



**孕龍科技股份有限公司**  
**ZeroPlus Technology Co., Ltd.**

# SPECIFICATION

**MODEL: B08005-LAP-SMBus 2.0-M**

**PART NO:** \_\_\_\_\_

**VERSION:** V1.22

Approver		Check	Design
GM	PM		

Customer Confirm

\*Please fax the file to ZeroPlus Technology after signing.

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## 1 Software Download

Please install the software as the following steps:

**Remark:** We won't have additional notice for you, when there is any modification of the module specification. If there is some unconformity caused by the module version upgrade, users should take the module software as the standard.

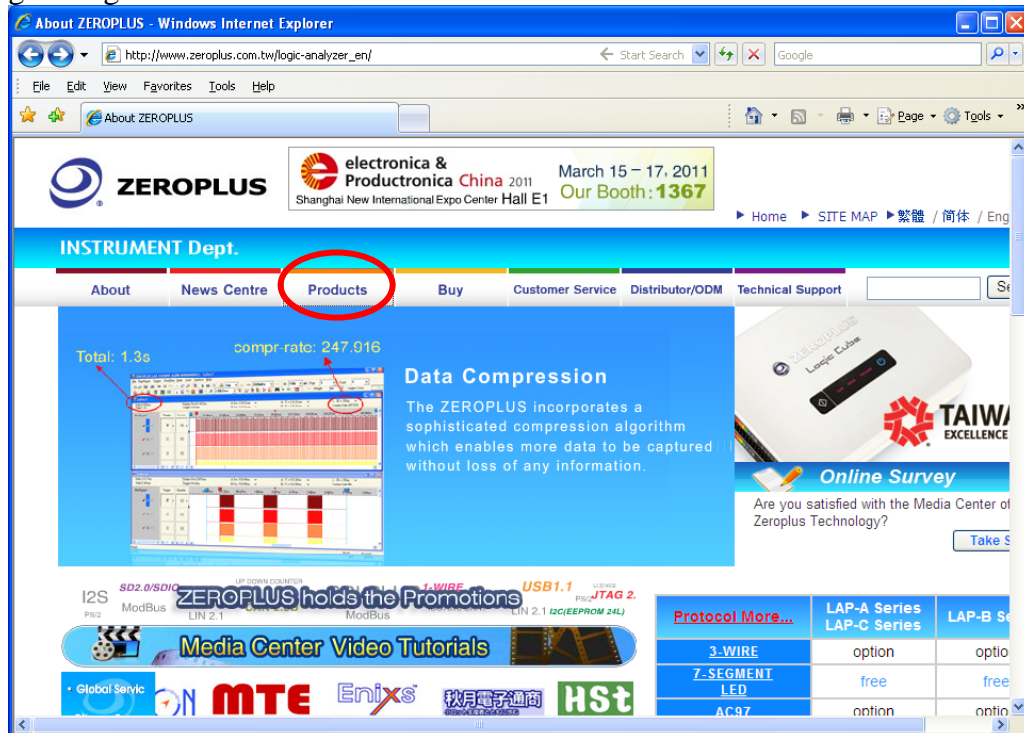
**STEP 1.** Visit the website of ZeroPlus: <http://www.zeroplus.com.tw>.

**STEP 2.** Click the **English** in the Instrument Division part on the Homepage.

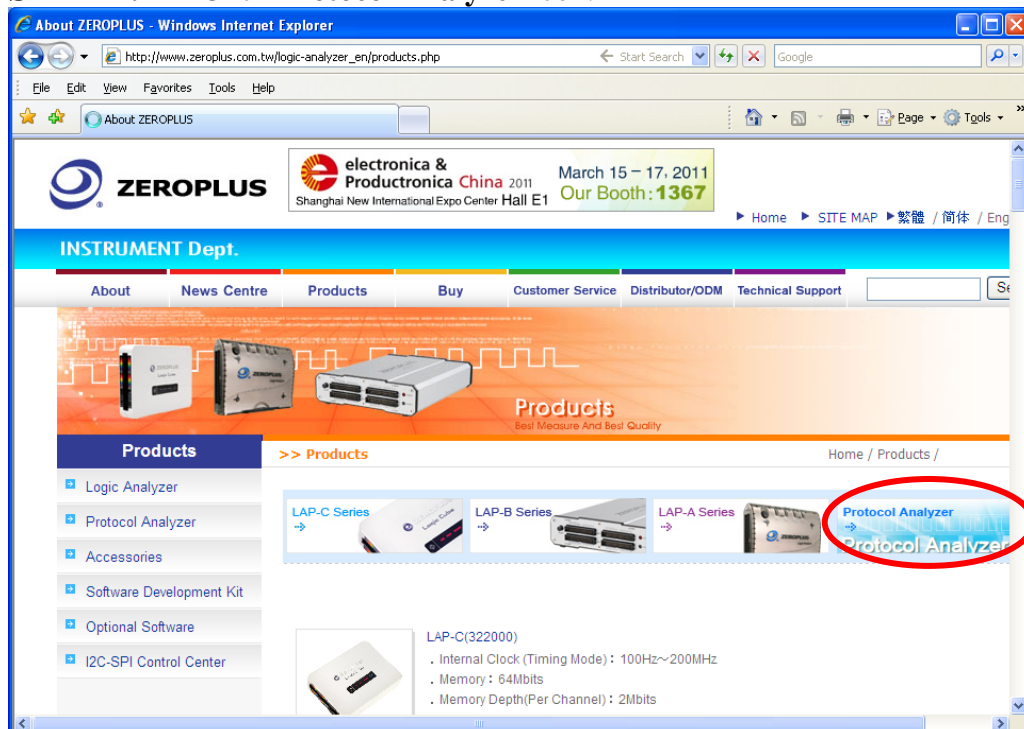




**STEP 3.** Click **Products** menu or select **Protocol Analyzer** item from its pull-down menu to go straight to STEP 5.

