

ProWriter User Manual

Category	Content
Key word	ProWriter Instructions
Abstract	This paper introduces the application method of ProWriter which is the upper computer software of the programmer in SinoWealth.

Interpretation:

online	mean	The state of the programmer or Simulator device after being powered on and connected to the PC through a USB cable. At this time, the device name and firmware version information will be displayed on the ProWriter software UI.
offline	mean	The programmer or Simulator device is powered on but not online.



Revision history:

Version	Date	Modify content
V1.0	2020/04/09	First draft.
V2.0	2021/09/07	Add an introduction to SinoLink Pro.
V2.1	2022/06/30	Add an introduction to Pro06C. Add relevant instructions for the LED status indicator light during Pro06C/B/A writing.
V3.0	2023/11/22	Add an introduction to SinoLink Plus. Revised some descriptive information. Add nopf programming instance section. Add nopf creating instance section. Add FAQ section. Add specialized vocabulary definitions.



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Chapter 1 **ProWriter Introduction**

1.1 General Description

ProWriter is a programmer upper computer software suitable for MCU of Sinowealth, which can support online or offline programming of 8-bit, 32-bit chip and OTP chip realized by mass production programmer Pro06A, Pro06B, Pro06C, Pro03A as well as the online programming of simulators such as JET51A, SinoLink, SinoLink Pro and SinoLink Plus. This article will introduce the installation and use of the software.

1.2 Operation Environment

ProWriter could run on Win8 and above.

We recommend the usable capacity of memory is not smaller than 2G.

We recommend the usable capacity of Hard-disk is not smaller than 64G.

1.3 Programmer supported by ProWriter

Prowriter is used to program MCU of Sinowealth, which should be done in combination with the hardware Programmer, such as Pro06B, Pro06C, Pro06A, Pro03A, JET51A, SinoLink, SinoLink Pro and SinoLink Plus.

Тооі	Target MCU	Support channels Number	Mass production offline programming
Pro06C	8/32 bit Flash	4	V
Pro06B	8/32 bit Flash	4	V
Pro06A	8bit Flash	4	V
Pro03A	OTP	4	V
SinoLink Plus	8/32 bit Flash	1	V
SinoLink Pro	8/32 bit Flash	1	V
SinoLink	8/32 bit Flash	1	×
JET51A	8bit Flash	1	×

 Table 1.3.a Comparison of functions of various programmers



Chapter 2 Software Installation

2.1 Software Download and Installation

The latest version of ProWriter can get from the Sinowealth's official website (https://en.sinowealth.com/homes).

After downloading, simply install the program directly.

Pro Writer V5.40.7.9 - Ins	tall Wizard	×
Choose Destination Location Select folder where setup will in	stall files.	
	Setup will install Pro Writer in the following folder. To install to this folder,click Next. To install to a different folder,click Browser and select another fold	ler.
	r Destination Folder	
	< Back Next > Cancel	

Figure 2.1.a Default Installation Path

2.2 USB Driver Installation

The Sinowealth's Programmer with USB interface JET51A, Pro03A, and Pro06A do not require the installation of USB drivers (using the Windows built-in driver), and SinoLink Plus and Pro06C do not require the installation of USB drivers in Win8 and above OS.

SinoLink, SinoLink Pro and Pro06B require the installation of corresponding USB drivers. The latest driver package is included in the ProWriter installation package, as shown in Figure 2.2.a. Users can choose the corresponding USB driver for installation based on their own PC OS.



→ This PC → OS (C:) → Program Files (x86) → SinoWealth → ProWriter → USBDriver →					
Name	Date modified	Туре	Size		
Win7	10/11/2023 3:51 PM	File folder			
Win8_and_later	10/11/2023 3:51 PM	File folder			

Figure 2.2.a USB Driver Package

Now Taking the installation of the USB driver for SinoLink under the Win8-64 bit OS as an example to demonstrate the installation process.

■ Select the USB driver matches the OS.

> This PC > OS (C:) > Program File	es (x86) > SinoWealth > ProWr	riter > USBDriver > W	in8_and_later →
Name	Date modified	Туре	Size
🔒 amd64	10/11/2023 3:51 PM	File folder	
<mark></mark> x86	10/11/2023 3:51 PM	File folder	
🔊 sinousb.inf	9/23/2021 9:45 AM	Setup Information	27 KB
🤿 sinousb_amd64.cat	9/23/2021 9:45 AM	Security Catalog	14 KB
sinousb_x86.cat	9/23/2021 9:45 AM	Security Catalog	14 KB
💐 USB_Install_amd64.exe	9/23/2021 9:45 AM	Application	1,026 KB
💐 USB_Install_x86.exe	9/23/2021 9:45 AM	Application	901 KB

Figure 2.2.b USB driver list for Win8

Execute the USB driver installer.

After the USB driver is installed, when the programmer is connected to the PC via USB, the device name will be displayed at the appropriate location in the device manager.





Figure 2.2.c Display after Pro06B is connected after USB driver installation



Chapter 3 Introduction of Programmers

ProWriter can cooperate with multiple programmers to complete the programming work. In this chapter we will provide a detailed description of the programmers it supports.

3.1 Pro06C programmer Introduction

3.1.1 Circuit Structure Introduction

Pro06C can support mass production programming of Sinowealth's entire series of 8bit/32bit MCU, and can support up to 4 channels of simultaneous programming. When performing a programming operation, it is often used in conjunction with the customer's chip programming adapter board, and the circuit connection is shown in Figure 3.1.1.a.



Figure 3.1.1.a Program Circuit Diagram for Pro06C

Power

Connect to DC regulator power supply (+12~15V).

LCD

Display chip name, code checksum, socket selection information, programming mode configuration information, pass / fail times, USB connection status, working status and programming interface type information.

USB Indicator Light

This indicator light shows the USB connection status. The light on indicates



the connection is normal, and the light off indicates the connection is disconnected.

Start Key

The main button for controlling the start of programming. Effective in online mass production mode or offline waiting button mode. When this button is pressed, it can start the programming operation of all selected channels.

■ Socket 1~4

There are 4 program slots.

Key 1~4

Key1 has the same function as the Start Key, while Key2~4 controls the corresponding channel respectively.

■ Interface1/2

The pins used for programming or indicating the status during programming. There are four channels to choose.

1	VDD1	TCK1/SWCLK1	2
	GREEN1	TDI 1	
	RED1	TMS1	
	KEY1	TD01/SWE1/SWDI01	
	GND	GND1	
	VDD2	TCK2/SWCLK2	
	GREEN2	TDI2	
	RED2	TMS2	
	Key2/TDA2	TD02/SWE2/SWDI02	
	GND	GND2	
	VDD3	TCK3/SWCLK3	
	GREEN3	TDI3	
	RED3	TMS3	
	Key3/TDA3	TD03/SWE3/SWDI03	
	GND	GND3	
	VDD4	TCK4/SWCLK4	
	GREEN4	TDI4	
	RED4	TMS4	
	Key4/TDA4	TD04/SWE4/SWDI04	
39	GND	GND4	40

Figure 3.1.1.b Interface 1 of Pro06C

1	GRN1	RED1	2
	KEY1	RST1	
	GRN2	RED2	
	KEY2	RST2	
	GRN3	RED3	
	KEY3	RST3	
	GRN4	RED4	
	KEY4	RST4	
	NC	NC	
	NC	NC	
	OK	Busy	
	START	NC	
25	VDD	GND	26

Figure 3.1.1.c Interface 2 of Pro06C

 Table 3.1.1.a Programming Interface (For example, Socket 1)

Chip Type	Interface Type	Programming Pins		
ARM	SWD	VDD1 SWCLK1 SWDIO1 GND1		
Andes	AICE	VDD1 TCK1 TDO1 GND1		
8051	JTAG	VDD1 TCK1 TDI1 TMS1 TDO1 GND1		
	SWE	VDD1 SWE1 GND1		





Figure 3.1.1.d SWD Interface of Arm Core





Figure 3.1.1.e AICE Interface of Andes Core





Figure 3.1.1.f JTAG Interface of 8051 Core





Figure 3.1.1.f SWE Interface of 8051 Core

Note:

1. GREENn in interface 1 and GRNn in interface 2 are the same signal, i.e. green LEDn. Used to indicate the OK signal of channel n, which lights up during high level voltage.

2. REDn in interface 1 and REDn in interface 2 are the same signal, i.e. red LEDn. Used to indicate the Busy signal of channel n, which lights up during high level voltage.

3. The number n (1-4) after the interface pin represents the corresponding Socket (channel), with a total of 4 channels.

4. When using the "Connect with ResetPin" function, it is necessary to connect the ResetPin of the chip to the corresponding RSTn in interface 2.



5. The START signal in interface 2 is the Start Key driver pin (input) of the Pro06C device, which is led out for customer convenience, such as connecting to their automated burning platform. Connecting this signal to GND is equivalent to pressing the Start Key.

6. The OK signal in interface 2 is the green LED driver pin (output) of the Pro06C device, which is led out for customer convenience, such as connecting to their automated burning platform. When this pin outputs a high-level voltage, the green LED of the Pro06C device will light up. This signal is used to indicate the total OK signal of the 4 channels, which means that the signal is only valid when the OK signals of all 4 channels are valid.

7. The Busy signal in interface 2 is the red LED driver pin (output) of the ProO6C device, which is led out for customer convenience, such as connecting to their automated burning platform. When this pin outputs a high-level voltage, the red LED of the ProO6C device will light up. This signal is used to indicate the total Busy signal of the 4 channels, which means that as long as one channel's Busy signal is valid, this signal is valid.

8. The VDD signal in interface 2 has a fixed level voltage of approximately 3.3V relative to GND.

3.1.2 Onboard programming

The Pro06C supports on-board programming, which means the user can first weld the chip to the user circuit board and then program the chip. It should be noted that when programming the chip Onboard, each programming line must be separated from the user's circuit.



Figure 3.1.2.a Schematic Diagram of On-board Programming



3.1.3 Offline working status

Offline programming steps:

- step1: Install ProWriter.
- *step2:* Configure and download the offline programming project in the online working state.
- *step3:* Disconnect the USB and restart the power to enter the offline programming mode.
- *step4:* Insert the target MCU into the chip slot on the chip adapter board or connect the MCU program pin to the Pro06C program interface.
- *step5:* Perform offline programming operation according to the "Wait for key press" or "Auto Detect" option checked during Step2.
- step6: Remove the MCU that has been programmed.
- step7: Return to Step4 to perform the next target MCU programming.

Note:

- The ProO6C has the function of offline programming, which can support one drag four programming at most.
- After the ProO6C is powered on, it can perform self-test. If the self-test fails, LCD will prompt error. At this time, offline programming cannot be performed. You can only download parameters online again and then perform offline programming. If the self-test passes, the LCD will display the name of the MCU to be programmed, the code checksum, socket selection information, programming mode configuration information, pass / fail times, USB connection status and programming interface type information.
- Red LED and green LED are used to indicate the programming status. If the red LED is on and the green LED is off, it indicates that programming is in progress. If the red LED is off and the green LED is on, it indicates the programming has been successfully completed. If both the red LED and green LED flash simultaneously, it indicates that an error occurred during the programming process. When the chip on a certain channel is removed, both the green LED and red LED corresponding to that channel will be off, indicating that it is waiting for the next programming operation.
- The buzzer is used to alert the programming status. In the manual programming mode, when the programming is successful, the buzzer will give a short low tone, and when



the programming fails, the buzzer will give three short high tones. In case of any channel programming error, the buzzer will give an alarm.

3.1.4 The programmer LED display

1) LCD display

When the ProO6C is powered on, if the target project has been downloaded to the programmer correctly, the LCD will display the name of the target MCU, the code checksum, socket selection information, Programming mode configuration information, pass / fail times, USB connection status and programming interface type information, otherwise an error will be prompted.

During the Programming process, the LCD will display the currently executing operation items for each selected channel, and the corresponding Programming results will also be displayed after the operation is completed.



Figure 3.1.4.a Schematic diagram of Pro06C LCD display content

- ①The chip name is displayed here.
- ②The code checksum is displayed here.
- ③The hollow box "□" represents that the corresponding channel is not selected; The black solid box "■" indicates that the corresponding channel has been selected; The green solid box "■" represents the successful operation performed on the corresponding channel; The red solid box "■" indicates that



the operation performed on the corresponding channel has failed.

- ④Display the currently executing operation or the results of the operation execution.
- ⑤Display the cumulative number of successful programming attempts, which will only be counted if 'Program' is checked. And once the 'Download' operation is executed again, the count will be reset to zero.
- ⑦Display offline programming configuration information:

Key represents "Wait for key press ", which means whether to start burning is controlled by whether the key is pressed or not. Auto represents "Auto Detect", which means whether to start programming is determined by whether the programmer has (automatically) detected that a chip has been placed OK.

④represents four-wire mode (JTAG), ①represents single-wire mode (SWE), and ②represents two-wire mode (SWD or AICE).

• (9) Display the communication status of the USB port. Highlighting indicates that the USB cable is connected, while weak highlighting indicates that the USB cable is not connected.

2) LED indicator lights on Pro06C

There are two LED indicators for programming status on the Pro06C device: red LED and green LED. Their silk screen markings are Busy and OK respectively, and the corresponding control interfaces (drivers) are Busy pin and OK pin of Interface2.Both of them are lighted by high level voltage.

Red LED	Green LED	State
Off	Off	Waiting for
On	Off	Programming
Off	On	Program success
flashing	flashing	Program Error

Table 3.1.b Pro06C LED indicator light state definition



3) LED indicator lights on each programming channel

The LED indicators on each programming channel need to be integrated by the user on their chip programming adapter board. Like the LED indicator lights on the ProO6C, there are two LED indicator lights, namely red LED and green LED, which are lit at a high level, And the definition of indicator light status is also consistent. The only difference is that its control interface (driver) is REDn and GREENn in Interface1, then REDn and GRNn in Interface2.



4) Time sequence diagram of Busy and OK light during program

Figure 3.1.4.b Time sequence diagram of Busy and OK light during programming



3.2 **Pro06B programmer Introduction**

3.2.1 Circuit Structure Introduction

Pro06B can support mass production programming of Sinowealth's entire series of 8bit/32bit MCU, and can support up to 4 channels of simultaneous programming. When performing a programming operation, it is often used in conjunction with the customer's chip programming adapter board, and the circuit connection is shown in Figure 3.2.1.a.



Figure 3.2.1.a Program Circuit Diagram for Pro06B

Power

Connect to DC regulator power supply (+15V).

8-Digital Tube

Display chip name, working status (error type coding), code checksum, data checksum and other information.

USB Indicator Light

This indicator light shows the USB connection status. The light on indicates the connection is normal, and the light off indicates the connection is disconnected.

Start Key

The main button for controlling the start of programming. Effective in online mass production mode or offline waiting button mode. When this button is pressed, it can start the programming operation of all selected channels.

Socket 1~4

There are 4 program slots.

Key 1~4

Key1 has the same function as the Start Key, while Key2~4 controls the corresponding channel respectively.



■ Interface1/2

The pins used for programming or indicating the status during programming. There are four channels to choose.

1	VDD1	TCK1/SWCLK1	2
	Green1	TDI1	
	Red1	TMS1	
	Key1/TDA1	TD01/SWE1/SWDI01	
	GND	GND1	
	VDD2	TCK2/SWCLK2	
	Green2	TDI2	
	Red2	TMS2	
	Key2/TDA2	TD02/SWE2/SWDI02	
	GND	GND2	
	VDD3	TCK3/SWCLK3	
	Green3	TDI3	
	Red3	TMS3	
	Key3/TDA3	TD03/SWE3/SWDI03	
	GND	GND3	
	VDD4	TCK4/SWCLK4	
	Green4	TDI4	
	Red4	TMS4	
	Key4/TDA4	TD04/SWE4/SWDI04	
39	GND	GND4	40
			-

1	GREEN1	RED1	2
	KEY1	RESET1	
	GREEN2	RED2	
	KEY2	RESET2	
	GREEN3	RED3	
	KEY3	RESET3	
	GREEN4	RED4	
	KEY4	RESET4	
17	VDD	GND	18

Figure 3.2.1.b Interface 1 of Pro06B

Figure 3.2.1.c Interface 2 of Pro06B

Table 3.2.1.a Programming Interface (For example, Socket 1)

Chip Type	Interface Type	Programming Pins		
ARM	SWD	VDD1 SWCLK1 SWDIO1 GND1		
Andes	AICE	VDD1 TCK1 TDA1 GND1		
8051	JTAG	VDD1 TCK1 TDI1 TMS1 TDO1 GND1		
0001	SWE	VDD1 SWE1 GND1		

Note:

- 1. 'Green1' means channel 1 'OK' signal
- 2. 'Red1' means channel 1 'Busy' signal
- 3. The Numbers 1 to 4 represent each channel.

4. When using the reset mode, please connect the Resetn interface of the corresponding channel.



3.2.2 Onboard programming

The Pro06B supports on-board programming, which means the user can first weld the chip to the user circuit board and then program the chip. It should be noted that when programming the chip Onboard, each programming line must be separated from the user's circuit. As shown in figure 3.2.2.a.



Figure 3.2.2.a Schematic Diagram of On-board Programming

3.2.3 Offline working status

Offline programming steps:

- step1: Install ProWriter.
- *step2:* Configure and download the offline programming project in the online working state.
- *step3:* Disconnect the USB and restart the power to enter the offline programming mode.
- *step4:* Insert the target MCU into the chip slot on the chip adapter board or connect the MCU program pin to the Pro06B program interface.
- *step5:* Perform offline programming operation according to the "Wait for key press" or "Auto Detect" option checked during Step2.
- *step6:* Remove the MCU that has been programmed.
- *step7:* Return to Step4 to perform the next target MCU programming.

Note:

The Pro06B has the function of offline programming, which can support one drag four programming at most.



- After the Pro06B is powered on, it can perform self-test. If the self-test fails, the Digital tube will display "EF." indicating an error. At this time, offline programming cannot be performed. You can only download parameters online again and then perform offline programming. If the self-test passes, the Digital tube will display the name of the IC device to be programmed, the checksum of programming code.
- Red LED and green LED are used to indicate the programming status. If the red LED is on and the green LED is off, it indicates that programming is in progress. If the red LED is off and the green LED is on, it indicates the programming has been successfully completed. If both the red LED and green LED flash simultaneously, it indicates that an error occurred during the programming process. When the chip on a certain channel is removed, both the green LED and red LED corresponding to that channel will be off, indicating that it is waiting for the next programming operation.
- The buzzer is used to alert the programming status. In the manual programming mode, when the programming is successful, the buzzer will give a short low tone, and when the programming fails, the buzzer will give three short high tones. In case of any channel programming error, the buzzer will give an alarm.

3.2.4 The programmer LED display

1) Digital tube display

When the Pro06B is powered on, if the target project has been downloaded to the programmer correctly, the digital tube will display the model of the target MCU, otherwise "EF." will be displayed to prompt the user to download the target project first.

