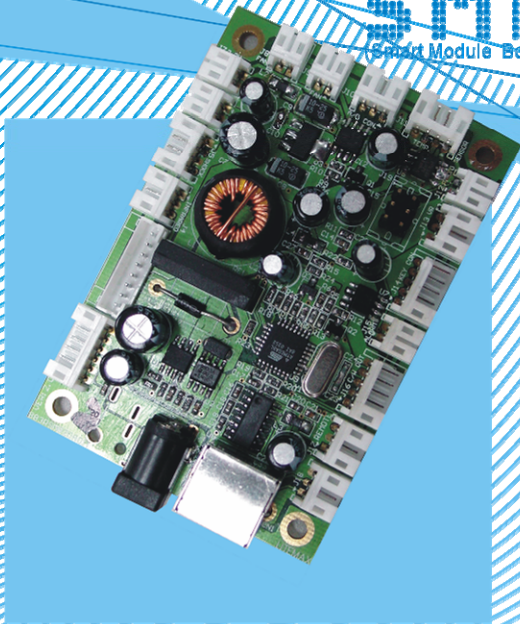


Smart Module Board

Installation Guide



www.litemax.com.tw

A. Product instruction and accessories :

1. Instruction :

Smart Module Board (SMB) has many different detecting functions including shock sensor, motion detector, and temperature sensor. SMB also supports 4 different ways to adjust display brightness, like OSD adjustment, ambient light sensor, potentiometer, and software screen setting. It can detect the temperature then decide to turn on the cooling fan or not.

The SMB uses 8 Bits microprocessor and include Flash memory to make users save the setting through RS232 cable. Even the power-down still can recover to the initial setting. It also provides remote control function.

The power is DC-12V which can provide the power to A/D board or through A/D board to provide the power to SMB. It can also generate 3 powers, 12V, 5V, 3.3V for customer to use.

2. Product and accessories list :

2.1 : Basic equipment :