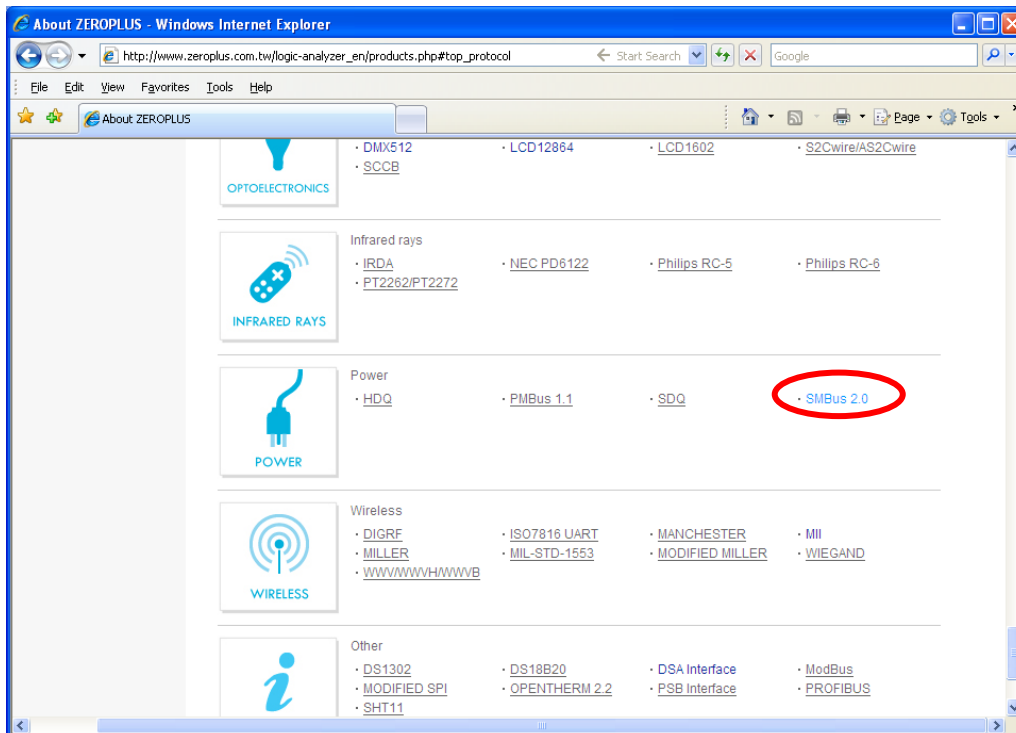


**STEP 4.** Click **Protocol Analyzer** icon.

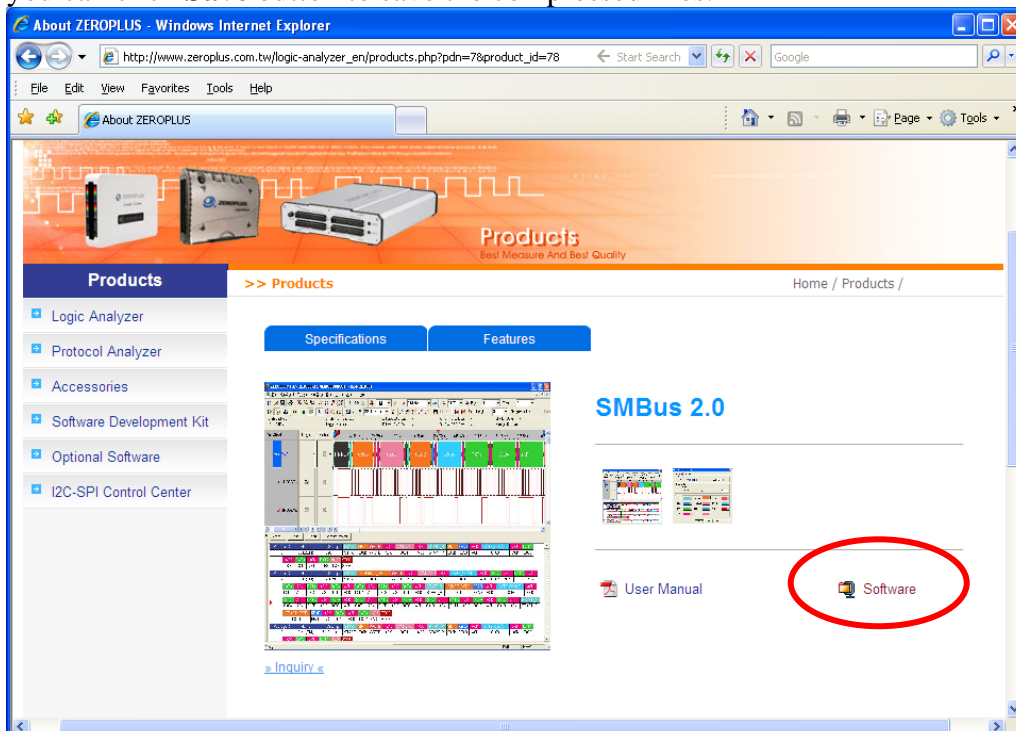




**STEP 5.** Click **SMBus 2.0** in the Power.

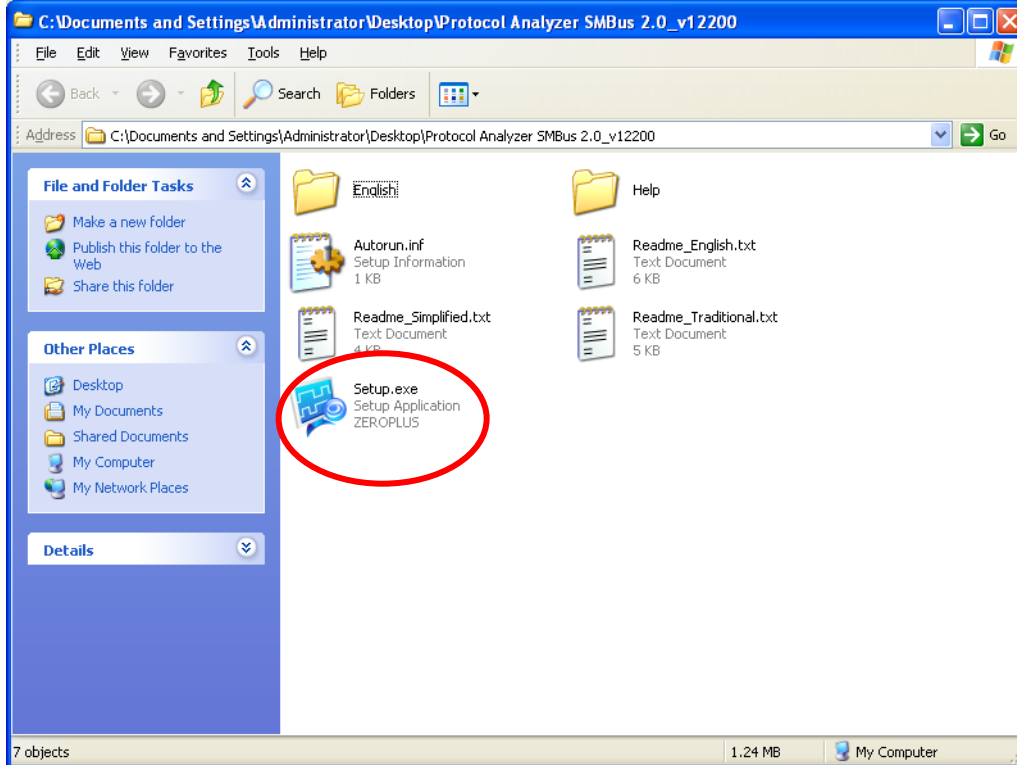


**STEP 6.** Click **Software** in the Products page. When the File Download dialog box appears, you can click **Save** button to save the compressed files.

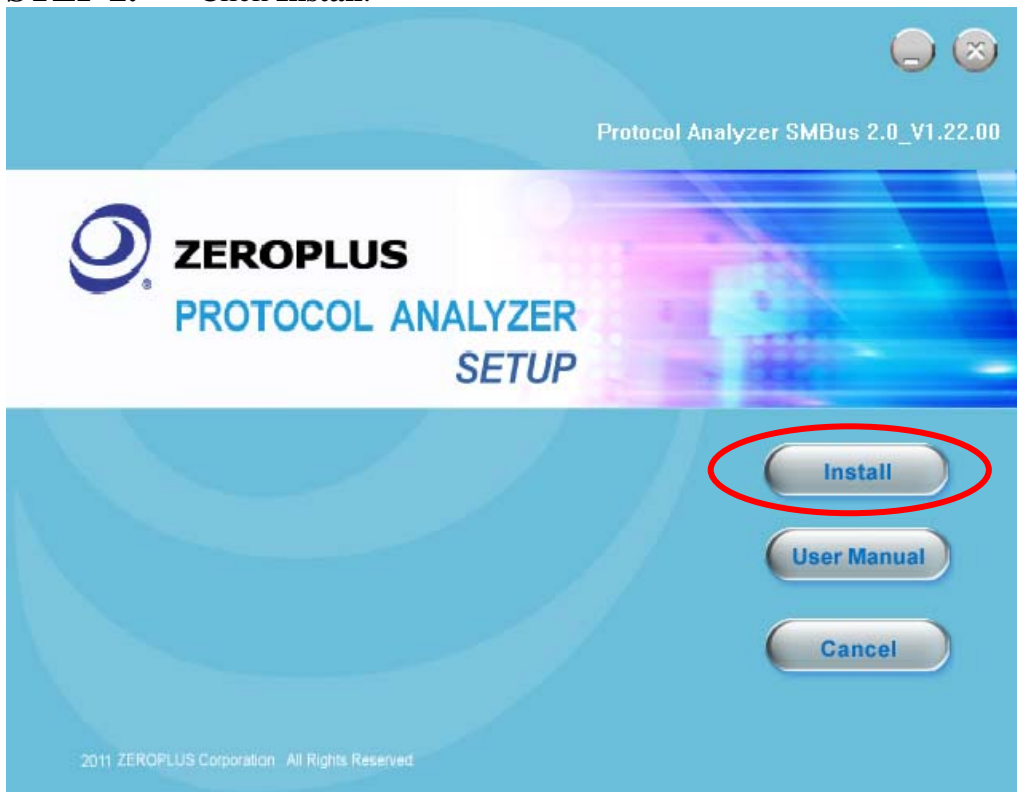


## 2 Software Installation

**STEP 1.** Open the downloaded folder to install **Protocol Analyzer SMBus 2.0.**



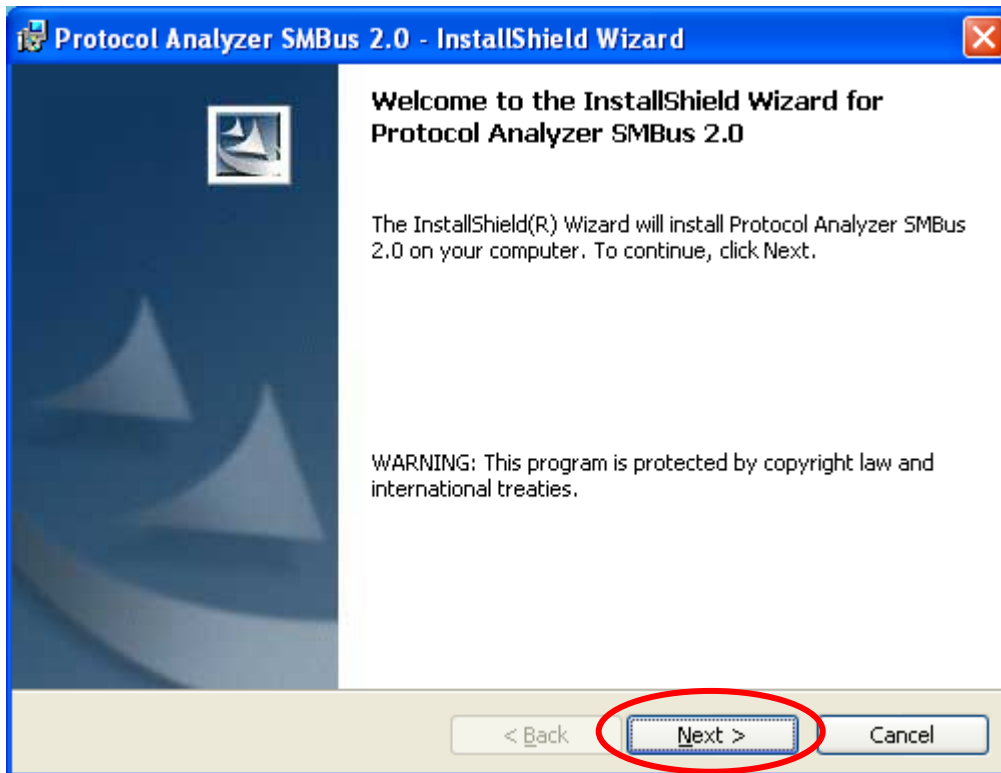
**STEP 2.** Click **Install**.