Character	Meaning
Fb	Blank Check Error
FP	Program Error
FII	Verify Error
FF	Part Number Error
<u> </u>	
EO	
EC	No Detect IC
EL	Lot ID Error
EF	Flash Parameter Error
ES	Security Error
En	Enter Mode Error
E-00	Erase Error
E-02	Option Error

Table 3.2.4.a Pro06B LED display character definition



E-03	Security Code Error	
E-04	Customer ID Error	
E-05	Serial Number Error	
E-06	E2PROM Error	
E-07	Boot Error	
E-08	OTP ID Error	

2) LED indicator lights on Pro06B

Table 3.2.4.b Pro06B LEI) indicator state definition
--------------------------	------------------------------

Red LED	Green LED	State
Off	Off	Waiting for
On	Off	Programming
Off	On	Program success
flashing	flashing	Program Error

3) LED indicator lights on each programming channel

The LED indicators on each programming channel need to be integrated by the user on their chip programming adapter board. Like the LED indicator lights on the ProO6C, there are two LED indicator lights, namely red LED and green LED, which are lit at a high level, And the definition of indicator light status is also consistent. The only difference is that its control interface (driver) is Redn and Greenn in Interface1, then REDn and GREENn in Interface2.

4) Time sequence diagram of Busy and OK light during programming



Figure 3.2.4.a Time sequence diagram of Busy and OK light during programming



3.3 Pro06A programmer Introduction

3.3.1 Circuit Structure Introduction

Pro06A can support mass production programming of Sinowealth's entire series of 8bit MCU, and can support up to 4 channels of simultaneous programming. When performing a programming operation, it is often used in conjunction with the customer's chip programming adapter board, and the circuit connection is shown in Figure 3.3.1.a.



Figure 3.3.1.a Program Circuit Diagram for Pro06A

Power

Connect to DC regulator power supply (+15V).

8-Digital Tube

Display chip name, working status (error type coding), code checksum, data checksum and other information.

USB Indicator Light

This indicator light shows the USB connection status. The light on indicates the connection is normal, and the light off indicates the connection is disconnected.

Start Key

The main button for controlling the start of programming. Effective in online mass production mode or offline waiting button mode. When this button is pressed, it can start the programming operation of all selected channels.

Socket 1~4

There are 4 program slots.

Key 1~4

Key1 has the same function as the Start Key, while Key2~4 controls the corresponding channel respectively.



■ Interface1/2

The pins used for programming or indicating the status during programming. There are four channels to choose.

1	VDD1	TCK1	2
	Green1	TDI1	
	Red1	TMS1	
	Key1	TD01/SWE1	
	GND	GND1	
	VDD2	TCK2	
	Green2	TDI2	
	Red2	TMS2	
	Key2	TD02/SWE2	
	GND	GND2	
	VDD3	TCK3	
	Green3	TDI3	
	Red3	TMS3	
	Key3	TD03/SWE3	
	GND	GND3	
	VDD4	TCK4	
	Green4	TDI4	
	Red4	TMS4	
	Key4	TD04/SWE4	
39	GND	GND4	40
			-

1	GREEN1	RED1	2
	KEY1	RESET1	
	GREEN2	RED2	
	KEY2	RESET2	
	GREEN3	RED3	
	KEY3	RESET3	
	GREEN4	RED4	
	KEY4	RESET4	
17	VDD	GND	18

Figure 3.3.1.b Interface 1 of Pro06A

Figure 3.3.1.c Interface 2 of Pro06A

Table 3.3.1.a Programming Interface (For example, Socket 1)

Chip Type	Interface Type	Programming Pins
8051	JTAG	VDD1 TCK1 TDI1 TMS1 TDO1 GND1
	SWE	VDD1 SWE1 GND1

Note:

1. 'Green1' means channel 1 'OK' signal.



2. 'Red1' means channel 1 'Busy' signal.

3. The Numbers 1 to 4 represent each channel.

4. When using the reset mode, please connect the Resetn interface of the corresponding channel.

3.3.2 Onboard programming

The Pro06A supports on-board programming, which means the user can first weld the chip to the user circuit board and then program the chip. It should be noted that when programming the chip Onboard, each programming line must be separated from the user's circuit. As shown in Figure 3.3.2.a.



Figure 3.3.2.a On-board programming circuit

3.3.3 Offline working status

Offline programming steps:

- *step1:* Install ProWriter.
- *step2:* Configure and download the offline programming project in the online working state.
- *step3:* Disconnect the USB and restart the power to enter the offline programming mode.
- *step4:* Insert the target MCU into the chip slot on the chip adapter board or connect the MCU program pin to the Pro06A program interface.
- *step5:* Perform offline programming operation according to the "Wait for key press" or "Auto Detect" option checked during Step2.



step6: Remove the MCU that has been programmed.

step7: Return to Step4 to perform the next target MCU programming.

Note:

- The ProO6A has the function of offline programming, which can support one drag four programming at most.
- After the Pro06A is powered on, it can perform self-test. If the self-test fails, the Digital tube will display "EF." indicating an error. At this time, offline programming cannot be performed. You can only download parameters online again and then perform offline programming. If the self-test passes, the Digital tube will display the name of the IC device to be programmed, the checksum of programming code.
- Red LED and green LED are used to indicate the programming status. If the red LED is on and the green LED is off, it indicates that programming is in progress. If the red LED is off and the green LED is on, it indicates the programming has been successfully completed. If both the red LED and green LED flash simultaneously, it indicates that an error occurred during the programming process. When the chip on a certain channel is removed, both the green LED and red LED corresponding to that channel will be off, indicating that it is waiting for the next programming operation.
- The buzzer is used to alert the programming status. In the manual programming mode, when the programming is successful, the buzzer will give a short low tone, and when the programming fails, the buzzer will give three short high tones. In case of any channel programming error, the buzzer will give an alarm.

3.3.4 The programmer LED display

1) Digital tube display

When the Pro06A is powered on, if the target project has been downloaded to the programmer correctly, the digital tube will display the model of the target MCU, otherwise "EF." will be displayed to prompt the user to download the target project first.

Character	Meaning
Eb	Blank Check Error
EP	Program Error
EU	Verify Error
EE	Part Number Error
Eo	Program Limit
EC	No Detect IC

Table 3.3.4.a Pro06A LE	ED display	character	definition



EL	Lot ID Error
EF	Flash Parameter Error
ES	Security Error
En	Enter Mode Error
E-00	Erase Error
E-02	Option Error
E-03	Security Code Error
E-04	Customer ID Error
E-05	Serial Number Error
E-06	E2PROM Error
E-07	Boot Error
E-08	OTP ID Error

2) LED indicator lights on Pro06A

Table 3.3.4.b Pro06A LED indicator state definition

Red LED	Green LED	State
Off	Off	Waiting for programming
On	Off	Programming
Off	On	Program success
flashing	flashing	Program Error

3) LED indicator lights on each programming channel

The LED indicators on each programming channel need to be integrated by the user on their chip programming adapter board. Like the LED indicator lights on the ProO6C, there are two LED indicator lights, namely red LED and green LED, which are lit at a high level, And the definition of indicator light status is also consistent. The only difference is that its control interface (driver) is Redn and Greenn in Interface1, then REDn and GREENn in Interface2.

4) Time sequence diagram of Busy and OK light during programming





Figure 3.3.4.a Time sequence diagram of Busy and OK light during programming

3.4 Pro03A programmer Introduction

3.4.1 Circuit Structure Introduction

Pro03A can support mass production programming of Sinowealth's entire series of OTP MCU, and can support up to 4 channels of simultaneous programming. When performing a programming operation, it is often used in conjunction with the customer's chip programming adapter board, and the circuit connection is shown in Figure 3.4.1.a.



Figure 3.4.1.a Program Circuit Diagram for Pro03A

Power

Connect to DC regulator power supply (+15V).



8-Digital Tube

Display chip name, working status (error type coding), code checksum and other information.

USB Indicator Light

This indicator light shows the USB connection status. The light on indicates the connection is normal, and the light off indicates the connection is disconnected.

Start Key

The main button for controlling the start of programming. Effective in online mass production mode or offline waiting button mode. When this button is pressed, it can start the programming operation of all selected channels.

Socket 1~4

There are 4 program slots.

Key 1~4

Key1 has the same function as the Start Key, while Key2~4 controls the corresponding channel respectively.

■ Interface1/2

The pins used for programming or indicating the status during programming.



1	VDD1	VPP1	2
	SCK1	RLED1	
	KEY1	GLED1	
	SDA1	GND1	
	VDD2	VPP2	
	SCK2	RLED2	
	KEY2	GLED2	
	SDA2	GND2	
	VDD3	VPP3	
	SCK3	RLED3	
	KEY3	GLED3	
	SDA3	GND3	
	VDD4	VPP4	
	SCK4	RLED4	
	KEY4	GLED4	
	SDA4	GND4	
39	VCC	GND	40

Figure 3.4.1.b Connection interface between Pro03A and OTP MCU adapter

Note:

The Numbers 1 to 4 represent each channel. EX_VPP, EX_VDD, EX_SCK, EX_SDA, EX_GND should be connected to the corresponding VPP, VDD, SCK, SDA and GND pins on the OTP chip respectively.

3.4.2 Onboard programming

The Pro03A supports on-board programming, which means the user can first weld the chip to the user circuit board and then program the chip. It should be noted that when programming the chip Onboard, each programming line must be separated from the user's circuit.





Figure 3.4.2.a On-board programming circuit

3.4.3 Offline programming

Offline programming steps:

- step1: Install ProWriter.
- *step2:* Configure and download the offline programming project in the online working state.
- *step3:* Disconnect the USB and restart the power to enter the offline programming mode.
- *step4:* Insert the MCU to be programmed into the chip slot on the chip adapter board or connect the MCU program pin to the Pro03A program interface.
- *step5:* Perform offline programming operation according to the "Wait for key press" or "Auto Detect" option checked during Step2.
- *step6:* Remove the MCU that has been programmed.
- *step7:* Return to Step4 to perform the next MCU program.

Note:

- The Pro03A has the function of offline programming, which can support one drag four programming at most, Each channel is independent of each other.
- After the Pro03A is powered on, it can perform self-test. If the self-test fails, the Digital tube will display "EF." indicating an error. At this time, offline programming cannot be performed. You can only download parameters online again and then perform offline programming. If the self-test passes, the Digital tube will display the name of the IC device to be programmed, the checksum of programming code.
- Red LED and green LED are used to indicate the programming status. If the red LED is on and the green LED is off, it indicates that programming is in progress. If the red LED is off and the green LED is on, it indicates the programming has been successfully



completed. If both the red LED and green LED flash simultaneously, it indicates that an error occurred during the programming process. When the chip on a certain channel is removed, both the green LED and red LED corresponding to that channel will be off, indicating that it is waiting for the next programming operation.

The buzzer is used to alert the programming status. In the manual programming mode, when the programming is successful, the buzzer will give a short low tone, and when the programming fails, the buzzer will give three short high tones. In case of any channel programming error, the buzzer will give an alarm.

3.4.4 The programmer LED display

1) Digital tube display

After powering on Pro03A, if the project has been downloaded to the programmer correctly, the digital tube will display the chip model to be programmed, otherwise, "EF." will be displayed to prompt the user to download the program. If it is online, the "PC" will be displayed circularly.

The meaning of various characters which is displayed in the digital tube during the programming operation is shown in the following table:

Character	Meaning
Eb	Blank Check Error
EP	Program Error
EU	Verify Error
EE	Part Number Error
Eo	Program Limit
EC	No Detect IC
EL	Lot ID Error
EF	Flash Parameter Error
ES	Security Error

Table 3.4.4.a Pro03A LED display character definition

2) LED indicator lights on Pro03A

Table 3.4.4.b Pro03A LED indicator state definition

Red LED	Green LED	State
Off	Off	Waiting for programming
On	Off	Programming
Off	On	Program success
flashing	flashing	Program Error

3) LED indicator lights on each programming channel


The LED indicators on each programming channel need to be integrated by the user on their chip programming adapter board. Like the LED indicator lights on the ProO6C, there are two LED indicator lights, namely red LED and green LED, which are lit at a high level, And the definition of indicator light status is also consistent. The only difference is that its control interface (driver) is RLEDn and GLEDn.

3.5 SinoLink Plus Introduction

3.5.1 Introduction to Features

SinoLink Plus has the following characteristics:

- 1) Support the programming and debugging for all of the 8-bit or 32-bit flash MCUs of SinoWealth.
- 2) Supports two types of programming voltages: 3.3V and 5V.
- 3) Powered by USB.
- 4) No need to install USB driver under Window8 and above.



VDD	3. 3V	2
NC	RXD	
TDI	TXD	
TMS/SWDI0	GND	
TCK/SWCLK	SWE	
NC	KEY	
TDO	NC	
RST	NC	
LED_GREEN	NC	
LED_RED	GND	20
	VDD NC TDI TMS/SWDIO TCK/SWCLK NC TDO RST LED_GREEN LED_GRED	VDD3. 3VNCRXDTDITXDTMS/SWDIOGNDTCK/SWCLKSWENCKEYTDONCRSTNCLED_GREENNCLED_REDGND



Figure 3.5.1.b Interface of SinoLink Plus

When the USB is connected, the red light will be on first, and then the green light will be on, which means the USB connection is successful.

The digital tube displays "1", indicating that the current operation is in single-wire (SWE) mode. The digital tube displays "2", indicating that the current operation is in two-wire (SWD) mode, which is used to program for ARM core chip. The digital tube display "4" indicates that the current operation is in four-wire (JTAG) mode.

8-Digital Tube



Display chip name, working status (error type coding), code checksum, program interface mode and other information.

Start Key

The master button controls the starting of the program, used when programming offline. Press this button to start programming all channels.

Chip Type	Interface Type	Programming Pins
ARM	SWD	VDD SWCLK SWDIO GND
Andes	AICE	VDD TCK TMS GND
0051	JTAG	VDD TCK TDI TMS TDO GND
8051	SWE	VDD SWE GND

Table 3.5.1.a Programming Interface

3.5.2 Programming interface conversion board

The 20 pin programming interface on the Sinolink Plus board is compatible with the standard 20 pin JTAG programming interface.

In order to be compatible with early programming interfaces, this programming interface conversion board was specially made.



Figure 3.5.2.a Programming interface conversion board of SinoLink Plus



Scł associat	Schematic diagram of electrical characteristics association of Programming interface conversion board					
20Pin	ARM	8 Bit	AICE	SWD-6	SWD-4	SWE
VDD	VDD	VDD	VDD	VDD	VDD	VDD
NC						
TDI		TDI				
TMS	SWDIO	TMS	TDA	SWDIO	SWDIO	
TCK	SWCLK	TCK	TCK	SWCLK	SWCLK	
NC						
TDO		TDO		SWO		
RST	RST	RST	RST	RST		
LEDG						
LEDR						
3.3V						
RX						
TX						
GND						
SWE						SWE
KEY						
NC						
NC						
NC						
GND	GND	GND	GND	GND	GND	GND

Figure 3.5.2.b Schematic diagram of electrical characteristics association of Programming interface conversion board



Figure 3.5.2.c Schematic diagram of interface conversion board wiring method

3.5.3 Offline working status

Offline programming steps:

- step1: Install ProWriter.
- *step2:* Configure and download the offline programming project in the online working state.



- *step3:* Disconnect the USB and restart the power to enter the offline programming mode.
- *step4:* Connecting the SinoLink Plus adapter board.
- *step5:* Insert the target MCU into the chip slot on the chip adapter board or connect the MCU program pin to the SinoLink Plus adapter board 'S program interface.
- *step6:* Press the key on the SinoLink Plus adapter board to start programming.
- *step7:* Remove the MCU that has been programmed.
- *step8:* Return to Step5 to perform the next target MCU programming.

Note:

- The SinoLink Plus has offline programming function.
- After the SinoLink Plus is powered on, it can perform self-test. If the self-test fails, the Digital tube will display "EF." indicating an error. At this time, offline programming cannot be performed. You can only download parameters online again and then perform offline programming. If the self-test passes, the Digital tube will display the name of the IC device to be programmed, the checksum of programming code and program interface type.
- Red LED and green LED are used to indicate the programming status. If the red LED is on and the green LED is off, it indicates that programming is in progress. If the red LED is off and the green LED is on, it indicates the programming has been successfully completed. If both the red LED and green LED flash simultaneously, it indicates that an error occurred during the programming process. When the chip on a certain channel is removed, both the green LED and red LED corresponding to that channel will be off, indicating that it is waiting for the next programming operation.

3.5.4 The programmer LED display

1) Digital tube display

When the SinoLink Plus is powered on, if the target project has been downloaded to the programmer correctly, the digital tube will display the model of the target MCU, otherwise "EF." will be displayed to prompt the user to download the target project first.

The meaning of various characters displaying in the digital tube during the programming operation are shown in the following table:



Table 3.5.4.a SinoLink Plus display character definition

Character	Meaning	
Eb	Blank Check Error	
EP	Program Error	
EU	Verify Error	
EE	Part Number Error	
Eo	Program Limit	
EC	No Detect IC	
EL	Lot ID Error	
EF	Flash Parameter Error	
ES	Security Error	
En	Enter Mode Error	
E-00	Erase Error	
E-02	Option Error	
E-03	Security Code Error	
E-04	Customer ID Error	
E-05	Serial Number Error	
E-06	E2PROM Error	
E-07	Boot Error	
E-08	OTP ID Error	

2) LED indicator light (on the programmer)

Table 3.5.4.b SinoLink Plus LED indicator state definition

Red LED	Green LED	State
Off	Off	Waiting for
On	Off	Programming
Off	On	Program success
flashing	flashing	Program Error



3.6 SinoLink Pro Introduction

3.6.1 Introduction to Features

SinoLink Pro has the following characteristics:

- 1) Support the programming and debugging for all of the 8-bit or 32-bit flash MCUs of SinoWealth.
- 2) Supports two types of programming voltages: 3.3V and 5V.
- 3) Powered by USB.
- 4) Automatically install USB drive when connected to the network.



1	VDD	3. 3V	2
	NC	RXD	
	TDI	TXD	
	TMS/SWDI0	GND	
	TCK/SWCLK	SWE	
	NC	KEY	
	TDO	NC	
	RST NC		
	LED_GREEN	NC	
19	LED_RED	GND	20



```
Figure 3.6.1.b Interface of SinoLink Pro
```

When the USB is connected, the red light will be on first, and then the green light will be on, which means the USB connection is successful.

The digital tube displays "1", indicating that the current operation is in single-wire (SWE) mode. The digital tube displays "2", indicating that the current operation is in two-wire (SWD) mode, which is used to program for ARM core chip. The digital tube display "4" indicates that the current operation is in four-wire (JTAG) mode.

8-Digital Tube

Display chip name, working status (error type coding), code checksum, program interface mode and other information.

Start Key

The master button controls the starting of the program, used when programming offline. Press this button to start programming all channels.



Table 3.6.1.a Programming Interface

Chip Type	Interface Type	Programming Pins
ARM	SWD	VDD SWCLK SWDIO GND
Andes	AICE	VDD TCK TMS GND
90E1	JTAG	VDD TCK TDI TMS TDO GND
8051	SWE	VDD SWE GND

3.6.2 Programming interface conversion board

The 20 pin programming interface on the Sinolink Plus board is compatible with the standard 20 pin JTAG programming interface.

In order to be compatible with early programming interfaces, this programming interface conversion board was specially made.