SMB Board x 1, RS-232 Cable x 1, and Installation CD-R x1

SMB Board



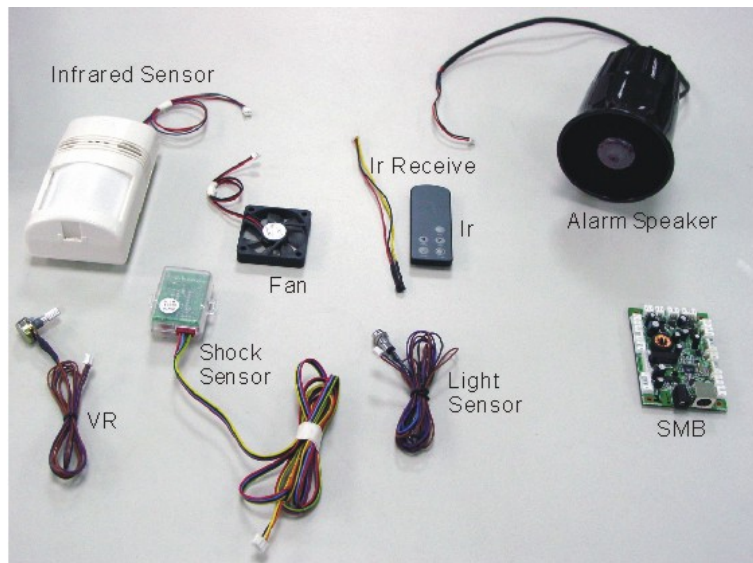
RS-232 Cable



Installation CD-R



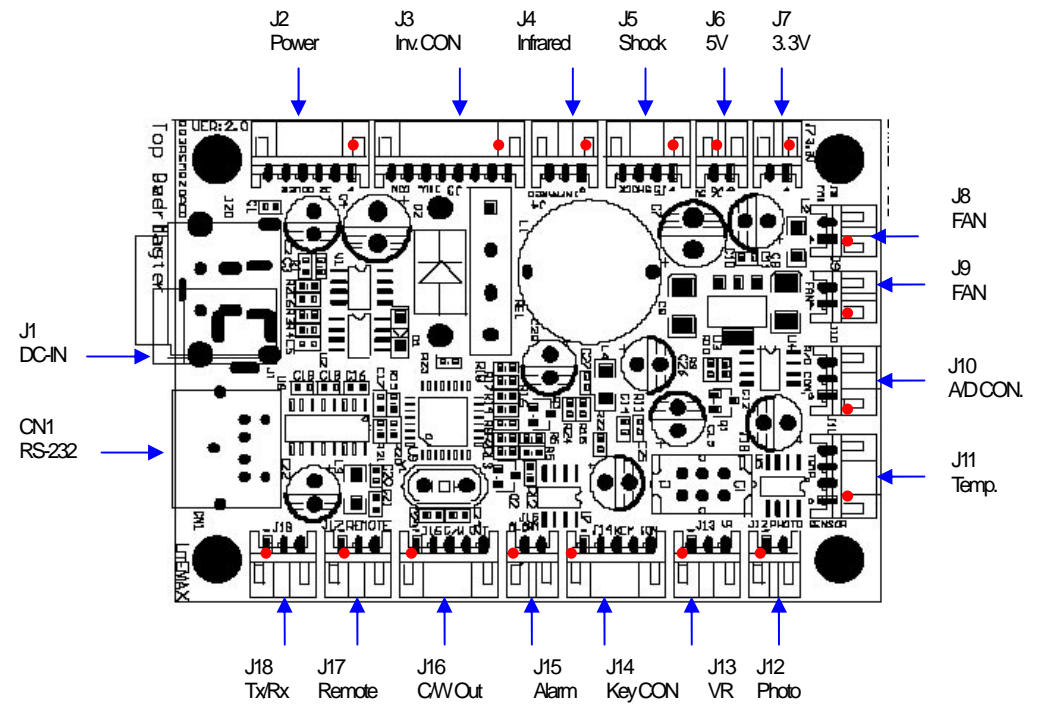
2.2 : Optional Accessories



SMB and Optional accessories

B. SMB installation explanation : 85*58(mm)

1. SMB pin define :



2. SMB Pin Define (Red point is Pin 1) :

J2 (DC-12V Power Output If J1 is DC-12V Power In)

(The power connect to A/D board) :

Pin	1	2	3	4	5	6
Def.	12V	12V	12V	GND	GND	GND

J3 (Inv. CON) (The power connect to inverter) :

Pin	1	2	3	4	5	6	7	8
Def.	On/Off	Dimming	GND	GND	GND	12V	12V	12V

J4 (Infrared Sensor CON) (connector to IR sensor) :

Pin	1	2	3
Def.	12V	GND	Infrared

J5 (Shock Sensor CON) (connector to Shock sensor) :

Pin	1	2	3	4
Def.	12V	Shock	GND	Shock

J6 (DC-5V Output) :

Pin	1	2
Def.	5V	GND

J7 (DC-3.3V Output) :

Pin	1	2
Def.	3.3V	GND

J8 (FAN CON) (connector to cooling fan) :

Pin	1	2
Def.	FAN	GND

J9 (FAN CON) (connector to cooling fan) :

Pin	1	2
Def.	FAN	GND

J10 (A/D CON) (power connector to A/D board) :

Pin	1	2	3
Def.	On/Off	Dimming	GND

J11 (Temp. CON.) :

Pin	1	2	3	4
Def.	5V	SCL	SDA	GND

J12 (Photo CON) (connector to ambient light sensor) :

Pin	1	2
Def.	5V	Light Sensor

J13 (VR CON) (connector to VR) :

Pin	1	2	3
Def.	5V	VR	GND

J14 (Key CON) (connector to A/D board) :

Pin	1	2	3	4	5
Def.	KEY1	KEY2	KEY3	KEY4	KEY5

J15 (ALARM CON) (connector to Alarm) :

Pin	1	2
Def.	Alarm	GND

J16 (C/W OUT CON) :

Pin	1	2	3	4	5
Def.	Cold out	Warm out	GND	5V	12V

J17 (Remote CON) (connector to remote control) :

Pin	1	2	3
Def.	5V	GND	Ir

J18 (RS-232 CON) :

Pin	1	2	3
Def.	Rx	Tx	GND

C. Equipment installation instruction :

1. Infrared sensor (motion detector) (connect to J4) :

When turn on IR detector, SMB will react according to detector detecting result. Once detect something passed, SMB will turn on the LCD lasting some minutes as customer desires. The screen will automatically turn off if there is nothing passes by. It can save the energy and prolong the life of LCD, also prevent image sticking problem for LCD. If the detector detects objects all the time, then the LCD will be turned on continually.

Note: Don't enable the function without physically connecting the motion detector. It will cause the screen remain black.