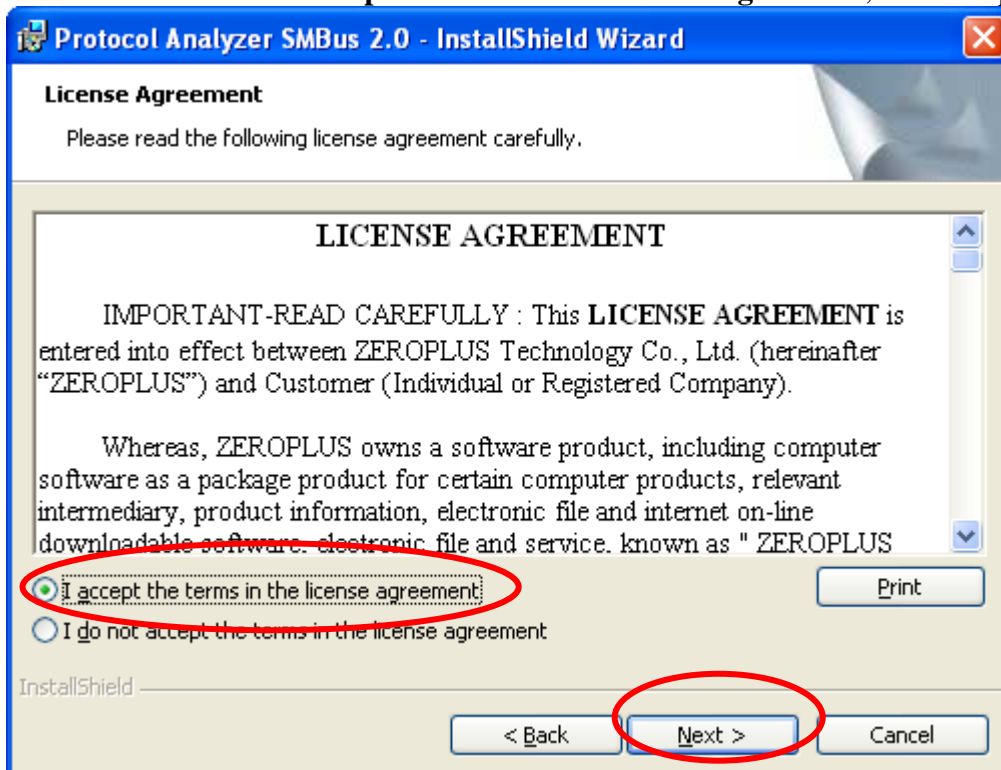




**STEP 3.** Click Next.



**STEP 4.** Select **I accept the terms in the license agreement**, and then press Next.





**STEP 5.** Fill in users' information in the below dialog box and then click **Next**.

The dialog box is titled "Protocol Analyzer SMBus 2.0 - InstallShield Wizard". It has a "Customer Information" section with the instruction "Please enter your information." Below this, there are two text input fields: "User Name:" with "Microsoft" entered, and "Organization:" with "User" entered. Further down, there is a section "Install this application for:" with two radio button options: "Anyone who uses this computer (all users)" (which is selected) and "Only for me (Microsoft)". At the bottom, there are three buttons: "< Back", "Next >" (which is circled in red), and "Cancel". The "InstallShield" logo is visible in the bottom left corner.

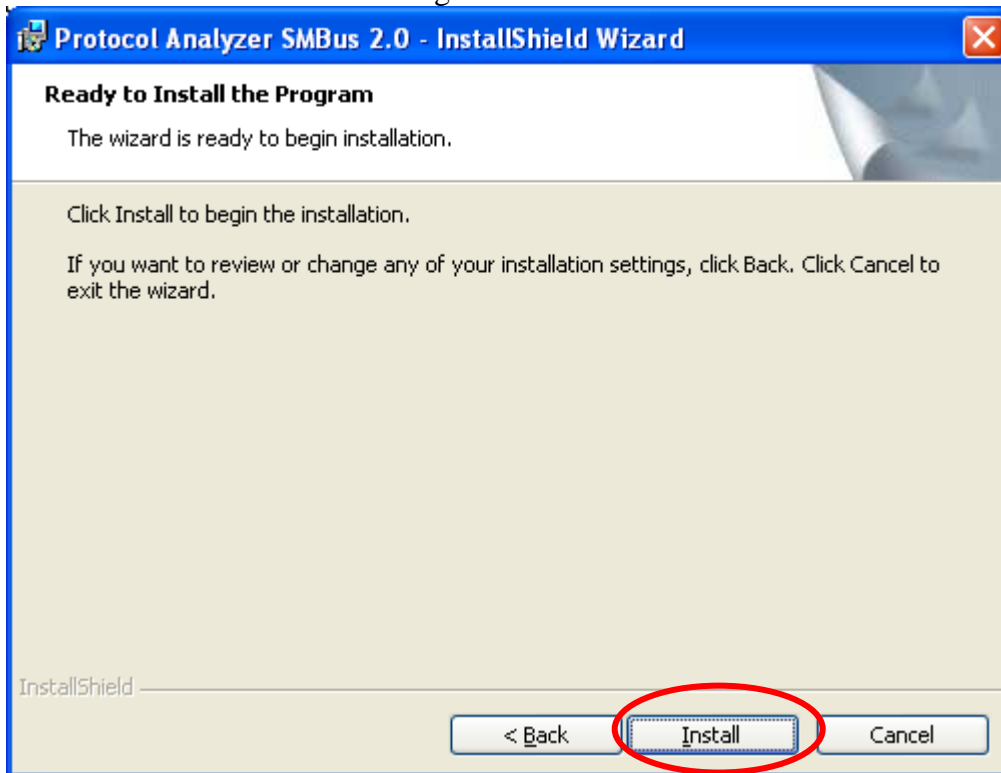
**STEP 6.** Select **Complete** and then click **Next**.

The dialog box is titled "Protocol Analyzer SMBus 2.0 - InstallShield Wizard". It has a "Setup Type" section with the instruction "Choose the setup type that best suits your needs." Below this, there is a text input field with "Please select a setup type." There are two radio button options: "Complete" (which is selected) and "Custom". Each option has a small icon and a description. The "Complete" option description is "All program features will be installed. (Requires the most disk space.)". The "Custom" option description is "Choose which program features you want installed and where they will be installed. Recommended for advanced users." At the bottom, there are three buttons: "< Back", "Next >" (which is circled in red), and "Cancel". The "InstallShield" logo is visible in the bottom left corner.

