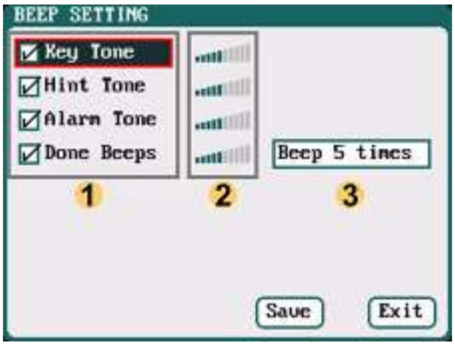


LCD SETTING

Brightness

Contrast

P2



BEEP SETTING

☑ Key Tone

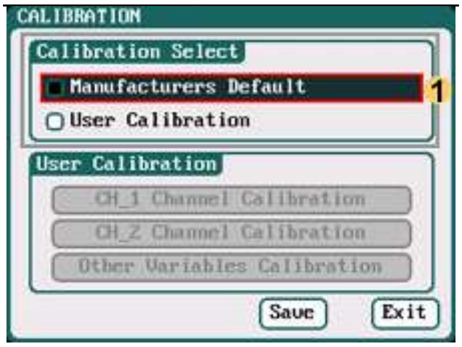
☑ Hint Tone

☑ Alarm Tone

☑ Done Beeps

Beep 5 times

P3



CALIBRATION

Calibration Select

● Manufacturers Default

○ User Calibration

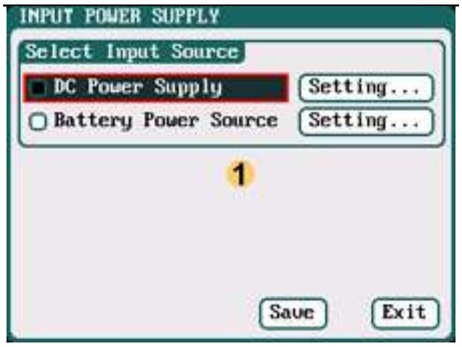
User Calibration

CH_1 Channel Calibration

CH_2 Channel Calibration

Other Variables Calibration

P4



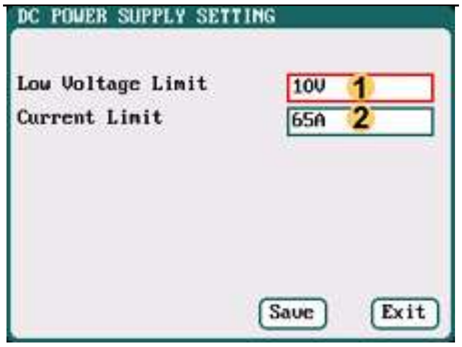
INPUT POWER SUPPLY

Select Input Source

● DC Power Supply — Setting...

○ Battery Power Source — Setting...