Figure 3.6.2.a Programming interface conversion board of SinoLink Pro



Schematic diagram of electrical characteristics association of Programming interface conversion board						
20Pin	ARM	8 Bit	AICE	SWD-6	SWD-4	SWE
VDD	VDD	VDD	VDD	VDD	VDD	VDD
NC						
TDI		TDI				
TMS	SWDIO	TMS	TDA	SWDIO	SWDIO	
TCK	SWCLK	TCK	TCK	SWCLK	SWCLK	
NC						
TDO		TDO		SWO		
RST	RST	RST	RST	RST		
LEDG						
LEDR						
3.3V						
RX						
TX						
GND						
SWE						SWE
KEY						
NC						
NC						
NC						
GND	GND	GND	GND	GND	GND	GND

Figure 3.6.2.b Schematic diagram of electrical characteristics association of Programming interface conversion board



Figure 3.6.2.c Schematic diagram of interface conversion board wiring method

3.6.3 Offline working status

Offline programming steps:

- step1: Install ProWriter.
- step2: Configure and download the offline programming project in the online



working state.

- *step3:* Disconnect the USB and restart the power to enter the offline programming mode.
- step4: Connecting the SinoLink Pro adapter board.
- *step5:* Insert the target MCU into the chip slot on the chip adapter board or connect the MCU program pin to the programming interface of SinoLink Pro adapter board.
- *step6:* Press the key on the SinoLink Pro adapter board to start programming.
- step7: Remove the MCU that has been programmed.
- step8: Return to Step5 to perform the next target MCU programming.

Note:

- The SinoLink Pro has offline programming function.
- After the SinoLink Pro is powered on, it can perform self-test. If the self-test fails, the Digital tube will display "EF." indicating an error. At this time, offline programming cannot be performed. You can only download parameters online again and then perform offline programming. If the self-test passes, the Digital tube will display the name of the IC device to be programmed, the checksum of programming code and program interface type.
- Red LED and green LED are used to indicate the programming status. If the red LED is on and the green LED is off, it indicates that programming is in progress. If the red LED is off and the green LED is on, it indicates the programming has been successfully completed. If both the red LED and green LED flash simultaneously, it indicates that an error occurred during the programming process. When the chip on a certain channel is removed, both the green LED and red LED corresponding to that channel will be off, indicating that it is waiting for the next programming operation.

3.6.4 The programmer LED display

1) Digital tube display

When the SinoLink Pro is powered on, if the target project has been downloaded to the programmer correctly, the digital tube will display the model of the target MCU, otherwise "EF." will be displayed to prompt the user to download the target project first.

The meaning of various characters displaying in the digital tube during the



programming operation are shown in the following table:

Table 3.6.4.a SinoLink Pro display character definition

Character	Meaning	
Eb	Blank Check Error	
EP	Program Error	
EU	Verify Error	
EE	Part Number Error	
Eo	Program Limit	
EC	No Detect IC	
EL	Lot ID Error	
EF	Flash Parameter Error	
ES	Security Error	
En	Enter Mode Error	
E-00	Erase Error	
E-02	Option Error	
E-03	Security Code Error	
E-04	Customer ID Error	
E-05	Serial Number Error	
E-06	E2PROM Error	
E-07	Boot Error	
E-08	OTP ID Error	

2) LED indicator lights on SinoLink Pro

Table 3.6.4.b SinoLink Pro LED indicator state definition

Red LED	Green LED	State
Off	Off	Waiting for
On	Off	Programming
Off	On	Program success
flashing	flashing	Program Error



3.7 SinoLink Introduction

SinoLink has the following characteristics:

- 1) Support the programming and debugging for all of the 8-bit or 32-bit flash MCUs of SinoWealth.
- 2) Supports two types of programming voltages: 3.3V and 5V.
- 3) Powered by USB.
- 4) Automatically install USB drive when connected to the network.



1	VDD	TCK/SWCLK	2
	GND	TDI	
	GND	TMS	
	KEY/TDA	TDO/SWE/SWDIO	
9	RST	GND	10

Figure 3.7.a Circuit Diagram for SinoLink

Figure 3.7.b Interface of SinoLink

When the USB is connected, the red light will be on first, and then the green light will be on, which means the USB connection is successful.

The digital tube displays "1", indicating that the current operation is in single-wire (SWE) mode. The digital tube displays "2", indicating that the current operation is in two-wire (SWD) mode, which is used to program for ARM core chip. The digital tube display "4" indicates that the current operation is in four-wire (JTAG) mode.

Table 3.7.a Programming Interface

Chip Type	Interface Type	Programming Pins
ARM	SWD	VDD SWCLK SWDIO GND
Andes	AICE	VDD TCK TDA GND
9051	JTAG	VDD TCK TDI TMS TDO GND
8051	SWE	VDD SWE GND



3.8 JET51A Introduction

JET51A has the following characteristics:

- Support the programming and debugging for all of the 8-bit flash MCUs of SinoWealth.
- Firmware can be upgraded online.
- Supports two types of programming voltages: 3.3V and 5V.
- Powered by USB.
- No need to install USB driver under Windows.



1	VDD	TCK	2
	GND	TDI	
	GND	TMS	
	TDA	TDO/SWE	
9	RST	GND	10

Figure 3.8.a Circuit Diagram for JET51A

Figure 3.8.b Interface of JET51A

When the USB is connected, the red light will be on first, and then the green light will be on, which means the USB connection is successful.

The digital cube display "1" indicates that it is currently in single-wire mode (SWE), while the display "4" indicates that it is currently is in 4-wire mode (JTAG).

Table 3.8.a Programming Interface

Chip Type	Interface Type	Programming Pins
8051	JTAG	VDD TCK TDI TMS TDO GND
	SWE	VDD SWE GND



Chapter 4 Software UI introduction

After running the programmer software ProWriter, the user interface shown in Figure 4.0.a will appear.

👃 Sino Wealth Prog	rammer - Advance Mode			
Mode Language	Operation Help			🅟 Sino Wealth
Blank	Read Verify	🖉 🌲 Auto	Download	Upgrade FW
Load Project	Select Chip: SH79F3283 Option(008E) : [8C000002] Code Check Sum : 008E-8000 Data Check Sum : F800 IC Version Mark : 0000 Option(008E) : F800 Device: Pro06A FW Version.V3.10 [2019-06-28 10.22:15] Image: Chip Options Image: Control Option	Option Name V OP_WDT: E OP_WDTP: D OP_RST: P OP_OSCRFB: 50 OP_LVREN: D OP_SCM: S OP_SCM: S OP_SCM: Li VMDSW: Li V T	falue nable WDT function isable WDT function in Power-Dow 5.2 used as RST pin ongest warm up time 00K isable LVR function 11/ LVR favel 1 CM is invalid in warm up period CD/LED counter run, if MODSW bit Pass/Fail/Limit 1/0/	is 1 +
Program Report [2020-01-09 09: [2020-01-09 09: [2020-01-09 09: [2020-01-09 09: [2020-01-09 09: [2020-01-09 09:	11:59] No device detected 11:59] No avalid device to use. 12:00] Auto detectd devices: Pro06A 12:02] Auto detectd devices: Pro06A 12:02] Switch to :Pro06A (5)	, , , ,	Socket 1 0% Socket 2 0% Socket 3 0% Socket 4 0%	

Figure 4.0.a ProWriter main UI

We present the introduction in turn according to the Numbers in the figure.



4.1 Main menu bar

SinoWealth Progr	ammer - Advance Mode			– 🗆 X
Mode Language	Operation Help (1)			🅟 Sino Wealth
Blank	Read Verify	🗼 Auto	Download	Upgrade FW
Load Project Save Project Code Window Data Window	Select Chip: SH79F3283 Option[0080] :[80000000] Code Check Sum :0080-D800 CRC16-CCITT : 6DD9 CRC8-MAXIM : F0 Data Check Sum : FC00 IC Version Mark : 0000 Device: Pro06C < Auto Detect FW Version:V2.00 [2023-09-13 10:29:06]	Option Name OP_WDT: OP_WDTPD: OP_RST: OP_WMT: OP_OSCRFB: OP_LVREN: OP_LVRLE: OP_SCM: OP_MODSW:	Value Enable WDT function Disable WDT function in Power-Dow P5.2 used as RST pin longest warm up time 2M Disable LVR function 4.1V LVR level 1 SCM is invalid in warm up period LCD/LED counter run, if MODSW bit	vn mode
	Chip Options Control Option	Customize	Pass/Fail/Limit: 0	/ 0 / 1000
Program Report [2023-10-13 14: [2023-10-13 14:	35:31] Auto detectd devices: Pro06C 35:31] Switch to :Pro06C		Socket 1 0% Socket 2 0% Socket 3 0% Socket 4 0%	

Figure 4.1.a Main menu column

Mode

It can be configured as advance mode and mass production mode, and the default mode is advance mode. The mass production mode UI is shown in Figure 4.1.b.





Figure 4.1.b Mass program mode

Language

It supports both Chinese and English, can be switched in real time, default is Chinese. The main UI of Chinese mode is shown in figure 4.1.c.



↓ 中颖编程器集成版	- 高级模式			- 🗆 ×
模式 语言 操作 ‡	舉助 ①			🌎 中颖电子
查空	🛉 读取 📝 校验	🛛 🦆 自动	下载参数	↓ ⑧升级固件
 → 加載工程 ③ ④ 保存工程 ④ 加载代码 ④ ④ □ 加载数据 	选择芯片: SH79F328 代码选项[01A0] : [8000000006000000] 代码技输和 : 01A0-0000 CRC16-CCITT : 70F8 CRC8-MAXIM : 00 多期校验和 : 0000 ⑤ IC版本标记 : 0000 编程设备: Pro06C ~ 自动侦测 固件版本:V2.00 [2023-09-13 10:29:06]	代码选项 OP_RST: OP_WMT: OP_SCMEN: OP_SCMEN: OP_LVREN: OP_LVRLE: OP_SCM: OP_P37-P34: OP_P33-P30: <	送顶值 P5.2 used as RST pin longest warm up time Enable SCM 150K Disable LVR function 4.1V LVR Level 1 SCM is invalid in warm up period Port3[7:4] sink ability normal mode Port3[3:0] sink ability normal mode	^
	🚳 芯片选项 👹 控制选项 🏠 客户信息		成功/失败/限次: 0/0/	/ 1000
编程信息报告 [2023-10-11 15:5 [2023-10-11 15:5	58:55] 自动检测到设备: Pro06C 58:55] 切换到设备:Pro06C 6		插槽1 0% 插槽2 0% (7) (7) 插槽3 0%	
<		2	▶ 插槽4 0%	$ \bigcirc$

Figure 4.1.c Chinese main UI

Operation

Including update software version and register manage.

- Help
 - Help: Open the user manual of ProWriter.
 - About: Display the information of current software version.



SinoWealth Progr Mode Language	rammer - Advance M Operation Help	ode			− □ × Sino Wealth
Blank	Read	Verify	🗼 Auto	Download	Upgrade FW
 Load Project Save Project Code Window Data Window 	Select Chip: Option[01A0] Code Check Sum CRC16-CCITT CRC8-MAXIM Data Check Sum IC Version Mark Device: Pro06 FW Version:V2.0	SH79F328 : [8000000C0600000] : 01A0-0000 SinoWealth Writer Vers SinoWealth Wr Sino Wealth C Build Date: 20 FC ID: 58241 Feedback on s	Option Name OP_RST: OP_WMT: on 6.00.9.2 iter Version 6.00.9.2 opyright(C) 2023 023/9/14 Code:277 software_services@	Value P5.2 used as RST pin longest warm up time OK	
Program Report	Chip Options	FroWriter Library FroWriterMgr. dll HWAgent. dll WDev FroOGC. dll FroFileMgr. dll DeviceOPIMgr. dll	Version: 9.2 Da Version: 1.2 Du Version: 1.0 Du Version: 1.0 Bu Version: 1.5 Du Version: 1.2 Bu Version: 1.3 Bu	te:23/05/30 ild Date:2023/9/13 ild Date:2023/9/13 ild Date:2023/9/14 ild Date:2023/9/13 ild Date:2023/9/13 ild Date:2023/9/13 Socket 3 Socket 4	

Figure 4.1.d Help and about display UI



4.2 Common operation buttons

SinoWealth Progr Mode Language	ammer - Advance Mode Operation Help			− □ ×
Blank	🛉 Read 📝 Verify 🤇	🕘 🤳 Auto	Download	Upgrade FW
 Load Project Save Project Code Window Data Window 	Select Chip: SH79F3283 Option[0080] : 80000000 Code Check Sum : 0080-D800 CRC16-CCITT : 6DD9 CRC8-MAXIM : F0 Data Check Sum : FC00 IC Version Mark : 0000 Device: Pro06C Auto Detect FW Version:V2.00 [2023-09-13 10:29:06]	Option Name OP_WDT: OP_WDTPD: OP_RST: OP_WMT: OP_OSCRFB: OP_LVREN: OP_LVRLE: OP_SCM: OP_MODSW: <	Value Enable WDT function Disable WDT function in Power-Do P5.2 used as RST pin longest warm up time 2M Disable LVR function 4.1V LVR level 1 SCM is invalid in warm up period LCD/LED counter run, if MODSW bit	wn mode
	Chip Options Control Option	Customize	Pass/Fail/Limit	0 / 0 / 1000
Program Report [2023-10-13 14:3 [2023-10-13 14:3	5:31] Auto detectd devices: Pro06C 5:31] Switch to :Pro06C		Socket 1 0% Socket 2 0% Socket 3 0% Socket 4 0%	

Figure 4.2.a Common operation buttons

4.2.1 Blank

Check whether the code area and data area in the current MCU are all 0, and only check the storage area that has been checked. If the storage area is all 0, the blank success, otherwise, the blank failed. If the data read in the code encryption area are all 0, it will also show that the blank is successful.



SinoWealth Progr Iode Language	ammer - Advance Mode Operation Help				•	- □ > う Sino Wealth
Blank	Read 📝	Verify 🤳	Auto	Dow	mload	, Upgrade FW
 Load Project Save Project Code Window 	Select Chip: SH79F Option[008E] :8000002 Code Check Sum :008E-0000 CRC16-CCITT :E1F0 CRC8-MAXIM :00 Data Check Sum :0000	3283 Option OP_WE OP_WE OP_RS OP_WI OP_OS	Name Value DT: Ena DTPD: Disa DTPD: P5.2 MT: long CRFB: 500	ue ble WDT functio able WDT functio 2 used as RST p gest warm up tin K	n on in Power-Down mode in re	
🕽 Data Window	IC Version Mark : 0000 Device: Pro06C Att FW Version:V2.00 [2023-09-13]	uto Detect 0P_LVI 0P_SC 0P_MC 0P_MC	REN: Disa RLE: 4.1\ M: SCM DDSW: LCE	able LVR function / LVR level 1 /I is invalid in wa D/LED counter ru	n rm up period n, if MODSW bit is 1	
	Chip Options Control Op	tion 🔝 Customize	9	P	ass/Fail/Limit: 0/0/100	0
Program Report [2023-10-12 15:0 [2023-10-12 15:0 [2023-10-12 15:0 [2023-10-12 15:0 [2023-10-12 15:0]	06:59] Select Chip: SH79F3283 06:59] Device (Pro06C) connect 06:59] Auto detectd devices: Pro 06:59] Switch to :Pro06C 07:08] Socket(1): Blank success	ted! Firmware Vers o06C s!	sion: 2.00	Socket 1 Socket 2 Socket 3	Blank 100%	

Figure 4.2.1.a 'Blank' operation and display UI

4.2.2 Read

Read and display the project information in the currently connected MCU. When reading, it is required that the chip options match the actual IC, and the hardware connection is correct.



ode Language	Operation Help						Sino Wealt
Blank	Read	Verify	🗼 Auto		Download	₽	Upgrade FV
 Load Project Save Project Code Window Data Window 	Select Chip: Option[0080] : 80 Code Check Sum : 008 CRC16-CCITT : E1f CRC8-MAXIM : 00 Data Check Sum : 000 IC Version Mark : 000 Device: Pro06C FW Version:V2.00 [202	SH79F3283 000000 00 00 00 00 00 00 00 00 00 00 0	Option Name OP_WDT: OP_WDTPD: OP_RST: OP_WMT: OP_OSCRFB: OP_LVREN: OP_LVRLE: OP_LVRLE: OP_SCM: OP_MODSW: <	Value Enable Wi Disable Wi P5.2 used longest wi 2M Disable Li 4.1V LVR I SCM is inv LCD/LED	DT function /DT function in Powe l as RST pin arm up time /R function evel 1 /alid in warm up peri counter run, if MODS	r-Down mode od W bit is 1	>
	Chip Options	ontrol Option 🔝 C	Customize		Pass/Fail/Lir	mit: 0/0/1000	
Program Report 2023-10-12 15:0 2023-10-12 15:0)9:17] Socket(1): Read	Option (00000000)) 000000H - 00000	^ Sock	et 1 Read	I 100%	Ск
2020 10 12 10.)9:17] Socket(1): Read	Customer ID(0000	00000H - 0000000	C Sock	SN: 00000000 Cli et 2	D: 00000000	
2023-10-12 15:(2023-10-12 15:(09:19] Socket(1): Read	success!					
2023-10-12 15: 2023-10-12 15:	J9:19] Socket(1): Read : 	success!		Sock	et 3	0%	-Č

Figure 4.2.2.a 'Read' operation and display UI

4.2.3 Verify

For the selected storage area, compare whether the information in the current MCU is consistent with the information on the current screen of the ProWriter. If it is consistent, the verify success; otherwise, the verify fails.



de Language	Operation Help			_		Sino Wear
Blank	🔶 Rea	ıd 📝	Verify	🗼 Auto	Download	Upgrade FV
🕴 Load Project	Socket Setting	-Auto Program	Setting	Writer setting	Multi-Program	Power
	Socket 1	Erase	Blank	Wait for key press	Current Are	a 03.3V
Save Project	Socket 2	Program		Auto Detect	O Assign Area	a: 05V
	Socket 3	✓ Verify		Match machine	1	Power on time: Defau
Code Window	Socket 4	Security	Ontion		O Next Area	6 ms 🗸 Auto Scar
Dete Mindered	- Custom Socurit	, Security				
Data window		2-00-00-00-00	Whole	e flash code (Include op	tion,security,SN,ID)	
	Old: 0000			2PRom BootRom		I like DESEL pup optor mod
	New: 00.00	00 00 00 00				
	New: 00-00)-00-00-00-00	Secto	rs of flash code	ector Option	PGM Interface: JTAG
	New: 00-00	2-00-00-00-00 3 🙀 Control Og	D Secto	rs of flash code	ector Option Pass/Fa	PGM Interface: JTAG
rogram Report 1023-10-12 18:	New: 00-00	3 Control Of Control O	ption A Cu	stomize	ector Option Pass/Fa Socket 1	PGM Interface: JTAG
rogram Report 1023-10-12 18:3	New: 00-00)-00-00-00-00	ption A Cu	stomize	ector Option Pass/Fa Socket 1	PGM Interface: JTAG
rogram Report 1023-10-12 18:3	New: 00-00	Control Of	ption Cu	stomize	ector Option Pass/Fa Socket 1	PGM Interface: JTAG ail/Limit: 1/0/1000

Figure 4.2.3.a 'Verify' operation and display UI

4.2.4 Auto

Perform the selected operations (such as erase, program, verify, and Security) from top to bottom according to the contents checked in the 'Auto Program Settings' column.