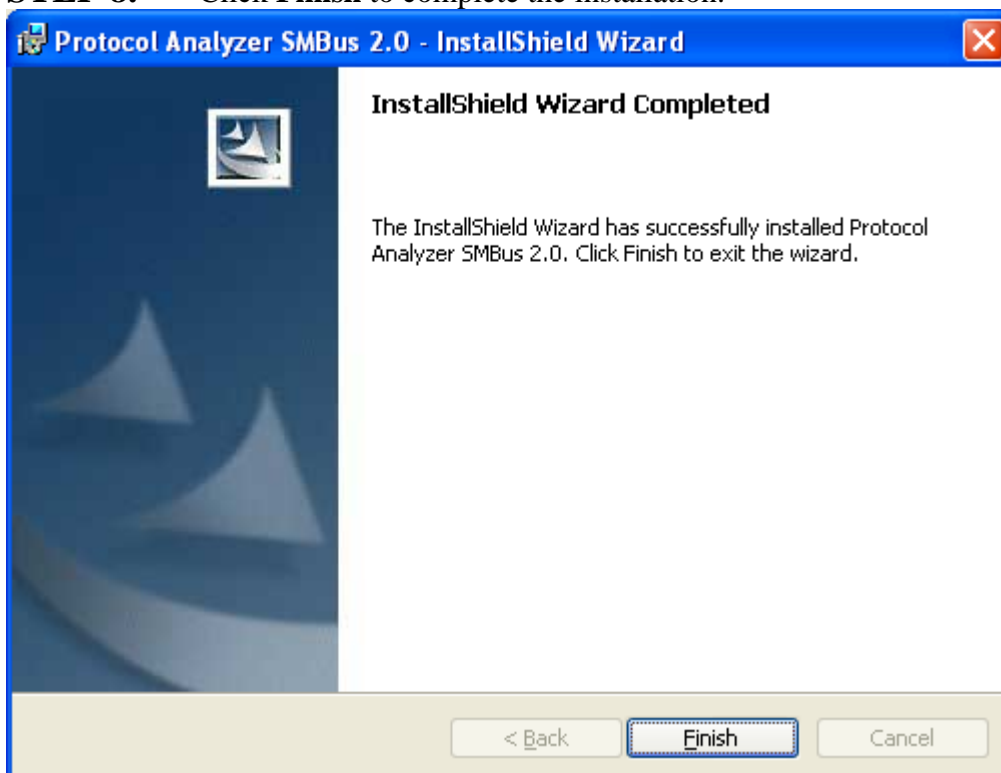




**STEP 7.** Click **Install** to begin the installation.



**STEP 8.** Click **Finish** to complete the installation.

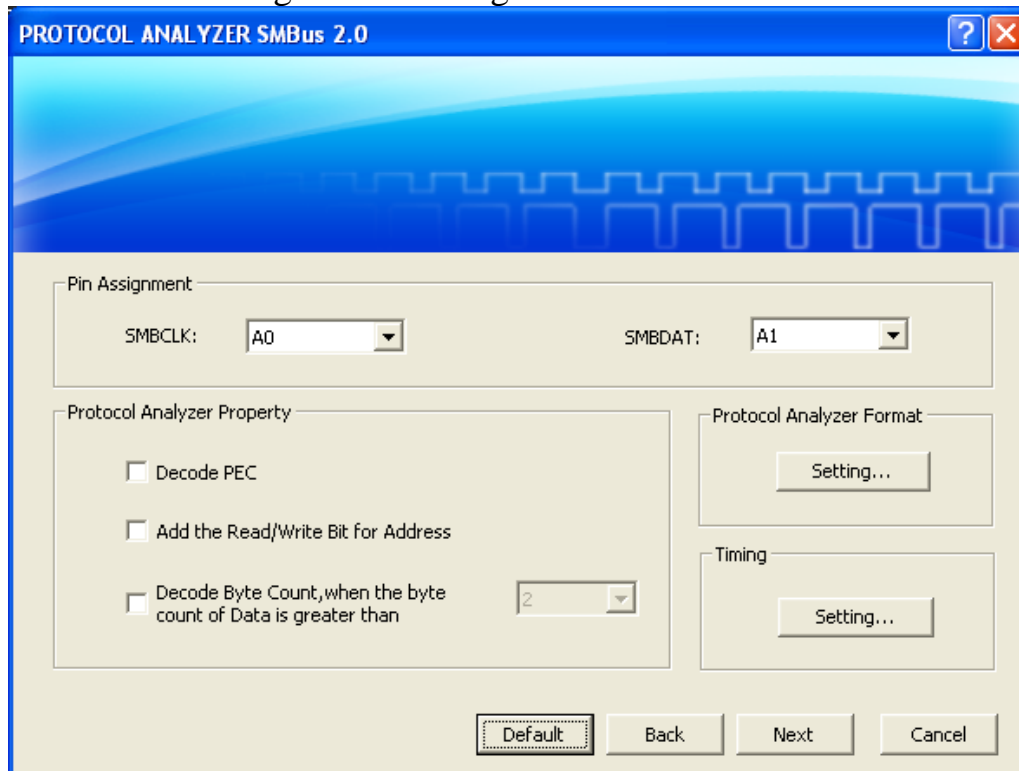




### 3 User Interface

In the configuration dialog box, please refer to the below images to select options of setting **SMBus 2.0 Module**.

#### SMBus 2.0 Configuration Dialog Box



##### Pin Assignment:

Set the corresponding signal lines.

SMBCLK: It is set to A0 by default.

SMBDAT: It is set to A1 by default.

##### Protocol Analyzer Property:

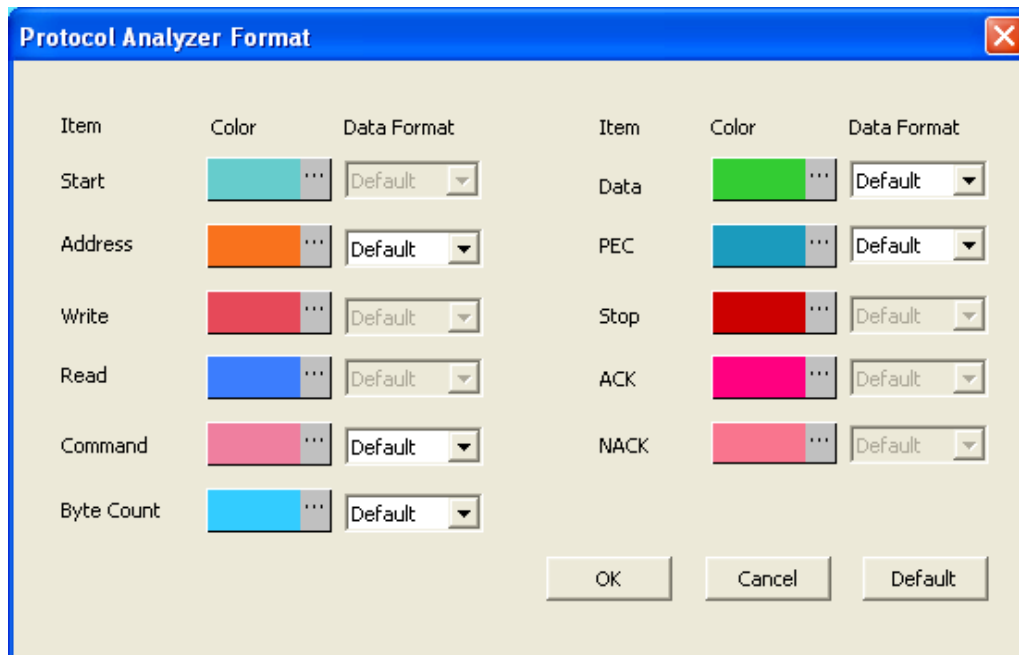
**Decode PEC:** The PEC is decoded according to the different requirements. Specifically, the PEC can be decoded as the Parity in the simple Data Transmission or the relaxed Occasion. And it is unnecessary to decode the PEC in many Transmissions, so the PEC is disabled by default.

**Decode Byte Count, when the byte count of DATA is greater than:** The Byte Count is used according to the byte count of DATA. When the option is enabled, if the byte count of DATA is greater than the selected value, the first data should be decoded as Byte Count, the value can be selected from the pull-down menu and the default is 2.

**Add the Read/Write Bit for Address:** When the option is enabled, the Address will be displayed. In addition, the new address can be obtained when one Bit should be moved on the basis of the original Address on the left direction and added to the R/W Bit.

##### Protocol Analyzer Format:

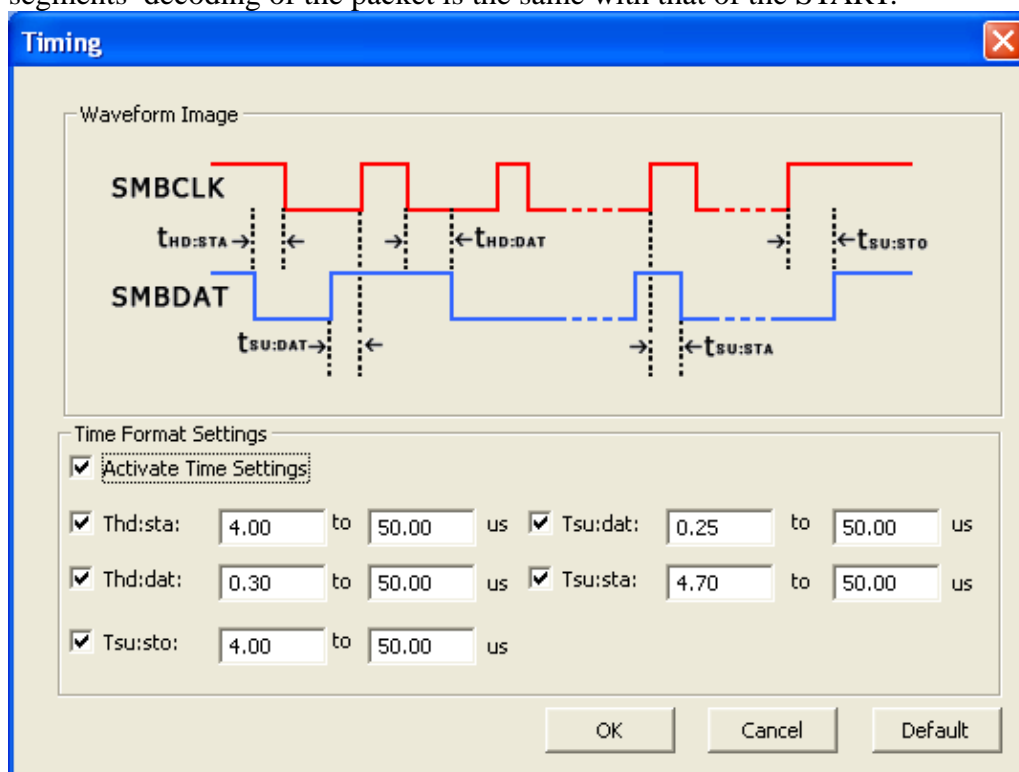
Press the **Settings** button to open the Protocol Analyzer Format dialog box. The Color of each Item can be varied as the users' requirements. The Items (Data, Address, Command, PEC and Byte Count) can be set as Binary, Decimal, Hexadecimal, ASCII or Default. And the Data Format of these Items (Data, Address, Command, PEC and Byte Count) in the Waveform Display Area and Packet List is controlled by the Protocol Analyzer. The default Data Format is controlled by the main program and the Data Format of these items (Data, Address, Command, PEC and Byte Count) is the Default.