2. Shock sensor (connect to J5) :

Once turn on the shock sensor, when the shock and vibration has been detected, SMB will let LCD screen flash with the highest brightness and switch on the alarm as user desired length. This function still works even IR detector doesn't discover the bodies and shut down the LCD. Note: If turn on the shock sensor function on control software without connecting the shock sensor, then LCD screen will turn on and off flashing

3. Remote control (connect to J7) :

There are five buttons on the controller including Power, Menu, Left, Right, and Auto which can adjust the LCD set up remotely.

LCD brightness adjustment :

You may choose four ways to adjust the brightness based on Brightness Adjustment module.

Brightness Adjustment Modules are:

01->OSD Adjustment

02-> Ambient light Sensor

03-> Potentiometer

04->PC Software Adjustment.

4. Cooling Fan (connect to J8, J9) :

If temperature sensor is disabled, the cooling fans will start according the power on/off. Power on then the fans work; stop when power off. Once the temperature sensor option on the control software has been turned on, when it detects the temperature is higher than high limit of setting, the cooling fans will start to work. When the temperature is 5 degrees lower than high temperature limit, the cooling fan will stop.

5. Freezer control (J16 pin 1) :

Turn on the freezer with this connector.

6. Temperature Sensor Module :

When Temperature Sensor is on, SMB will start to detect the temperature and compare the temperature with high and low temperature limit. Once the temperature is higher than high limit then SMB will adjust the brightness to 50% (if the brightness is less than 50% then the brightness won't change) and start the cooling fan at the same

time. When temperature is lower than high temperature limit, the LCD will go back to regular situation.

Once the temperature is lower than low temperature limit, the LCD brightness will adjust to 100%, and go back to normal when temperature is higher than low temperature limit.

7. RS-232 Cable (connect to J18 or CN1) :

RS232 cable is the interface between PC and SMB, and make the data can pass on. When the user setup the program and pass the data from PC to SMB, the SMB will storage the date even turn off the power. The user also can pass the data from SMB to PC.

8. Heater control (J16 pin 2) :

When Temperature Sensor is turned off, heater control doesn't work. If temperature sensor is turned off, heater (optional) will start to work when detecting the temperature is lower than low temperature limit.

- When low temperature limit is higher than zero, heater control function will stop when the temperature is higher than 15°C.
- When low temperature limit is lower than zero, heater control function will stop when the temperature is higher than 10°C

D. Installation SMB program :

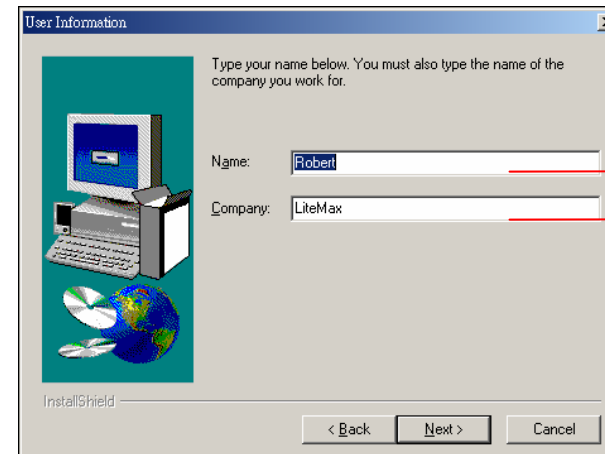
1. Put the CD-R into the computer and start the set up:



2. Then the screen will show :



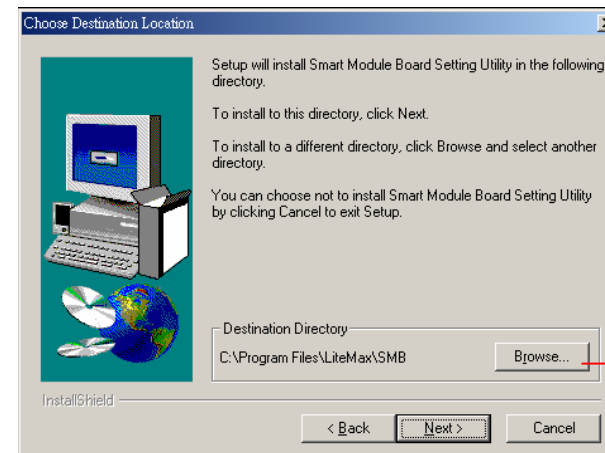
3. Press <Next> then enter user name and company name :



User name

Company

Press <Next> then will show the route of the program, if we want to change the route then we can press the Browse to select the route we can.