SinoWealth Prog	rammer - Advance	e Mode			– 🗆 X
1ode Language	Operation Help)			🌖 Sino Wealth
Blank	🔶 🔶 Rea	ad 📝 Verify	🗼 Auto	Download	Upgrade FW
 Load Project Save Project Code Window Data Window 	Socket Setting Socket 1 Socket 2 Socket 3 Socket 4 Custom Security Old: 00-00	Auto Program Setting Erase Blank Program Verify Security Option V OO000-00-00 Sector	Writer setting Wait for key press Auto Detect Match machine e flash code (Include op 2PRom BootRom ors of flash code S	Multi-Program: Current Area Assign Area: Next Area tion,security.SN,ID) cetor OptionPC	Power 3.3V 5V Power on time: Default 6 ms ~ Auto Scan Use RESET pin enter mode SM Interface: JTAG ~
	Chip Options	s 🔯 Control Option 🕍 C	ustomize	Pass/Fail/I	.imit: 2/0/1000
Program Report [2023-10-12 18:4	46:32] Writer pa	rameters no changed.	^	Socket 1 Au	to 100%
[2023-10-12 18:4 [2023-10-12 18:4	46:32] Download 46:32] Auto prod	d flash success! gram start		SN: 00000000 (CID: 00000000
[2023-10-12 18:4	46:36] Auto prog	gram finished.		Socket 2	0%
			ſ	Socket 3	0%

Figure 4.2.4.a 'Auto' operation and display UI

Erase

Erase the selected Flash storage area.

Program

Program customer data, customer code and customer information to the corresponding flash storage area that has been checked.

Verify

For the selected flash storage area, check whether the information in the chip is consistent with the information displayed on the current UI.

Security

To encrypt the code area. The code sector you want to encrypt can be selected through the UI that can be opened by clicking on the "Option..." button.

There are many kinds of encryption. For example, Ultra Security for Program Memory, Ultra Security for BootRom, MOVC Inhibit, Lock bit, SSP Security, etc.



SinoWealth Prog	rammer - Advance	e Mode			-		
Mode Language	Operation Help					Sino Wealth	
Blank	🔶 🔶 Rea	nd 📝 Ver	rify 🦊 Auto	Download		Upgrade FW	
Code Window Program Report	Socket Setting Socket 1 Socket 2 Socket 2 Socket 3 Socket 4 Custom Security Old: 00-00 New: 00-00	Auto Program Settin ✓ Erase Bla ✓ Program ✓ Verify ✓ Security Optic / 00-00-00-00 0-00-00-00-00 S Control Option	ag Writer setting ∩k ⊠Wait for key pre ☐ Auto Detect Security Option B0: Lock bit B1: MOVC Inhibit ☑ E2 Sectors Cus	Multi-Program: Multi-Program: Current Area Assign Area: Ultra Security for Ultra Security for Sector 0,1: B0 Sector 4.5: B0 Sector 12,13: B0 Sector 12,13: B0 Sector 12,17: B0 Sector 12,17: B0 Sector 20,21: B0 Sector 20,21: B0 Sector 24,25: B0 Sector 24,25: B0 Sector 24,25: B0 Sector 24,25: B0	Program Memory Bootrom B1	Sector 2.3 Sector 6.7 Sector 10.11 Sector 14.15 Sector 18.19 Sector 22.23 Sector 22.27 Sector 26.27 Sector 30.31	OK Cancel B0 B1 B0 B1

Figure 4.2.4.b 'Security' option UI

4.2.5 Download

Download the configuration information of the current UI to the programmer. Before performing the 'download' operation, it is important to focus on the offline programming configuration items: 'Wait for key press' and 'Auto Detect'.

Wait for key press

If the 'Wait for key press ' is already checked, the programmer will not start programming directly when it detects that a new chip has been connected in offline mode. It will only start programming when it detects that the 'Start Key' is pressed.

Auto Detect

If the 'Auto Detect ' is already checked, the programmer will automatically start the programming action directly when it detects that a new chip has been connected in offline mode.



SinoWealth Prog	rammer - Advance	e Mode					- 🗆 X
Iode Language	Operation Help	•					🄝 Sino Wealth
Blank	🛉 Rea	ad 📝 🤺	Verify	👆 Au	to	🥐 Download	Upgrade FW
 Load Project Save Project Code Window Data Window 	Socket Setting Socket 1 Socket 2 Socket 3 Socket 4 Custom Security Old: 00-00 New: 00-00	Auto Program Se Program Verify Security Or 0-00-00-00 0-00-00-00	tting Blank Dition Whole fl DE2P Sectors	Writer setting Wait for ko Auto Dete Match ma ash code (Inc Rom B of flash code	g ey press ct chine lude op ootRom	Multi-Program: © Current Area Assign Area: Next Area ion, security, SN,ID)	Power 3.3V SV Power on time: Default 6 ms Auto Scan Use RESET pin enter mode MInterface: JTAG ~
	Chip Option	s 🔯 Control Optio	n 🔝 Custo	omize		Pass/Fail/Li	mit: 0/0/1000
Program Report [2023-10-12 19: [2023-10-12 19:	11:48] Programi 11:51] Download	mer's SN: 25-A5-9 d flash success!	B-53-4B-FB	-BA-79-38		Socket 1 Socket 2	0%
					•	Socket 3	^{0%}
						Socket 4	

Figure 4.2.5.a 'Download' operation and display UI



4.3 Load project and save project

SinoWealth Progr	ammer - Advan	ce Mode					-	
Node Language	Operation He	р					S	Sino Wealth
Blank	🔶 Re	ead 📝	Verify	🗼 Auto	2	Download	₽	Upgrade FW
 Load Project 3 Save Project Code Window Data Window 	Select Chip: Option[0080] Code Check Si CRC16-CCITT CRC8-MAXIM Data Check Su IC Version Mar Device: Pi FW Version:	SH799 = [80000000 : 0080-D800 : 60D9 : F0 Im : FC00 k : 0000 = 00000 = 0000 = 0000 = 00000 = 00000 = 00000 = 00000 = 000	-3283	Option Name OP_WDT: OP_WDTPD: OP_RST: OP_WMT: OP_OSCRFB: OP_LVREN: OP_LVRLE: OP_SCM: OP_MODSW: <	Value Enable WDT Disable WDT P5.2 used a: longest warr 2M Disable LVR 4.1V LVR lev SCM is inval LCD/LED co	function T function in Pow s RST pin m up time function el 1 id in warm up per unter run, if MOD	er-Down mode riod SW bit is 1	>
	Chip Option	ns 🔯 Control O	ption 🔝 0	Customize		Pass/Fail/L	imit: 0/0/1000	
Program Report [2023-10-13 14:3 [2023-10-13 14:3	35:31] Auto de 35:31] Switch t	tectd devices: Pr o :Pro06C	ro06C		Socket	1	0%	$-\mathbb{C}$
					Socket	2	0%	$-\bigcirc$
					Socket	3	0%	$-\bigcirc$
<					> Socket	4	0%	$-\bigcirc$

Figure 4.3.a Load project and Save project

4.3.1 Load Project

Load the project file that will be programmed. The project file formats supported include nopf, opf, hex, bin. The project files can only be loaded once. If you need to load other project files, you need to restart the ProWriter software.



SinoWealth Progra Mode Language (mmer - Advance Mode Operation Help						Sino Wealth
Blank	The Read	Verify	🗼 Auto	*	Download	•	Upgrade FW
Load Project	Select Chip:	SH79F3283	Option Name	Value			^
Save Project	🖊 Open						>
	\leftarrow \rightarrow \checkmark \uparrow \square \rightarrow	This PC > Desktop	 nopf test 		~ Č	Search nopf test	م
Code Window	Organize 🔻 New f	folder				===	- 💷 🕐
🧔 Data Window	OneDrive	Name	ect the nopf file	e to be bur	modified	Туре	Size
	OneDrive - Perso	😗 test.nopf		9/25	/2023 3:26 PN	/ NOPF File	
		<pre> test1.nopf </pre>		10/8	/2023 5:33 PN	/ NOPF File	
	This PC	W test2.nopf		10/8	/2023 5:38 PN	/ NOPF File	
	3D Objects	(%) test3.nopf		10/9/	/2023 2:25 PN	A NOPF File	
	📃 Desktop	test4.nopf		10/1	3/2023 11:13	AM NOPF File	
Program Report	Documents						
[2023-10-13 16:	🖊 Downloads						
[2023-10-13 16:	👌 Music						
[2023-10-13 16:	Pictures						
2020 10 10 10.	Videos						
	🟪 OS (C:)						
	🔜 Local Disk (D:)						
	Local Disk (E:)						
<	OS (F:)						
,	i Network	v <					
	Fi	ile name: test1.nopf			~ 3	Project files(*.nop	f;*.opf;*.hex;* ∨ Cancel

Figure 4.3.1.a Load project file example

4.3.2 Save Project

Save the configured parameters and code information on the ProWriter software UI as project files in nopf or opf format.



de Language (Operation Help				🌎 Sino Wealth
Blank	🔶 Read	d 🧭 Verify	🗼 Auto	Download	Upgrade FW
Load Project	Socket Setting ☑ Socket 1	Auto Program Setting	Writer setting	Multi-Program: P	ower
Save Project	Socket 2	/e		o current/red	×
Code Window	Socket 3	Filename: C:\User	rs\a1212\Desktop\nopf tes	st\test5.nopf	Default Auto Scan
Data Window	Custom Secu	Project Name: test5 Version: 1.0			
	Old: 00- New: 00-	Company: Sinowe	alth		G V
	Chip Optic	Author: a1234		Assign Programmer's SN	Pood SN
rogram Report	43:061 Select (Repeat Password:	25	-A5-9B-53-4B-FB-BA-79-38	
2023-10-16 13: 2023-10-16 13: 2023-10-16 13: 2023-10-16 13:	43:07] Device 43:07] Auto de 43:07] Switch	Hide Code	Hide Data	Validity period Unlimi Unlimi 15-Mir 30-Mir	ted v ted utes utes
		0	к	60-Mir Cancel 90-Mir 120-M 180-M	nutes inutes inutes
e			`	Socket 4 0%	\cap

Figure 4.3.2.a Save project file example

When saving a project, you can configure the filename, project name, and set the password.

When saving a project, the customer can set the Assign programmer's SN, which means that the programmer that assigns a serial number will program the project file. Using other programmers will not load the project file normally. Click the 'Read SN' button to load the serial number of the current programmer.

When saving a project, the customer can set the hide code or hide data.

After loading the 'Hide Code' project, the UI will not display the 'Code Window' button, which makes it impossible to view the relevant code, thus achieving the function of 'Hide Code'.



de Language O	Operation Help					•	ゔ Sino Wealth
Blank	Read	Verify	🗼 Auto		🤹 Downl	oad	, Upgrade FW
 Load Project Data Window 	Select Chip: Option[008E] : [Code Check Sum : 0 CRC16-CCITT : 3 CRC8-MAXIM : F Data Check Sum : 0 IC Version Mark : 0 Device: Pro06C FW Version:V2.00 [2 Chip Options	SH79F3283 3C000002 008E-C000 003 9 000 000 000 000 000 00	Option Name OP_WDT: OP_WDTPD: OP_RST: OP_WMT: OP_OSCRFB: OP_LVREN: OP_LVRLE: OP_SCM: OP_SCM: OP_MODSW: <	Valu Enal Disa P5.2 Iong 5000 Disa 4.1V SCM LCD	Je ble WDT function able WDT function 2 used as RST pin lest warm up time K able LVR function (LVR level 1 I is invalid in warm 0/LED counter run,	in Power-Down mode up period if MODSW bit is 1	>
Program Report							_
2023-10-16 14:(2023-10-16 14:(2023-10-16 14:(04:32] Auto detectd de 04:32] Switch to :Pro0 09:18] Programmer's 5	evices: Pro06C 6C 6N: 25-A5-9B-53-4F	3-FB-BA-79-38	^	Socket 1	0%	-C
2023-10-16 14: 2023-10-16 14: 2023-10-16 14:	14:02] File: C:\Users\a 14:02] Select Chip: SH 14:02] Device (Pro060	1212\Desktop\nopf 179F3283 ;) connected! Firmwa	test\test1.nopf op are Version: 2.00	e	Socket 2	0%	-C
2023-10-16 14: 2023-10-16 14:	14:02] Select Chip: SH 14:02] Device (Pro060	79F3283 Connected! Firmwa	are Version: 2.00	•	Socket 3	0%	$-\bigcirc$
			>		Socket 4	0%	

Figure 4.3.2.b Load project file example about 'Hide Code'

When saving a project, the validity period of the project file can be set. In this way, expired project files will not be able to load properly, and a prompt will be displayed indicating that the authorization has expired.



SinoWealth Prog 10de Language	rammer - Advance Mode Operation Help					- 🗆 >
Blank	🔶 Read	Verify	🗼 Auto	Downl	oad 🚽	v Upgrade FW
 Load Project Save Project Code Window Data Window 	Select Chip: Option[0080] : [8 Code Check Sum : 00 CRC16-CCITT : E' CRC8-MAXIM : 00 Data Check Sum : 00 IC Version Mark : 00 Device: Pro06C FW Version:V2.00 [20 Schip Options ()]	SH79F3283 0000000 080-0000 IF0 0 000 000 Error 123-09- Control	Option Name OP_WDT: OP_WDTPD: OP_RST: OP_WMT: OP_OSCRFB: OP_UNEN: uthorization has expire	Value Enable WDT function Disable WDT function P5.2 used as RST pin longest warm up time 2M Niestie LVR function X level 1 nvalid in warm 0 counter run, Pas	in Power-Down mode h up period if MODSW bit is 1 s/Fail/Limit: 0 / 0 / 100	>
Program Report [2023-10-13 11: [2023-10-13 11: [2023-10-13 11: [2023-10-13 11: [2023-10-13 11:	36:45] Select Chip: SH 36:45] Device (Pro06C 36:45] Auto detectd de 36:45] Switch to :Pro06	79F3283) connected! Firmw vices: Pro06C :C	rare Version: 2.00	Socket 2 Socket 2 Socket 3 Socket 4	0%	

Figure 4.3.2.c Load project file example about 'Authorization has expired'



4.4 Load Code and load Data

SinoWealth Prog	rammer - Advance Mode	9				– 🗆 🗙
Blank	Read	Verify	🗼 Auto	D D	ownload	Upgrade FW
Load Project Save Project Code Window Other the second	Select Chip: Option[0080] : [Code Check Sum : C CRC16-CCITT : f CRC8-MAXIM : F Data Check Sum : F IC Version Mark : C Device: Pro06C FW Version:V2.00 [2	SH79F3283 80000000 1080-D800 1080-D800 1090 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Option Name OP_WDT: OP_WDTPD: OP_RST: OP_WMT: OP_OSCRFB: OP_LVREN: OP_LVRLE: OP_SCM: OP_MODSW: <	Value Enable WDT func Disable WDT fun P5.2 used as RS longest warm up 2M Disable LVR func 4.1V LVR level 1 SCM is invalid in LCD/LED counter	tion ction in Power-Down T pin time tion warm up period r run, if MODSW bit is	mode
	Chip Options	Control Option 🔝 C	Customize		Pass/Fail/Limit: 0 / (0 / 1000
Program Report [2023-10-13 14:([2023-10-13 14:(35:31] Auto detectd de 35:31] Switch to :Pro0	evices: Pro06C 6C		Socket 1 Socket 2	0%	
٢				Socket 3 Socket 4	0%	$ \overset{\circ}{\circ}$

Figure 4.4.a Load Code and Load Data

4.4.1 Load Code

Code Window—Load the user code to be programmed. The code file supports two formats: 'hex', 'bin'.



🖡 SinoWeal	th Pro	gra	mmer	- Adv	ance	Mod	le											-		×
Mode Lang	guage	• C	perat	ion	Help														Sino Wea	alth
E	Blank				Rea	d		0	Ve	erify		Ţ		Auto	•		Download	Ļ	Upgrade I	FW
💕 Load P	roject		Select	Chip	:		S	H79F	-328	3	0	ption	Name	•	Valu	е				^
		11	Optio	n[008(0]	:	8000	0000	1		= OF	P_WD	T:		Enab	le W	DT function			
🛃 Save P	roject		Code	Chec	k Sun	n :	0080	D800			OF	P_WD	TPD:		Disa	ble V	VDT function in Power-Down mo	de		
		╧╢╎	CRC1	16-CC	ITT	:	6DD9					RS	Г. Т-		P5.2	used	as RST pin			
🗔 Code W	/indov	v 🛛	CRC	B-MAX	M	:	FO								2M	estw	ann up ume			- 1
			IC Ver	check reion l	Mark		0000						EN.		Diea	hlo I	VR function			
🗔 Data W	indow	,		510111	Marix		0000				OF		IF		4 1V		level 1			
		'			_						0	0.001	4.		SCH.	ie in	volid in worm up pariod			_
📧 Code Wi	indow																			×
Fill			Cle	ar						Nex	b>	In	nport		Expo	rt	Check Sum:D800			
ddress	0	1	2	3	4	5	6	7	8	9	A	В	С	D	Е	F				
000000H:	00	01	02	03	04	05	06	07	08	09	0 A 0	0 B	0 C	0 D	0 E	0 F				
)00010H:	10	11	12	13	14	15	16	17	18	19	1 A	1 B	10	1 D	1E	1 F				
)00020H:	20	21	22	23	24	25	26	27	28	29	2 A	2 B	2 C	2 D	2 E	2 F	.!"#\$%&'()*+,/			
100030H:	30	31	32	33	34	35	36	37	38	39	3A	3B	3 C	3 D	3E	3F	0123456789::<<=>?	,		
🖪 Data Wir	ndow																			>
												_		_						
Fill			Cle	ar						Next	>>	In	port		Expo	rt	Check Sum:FC00			
ddress	0	1	2	3	4	5	6	7	8	9	Α	в	С	D	Е	F				
)00000H:	0 0	01	0 2	03	04	05	06	07	08	09	0 A 0	0 B	0 C	0 D	0 E	0 F				
)00010H:	10	11	12	13	14	15	16	17	18	19	1 A	1 B	1 C	1 D	1E	1 F				
)00020H:	20	21	22	23	24	25	26	27	28	29	2 A	2 B	2 C	2 D	2 E	2 F	.!"#\$%&'()*+,/			
000030H:	30	31	32	33	34	35	36	37	38	39	3A	3B	3 C	3 D	3E	3 F	0123456789:;<=>?			
000040H:	40	41	42	43	44	45	46	47	48	49	4A	4 B	4 C	4D	4E	4 F	@ABCDEFGHIJKLMN0)		
1000500	5.0	51	52	53	54	55	5.6	57	5.8	5.9	5.4	58	5.0	50	5.E	5E	POBSTUVWKYZL 1 *			
		- 1	32		14		00	31	50	55	34	50	30	30	JL	31				>

Figure 4.4.1.a Load Code and Load Data Operation UI

Clicking the 'Code Window' button will pop up a code window, which can display the following content or perform the following operations:

■ Fill

Fill the whole or a segment of the code storage buffer with a value (value range: 00H \sim FFH).