## Timing:

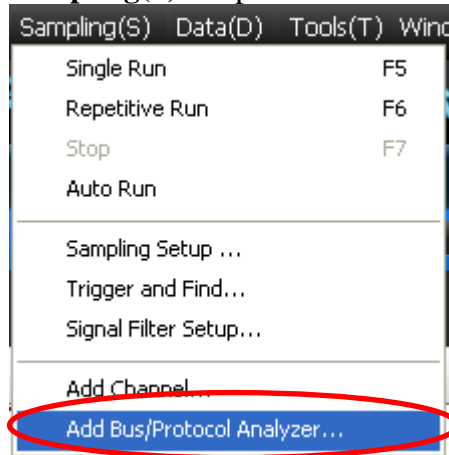
Press the **Settings** button to open the Timing dialog box.

When the Time Format Settings is activated, the set time will become the condition of judging decoding. For example, when you want to decode the START, you should judge whether the conditions of START are satisfied firstly, and then judge whether the set time of Thd:sta is coincident with the actual waveform. If the two conditions are satisfied, the START can be decoded. Other segments' decoding of the packet is the same with that of the START.

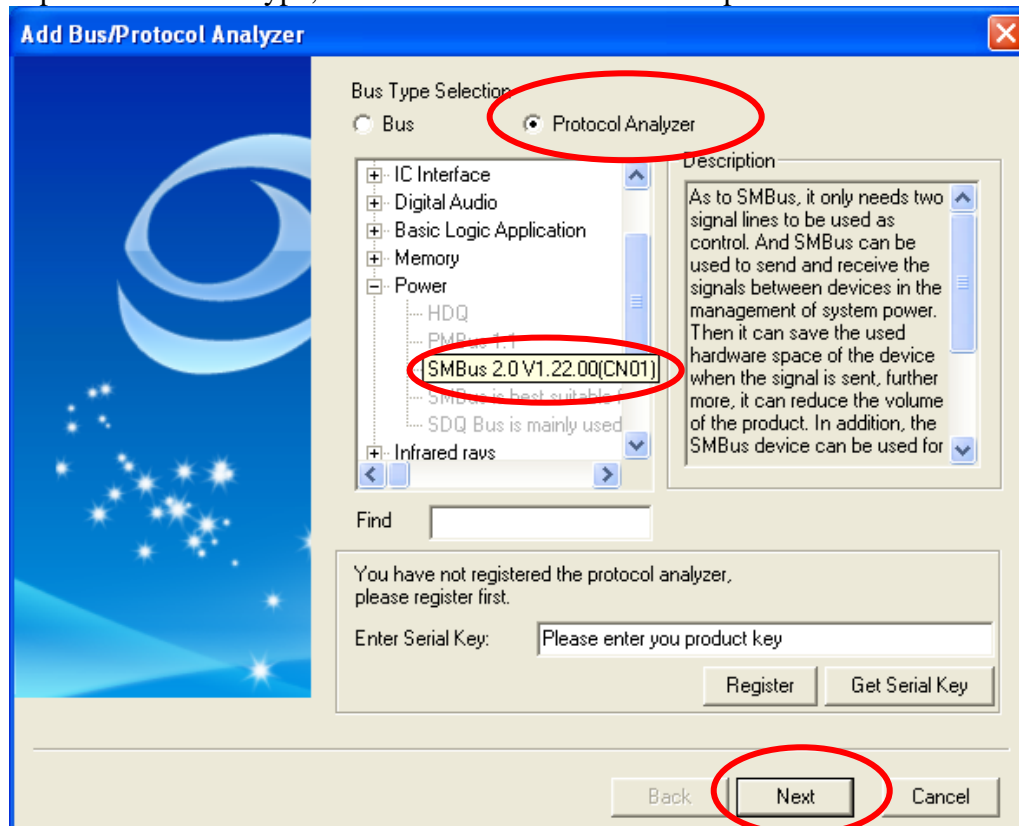


## 4 Operating Instructions

**STEP 1.** Select the **Add Bus/Protocol Analyzer** item on the pull-down menu of the **Sampling(S)** to open the **Add Bus/Protocol Analyzer** dialog box.

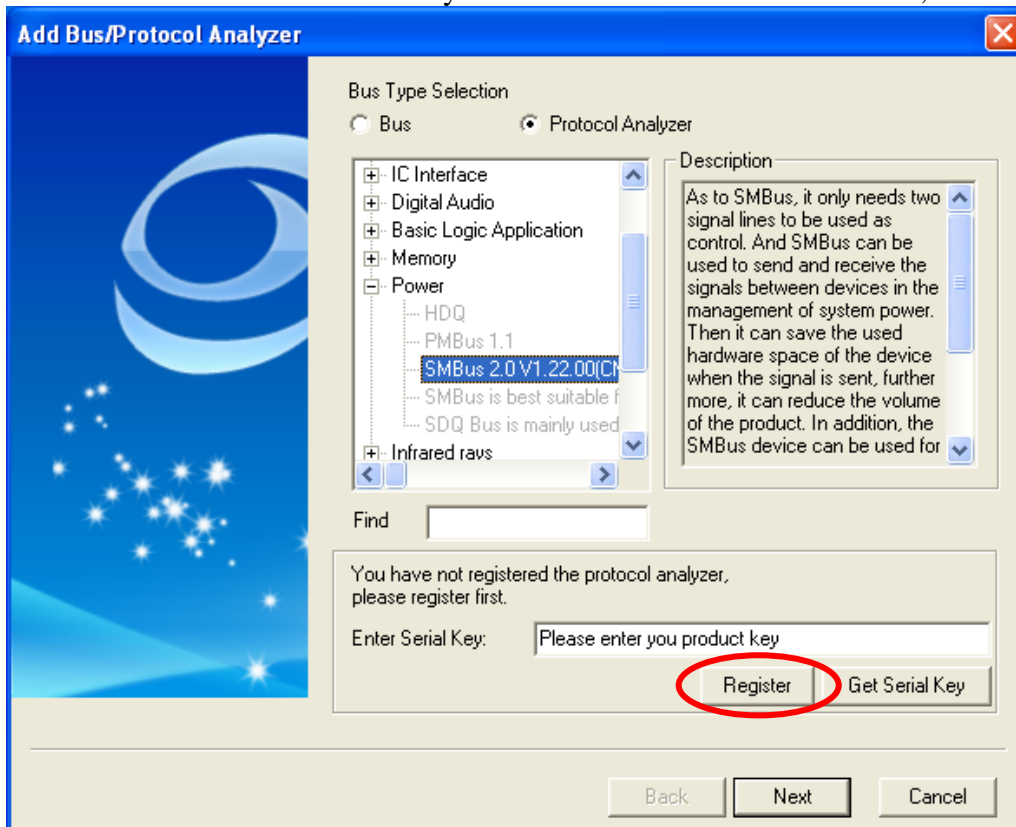


**STEP 2.** Select the Protocol Analyzer item in the Add Bus/Protocol Analyzer dialog box, expand the Power Type, select the SMBus 2.0 and then press the **Next**.