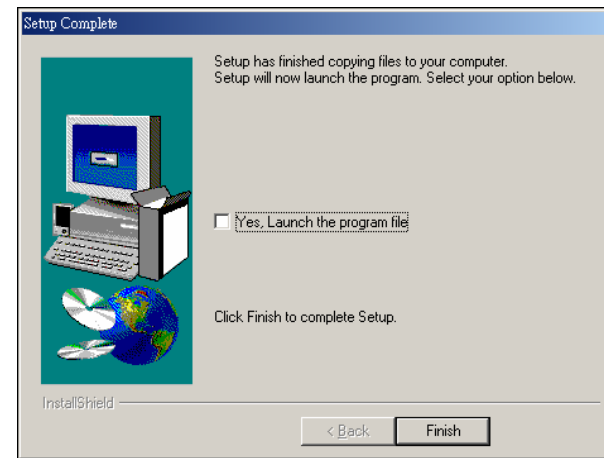


Press the Browse to change the installation

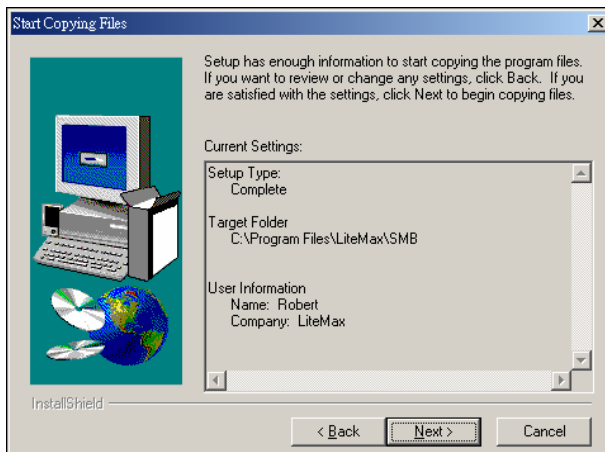
4. Press <Next> to show the title of the program, if we want to change the title then we can change title in Program Folder.



6. Press <Next> to show the finish picture, and then press Finish completing the installation.



5. Press <Next> to show the confirmation information of previous selection.



E. Application Program operation instruction :

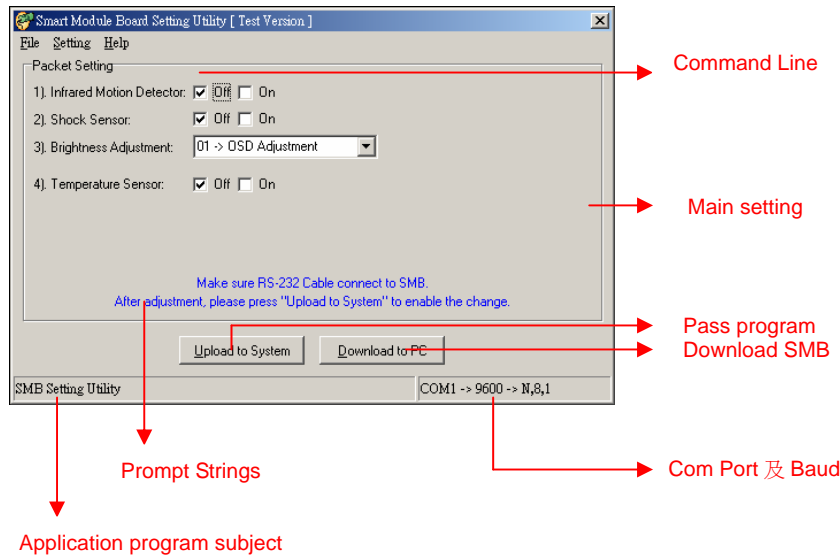
1. Enter the program :

There are two ways to enter the program :

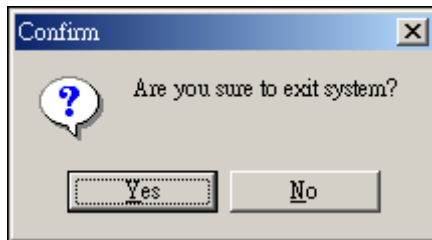
- (A) Start->Program->LiteMax SMB->SMB Setting Utility
- (B) Click the icon on the desktop