Clear

Clear the value of the whole code store buffer.

Search box

Search a value (00H \sim FFH) in the whole code storage area, and click 'Next' to jump to the next address of the value.



Import

Import the file of the specified format (supporting three formats of .hex /.bin /.obj) into the code window.

Export

Export the current buffer data (supporting three formats of .hex/.bin/.obj) and save it.

Check Sum

Display the checksum of the current code storage area in real time.

4.4.2 Load Data

Data Window—Load the user data to be programmed. The data file supports two formats: 'hex', 'bin'.

The 'Load Data' UI and operation are similar to the 'Load Code' UI and operation, so the explanation is omitted.

4.5 Programming information configuration area

4.5.1 Chip options UI

Choosing the right chip is the first step of programming. Click the button of chip model on the right side of 'Select Chip' to pop up the Chip selection window. Please see the example description in Chapter 5.1 for more details.



Blank	Read Select Chip:	Verify	📕 Auto		1		
Load Project	Select Chip:		· · ·		Download	-	Upgrade FW
Save Project		SH79F3283	Option Name	Value	un ati a a		
3 Save Project	Option[0080] : [8 Code Check Sum : 0 CRC16-CCITT : 6	30000000 (1) 080-D800 DD9	OP_WDTPD: OP_RST:	Disable WDT ft P5.2 used as F	inction unction in Power-Do RST pin	own mode	
Code Window	CRC8-MAXIM : F	0 <u>0</u> <u>0</u> <u>0</u> <u>3</u>	OP_WMT: OP_OSCRFB:	longest warm 2M	up time		
🔋 Data Window	IC Version Mark :0	000	OP_LVREN: OP_LVRLE: OP_SCM:	4.1V LVR level SCM is invalid	inction 1 in warm up period		
	FW Version:V2.00 [20	 Auto Detect 23-09-13 10:29:06 	OP_MODSW:	LCD/LED cour	nter run, if MODSW b	bit is 1	>
(🖗 Chip Options 🔯	Control Option 🔝 C	Customize		Pass/Fail/Limit:	0/0/1000	
Program Report 2023-10-13 13:47	7:301 Select Chip: SH	79E3283		Socket 1	0%		\cap
2023-10-13 13:47 2023-10-13 13:47	7:31] Device (Pro06C 7:31] Auto detectd de) connected! Firmwa	are Version: 2.00		0.0	,	$-\bigcirc$
2023-10-13 13:47	7:31] Switch to :Pro06	6C		Socket 2	0%		$-\bigcirc$
				Socket 3	0%	,	-Õ
<				> Socket 4	0%	,	$\check{\bigcirc}$

Figure 4.5.a 'Chip options' Sub UI

①Code option

Configure the project according to the code options provided by the chip. When setting, just click the options, all the options available will be listed, and then click the required options.

②Code check sum

XXXX - YYYY: XXXX is the code option value checksum, YYYY is the code checksum.

■ ③Data check sum

E2 data's checksum.

A Programming device display

Display information about the currently connected programmer. If no information is displayed, please click the "Auto Detect" button.



4.5.2 Control option UI

SinoWealth Progra	ammer - Advance M	ode					– 🗆 ×			
Mode Language (Operation Help						🄄 Sino Wealth			
Blank	🔶 Rea	id 📝	Verify	🗼 Auto	Downlo	bad	Upgrade FW			
Load Project Load Project Save Project Code Window	Socket Setting Socket 1 Socket 2 Socket 3 Socket 4	Auto Program	M Setting Blank 2 Option	Writer setting Wait for key pre Auto Detect	Multi-Progra Current A Assign A (4) Next Are	am: Power Area (© 3.3V Area: O 5V Power o a 6 ms	⑤ n time: Default ✓ Auto Scan			
Data Window	Custom Security Old: 00-00 New: 6 00-00	Socket 4 Security Use RESE Print Custom Security Whole flash code (Include option, security, SN, ID) Old: 00-00-00-00-00 New: 6 00-00-00-00-00 E2PRom BootRom Image: Control Option Sectors of flash code Sector Option PGM Interface JTAG Image: Control Option Customize Pass/Fail/Limit: 1 / 1 / 1000								
Program Report [2023-10-20 16: [2023-10-20 16: [2023-10-20 16: [2023-10-20 16:	34:24] Select Ch 34:24] Device (F 34:24] Auto dete 34:24] Switch to	iip: SH79F328 ?ro06C) conne ctd devices: I :Pro06C	33 ected! Firmwar Pro06C	e Version: 2.00	Socket 1 Socket 2 Socket 3 Socket 4	0% 0% 0%				

Figure 4.5.2.a 'Control option' sub UI

I Socket Setting

You can check the required program channel here.

2 Auto Programming Setting

Configure the specific action items to be performed when clicking 'Auto' button.

■ ③Writer setting

In mass production programming mode, a new programming needs to be triggered after each chip change. The trigger mode can be configured as either "Auto Detect" or "Wait for key press". Check the "Match machine" to set that the LED lights are all off and no longer flash in case of programming error.

4 Multi-Program

The programming area corresponds to the relevant storage area in the



target MCU. This configuration is only applicable to OTP MCU, not flash MCU.

- Current area——The block to be Programmed is the current block.
- > Assign area——The block to be Programmed is specified by user.
- Next area——The block to be Programmed is the next block.

■ **⑤**Power

Configure the power supply mode of the target MCU when programming.

6 Customer security code settings

Edit and set the customer security code. It is used to encrypt the whole chip. Please be aware that this code can be set only after the security function is enabled.

■ ⑦Flash programming area configuration

Configure the region to program by checking.

- Whole Flash code——include code, option, Customer information, Security information
- > **E2PROM**——Customer data storage area
- Sectors of flash code ——Customer code storage area



sinowealth Progra	mmer - Advance M	lode					- 0
de Language (Operation Help						sino Wealth
Blank	🔶 Rea	ad	Verify		ıto	Download	I Upgrade FV
Load Project	Socket Setting ✓ Socket 1	-Auto Program ☑ Erase	Setting Blank	-Writer setting ✓ Wait for k	g ey pres	Multi-Program	Power
Save Project	Socket 2	✓ Program		Auto Dete	ect	O Assign Are	a: 05V
Code Window	⊠ Socket 3 □ Socket 4	 ✓ Verify ✓ Security 	Option	Match ma	chine	1 O Next Area	 Power on time: Defaul 6 ms Auto Scar
	Old: 00-00 New: 00-00	, D-00-00-00-00 D-00-00-00-00 s @ Control O	Detion	stomize	iootRon	n ector Option Pass/Fa	Use RESET pin enter mod PGM Interface: JTAG
rogram Report 2023-10-13 17: 2023-10-13 17: 2023-10-13 17: 2023-10-13 17: 2023-10-13 17: 2023-10-13 17:	13:42] Select Ch 13:42] Device (F 13:42] Auto dete 13:42] Auto dete 13:42] Switch to 19:01] Select Ch 19:01] Device (F	nip: SH79F3283 Pro06C) connec ectd devices: Pr :Pro06C nip: SH79F3283 Pro06C) connec	3 sted! Firmwar ro06C 3 sted! Firmwar	e Version: 2.0 e Version: 2.0	0	Socket 1 Socket 2	0%
						Socket 3	0%

Figure 4.5.2.b Programming Area Configuration

■ ⑧The check option of reset pin

If checked, the reset pin in the programmer interface should be connected with the reset pin of the target MCU when programming.

■ **9**Program interface setting

Configure the interface mode of programming.


4.5.3 Customize UI

🖡 SinoWealth Prog	rammer - Advance Mode		- 🗆 X
Mode Language	Operation Help		🌎 Sino Wealth
Blank	Read Verify 4uto	Download	Upgrade FW
🧉 Load Project	Customer ID 1 Value: 00000000 Format HEX v Step: +0	Anti Transshipment Code – Burn Mode Normal –	Source: SCAN ~
🛃 Save Project	Serial Number 2 Value: 00000000 Format HEX V Step:	(4)	Anticode len: $1 \sim \sim 32 \sim$
💐 Code Window	Code Serial Number Addr(HEX): 00000000 Value(HEX): 00000000	Check before burning:	
🧔 Data Window	Mode: RTD Step(-15~15): +0 Enable Code Serial I 3 32Bits 24Bits 16Bits 8Bits Apply	Code Checksum Serial Number Customer ID	Program Limit 5
	Chip Options 🔯 Control Option 🔝 Customize	Pass/Fail/L	imit. 0 / 0 / 1000
Program Report [2023-10-13 13: [2023-10-13 13:	47:30] Select Chip: SH79F3283 47:31] Device (Pro06C) connected! Firmware Version: 2.00	Socket 1	0%
[2023-10-13 13: [2023-10-13 13:	47:31] Auto detectd devices: Pro06C 47:31] Switch to :Pro06C	Socket 2	<u>0%</u>
		Socket 3	0%
<		> Socket 4	0%

Figure 4.5.3.a 'Customize' sub UI

■ ①Customer ID

- The length of CID is 4bytes.
- Input and display formats support both decimal and hexadecimal.
- The step size can be set freely as actual needs, and the recommended range is: - 99 ~ + 99.

■ ②Serial Number

- The length of Serial Number is 4bytes.
- Input and display formats support both decimal and hexadecimal.
- The step size can be set freely as actual needs, and the recommended range is: -99 ~ + 99.
- ③OTP product code serial number



This functional module is specifically designed for consideration to OTP MCU because its user code cannot access serial number. This function module can be used instead of accessing the serial number in the user code.

- The serial number setting supports self-increment or self-decrement, and step size Settings range from -15 to 15.
- The starting serial number can be specified.
- The length of serial number supports 4 specifications: 8 bits, 16 bits, 24 bits and 32 bits.
- The format of serial number supports both RTD and RTNW.

RTD: The serial number is stored in the specified location of ROM as 'little Endian'. A word contains 2 bytes of the serial number. This format only supports 16 bits and 32 bits.

RTNW: The serial number is stored in the specified location of ROM as 'little Endian'. A word holds only one byte of the serial number and places it in the lower byte of word, with its high byte fixed at 0xD0. This format supports four lengths: 8 bits, 16 bits, 24 bits and 32 bits.

Anti Transshipment Code related information or options

⑤Program limit

Set the upper limit of program times. When program reaches the set value, program will not continue. '0' means no limit.



4.6 Program Report

SinoWealth Prog	ammer - Advance Mode			– 🗆 X
Node Language	Operation Help			🃢 Sino Wealth
Blank	🔶 Read 📝 Verify	🗼 Auto	Download	Upgrade FW
 Load Project Save Project Code Window Data Window 	Select Chip: SH79F3283 Option[0080] : 80000000 Code Check Sum : 0080-D800 CRC16-CCITT : 6DD9 CRC8-MAXIM : F0 Data Check Sum : FC00 IC Version Mark : 0000 Device: Pro06C ✓ Auto Detect	Option Name OP_WDT: OP_WDTPD: OP_RST: OP_WMT: OP_OSCRFB: OP_LVREN: OP_LVRLE: OP_SCM: OP_MODSW:	Value Enable WDT function Disable WDT function in Power-D P5.2 used as RST pin longest warm up time 2M Disable LVR function 4.1V LVR level 1 SCM is invalid in warm up period LCD/LED counter run, if MODSW	iown mode
	Chip Options Control Option	< Customize	Pass/Fail/Limit	>
12022-10-13 14-9	5:311 Auto dotoctd dovicos: Pro06C		0.	\cap
[2023-10-13 14:3	35:31] Switch to :Pro06C			·
	6		Socket 2 09	
			Socket 3 0%	
<			Socket 4 0%	·()

Figure 4.6.a Program report

The information of log can be printed in real time here. The red information means an error, which needs special attention. The time of the current operation is shown in brackets.



4.7 Status display area of each channel

SinoWealth Prog Iode Language	rammer - Advance Mode Operation Help			— 🗆 🗙
Blank	🛉 Read 📝 Ve	erify 📕 Auto	Download	Upgrade FW
 Load Project Save Project Code Window Data Window 	Select Chip: SH79F328 Option[0080] : 80000000 Code Check Sum : 0080-D800 CRC16-CCITT : 6DD9 CRC8-MAXIM : F0 Data Check Sum : FC00 IC Version Mark : 0000 Device: Pro06C FW Version:V2.00 [2023-09-13 10:29 Chip Options @Control Option	3 Option Name OP_WDT: OP_WDTPD: OP_RST: OP_WMT: OP_OSCRFB: OP_LVREN: OP_LVREN: OP_SCM: OP_SCM: OP_MODSW: Customize	Value Enable WDT function Disable WDT function in Power-Down mod P5.2 used as RST pin longest warm up time 2M Disable LVR function 4.1V LVR level 1 SCM is invalid in warm up period LCD/LED counter run, if MODSW bit is 1	de
Program Report [2023-10-13 14: [2023-10-13 14:	35:31] Auto detectd devices: Pro060 35:31] Switch to :Pro06C	0	Socket 1 0% Socket 2 0% ⑦ 0% Socket 3 0% Socket 4 0%	

Figure 4.7.a area of each channel Status display

Display the status and final result of each channel in real time. The red means error, green means success. This bar will only be displayed when the corresponding socket is selected.



4.8 Programmer firmware upgrade

🖡 SinoWealth Progr	ammer - Advance Mode			– 🗆 X
Mode Language	Operation Help			岆 Sino Wealth
Blank	Read Verify	🗼 Auto	Download	Upgrade FW
Load Project	Select Chip: SH79F3283 Option[0080] :80000000 Codd Chack Cum :0000.0000	Option Name OP_WDT: OP_WDTPD:	Value Enable WDT function Disable WDT function in Power-D	own mode
Code Window	CRC16-CCITT : 6DD9 CRC8-MAXIM : F0	OP_RST: OP_WMT:	P5.2 used as RST pin longest warm up time	_
Jata Window	Data Check Sum :FC00 IC Version Mark :0000	OP_OSCRFB: OP_LVREN: OP_LVRLE:	2M Disable LVR function 4.1V LVR level 1	
	Device: Pro06C Auto Detect FW Version:V2.00 [2023-09-13 10:29:06]	OP_SCM: OP_MODSW: <	SCM is invalid in warm up period LCD/LED counter run, if MODSW	bit is 1 🗸 🗸
	Chip Options 😨 Control Option	Customize	Pass/Fail/Limit	0 / 0 / 1000
Program Report [2023-10-13 14:3 [2023-10-13 14:3	5:31] Auto detectd devices: Pro06C 5:31] Switch to :Pro06C		Socket 1 09	
			Socket 2 09	
			Socket 3 09	
<			Socket 4 09	

Figure 4.8.a Programming device firmware upgrade

Here the user can add and update the firmware version of the programmers. The firmware versions of all programmers or emulators are stored in the folder named firmware under the installation root directory of ProWriter.



4.9 UI of the simulator in online mode

SinoLink Pro/Plus can support programming in offline mode with only a single channel. But only the "Wait for key press" method is supported, and the "Auto Detect" method is not supported.

When the simulator is online, "Auto Detect" or "Wait for key press" option will not be displayed.

🖡 SinoWealth Progr	rammer - Advance	e Mode			- 🗆 X
Mode Language	Operation Help)			🌎 Sino Wealth
Blank	🔶 Rea	ad 📝 Verify	📕 Auto	Download	Upgrade FW
🎽 Load Project	Socket Setting	Auto Program Setting	Writer setting	Multi-Program:	Power
🛃 Save Project	Socket 2	Program	Auto Detect	O Current Area O Assign Area:	SV O External 5V O External 5V
	Socket 3	Verify		1 ∨	Power on time: Default 6 ms ~ Auto Scan
🗔 Data Window	Custom Security Old: 00-00 New: 00-00	✓ Security Option ✓ ✓ Whole 0-00-00-00 ✓ E2 0-00-00-00 □ Sectors	flash code (Include opt PRom BootRom s of flash code Se	ion,security,SN,ID)	Use RESET pin enter mode M Interface: JTAG ~
	Chip Options	s 🔯 Control Option 🔝 Cus	tomize	Pass/Fail/Li	imit: 0 / 1 / 1000
Program Report [2023-10-13 15:2	28:10] Select Ch	nip: SH79F3283	S	Socket 1	0%
[2023-10-13 15:2 [2023-10-13 15:2 [2023-10-13 15:2	28:10] Device (8 28:10] Auto dete 28:10] Switch to	sinoLinkPlus) connected! Firr actd devices: SinoLinkPlus :SinoLinkPlus	nware Version: 1.0	Socket 2	0%
			s	Socket 3	<u>•</u> *
<			>	Socket 4	<u>0%</u>

Figure 4.9.a UI of the SinoLink Plus in online mode

SinoLink/JET51A does not support programming in offline mode.



SinoWealth Prog	rammer - Advance	e Mode			– 🗆 X
Node Language	Operation Help)			Sino Wealth
Blank	🔺 Rea	ad 📝 Verify	🖊 Auto	Download	Upgrade FW
Load Project Save Project Code Window Data Window	Socket Setting Socket 1 Socket 2 Socket 3 Socket 4 Custom Security Old: 00-00 New: 00-00	Auto Program Setting Erase Blank Program Verify Security Option Whole 000-00-00 E2 0-00-00-00 Sector	Writer setting Wait for key press Auto Detect flash code (Include opt PRom BootRom s of flash code Se	Multi-Program: © Current Area Assign Area: Next Area ion,security,SN,ID)	Power 3.3V External 3.3V 5V External 5V Power on time: Default 6 ms Auto Scan Use RESET pin enter mode M Interface: JTAG
	Chip Options	s 🔯 Control Option 🔝 Cus	tomize	Pass/Fail/L	.imit: 0 / 1 / 1000
Program Report [2023-10-13 15:: [2023-10-13 15:: [2023-10-13 15:: [2023-10-13 15::	31:03] Select Cf 31:03] Device (\$ 31:03] Auto dete 31:03] Switch to	nip: SH79F3283 SinoLink) connected! Firmwar actd devices: SinoLink :SinoLink	re Version: 2.51	Socket 1 Socket 2 Socket 3 Socket 4	0% O

Figure 4.9.b UI of the SinoLink in online mode



Chapter 5 **ProWriter Program example**

In this chapter, we will introduce two examples of programming chips. One is how to program nopf files, and the other is regular, configuring parameters in the ProWriter UI and downloading and programming to the chip.

5.1 How to program nopf file to the chip

5.1.1 Connecting the programmer

Power on the programmer and connect it to the PC via USB.

5.1.2 Loading nopf file

Open the ProWriter software and load the nopf file through the "Open Project" button on its UI.