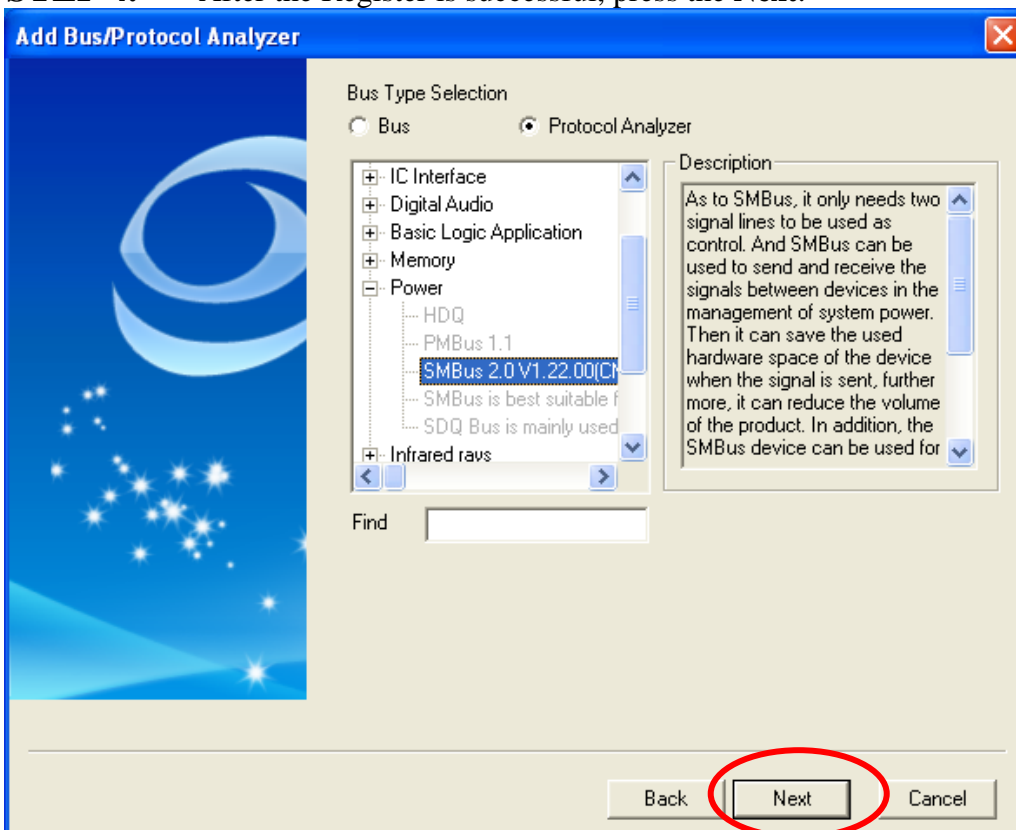




**STEP 3.** Enter the Serial Key of the SMBus 2.0 under this Model, and then press the **Register**.

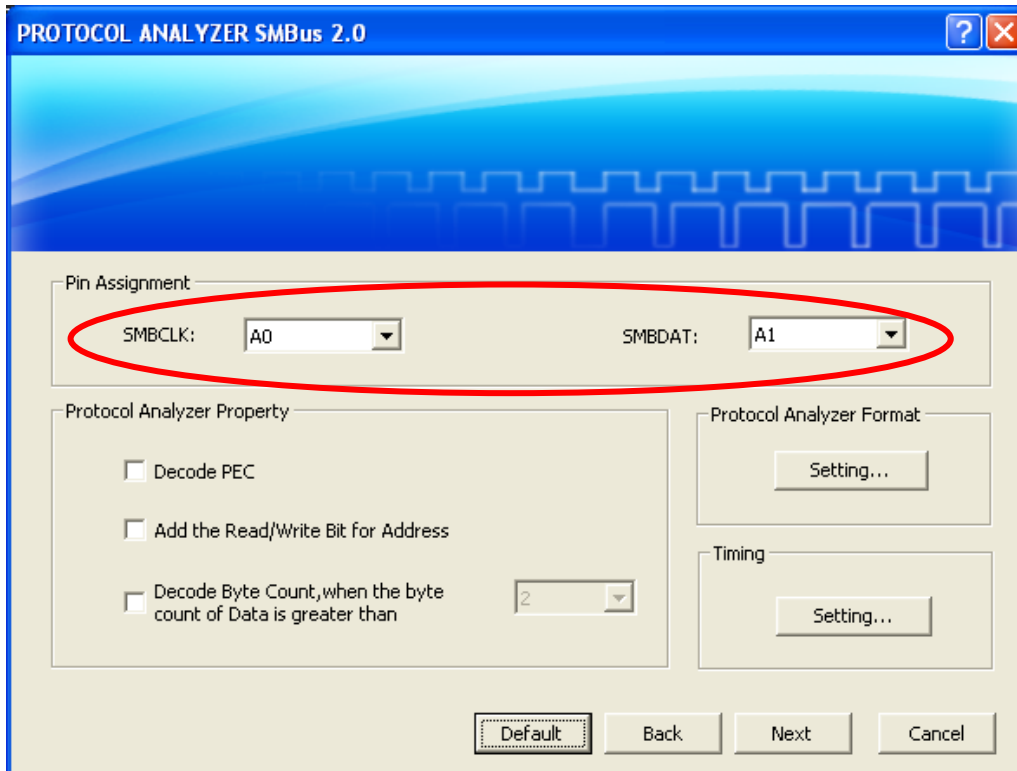


**STEP 4.** After the Register is successful, press the **Next**.

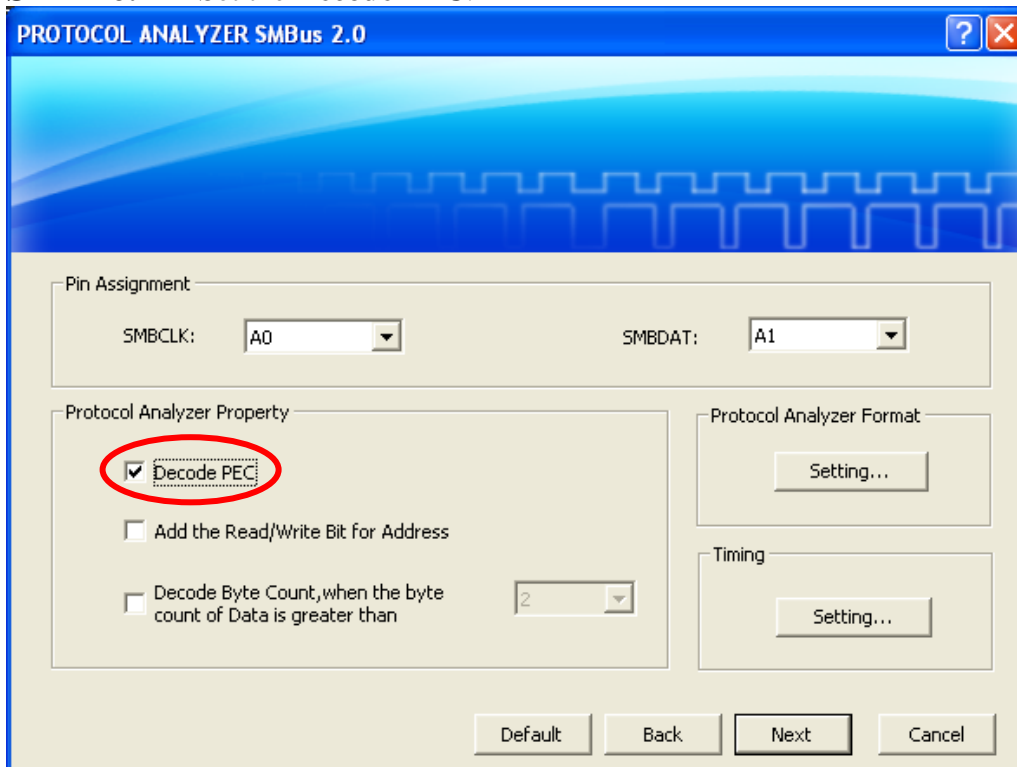




**STEP 5.** Open the PROTOCOL ANALYZER SMBus 2.0 dialog box and set the channels for SMBCLK and SMBDAT.

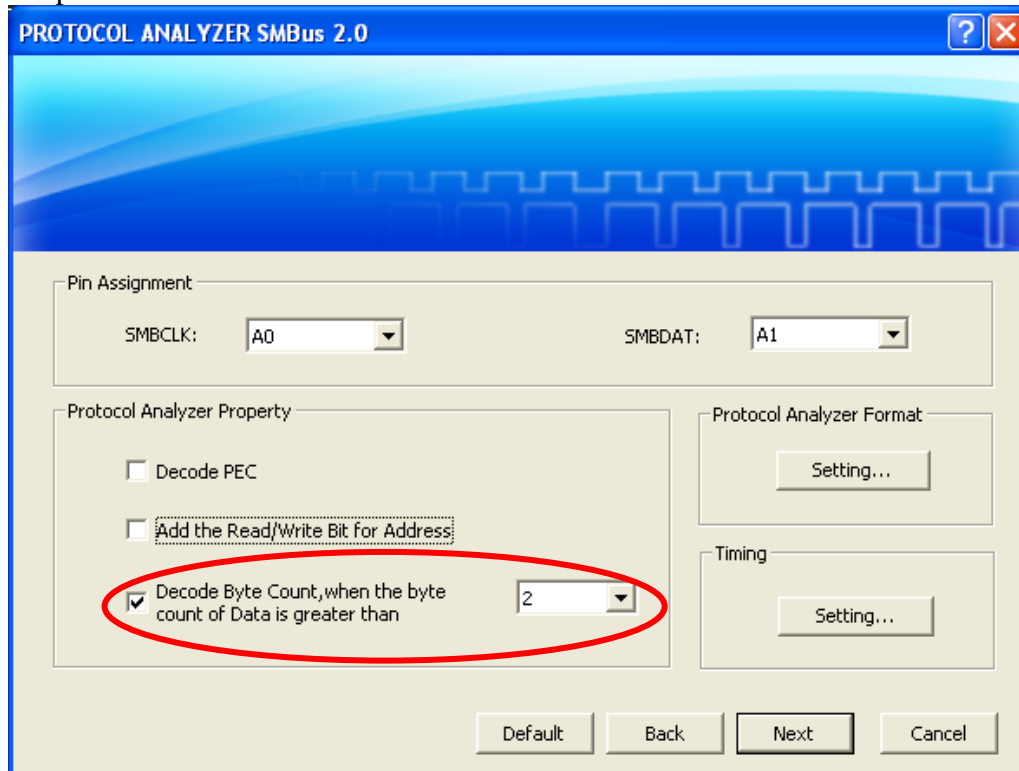


**STEP 6.** Set the Decode PEC.

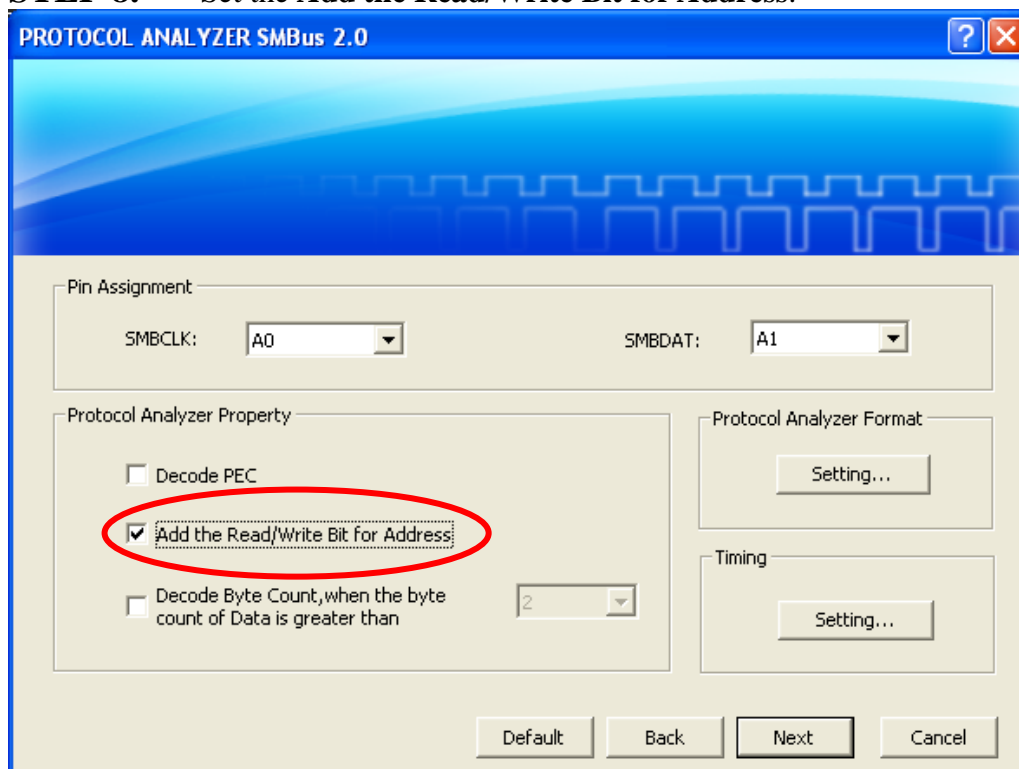