P5

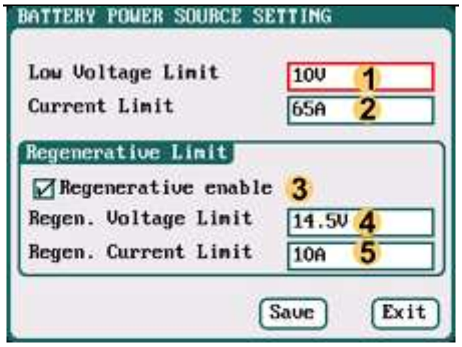


DC POWER SUPPLY SETTING

Low Voltage Limit: 10V

Current Limit: 65A

P6



BATTERY POWER SOURCE SETTING

Low Voltage Limit: 10V

Current Limit: 65A

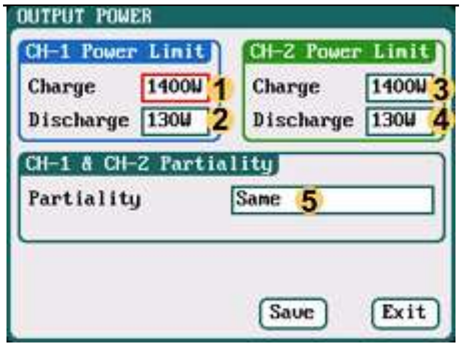
Regenerative Limit

☑ Regenerative enable

Regen. Voltage Limit: 14.5V

Regen. Current Limit: 10A

P7



OUTPUT POWER

CH-1 Power Limit

Charge: 1400W

Discharge: 130W

CH-2 Power Limit

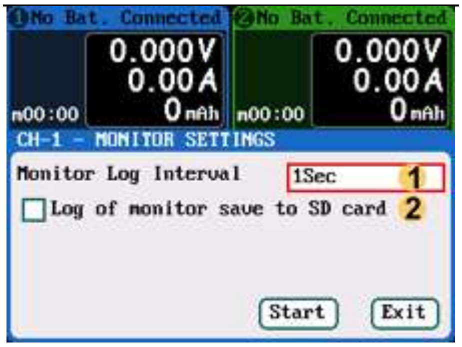
Charge: 1400W

Discharge: 130W

CH-1 & CH-2 Partiality

Partiality: Same

P8



1 No Bat. Connected — 0.000V 0.00A 0mAh m00:00

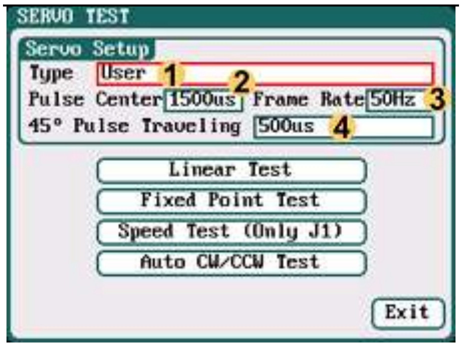
2 No Bat. Connected — 0.000V 0.00A 0mAh m00:00

CH-1 - MONITOR SETTINGS

Monitor Log Interval: 1Sec

□ Log of monitor save to SD card

P9



SERVO TEST

Servo Setup

Type: User

Pulse Center: 1500us   Frame Rate: 50Hz

45° Pulse Traveling: 500us

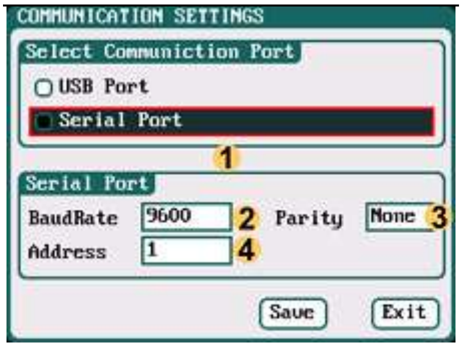
Linear Test

Fixed Point Test

Speed Test (Only J1)