👃 SinoWealth Progra	mmer - Advance Mode					-	
Mode Language ()peration Help					(5	Sino Wealth
Blank	🔶 Read	Verify	🗼 Auto	*	Download	₽	Upgrade FW
Load Project	Select Chip:	SH79F3283	Option Name	Value			^
🛃 Save Project	🖊 Open						×
		$ThisPC\rightarrowDesktop\rightarrow$	nopf test	~	ō	Search nopf test	م
Code Window	Organize 🔻 New f	folder					• 🔳 🕐
Data Window	OneDrive	Name	ect the nopf file	to be burne	odified ed	Туре	Size
	OneDrive - Perso	🍘 test.nopf		9/25/20	23 3:26 PM	NOPF File	
	- Onebrive - Perso	🍘 test1.nopf		10/8/20	23 5:33 PM	NOPF File	
	💻 This PC	🍘 test2.nopf		10/8/20	23 5:38 PM	NOPF File	
	🗊 3D Objects	🍘 test3.nopf		10/9/20	23 2:25 PM	NOPF File	
	📃 Desktop	🍘 test4.nopf		10/13/2	023 11:13 AN	1 NOPF File	
Program Report	Documents						
[2023-10-13 16:	Downloads						
[2023-10-13 16:	h Music						
[2023-10-13 16:	Dictures						
[2023-10-13 16:	Videos						
	Videos						
	🖕 OS (C:)						
	👝 Local Disk (D:)						
	🕳 Local Disk (E:)						
<	👝 OS (F:)						
, _	Actwork	~ <					
	Fi	le name: test1 nonf			~	Project files(*.nonf	*.opf:*.hex:* >
		reserved				- systemest inopi	,
					3	Open	Cancel

Figure 5.1.2.a Loading nopf file _1



SinoWealth Progra	mmer - Advance M	ode - [Read Only]					>
ode Language (peration Help						Sino Wealth
Blank	Rea	ad 📝 🗸	/erify 🦊	Auto	🥐 Down	load	Upgrade FW
Load Project Data Window	Socket Setting Socket 1 Socket 2 Socket 3 Socket 4	Auto Program Set Erase B Program Verify Security Op	ting Write lank W A Ation	er setting /ait for key pre- uto Detect latch machine	Multi-Prog Current Assign Next Ar O Next Ar	ram: Power Area 0.3.3V Area: 0.5V Power on 6 ms	time: Default
	Chip Option	s 🙀 Control Optior	Sectors of fla	BootRo	m Sector Option Pa:	Use RESE PGM Interface:	T pin enter mode JTAG ~
Program Report [2023-10-13 16: [2023-10-13 16: [2023-10] [2023-10] [2023-10] [2023-10] [2023-10] [2023-10] [2023-10] [2023	20:01] Select Cf 20:02] Device (f 20:02] Auto det 20:02] Switch of 20:20] File: C:\U 20:20] Select Cf 20:20] Device (f 20:20] Select Cf 20:20] Device (f	hip: SH79F3283 Pro06C) connected ectd devices: Pro06 :Pro06C Isers\a1212\Deskto hip: SH79F3283 Pro06C) connected hip: SH79F3283 Pro06C) connected Pro06C) connected	! Firmware Versi 3C !p\nopf test\test ! Firmware Vers ! Firmware Vers	ion: 2.00	Socket 1 Socket 2 Socket 3	0%	

Figure 5.1.2.b Loading nopf file _2

Note:

Although the loaded nopf file is 'read-only', there are still some operations that can be executed, such as 'Blank'. Some parameters can also be configured or modified, such as 'PGM Interface', 'Power on time', 'Use RESET pin enter mode', etc.

5.1.3 Download parameters

Download programming related configuration parameters to the programmer. For details, please refer to Chapter 4.2.5 of this article.



	Immer - Advance Mode - [F	Read Only]					- 0	;
de Language (Operation Help						Sino We	ealth
Blank	Read	Verify	🗼 Auto		Downl	oad	Vpgrad Upgrad	e FW
Load Project	Select Chip:	SH79F3283	Option Name	Value				
	Option[008E] :	8C000002	OP_WDT:	Enable	WDT function			
	Code Check Sum :	008E-C000	OP_WDTPD:	Disable	e WDT function	in Power-Down mo	de	
	CRC16-CCITT : 3	3003	OP_RST:	P5.2 us	sed as RST pin			
	CRC8-MAXIM : F	F9	OP_WMT:	longes	t warm up time			
	Data Check Sum : 0	0000	OP_OSCRFB:	500K				
Data Window	IC Version Mark : 0	0000	OP_LVREN:	Disable	e LVR function			
			OP_LVRLE:	4.1V LV	/R level 1			
	Device: Pro06C	 Auto Detect 	OP_SCM:	SCM IS	invalid in warn	h up period		
						the second se		
	FW Version:V2.00 [2	2023-09-13 10:29:06]	OP_MODSW:	LCD/LE	ED counter run,	if MODSW bit is 1		>
raaram Panart	FW Version:V2.00 [2	2023-09-13 10:29:06] Control Option	OP_MODSW:	LCD/LE	ED counter run, Pas	if MODSW bit is 1 s/Fail/Limit: 0 / 0 / 1	000	>
rogram Report	FW Version:V2.00 [2	2023-09-13 10:29:06] Control Option 🔐 C	OP_MODSW:		ED counter run, Pas	if MODSW bit is 1 s/Fail/Limit: 0 / 0 / 1	1000	` `
rogram Report 2023-10-23 10: 2023-10-23 10:	FW Version:V2.00 [2 Chip Options 10:51] Auto detectd de 10:51] Switch to 'Pro0'	2023-09-13 10:29:06] Control Option 🔝 C evices: Pro06C I6C	OP_MODSW:	LCD/LE	ED counter run, Pas ocket 1	if MODSW bit is 1 s/Fail/Limit: 0 / 0 / 1 0%	1000	` `
rogram Report 2023-10-23 10: 2023-10-23 10: 2023-10-23 10: 2023-10-23 10:	FW Version:V2.00 [2 Chip Options 10:51] Auto detectd de 10:51] Switch to :Pro0 10:58] File: C:Usersha	Control Option Image: Control Option evices: Pro06C 6C Image: Control Option	OP_MODSW:		ED counter run, Pas	if MODSW bit is 1 s/Fail/Limit 0 / 0 / 1 0%		` `
rogram Report 2023-10-23 10: 2023-10-23 10: 2023-10-23 10: 2023-10-23 10:	FW Version:V2.00 [2 Chip Options 10:51] Auto detectd de 10:51] Switch to :Pro0 10:58] File: C:\Users\a 10:58] Select Chip: SH	Control Option Image: Control Option evices: Pro06C 6C 1212\Desktop\nopf 179F3283 Control Option	OP_MODSW:	LCD/LE	ED counter run, Pas ocket 1	if MODSW bit is 1 s/Fail/Limit 0 / 0 / 1 0%		` ()(
rogram Report 2023-10-23 10: 2023-10-23 10: 2023-10-23 10: 2023-10-23 10: 2023-10-23 10:	FW Version:V2.00 [2 Chip Options 10:51] Auto detectd de 10:51] Switch to :Pro0 10:58] File: C:\Users\a 10:58] Select Chip: SH 10:58] Device (Pro06C	2023-09-13 10:29:06] Control Option A C evices: Pro06C 6C 1212\Desktop\nopf 179F3283 C) connected! Firmwa	OP_MODSW:	LCD/LE	Pas ocket 1 ocket 2	if MODSW bit is 1 s/Fail/Limit 0 / 0 / 1 0% 0%		` ()(
rogram Report 2023-10-23 10: 2023-10-23 10: 2023-10-23 10: 2023-10-23 10: 2023-10-23 10: 2023-10-23 10:	FW Version:V2.00 [2 Chip Options 10:51] Auto detectd de 10:51] Switch to :Pro0 10:58] File: C:\Users\a 10:58] Select Chip: SH 10:58] Device (Pro06C 10:58] Select Chip: SH	2023-09-13 10:29:06] Control Option Control Option Control Optio	OP_MODSW: Customize test\test1.nopf op are Version: 2.00	LCD/LE	Pas ocket 1 ocket 2	if MODSW bit is 1 s/Fail/Limit 0 / 0 / 1 0% 0%		
rogram Report 2023-10-23 10: 2023-10-23 10: 2023-10-23 10: 2023-10-23 10: 2023-10-23 10: 2023-10-23 10: 2023-10-23 10:	FW Version:V2.00 [2 Chip Options 10:51] Auto detectd de 10:51] Switch to :Pro0 10:58] File: C:\Users\a 10:58] Select Chip: SH 10:58] Select Chip: SH 10:58] Select Chip: SH 10:58] Select Chip: SH 10:58] Device (Pro06C	2023-09-13 10:29:06] Control Option A C evices: Pro06C 6C 1212\Desktop\nopf 179F3283 C) connected! Firmwa 179F3283 C) connected! Firmwa	OP_MODSW: Customize test\test1.nopf op are Version: 2.00 are Version: 2.00	LCD/LE	Pas ocket 1 ocket 2	if MODSW bit is 1 s/Fail/Limit 0 / 0 / 1 0% 0%		
rogram Report 2023-10-23 10: 2023-10-23 10: 2023-10-23 10: 2023-10-23 10: 2023-10-23 10: 2023-10-23 10: 2023-10-23 10:	FW Version:V2.00 [2 Chip Options 10:51] Auto detectd de 10:51] Switch to :Pro0 10:58] File: C:\Users\a 10:58] Select Chip: SH 10:58] Select Chip: SH 10:58] Select Chip: SH 10:58] Device (Pro06C 11:27] Programmer's S	Control Option Control Option Control Option Control Option 1212\Desktop\nopf 179F3283 C) connected! Firmwa 179F3283	OP_MODSW: Customize test\test1.nopf op are Version: 2.00 are Version: 2.00 -FB-BA-79-38	LCD/LE	Pas ocket 1 ocket 2	if MODSW bit is 1 s/Fail/Limit 0 / 0 / 1 0% 0% 0%		
rogram Report 2023-10-23 10: 2023-10-23 10: 2023-10-23 10: 2023-10-23 10: 2023-10-23 10: 2023-10-23 10: 2023-10-23 10: 2023-10-23 10:	FW Version:V2.00 [2 Chip Options Chip Options Chip Options Chip Options Chip Options Chip Select Chip: SH 10:51] Switch to :ProOf 10:58] Select Chip: SH 10:58] Device (ProOfC 10:58] Select Chip: SH 10:58] Device (ProOfC 11:27] Programmer's S 11:31] Download flash	Control Option C evices: Pro06C 6C 1212\Desktop\nopf 179F3283 C) connected! Firmwa 179F3283 C) connected! Firmwa SN: 25-A5-9B-53-4B n success!	OP_MODSW: Customize test\test1.nopf op are Version: 2.00 are Version: 2.00 -FB-BA-79-38	Sc Sc	Pas ocket 1 ocket 2	if MODSW bit is 1 s/Fail/Limit 0 / 0 / 1 0% 0% 0%		

Figure 5.1.3.a Download programming parameters to the programmer

5.1.4 Execute programming

The programming methods can be divided into two types: 'online programming' and 'offline programming'.

Online programming

In online mode, after connecting the programmer to the chip to be programmed, click 'Auto' to achieve 'online programming'.



SinoWealth Progra	mmer - Advance M	ode - [Read Only]				>
ode Language (Operation Help				7	🌎 Sino Wealth
Blank	Rea	nd Verify	🗼 Aut	þ	Download	Upgrade FW
Load Project	Socket Setting Socket 1 Socket 2 Socket 3 Socket 4	Auto Program Setting C Erase Blank Program Verify Security Option	Writer setting Wait for ke Auto Detect Match mac	y press t hine ude op otRom	Multi-Program: Current Area Assign Area: Next Area Next Area	Power
	Chip Options	S 🙀 Control Option	Customize		Pass/Fail/L	imit: 1/1/1000
Program Report 2023-10-13 16: 2023-10-13 16: 2023-10-13 16: 2023-10-13 16: 2023-10-13 16: 2023-10-13 16: 2023-10-13 16:	44:04] Auto dete 44:04] Switch to 47:16] File: C:\U 47:16] Select Ch 47:16] Device (F 47:16] Device (F	ectd devices: Pro06C :Pro06C sers\a1212\Desktop\no ip: SH79F3283 Pro06C) connected! Firm ip: SH79F3283 Pro06C) connected! Firm	pf test\test1.nopf op nware Version: 2.00 nware Version: 2.00		Socket 1 Socket 2 Socket 3	0%
<				•	Socket 4	0%

Figure 5.1.4.a Programming nopf files in online mode

offline programming

Disconnect the USB, power on the programmer again, and the programmer automatically enters the 'offline programming' mode.

At this time, according to the different configurations of the 'Writer Setting' option during the 'Download', there will be two situations:

- Checked 'Auto Detect': Once the programmer detects that a new chip has been connected, it will automatically start programming.
- Checked 'Wait for key press': When the programmer detects that a new chip has been connected, it will not directly start programming. It will only start programming when the "Start Key" is pressed.



SinoWealth Progra	mmer - Advance M	ode - [Read Only]					_	- 🗆
Blank	Rea	id 📝	Verify		Auto	Downloa	d 📕	Upgrade FW
 Load Project Load Project 	Socket Setting Socket 1 Socket 2 Socket 3 Socket 4	Auto Program	Setting Blank Option Whole E: Sector	Writer Wai Auto flash coo 2PRom	setting t for key pres Detect ch machine de (Include o BootRor code	Multi-Program Current Are Assign Are 1 Next Area ption, security, SN, ID n Sector Option	Power aa baa: Power on tim baa:	me: Default Auto Scan pin enter mode
	Chip Option	s 🔯 Control O	ption 🔝 Cu	stomize		Pass/F	ail/Limit: 1/1/100	0
Program Report 2023-10-13 17:(2023-10-13 17:(2023-10-13 17:(2023-10-13 17:(2023-10-13 17:(2023-10-13 17:(2023-10-13 17:(2023-10-13 17:(01:40] Select Cf 01:41] Device (F 01:41] Auto deta 01:41] Switch to 01:46] File: C:\U 01:46] Select Cf 01:46] Device (F 01:46] Device (F	aip: SH79F3283 Pro06C) connect actd devices: Pr :Pro06C sers\a1212\De: ip: SH79F3283 Pro06C) connect ip: SH79F3283 Pro06C) connect	3 sted! Firmward ro06C sktop\nopf te 3 sted! Firmward 3 sted! Firmward	e Version st\test1.r e Version e Version	n: 2.00 nopf ope n: 2.00 n: 2.00	Socket 1 Socket 2 Socket 3 Socket 4	0% 0% 0%	

Figure 5.1.4.b Programming nopf files in offline mode



5.2 Configure on the ProWriter UI directly and

program to the chip

5.2.1 Chip Name Configuration

SinoWealth Progr	rammer - Advance Mo	de				- 🗆 ×
Mode Language	Operation Help					🅟 Sino Wealth
Blank	Read	Verify	🗼 Auto	*	Download	Upgrade FW
旑 Load Project	Select Chip:	(1) SH79F3283	Option Name OP_WDT:	Value Enable WDT f	unction	^
Save Project	Option[008E] Code Check Sum CRC16-CCITT	: 8C000002 : 008E-0000 : E1F0	Chip Selection			×
	CRC8-MAXIM Data Check Sum	: 00 : 0000	Chip List SH79F3283 SH79F3284		Display	Option ② it Flash ☑ Flash
🧔 Data Window	Device: Pro06C	 Auto Detect 	SH79F3285 SH79F328A SH79F329 SH79F329		Gra	
	FW Version:V2.00	2023-09-13 10:29:06]	SH79F64 SH79F6412 SH79F6413			
Program Report	🖓 Chip Options	Control Option	SH79F642 SH79F6421 SH79F6428	3		
[2023-10-18 10:2 [2023-10-18 10:2 [2023-10-18 10:2 [2023-10-18 10:2	21:52] Select Chip: S 21:53] Device (Pro0 21:54] Auto detectd 21:54] Switch to :Pro	H79F3283 CC) connected! Firmw devices: Pro06C 06C	SH79F642B SH79F6432 SH79F6433 SH79F6436 SH79F6441 SH79F6442 SH79F6461 SH79F6470 SH79F6481 SH79F6481A SH79F6483		ROM Siz E2PRON Supports Jet51A Pro06A Pro06B Pro06C SinoLink SinoLink	2e: 32768 x 8 4 A Size: 2048 x 8 ad Writers: 5 c. Pro Plus
,				ОК		Cancel

Figure 5.2.1.a Chip Name Configuration

- Area is the flash type selection area.
- ③Area displays all currently supported MCU types. If there are no required types, please update to the latest version of ProWriter software.
- ④ Area displays the ROM and E2PROM sizes of the currently selected MCU.
- ⑤ Area displays all programmer that support the current chip.



5.2.2 Channel (socket) setting

Pro06C supports up to 4 programming channels at the same time, and users can check it according to actual needs.

👃 SinoWealth Prog	rammer - Advance	e Mode			- 🗆 X
Mode Language	Operation Help)			🌎 Sino Wealth
Blank	🔶 Rea	ad 📝 Verify	📕 Auto	Download	Upgrade FW
Load Project Save Project Code Window Data Window	Socket Setting Socket 1 Socket 2 Socket 3 Socket 4 Custom Security Old: 00-00	Auto Program Setting Fase Blank Program Verify ReadBack V Security Option V Option E Coordon-000 C	Writer setting Wait for key press Auto Detect Match machine flash code (Include op PRom E BootRom s of flash code Se	Multi-Program: Current Area Assign Area: Next Area Next Area tion,security,SN,ID)	Power • 33V • 5V Power on time: Default 6 ms • Auto Scan Use RESET pin enter mode Minterface: JTAG •
	Chip Option	s 🔯 Control Option 🔝 Cus	tomize	Pass/Fail/L	.imit 6/0/150
Program Report [2021-09-13 11: [2021-09-13 11:	01:13] Select Ch 01:13] Device (F	nip: SH79F3283 Pro06B) connected! Firmware	Version: 2.30 S S	Socket 1 Socket 2 Socket 3 Socket 4	0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0

Figure 5.2.2.a Socket setting and display

5.2.3 Configure 'Power' and 'Power on time'

Configure the power supply for the MCU to be programmed during the programming process. The default value for 'Power on time' is 6ms.