**STEP 7.** Set the Byte Count when the byte count of DATA is greater than a value selected from the pull-down menu.



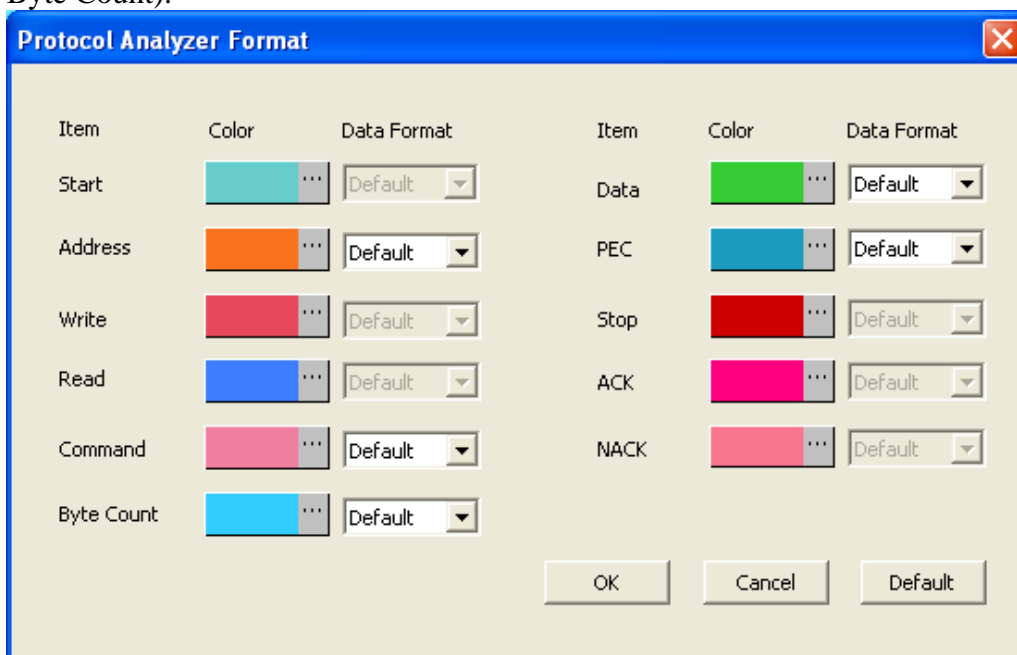
**STEP 8.** Set the Add the Read/Write Bit for Address.



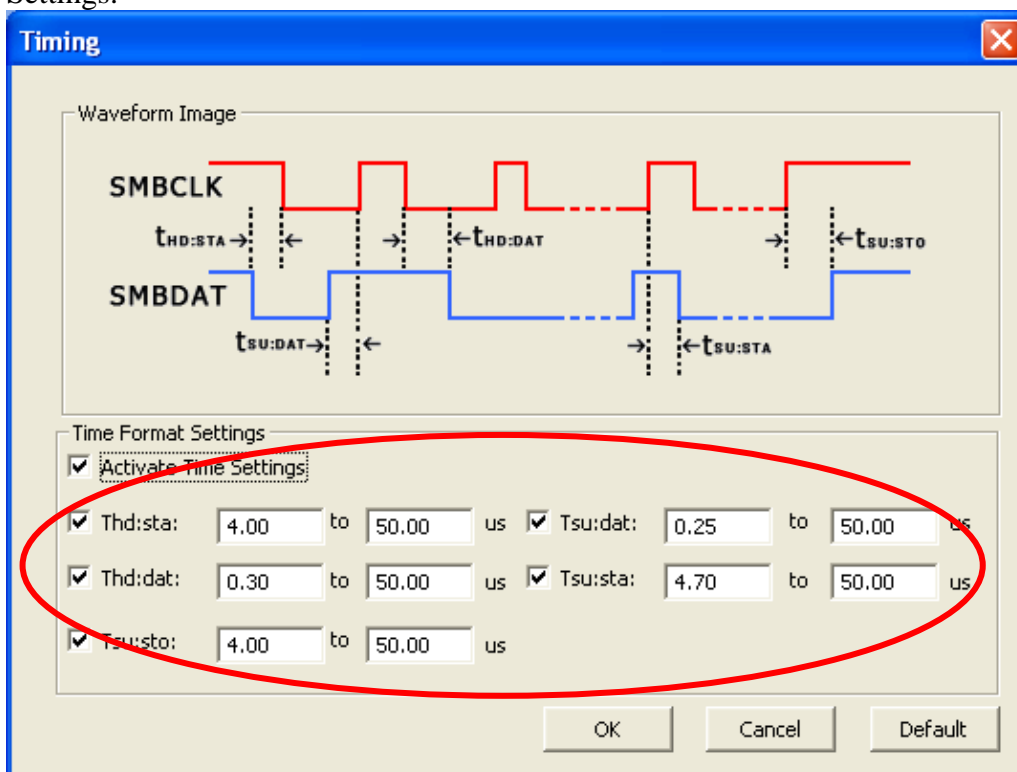




**STEP 9.** Press the **Settings** button to open the Protocol Analyzer Format dialog box, and then set the Color of each Item and the Data Formats of the Items (Data, Address, Command, PEC and Byte Count).