Auto CW/CCW Test

P10



COMMUNICATION SETTINGS

Select Communiction Port

○ USB Port

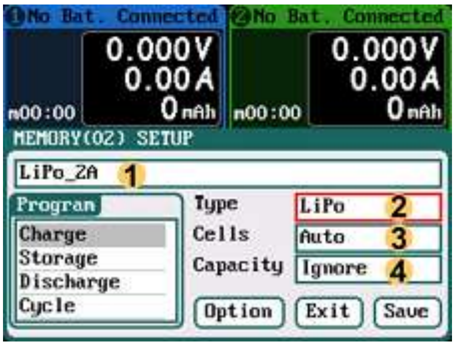
● Serial Port

Serial Port

BaudRate: 9600   Parity: None

Address: 1

P11



①No Bat. Connected ②No Bat. Connected

0.000V 0.00A 0mAh m00:00 | 0.000V 0.00A 0mAh m00:00

MEMORY(02) SETUP

LiPo_2A 1

Program: Charge / Storage / Discharge / Cycle

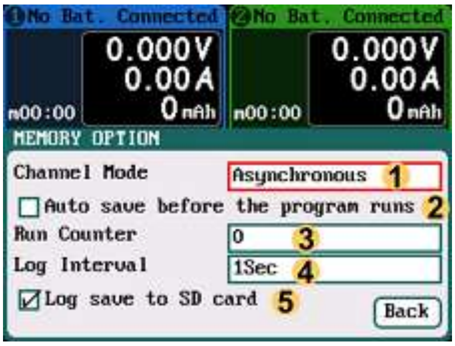
Type: LiPo 2

Cells: Auto 3

Capacity: Ignore 4

Option | Exit | Save

M1



①No Bat. Connected ②No Bat. Connected

0.000V 0.00A 0mAh m00:00 | 0.000V 0.00A 0mAh m00:00

MEMORY OPTION

Channel Mode: Asynchronous 1

□ Auto save before the program runs 2

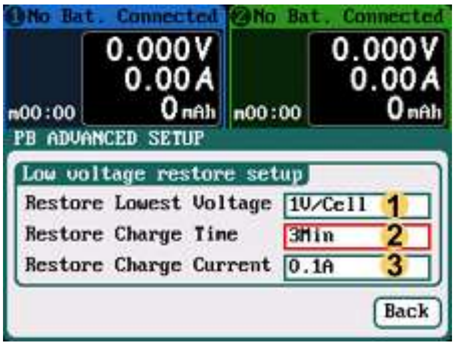
Run Counter: 0 3

Log Interval: 1Sec 4

☑ Log save to SD card 5

Back

M2



①No Bat. Connected ②No Bat. Connected

0.000V 0.00A 0mAh m00:00 | 0.000V 0.00A 0mAh m00:00

PB ADVANCED SETUP

Low voltage restore setup

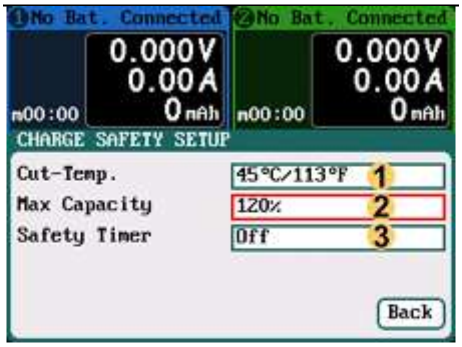
Restore Lowest Voltage: 1V/Cell 1

Restore Charge Time: 3Min 2

Restore Charge Current: 0.1A 3

Back

M3



①No Bat. Connected ②No Bat. Connected

0.000V 0.00A 0mAh m00:00 | 0.000V 0.00A 0mAh m00:00

CHARGE SAFETY SETUP

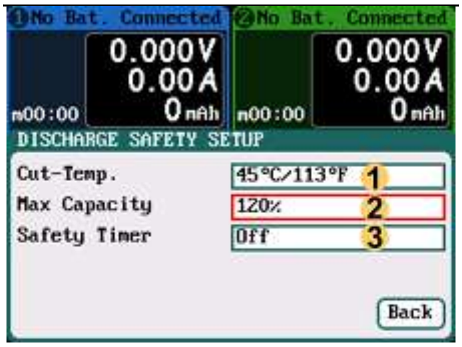
Cut-Temp.: 45°C/113°F 1

Max Capacity: 120% 2

Safety Timer: Off 3

Back

M4



①No Bat. Connected ②No Bat. Connected

0.000V 0.00A 0mAh m00:00 | 0.000V 0.00A 0mAh m00:00

DISCHARGE SAFETY SETUP

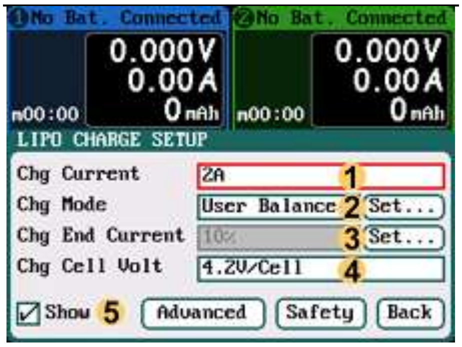
Cut-Temp.: 45°C/113°F 1

Max Capacity: 120% 2

Safety Timer: Off 3

Back

M5



①No Bat. Connected ②No Bat. Connected

0.000V 0.00A 0mAh m00:00 | 0.000V 0.00A 0mAh m00:00

LIPO CHARGE SETUP

Chg Current: 2A 1

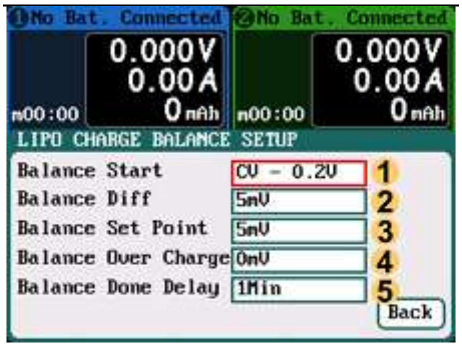
Chg Mode: User Balance 2 Set...

Chg End Current: 10% 3 Set...