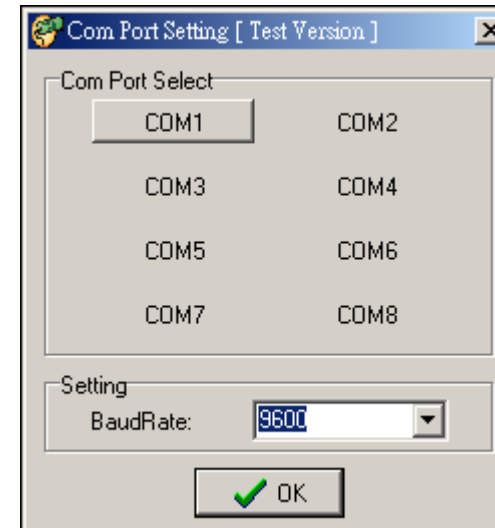
2. Program settings :



Press "Exit" in "File" or the "X" on the right up side. Then shows confirmation picture, press YES to exist or NO for continuing.




If you want to change the COM Port, select Com Port in Settings. SMB upload speed in 9600. When decide the Com Port, the software will detect the Com Port is OK or not, and the warning will show up when the port is defected

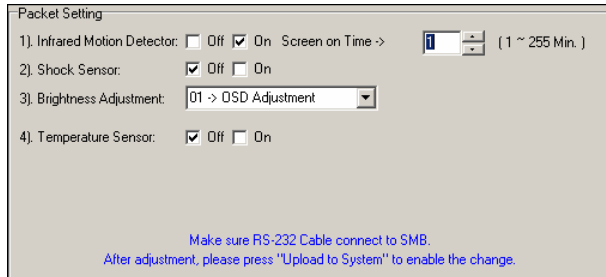


3. Functions instruction :

A. Infrared Motion Detector :

OFF for non-working; ON for working When select ON, then Screen on Time setting will show up, the range is between 1~255 minutes.


You may enter the timing you prefer or select through 

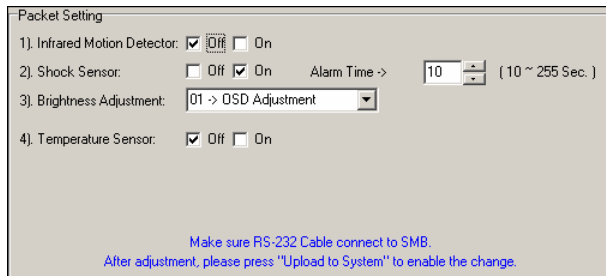


Please make sure connect the Infrared Sensor to SMB well, or the LCD won't display and will be complete black.

B. Shock Sensor :

OFF for non-working; ON for working When select ON, then Alarm Time setting will show up, the range is between 1~255 minutes.

You may enter the timing you prefer or select through 



Please make sure connect the Shock Sensor to SMB well, or the LCD will glitter and the siren will go on continually.

C. Brightness Adjustment :

There are 4 different options of brightness adjustment, and they are

01-> OSD Adjustment (by remote control)

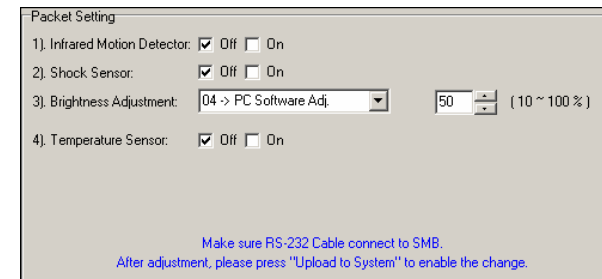
02-> Ambient light Sensor (by light sensor)

03-> Potentiometer (by potentiometer)

04->PC Software adj. (by software)

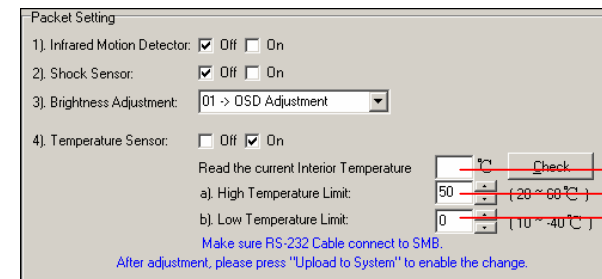
When select Item 4 will show up another setting, the range is between