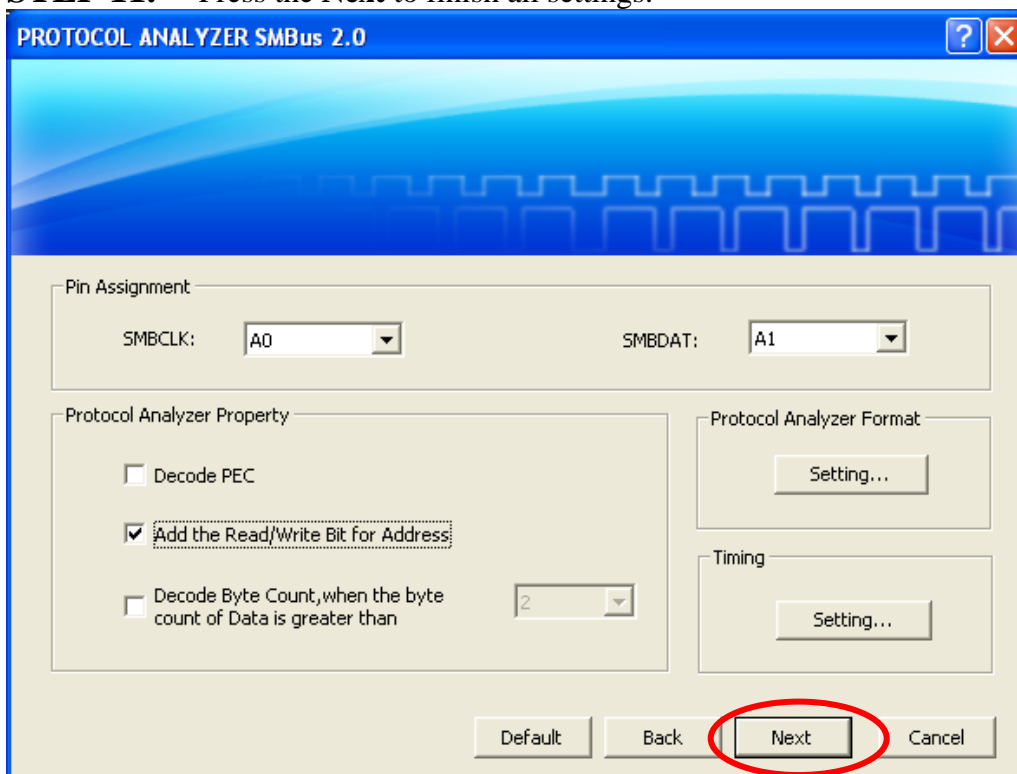


**STEP 10.** Press the **Settings** button to open the Timing dialog box, and then set the Time Format Settings.

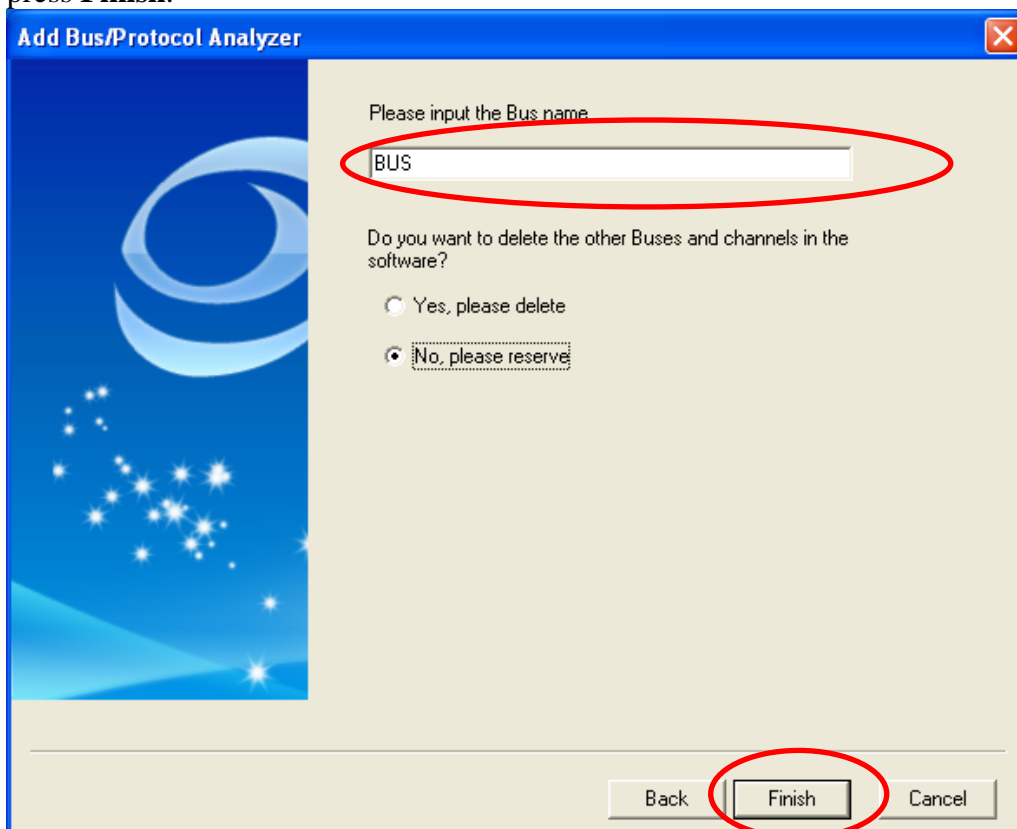




**STEP 11.** Press the **Next** to finish all settings.



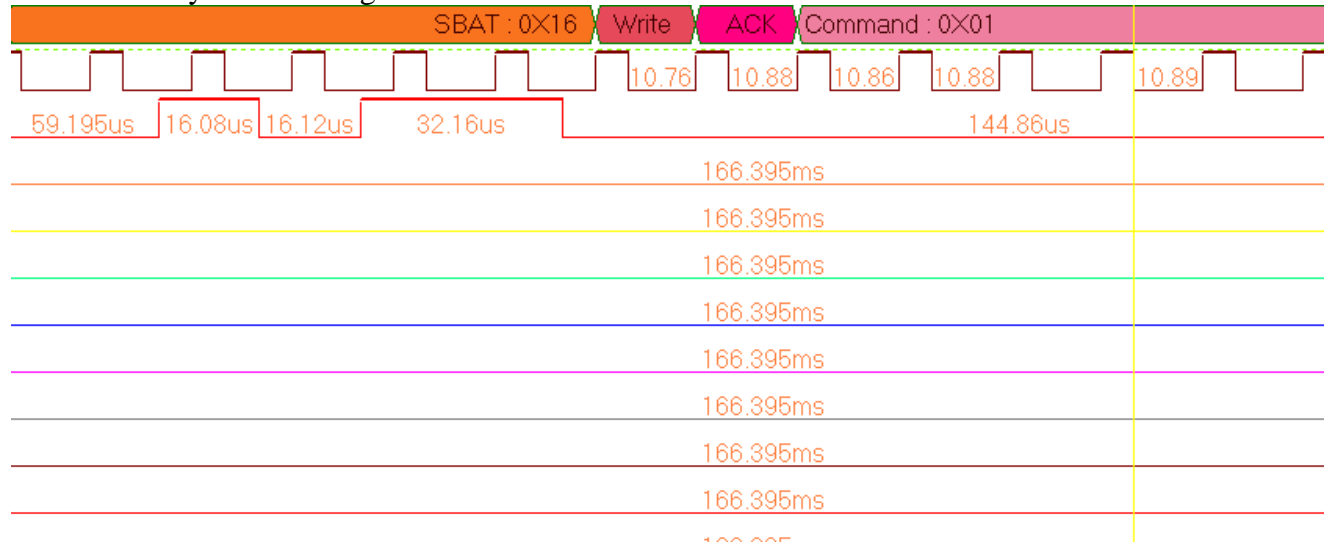
**STEP 12.** Please enter the Bus Name, select **Yes, please delete** or **No, please reserve** and then press **Finish**.





**STEP 13.** Following pictures show the completion of the protocol analyzer decoding and the packet list. The trigger condition is set as Either Edge; the memory depth is 128K; the sampling frequency is 10MHz (the sampling frequency should be more than ten times higher than the signal to be tested).

### Protocol Analyzer Decoding



### Packet List

Navigator Packet List Statistics Memory Analyzer																	
Setting... Refresh Export... Synch. Parameter...																	
Packet #	Name	TimeStamp	Start	SBAT	Write	ACK	Command	ACK	Start_R	SBAT	Read	ACK	Byte Count	ACK	Data	ACK	Data
1	Bus1(SMBus 2.0)	0.06151ms	Start	16	Write	ACK	01	ACK	Start_R	17	Read	ACK	02	ACK	03		
	ACK	04	ACK	F8	NACK	Stop											
2	Bus1(SMBus 2.0)	1.28807ms	Start	00	General_Call	Write	ACK	Command	ACK	Byte Count	ACK	Data	ACK	Data	ACK		
	04	ACK	05	ACK	06	ACK	07	ACK	08	ACK	09	ACK	Start_R	Start_Byte	Read	ACK	Byte Count
	ACK	0B	ACK	0C	ACK	0D	ACK	0E	ACK	0F	ACK	10	ACK	11	ACK	12	ACK
	ACK	13	ACK	14	ACK	77	NACK	Stop									
3	Bus1(SMBus 2.0)	108.617ms	Start	16	Write	ACK	01	ACK	Start_R	17	Read	ACK	02	ACK	03		
	ACK	04	ACK	F8	NACK	Stop											