Chg Cell Volt: 4.2V/Cell 4

☑ Show 5 | Advanced | Safety | Back

M6



①No Bat. Connected ②No Bat. Connected

0.000V 0.00A 0mAh m00:00 | 0.000V 0.00A 0mAh m00:00

LIPO CHARGE BALANCE SETUP

Balance Start: CV - 0.2V 1

Balance Diff: 5mV 2

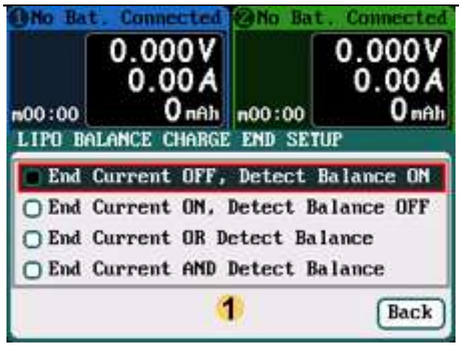
Balance Set Point: 5mV 3

Balance Over Charge: 0mV 4

Balance Done Delay: 1Min 5

Back

M7



①No Bat. Connected ②No Bat. Connected

0.000V 0.00A 0mAh m00:00 | 0.000V 0.00A 0mAh m00:00

LIPO BALANCE CHARGE END SETUP

● End Current OFF, Detect Balance ON

○ End Current ON, Detect Balance OFF

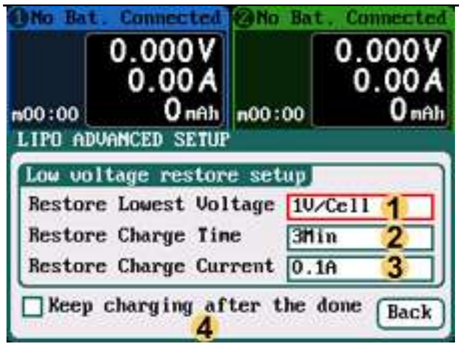
○ End Current OR Detect Balance

○ End Current AND Detect Balance

1

Back

M8



①No Bat. Connected ②No Bat. Connected

0.000V 0.00A 0mAh m00:00 | 0.000V 0.00A 0mAh m00:00

LIPO ADVANCED SETUP

Low voltage restore setup

Restore Lowest Voltage: 1V/Cell 1

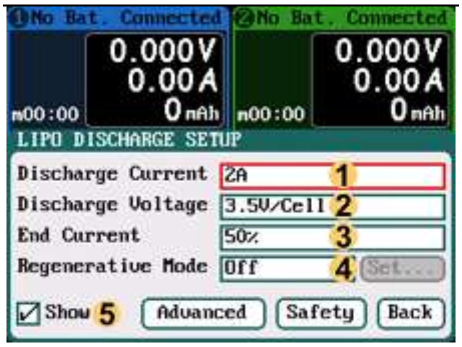
Restore Charge Time: 3Min 2

Restore Charge Current: 0.1A 3

□ Keep charging after the done 4

Back

M9



①No Bat. Connected ②No Bat. Connected

0.000V 0.00A 0mAh m00:00 | 0.000V 0.00A 0mAh m00:00

LIPO DISCHARGE SETUP

Discharge Current: 2A 1

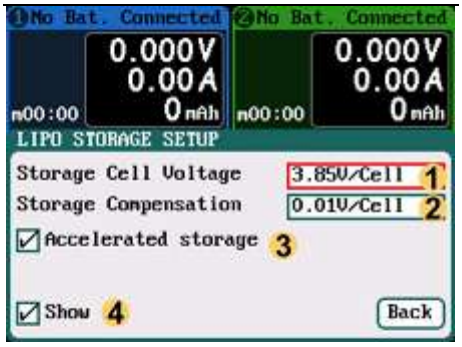
Discharge Voltage: 3.5V/Cell 2

End Current: 50% 3

Regenerative Mode: Off 4 Set...