	1.1.1					1	1
Blank	🔶 🔶 Rea	ad 🧭	Verify	👆 Aut	þ	Download	Upgrade FV
Load Project	Socket Setting	- Auto Program	Setting	-Writer setting		Multi-Program:	Power
	Socket 1	✓ Erase	Blank	Wait for ke	/ pres	s Ocurrent Area	○ 3.3V
Save Project	Socket 2	✓ Program		Auto Detec	t	O Assign Area:	● 5V
	Socket 3	Verify		Motch mod	hino	1 ~	Power on time: Defau
Code Window			0.1	watch mad	nine	Nevt Area	6 ms 🗸 Auto Scar
	Socket 4	Security	Option			- Next Alea	
Data Window	Custom Security	/	✓ Whole	flash code (Incl	iqe ol	ption,security,SN,ID)	
	Old: 00-00	0-00-00-00-00	⊡ E2	PRom Bo	otRon	n 🗌	Use RESET pin enter mod
	New: 00-00	0-00-00-00-00	Sectors	offlash code	S	ector Option PC	M Interface: JTAG
	Chip Option	s 🔯 Control Op	otion 🔝 Cus	tomize		Pass/Fail/	Limit: 1 / 1 / 1000
ogram Report	12:421 Salast Ch	Vie: 6470E2202			•	o. 1. 11	
023-10-13 17.	13:42] Device (F	rollec) connect	tedl Firmware	Version: 2.00	î	Socket I	(
023-10-13 17:	13:42] Auto dete	ectd devices: Pr	006C	10101011. 2.00			
023-10-13 17:	13:42] Switch to	:Pro06C				Socket 2	0%
023-10-13 17:	19:01] Select Ch	nip: SH79F3283					
023-10-13 17:	19:01] Device (F	pro06C) connect	ted! Firmware	Version: 2.00			
						Socket 3	

Figure 5.2.3.a 'Power' setting

5.2.4 Configure programming interface

The programming interfaces supported by different MCU models vary, and users can configure them according to their actual needs. Some chips only support one interface, so there is no need to configure it.



inoWealth Progra	ammer - Advance M	lode						-	
de Language (Operation Help							5	Sino Wealth
Blank	🔶 🔶 Rea	ad	Verify		Auto	*	Download	₽	Upgrade FV
Load Project	Socket Setting	Auto Program	Setting	Writer se	tting	Mu	llti-Program:	Power	
Save Project	Socket 2	✓ Erase	DIANK	Auto E)etect		Assian Area:	● 5V	
Code Window	⊠ Socket 3 □ Socket 4	✓ Verify ✓ Security	Option	Match	machine		1 v Next Area	Power on time 6 ms v	Defaul Auto Scar
Data Window	Custom Security Old: 00-00 New: 00-00	y 0-00-00-00-00 0-00-00-00-00	⊠Whole ⊠E2 □Sector	flash code PRom s of flash co	(Include o BootRor ode	ption,sec m Sector Op	urity.SN,ID)	Use RESET pin M Interface: JT	enter mod
	Chip Option	s 🔯 Control Op	otion 🔝 Cus	tomize			Pass/Fail/Li	imit: 1/1/1000	
rogram Report 1023-10-13 17: 1023-10-13 17: 2023-10-13 17: 2023-10-13 17:	13:42] Select Cł 13:42] Device (ł 13:42] Auto deta 13:42] Switch to	nip: SH79F3283 Pro06C) connect ectd devices: Pro ::Pro06C	ted! Firmware o06C	e Version:	2.00	Socket 1 Socket 2	2	0%	C
023-10-13 17: 023-10-13 17:	19:01] Select Cł 19:01] Device (ł	nip: SH79F3283 Pro06C) connect	ted! Firmware	e Version:	2.00	Socket 3	4	0%	Č
					~	Cooline 4		0%	\cap

Figure 5.2.4.a 'PGM Interface' setting

5.2.5 Configure 'Use RESET pin enter mode'

If the user needs to use the RESET pin to enter the programming mode, they can check "Use RESET pin enter mode".



								Sino wealth
Blank	🛉 Rea	ad 📝	Verify	🗼 Auto	•	🤹 Downlo	oad	Upgrade FV
Load Project	Socket Setting	- Auto Program S	Setting	-Writer setting		Multi-Progra	am: Power	
	Socket 1	✓ Erase	Blank	Wait for key	pres	s Ourrent A	vrea 03.3V	/
Save Project	Socket 2	Program		Auto Detect		O Assian A	vea: 05V	
	Socket 3	Verify		Motoh mool	ine	1	Power	on time: Defau
Code Window			0.1	Match mach	ine	O Nevt Are	a 6 ms	~ Auto Scar
	Socket 4	Security	Option				a	
Data Window	Custom Securit	y	Whole	flash code (Inclu	ide op	otion,security,SN,	ID)	
	Old: 00-00	0-00-00-00-00	✓ E2	PRom Boo	otRon	n	Use RES	ET pin enter mod
	New: 00-0	0-00-00-00-00	Sectors	s of flash code	S	ector Option	PGM Interfac	e: JTAG
	Chip Option	s 🄯 Control Op	tion 🔝 Cus	tomize		Pass	/Fail/Limit: 1/1/	/ 1000
ogram Report								\sim
023-10-13 17: 022 10 12 17:	13:42] Select Ch	hip: SH/9F3283	od Eirmuoro	Varian: 2.00	î,	Socket 1	0%	(
)23-10-13 17.	13:42] Device (r	ectd devices: Pro	booc	version. 2.00				C
023-10-13 17:	13:42] Switch to	:Pro06C				Socket 2	0%	\mathcal{C}
023-10-13 17:	19:01] Select Cł	nip: SH79F3283						
023-10-13 17:	19:01] Device (F	Pro06C) connect	ed! Firmware	Version: 2.00				Č
					ſ	Socket 3	0%	(
					V			

Figure 5.2.5.a 'Use RESET pin enter mode' setting

5.2.6 Configure the flash block to be programmed

The area to be programmed corresponds to the block in the target MCU flash. Users should check and configure according to their actual needs.



SinoWealth Progra	mmer - Advance M	ode						- []
de Language (peration Help		,					Sino 🔊	Wealth
Blank	🛉 Rea	ad 📝	Verify	-	Auto	🤹 Downlo	ad	🦊 Upgr	ade FV
Load Project	Socket Setting	- Auto Program S	Setting	-Writer s	etting	Multi-Progra	m: Po	ower	
	Socket 1	✓ Erase	Blank	⊠ Wait	for key pres	s Current A	rea C) 3.3V	
Save Project	Socket 2	Program		Auto	Detect	O Assign A	rea: 🖲)5V	
	Socket 3			Moto	h machina	1	Po	ower on time: [Defaul
Code Window			0.1	watc	n machine	O Next Are:	6	ms ~ Auto	o Scar
	Socket4	Security	Option			OrtextArea			
Data Window	Custom Security	/	Whole	flash cod	e (Include o	otion,security,SN,I	D)		
	Old: 00-00	0-00-00-00	⊠E2	2PRom	BootRon	n	Use	RESET pin ente	r mod
	New: 00-00	0-00-00-00-00	Sector	s of flash (code S	ector Option	PGM Inte	erface: JTAG	``
	Chip Option	s 🎡 Control Op	tion 🔝 Cus	stomize		Pass	/Fail/Limit:	1 / 1 / 1000	
ogram Report	I.								
023-10-13 17:	13:421 Select Ch	nip: SH79F3283			^	Socket 1	0%		\frown
023-10-13 17:	13:42] Device (F	Pro06C) connect	ed! Firmware	e Version	: 2.00				
023-10-13 17:	13:42] Auto dete	ectd devices: Pro	06C						\sim
023-10-13 17:	13:42] Switch to	:Pro06C				Socket 2	0%		(
023-10-13 17:	19:01] Select Ch	nip: SH79F3283							
023-10-13 17:	19:01] Device (F	Pro06C) connect	ed! Firmware	e Version	: 2.00	Seelest 2	084		\frown
						SUCKET 3	0%		(
									\sim
					>	Socket 4	0%		(

Figure 5.2.6.a Configure the flash block to be programmed

5.2.7 Custom Security

Optional configuration items. Please note that you can only set the 'Custom Security' after checking the 'Security' option under the 'Auto Program Setting' column.



de Language (Operation Help						Sino Weal
Blank	🔶 🔶 Rea	ad 📝	Verify	🦊 A	uto	Download	d Upgrade F
Load Project	Socket Setting	Auto Program S	Setting	Writer settin	g	Multi-Program	Power
Save Project	Socket 2	✓ Program	DIANK	Auto Det	ect	S Current Are O Assign Are	a 05.5V a: ●5V
Code Window	⊠ Socket 3 □ Socket 4	✓ Verify ✓ Security	Option	Match m	achine	1 O Next Area	 Power on time: Defail 6 ms < Auto Sca
	Old: 00-00 New: 00-00	5-00-00-00-00 0-00-00-00-00 5 🐼 Control Opt	E 2F	PRom E offlash code	BootRor	n Sector Option Pass/F	/ □ Use RESET pin enter mo PGM Interface: JTAG ail/Limit: 1 / 1 / 1000
ogram Report 023-10-13 17: 023-10-13 17: 023-10-13 17: 023-10-13 17:	13:42] Select Ch 13:42] Device (F 13:42] Auto dete 13:42] Switch to	nip: SH79F3283 Pro06C) connecte ectd devices: Pro	ed! Firmware b06C	Version: 2.0	00	Socket 1	0%
023-10-13 17: 023-10-13 17: 023-10-13 17:	19:01] Select Ch 19:01] Device (F	nip: SH79F3283 Pro06C) connecte	ed! Firmware	Version: 2.0	00	Socket 3	0%
_					~	Socket 4	0%

Figure 5.2.7.a Configure 'Custom Security'

5.2.8 Configure customer information

Optional configuration items. Set customer identification code (CID), serial number (SN), and programming limit information.



-	nmer - Advance Mode				- 🗆 X
ode Language C	peration Help				Sino Wealth
Blank	1 Read	🤣 Verify 🌗	Auto	Download	Upgrade FW
子 Load Project	Customer ID Value: 00000000 Fo	ormat HEX v Step:	+0 Anti Tran	sshipment Code e Normal ~	Source: SCAN V
Save Project	Serial Number Value: 00000000 Fr	ormat HEX v Step:	+0	A	nticode len: $1 \sim \sim 32 \sim$
🔋 Code Window	Code Serial Number				
🔋 Data Window	Addr(HEX): 000000 Mode: RTD	00 Value(HEX): 000	000000 Check be	efore burning:	Program Limit:
	Enable Code Serial I	6Bits 08Bits Ar	Deply Custor	Number ner ID	1000
	Chip Options 🔯 Co	ntrol Option	e	Pass/Fail/Li	mit: 1/1/1000
Program Report					
2023-10-13 17:1	3:42] Auto detectd devic	ces: Pro06C	^ Sock	tet 1	0%
2023-10-13 17.1	9:011 Select Chip: SH79	F3283			\bigcirc
2023-10-13 17:1					
2023-10-13 17: 2023-10-13 17:1	9:01] Device (Pro06C) c	onnected! Firmware Vers	sion: 2.00 Soch	tet 2	0%
2023-10-13 17:1 2023-10-13 17:1	9:01] Device (Pro06C) c	onnected! Firmware Ver	sion: 2.00 Soch	ket 2 ket 3	0%
2023-10-13 17: 2023-10-13 17: 	9:01] Device (Pro06C) c	onnected! Firmware Ver	sion: 2.00 Soch	xet 2	0% 0%

Figure 5.2.8.a Configure customer information

5.2.9 Loading Code and Loading Data

Optional configuration items. Set customer identification code (CID), serial number (SN), and programming limit information.

Loading through 'Load Project'

It can support loading hex or bin files. For 32-bit ARM core MCU, the hex file loaded here can support multiple blocks, such as a hex file that includes both Main block, Customer block, and E2PROM block codes.



SinoWealth Program	mmer - Advance Mode			- 🗆 X
Mode Language C	th Programmer - Advance Mode puage Operation Help Blank Read Verify Auto Download Project Open $\leftarrow \rightarrow \checkmark \uparrow \Rightarrow$ This PC > Desktop > ProWriter Test \checkmark \circlearrowright Search Pro Organize \checkmark New folder Vindow Organize \checkmark New folder Vindow OneDrive \uparrow Name Date modified Ty \circlearrowright OneDrive \uparrow Name \uparrow Date modified Ty \circlearrowright OneDrive \uparrow Desktop \uparrow Select the code file or data file to be burned \circlearrowright 3D Objects \blacksquare Downloads \circlearrowright Downloads \circlearrowright Distures \circlearrowright Oile Originate \circlearrowright Nusic \uparrow Distures \circlearrowright Oile Originate \circlearrowright Oile \circlearrowright Originate \circlearrowright Distributes \circlearrowright Downloads \circlearrowright Distributes \circlearrowright Oile Originate \circlearrowright Distributes \circlearrowright Olive \circlearrowright Distributes \circlearrowright Originate \circlearrowright Originate \circlearrowright Distributes \circlearrowright Originate \circlearrowright Origina	Sino Wealth		
Blank	The Read	Verify 🛛 🦊 Au	to 🔅 Download	Upgrade FW
Load Project	🖊 Open			×
🛃 Save Project	← → ~ ↑ □ > 1	his PC > Desktop > ProWriter Test	✓ Ö Searc	n ProWriter Test 🛛 🔎
Code Window	Organize 🔻 New fol	der		:= - 🔟 😮
	 OneDrive 	Name	Date modified	Type Size
💐 Data Window	📥 OneDrive - Perso	🍘 test.hex	5/24/2023 10:40 AM	HEX File 65
Program Report [2023-10-13 17: [2023-10-13 17: [2023-10-13 17: [2023-10-13 17:	 This PC 3D Objects Desktop Downloads Music Pictures Videos OS (C:) Local Disk (D:) OS (F:) 	② Select the code file or	data file to be burned	
<	ightharpoonup Network 👻	<	③ Supports he	cand bin file formats
	File	name: test.hex	~ Proje	ct files(*.nopf;*.opf;*.hex;* ∨ Open Cancel

Figure 5.2.9.a Loading through 'Load Project'

Loading through 'Load Code' or 'Load Data' Directly

Load the code or data to be programmed. Please refer to Chapter 4.4 of this article for details.



de Language (Operation Help	oue						si 🤇	ino Wealth
Blank	🔶 Rea	id 📝	Verify	J I	uto	🥐 Dov	wnload	👢 u	pgrade FV
 Load Project Save Project Code Window 	Socket Setting Socket 1 Socket 2 Socket 3	Auto Program	Setting Blank	Writer setti ☑ Wait for □ Auto De □ Match m	ng key press tect achine	Multi-Pro	ogram: Int Area gn Area:	Power ○ 3.3V ● 5V Power on time: 6 ms ∨ A	Default
] Data Window	Custom Security Old: 00-00 New: 00-00	/)-00-00-00-00)-00-00-00-00 3 Control Op	Whole fl: E2P	ash code (lı Rom offlash cod	nclude op BootRom e S	tion,security, ector Option	SN,ID) Us PGM II Pass/Fail/Limit	e RESET pin e nterface: JTA	nter mode G ~
rogram Report 023-10-13 17: 023-10-13 17: 023-10-13 17: 023-10-13 17:	13:42] Auto dete 13:42] Switch to 19:01] Select Ch 19:01] Device (F	ectd devices: Pr :Pro06C nip: SH79F3283 Pro06C) connec	o06C ted! Firmware \	Version: 2.	00	Socket 1 Socket 2	09	% %	C
					•	Socket 4	09	%	

Figure 5.2.9.b Programming examples_ 'Load Code' & 'Load Data'

5.2.10 Automatic programming settings

Configure specific operations during the programming process (such as 'erase', 'program', 'verify', and 'security'). Please refer to Chapter 4.2.4 of this article for details.



SinoWealth Progra	mmer - Advance M	ode			– 🗆 X
1ode Language (Operation Help				岆 Sino Wealth
Blank	🔶 🔶 Rea	nd 📝 Verify	📕 Auto	Download	Upgrade FW
 Load Project Save Project Code Window Data Window 	Socket Setting Socket 1 Socket 2 Socket 3 Socket 4 Custom Security Old	Auto Program Setting Erase Blank Program Verify Security Option / Whole 0-00-00-00	Writer setting Wait for key press Auto Detect Match machine flash code (Include op	Multi-Program: Current Area Assign Area: Next Area tion, security, SN, ID)	Power O 3.3V
	New: 00-00	Control Option	rs offlash code Se	ector Option PG Pass/Fail/L	M Interface: JTAG ~
Program Report [2023-10-13 17: [2023-10-13 17: [2023-10-13 17: [2023-10-13 17:	13:42] Auto dete 13:42] Switch to 19:01] Select Ch 19:01] Device (F	ectd devices: Pro06C :Pro06C iip: SH79F3283 Pro06C) connected! Firmware	e Version: 2.00	Socket 1 Socket 2	0%
¢			×	Socket 3	0% O

Figure 5.2.10.a Configuration of programming steps and code encryption

5.2.11 Download parameters

Download the programming configuration parameter information to the programmer. Please refer to Chapter 4.2.5 of this article for details.



SinoWealth Progra	mmer - Advance M	lode					- D
ie Language (peration Help						Sino Wealth
Blank	🔶 🔶 Rea	ad	Verify	🗼 Auto		Download	Upgrade FV
Load Project	-Socket Setting	Auto Program	Setting	Writer setting		Multi-Program:	Power
	Socket 1	Erase	Blank	Wait for key p	oress	Current Area	○ 3.3V
Save Project	Socket 2	Program		Auto Detect		O Assign Area:	• 5V
	Socket 3	Verify				1 ~	Power on time: Default
Code Window		Veniy			ne		6 ms V Auto Scar
	Socket 4	Security	Option			O Next Area	
Data Window	Custom Securit	y	✓ Whole f	lash code (Includ	е ор	otion.security.SN,ID)	
	Old: 00-00	0-00-00-00-00	✓ E28	PRom Boot	Rom		Use RESET pin enter mod
	New: 00-0	0-00-00-00-00	Sectors	of flash code	Se	ector Option PC	GM Interface: JTAG
	Chip Option	s 🔯 Control Op	otion 🔝 Cust	omize		Pass/Fail/I	Limit 1/1/1000
ogram Report			*		_		\sim
023-10-13 17:	13:42] Auto dete	ectd devices: Pr	006C		^	Socket 1	0%
023-10-13 17:	13.42 SWITCH TO						\bigcirc
023-10-13 17:	19:01] Device (F	Pro06C) connect	ted! Firmware	Version: 2.00		Socket 2	0%
		,			Г		
						Socket 3	0%
					.		
				>		Socket 4	0%

Figure 5.2.11.a Download parameters

5.2.12 Execute programming

The programming methods can be divided into two types: 'online programming' and 'offline programming'.

Online programming

Online mode refers to the burner being connected to the upper computer through USB. When in online mode, the ProWriter UI will display information related to the programmer.



SinoWealth Program ode Language C	mmer - Advance Mode Operation Help					2	□ Sino Wealth
Blank	Read	Verify	🗼 Auto	ą.	Download	₽	Upgrade FW
 Load Project Save Project Code Window Data Window 	Select Chip: S Option[008E] : 8C00 Code Check Sum : 008E- CRC16-CCITT : 6DD9 CRC8-MAXIM : F0 Data Check Sum : FC00 IC Version Mark : 0000	H79F3283	Option Name OP_WDT: OP_WDTPD: OP_RST: OP_WMT: OP_OSCRFB: OP_LVREN: OP_LVREN: OP_LVRLE:	Value Enable WE Disable W P5.2 used longest wa 500K Disable LV 4.1V LVR k	DT function DT function in Power-E as RST pin arm up time R function evel 1)own mode	
	Device: Pro06C FW Version:V2.00 [2023-0 Options	Auto Detect	OP_SCM: OP_MODSW: < Customize	LCD/LED	counter run, if MODSW	bit is 1	>
rogram Report 2023-10-13 17:1 2023-10-13 17:1 2023-10-13 17:1 2023-10-13 17:1	13:42] Auto detectd device 13:42] Switch to :Pro06C 19:01] Select Chip: SH79F 19:01] Device (Pro06C) co	is: Pro06C 3283 nnected! Firmw	are Version: 2.00	Socke Socke Socke	et 3 09	6 %	
c			>	Socke	et 4 09	%	-C

Figure 5.2.12.a Programmer Device info display

In online mode, after connecting the programmer to the chip to be programmed, click 'Auto' to achieve 'online programming'.