1~255 minutes. You may enter the timing you prefer or select through 



D. Display Temperature Sensor :

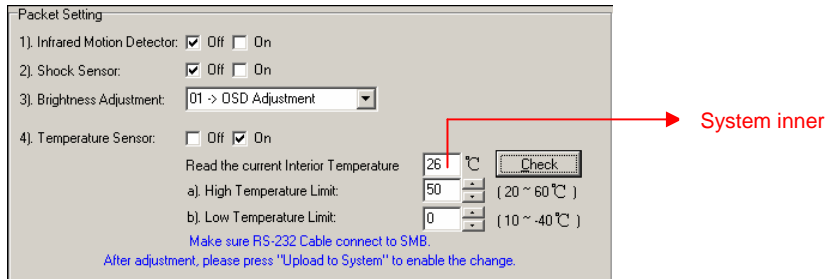
OFF for non-working; ON for working




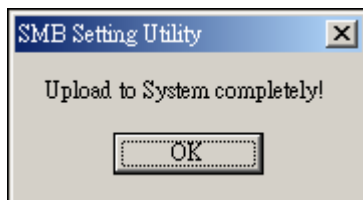
Inner temperature detector
High temperature limit
Low temperature limit


When select ON, then inner temperature detector, light temperature limit, and low temperature limit will show up for selection.

When press  PC will show up the detecting temperature inside.



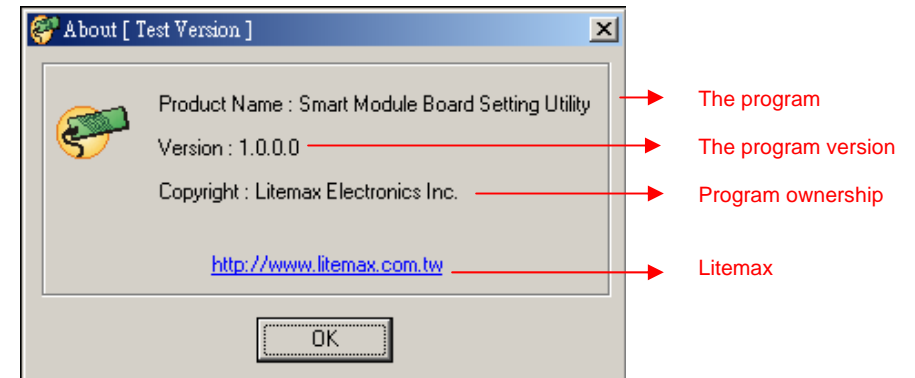
When finish all settings and press  then we can upload all data to SMB. The confirmation information will show up when finished.



If we press  then we can download all the data from SMB to PC program. The confirmation information will show up when data transformation finished. The software will display all SMB information on PC.



When press Help, it shows :



Click the website to connect to Litemax website

E. Q & A :

Q1. *There is no picture on the screen ?*

- A.1. Turn on the IR detector function without connecting IR detector
2. If the IR detector is right connect to SMB that means the detector doesn't discover objects. Please wave your hand in front of the detector to see if the screen turns on or not.

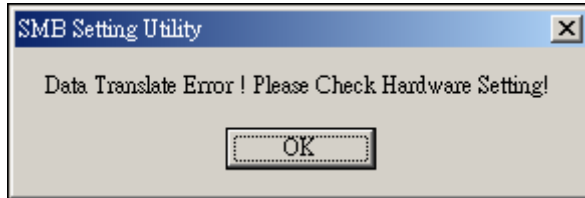
Q2. *Why the screen is flashing ?*

- A.1. Turn on the Shock sensor functions without connecting shock sensor.

2. Shock sensor is too sensitive. Please adjust the Shock sensor sensitivity.

Q3. Information translating error ?

A. When the error shows that means there is connecting error between SMB and PC. The possibilities might be :



1. The RS-232 cable between PC and SMB is not connected well or disconnected.
2. There is no power to SMB.
3. The Com Port on AP and the Com Port connect to SMB doesn't match.

Ex: The AP chooses the Com Port 1 but the RS232 cable connects to Com 2.

If you have any further question, please contact your Litemax representative directly.

LITEMAX Electronics Inc.
4F, No.131-3, Lane235, Bau-chiau Rd.,
Shin-dian City, Taipei County, Taiwan R.O.C.
Tel : 886-2-8919-1858
Fax: 886-2-8919-1300
Homepage: <http://www.litemax.com.tw>