☑ Show 5 | Advanced | Safety | Back

M10



①No Bat. Connected ②No Bat. Connected

0.000V 0.00A 0mAh m00:00 | 0.000V 0.00A 0mAh m00:00

LIPO STORAGE SETUP

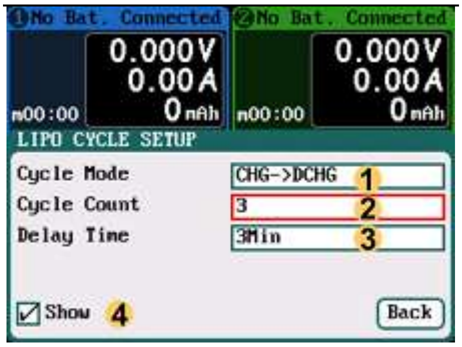
Storage Cell Voltage: 3.85V/Cell 1

Storage Compensation: 0.01V/Cell 2

☑ Accelerated storage 3

☑ Show 4 | Back

M11



①No Bat. Connected ②No Bat. Connected

0.000V 0.00A 0mAh m00:00 | 0.000V 0.00A 0mAh m00:00

LIPO CYCLE SETUP

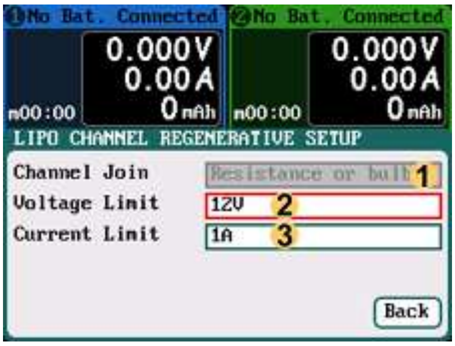
Cycle Mode: CHG->DCHG 1

Cycle Count: 3 2

Delay Time: 3Min 3

☑ Show 4 | Back

M12

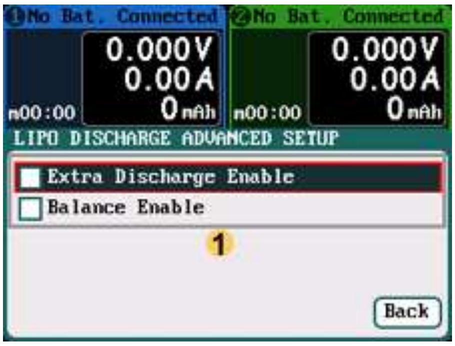


LIPO CHANNEL REGENERATIVE SETUP

Channel Join	Resistance or bulb
Voltage Limit	12V
Current Limit	1A

Back

M13



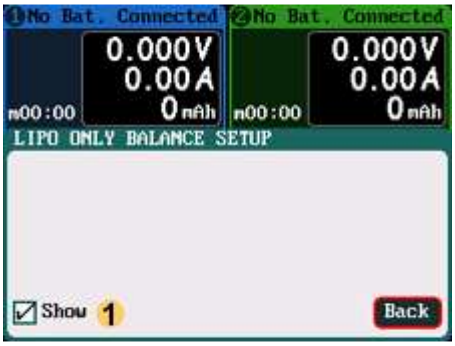
LIPO DISCHARGE ADVANCED SETUP

□ Extra Discharge Enable

□ Balance Enable

Back

M14

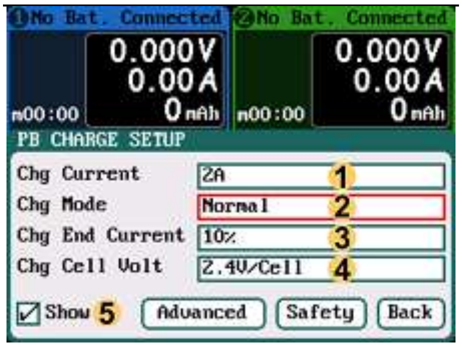


LIPO ONLY BALANCE SETUP

☑ Show

Back

M15

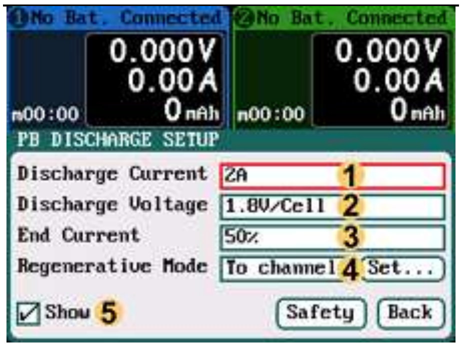


PB CHARGE SETUP

Chg Current	2A
Chg Mode	Normal
Chg End Current	10%
Chg Cell Volt	2.4V/Cell

☑ Show Advanced Safety Back

M16

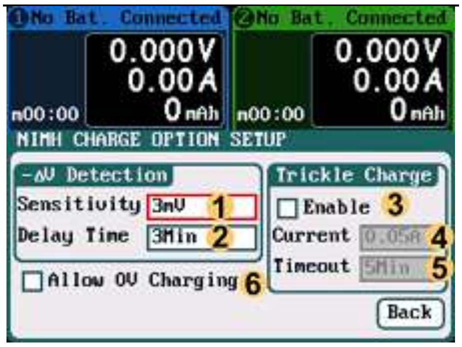


PB DISCHARGE SETUP

Discharge Current	2A
Discharge Voltage	1.8V/Cell
End Current	50%
Regenerative Mode	To channel Set...

☑ Show Safety Back

M17



NIMH CHARGE OPTION SETUP

-ΔV Detection

Sensitivity	3mV
Delay Time	3Min

Trickle Charge

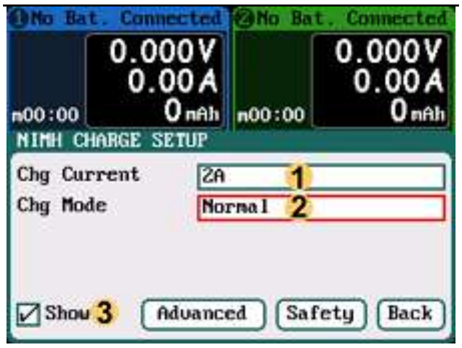
□ Enable

Current	0.05A
Timeout	5Min

□ Allow OV Charging

Back

M18

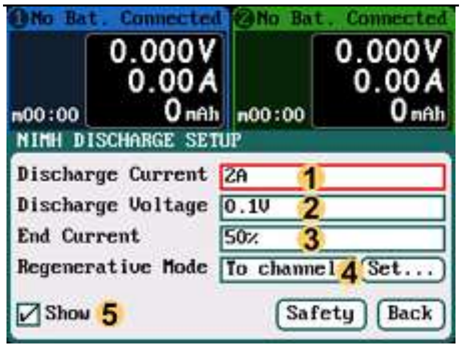


NIMH CHARGE SETUP

Chg Current	2A
Chg Mode	Normal

☑ Show Advanced Safety Back

M19



NIMH DISCHARGE SETUP

Discharge Current	2A
Discharge Voltage	0.1V
End Current	50%
Regenerative Mode	To channel Set...

☑ Show Safety Back

M20