Sinowealth Progra	mmer - Advance M	lode				- 0
ide Language (Operation Help					🌎 Sino Wealth
Blank	🔶 🔶 Rea	ad 📝 Ve	erify 📕	Auto	Download	Upgrade FV
 Load Project Save Project Code Window Data Window 	Socket Setting Socket 1 Socket 2 Socket 3 Socket 4 Custom Securit Old: 00-0 New: 00-0	Auto Program Setti Program Verify Security Opt 9 0-00-00-00 0 0 0 0 0 0 0 0 0 0 0 0	ng Writer ank Wa ank Ma Ma Whole flash co E2PRom Sectors of flash	r setting iit for key pres to Detect tch machine ide (Include op BootRon h code	Multi-Program: © Current Area Assign Area: Next Area Detion,security,SN,ID) n [ector Option P(Power O 3.3V I 5V Power on time: Default 6 ms V Auto Scar Use RESET pin enter mode GM Interface: JTAG
	Chip Option	s 🔯 Control Option	🔝 Customize		Pass/Fail/	Limit 1/1/1000
rogram Report 2023-10-13 17: 2023-10-13 17: 2023-10-13 17: 2023-10-13 17: 2023-10-13 17: 2023-10-13 17: 2023-10-13 17: 2023-10-13 17:	13:42] Select Cl 13:42] Device (f 13:42] Auto det 13:42] Switch to 19:01] Select Cl 19:01] Device (f 52:24] Auto det 52:24] Switch to	hip: SH79F3283 Pro06C) connected! ectd devices: Pro060 : Pro06C hip: SH79F3283 Pro06C) connected! ectd devices: Pro060 : Pro06C	Firmware Versio C Firmware Versio C	in: 2.00	Socket 1 Socket 2 Socket 3	0% C

Figure 5.2.12.b Programming in online mode

offline programming

Disconnect the USB, power on the programmer again, and the programmer automatically enters the 'offline programming' mode.

At this time, according to the different configurations of the 'Writer Setting' option during the 'Download', there will be two situations:

- Checked 'Auto Detect': Once the programmer detects that a new chip has been connected, it will automatically start programming.
- Checked 'Wait for key press': When the programmer detects that a new chip has been connected, it will not directly start programming. It will only start programming when the "Start Key" is pressed.



SinoWealth Progra	mmer - Advance M	ode					- 🗆
ode Language (Operation Help						Sino Wealth
Blank	🔶 Rea	nd 📝	Verify	🔶 Auto		Download	🦊 Upgrade FV
Load Project Save Project Code Window Data Window	Socket Setting Socket 1 Socket 2 Socket 3 Socket 4 Custom Security Old: 00-00 New: 00-00	Auto Program S Erase Program Verify Security 0-00-00-00-00 0-00-00-00	etting Blank Dption V Whole fl: E2P	Writer setting Wait for key p Auto Detect Match machin ash code (Include Rom BootF of flash code	e e opti	Multi-Program: © Current Area O Assign Area: 1 Next Area on,security,SN,ID)	Power O 3.3V I 5V Power on time: Default 6 ms V Auto Scar Use RESET pin enter mode Unterface: UTAG
	Chip Option	s 🔯 Control Opti	on 🔝 Custo	omize		Pass/Fail/Li	mit. 1/1/1000
Program Report 2023-10-13 17: 2023-10-13 17: 2023-10-13 17: 2023-10-13 17: 2023-10-13 17: 2023-10-13 17:	13:42] Select Ch 13:42] Device (F 13:42] Auto dete 13:42] Switch to 19:01] Select Ch 19:01] Device (F 52:24) Auto dete	iip: SH79F3283 Pro06C) connecte ectd devices: Pro :Pro06C iip: SH79F3283 Pro06C) connecte ectd devices: Pro	ed! Firmware \ 06C ed! Firmware \ 06C	Version: 2.00 Version: 2.00	s s	ocket 1	0% C
2023-10-13 17: 2023-10-13 17: <	52:24] Switch to	:Pro06C	000	>	s	ocket 4	0% C

Figure 5.2.12.c Programming in offline mode



Chapter 6 Example of creating a nopf file

6.1 Configure parameters

6.1.1 Chip Name Configuration



Figure 6.1.1.a Chip Name Configuration

- ② Area is the flash type selection area.
- ③Area displays all currently supported MCU types. If there are no required types, please update to the latest version of ProWriter software.
- ④ Area displays the ROM and E2PROM sizes of the currently selected MCU.
- ⑤ Area displays all programmer that support the current chip.



6.1.2 Channel (socket) setting

Pro06C supports up to 4 programming channels at the same time, and users can check it according to actual needs.

👃 SinoWealth Prog	rammer - Advance	e Mode			- 🗆 X
Mode Language	Operation Help)			🌎 Sino Wealth
Blank	🔶 Rea	ad 📝 Verify	🗼 Auto	Download	Upgrade FW
Load Project Save Project Code Window Data Window	Socket Setting Socket 1 Socket 2 Socket 3 Socket 4 Custom Security Old: 00-00	Auto Program Setting Fase Blank Program Verify ReadBack V Security Option V Option Option Correction C	Writer setting Wait for key press Auto Detect Match machine flash code (Include op PRom E BootRom s of flash code Se	Multi-Program: Current Area Assign Area: Next Area Next Area tion,security,SN,ID)	Power • 33V • 5V Power on time: Default 6 ms • Auto Scan Use RESET pin enter mode Minterface: JTAG •
	Chip Option	s 🔯 Control Option 🔝 Cus	tomize	Pass/Fail/L	.imit 6/0/150
Program Report [2021-09-13 11: [2021-09-13 11:	01:13] Select Ch 01:13] Device (F	nip: SH79F3283 Pro06B) connected! Firmware	Version: 2.30 S S	Socket 1 Socket 2 Socket 3 Socket 4	0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0

Figure 6.1.2.a Socket setting and display

6.1.3 Configure 'Power' and 'Power on time'

Configure the power supply for the MCU to be programmed during the programming process. The default value for 'Power on time' is 6ms.



SinoWealth Progra	mmer - Advance M	ode				- 0
de Language (Operation Help					Sino Wealth
Blank	🔶 🔶 Rea	ad	Verify 🦊	Auto	Download	Upgrade FV
🖌 Load Project	Socket Setting	-Auto Program Se	tting	ersetting	Multi-Program:	Power
	Socket 1	Erase	Blank 🛛 🗹 W	ait for key pres	s Ourrent Area	○ 3.3V
Save Project	Socket 2	Program		uto Detect	O Assign Area:	● 5∨
	Socket 3	Verify		oteh mochine	1 ~	Power on time: Default
Code Window				atchinachine	O Nevt Area	6 ms 🗸 Auto Scan
-	Socket4	⊠ Security 0	ption		Onextraied	
Data Window	Custom Securit	y	✓ Whole flash c	ode (Include o	ption,security,SN,ID)	
	Old: 00-00	0-00-00-00-00	E2PRom	BootRor	n 🗌	Use RESET pin enter mod
	New: 00-0	0-00-00-00-00	Sectors of fla:	sh code	Sector Option PC	GM Interface: JTAG 🗸
	Chip Option	s 🔯 Control Optio	n 🔝 Customize		Pass/Fail/	Limit: 1/1/1000
rogram Report	li internet					
2023-10-13 17:	13:42] Select Ch	nip: SH79F3283		^	Socket 1	0%
023-10-13 17:	13:42] Device (F	Pro06C) connected	d! Firmware Versi	on: 2.00		
023-10-13 17:	13:42] Auto dete	ectd devices: Pro0	6C			$\tilde{\mathbf{C}}$
2023-10-13 17:	13:42] Switch to	:Pro06C			Socket 2	0%
2023-10-13 17:	19:01] Select Cl	11p: SH/9F3283		on: 2.00		\bigcirc
023-10-13 17.	13.01] Device (r	-1000C) connected		011. 2.00	Socket 3	0%
						\sim
				~		

Figure 6.1.3.a 'Power' setting

6.1.4 Configure programming interface

The programming interfaces supported by different MCU models vary, and users can configure them according to their actual needs. Some chips only support one interface, so there is no need to configure it.



SinoWealth Progra	mmer - Advance M Operation Help	ode				
Blank	Rea	ad 📝 V	/erify 🌗	Auto	Download	Upgrade FW
Load Project Save Project Code Window	Socket Setting Socket 1 Socket 2 Socket 3 Socket 4	Auto Program Set	ing Write	r setting ait for key pres to Detect tch machine	Multi-Program: © Current Area Assign Area: 1 Next Area	Power O 3.3V Image: 5V Power on time: Default Image: 6 ms v Auto Scan
Data Window	Custom Security Old: 00-00 New: 00-00	2-00-00-00 0-00-00-00 S Control Option	Whole flash co E2PRom Sectors of flas	ode (Include o BootRor h code	ption,security,SN,ID) n Sector Option PG Pass/Fail/L] Use RESET pin enter mod iM Interface: JTAG
rogram Report 2023-10-13 17: 2023-10-13 17: 2023-10-13 17: 2023-10-13 17: 2023-10-13 17:	13:42] Select Cl 13:42] Device (f 13:42] Auto deta 13:42] Switch to 13:42] Switch to 19:01] Select Cl	iip: SH79F3283 Pro06C) connected ectd devices: Pro06 :Pro06C iip: SH79F3283	Firmware Versio	on: 2.00	Socket 1 Socket 2	0% C
023-10-13 17:	19:01] Device (F	Pro06C) connected	Firmware Versio	on: 2.00 V	Socket 3 Socket 4	0%

Figure 6.1.4.a 'PGM Interface' setting

6.1.5 Configure 'Use RESET pin enter mode'

If the user needs to use the RESET pin to enter the programming mode, they can check "Use RESET pin enter mode".



le Language (mmer - Advance M Operation Help	ode					- 🗆
Blank	1 Rea	ad 📝	Verify	🐥 Auto	🥐 Down	nload	Upgrade FV
Load Project	Socket Setting	Auto Program S Erase Program	Setting Blank	Writer setting Wait for key pre	Multi-Prog ss © Curren O Assign	gram: Power tArea ○3.3V iArea: ●5V Power o	n time: Default
Code Window	Socket 3	✓ Verity ✓ Security	Option	Match machine	O Next A	rea 6 ms	 Auto Scan
	Old: 00-00 New: 00-00 Image: Chip Option 00-00	5-00-00-00-00 0-00-00-00-00 5 Control Opt	E2P	Rom BootRo	m Sector Option Pa	PGM Interface	T pin enter mode
ogram Report 023-10-13 17: 023-10-13 17: 023-10-13 17: 023-10-13 17: 023-10-13 17:	13:42] Select Cf 13:42] Device (F 13:42] Auto dete 13:42] Auto dete 13:42] Switch to	nip: SH79F3283 Pro06C) connecte ectd devices: Pro :Pro06C sin: SH79F3283	ed! Firmware \ 06C	Version: 2.00	Socket 1 Socket 2	0%	
023-10-13 17: 023-10-13 17:	19:01] Device (F	Pro06C) connecte	ed! Firmware '	Version: 2.00	Socket 3	0%	$-\breve{C}$

Figure 6.1.5.a 'Use RESET pin enter mode' setting

6.1.6 Configure the flash block to be programmed

The area to be programmed corresponds to the block in the target MCU flash. Users should check and configure according to their actual needs.

Usually, users need to check 'Whole flash code(Include option.security.SN.ID)'. If it involves programming 'user data', please also check 'E2PROM'.



SinoWealth Progra	ammer - Advance M	lode					- 0
de Language	Operation Help						sino Wealth
Blank	The Real	ad	Verify	🦊 A	uto	Download	Upgrade FV
Load Project	Socket Setting	-Auto Program S	Setting	-Writer settir	g	Multi-Program:	Power
	Socket 1	Erase	Blank	✓ Wait for I	ey pres	s Current Area	○ 3.3V
Save Project	Socket 2	Program		Auto Det	ect	O Assign Area:	● 5V
	Socket 3	Verify		□ Motob m	achina	1 ~	Power on time: Default
Code Window			0.1	watch m	achine	Novt Area	6 ms v Auto Scar
	Socket4	Security	Option			Onexchied	
Data Window	Custom Securit	у	Whole	flash code (Ir	clude op	otion,security,SN,ID)	
	Old: 00-0	0-00-00-00-00	⊠E2	2PRom	BootRon	n E	Use RESET pin enter mod
	New: 00-0	0-00-00-00-00	Sector	s offlash cod	e s	ector Option PO	GM Interface: JTAG
					_		
	Chip Option	s 🎡 Control Op	tion 🚮 Cus	stomize		Pass/Fail/	Limit: 1/1/1000
						, accir an	
rogram Report					_		\sim
023-10-13 17:	13:42] Select Cl	hip: SH79F3283			Â,	Socket 1	0%
023-10-13 17:	[13:42] Device (F	ProubC) connect	ed! Firmware	e Version: 2.0			\cup
023-10-13 17	13:42] Auto det	Pro06C	0000			Socket 2	0%
023-10-13 17:	19:011 Select Cl	nip: SH79F3283					(
023-10-13 17	19:01] Device (F	Pro06C) connect	ed! Firmware	e Version: 2.0	00		
						Socket 3	0%
					¥ .	Seeket 4	

Figure 6.1.6.a Configure the flash area to be programmed

6.1.7 Custom Security

Optional configuration items. Please note that you can only set the 'Custom Security' after checking the 'Security' option under the 'Auto Program Setting' column.



de Language (Operation Help						Sino Wealth
Blank	🔶 Rea	ad 📝	Verify	🗼 Auto		Download	Upgrade FV
Load Project	Socket Setting	Auto Program S	Setting	Writer setting	ores	Multi-Program:	Power
Save Project	Socket 2	✓ Program	DIAIIK	Auto Detect	pres	Assign Area:	© 5.5V
Code Window	⊠ Socket 3 □ Socket 4	✓ Verify ✓ Security	Option	Match mach	ine	1 Vext Area	Power on time: Defaul 6 ms v Auto Scar
	Old: 00-00 New: 00-00	0-00-00-00-00 0-00-00-00-00 s 🙀 Control Opt	E2P	PRom Boo offlash code	tRon	ector Option PG	Use RESET pin enter mod M Interface: JTAG
ogram Report 023-10-13 17: 023-10-13 17: 023-10-13 17: 023-10-13 17:	13:42] Select Ch 13:42] Device (F 13:42] Auto dete 13:42] Switch to	nip: SH79F3283 Pro06C) connecte ectd devices: Pro :Pro06C	ed! Firmware 1	Version: 2.00	î	Socket 1 Socket 2	0%
023-10-13 17: 023-10-13 17:	19:01] Select Ch 19:01] Device (F	nip: SH79F3283 Pro06C) connecte	ed! Firmware '	Version: 2.00		Socket 3	0%
				>	Ŧ	Socket 4	0%

Figure 6.1.7.a Configure 'Custom Security'

6.1.8 Configure customer information

Optional configuration items. Set customer identification code (CID), serial number (SN), and programming limit information.



SinoWealth Program	mmer - Advance Mod	e					_	
de Language O	peration Help						2 🜏	ino Wealth
Blank	🔶 Read	>	Verify	Auto	*	Download	Ψ. υ	lpgrade FW
Load Project	Customer ID Value: 000000	00 Format H	IEX ~ Step:	+0 Bui	ti Transshi m Mode N	ipment Code – Normal – V	Source: SCA	N ~
Save Project	Serial Number Value: 000000	00 Format H	IEX v Step:	+0		/	Anticode len: 1	~ ~ 32 ~
Code Window	Code Serial Num	iber						
Data Window	Addr(HEX): Mode: F	00000000 \ RTD \vee St	/alue(HEX): 00 ep(-15~15): +0	000000 Ch	eck before Code Che	e burning: cksum	Program Limit:	
	 Enable Code 32Bits 24B 	Serial I lits ◯ 16Bits ◯	8Bits A	pply	Serial Nun Customer	nber ID	1000	
	Chip Options	🔯 Control Opti	on 🔝 Customi:	ze		Pass/Fail/L	.imit: 1/1/1000	
rogram Report 2023-10-13 17:1	13:42] Auto detect	d devices: Pro	06C	^	Socket 1		0%	\cap
023-10-13 17:1 023-10-13 17:1	[3:42] Switch to :P [9:01] Select Chip	ro06C : SH79F3283						\subseteq
2023-10-13 17:1	19:01] Device (Pro	06C) connecte	ed! Firmware Ve	sion: 2.00	Socket 2		0%	$-\bigcirc$
					Socket 3		0%	\square
				~	Socket 4		0%	$\tilde{\mathbf{C}}$
								Charles and

Figure 6.1.8.a Configure customer information

6.1.9 Loading Code and Loading Data

Optional configuration items. Set customer identification code (CID), serial number (SN), and programming limit information.

Loading through 'Load Project'

It can support loading hex or bin files. For 32-bit ARM core MCU, the hex file loaded here can support multiple blocks, such as a hex file that includes both Main block, Customer block, and E2PROM block codes.



SinoWealth Program Mode Language C	mmer - Advance Mode Deeration Help			– 🗆 X
Blank	Read	Verify 🛛 🖊 Auto	Download	Upgrade FW
Load Project	🖡 Open			×
🛃 Save Project	← → • ↑ <mark>·</mark> •	This PC > Desktop > ProWriter Test	✓ Č Searce	h ProWriter Test
Code Window	Organize 🔻 New fo	lder		:==
	OneDrive	Name	Date modified	Type Size
Data Window	📥 OneDrive - Perso	🎱 test.hex	5/24/2023 10:40 AM	HEX File 6
	💻 This PC	② Select the code file or dat	a file to be burned	
	🗊 3D Objects			
	📃 Desktop			
	Documents			
Program Report	🕂 Downloads			
[2023-10-13 17:	b Music			
[2023-10-13 17:	Pictures			
[2023-10-13 17:	Videos			
2020 10 10 17.	🟪 OS (C:)			
	🕳 Local Disk (D:)			
	👝 Local Disk (E:)			
	🔜 OS (F:)			
<	i Network	<	③ Supports he	x and bin file formats ³
	File	name: test.hex	~ Proj	ect files(*.nopf;*.opf;*.hex;* ∨
		L		Open Cancel

Figure 6.1.9.a Loading through 'Load Project'

Loading through 'Load Code' or 'Load Data' Directly

Load the code or data to be programmed. Please refer to Chapter 4.4 of this article for details.


						sino weak
Blank	🛉 Rea	ad 📝 V	'erify 🎍	Auto	Download	Upgrade FV
Load Project	Socket Setting	-Auto Program Set	ing Writer	setting	Multi-Program:	Power
	Socket 1	Erase B	ank 🛛 🖂 Wa	it for key press	Current Area	○ 3.3V
Save Project	Socket 2	Program	Aut	o Detect	O Assign Area:	● 5V
	Socket 3			teh meshine	1 ~	Power on time: Defaul
Code Window				ich machine	Novt Area	6 ms v Auto Scar
	Socket 4	Security Op	tion		OnextAlea	
Data Window	Custom Securit	y	✓ Whole flash co	de (Include op	tion,security,SN,ID)	
	Old: 00-00		Use RESET pin enter mod			
	New: 00-0	0-00-00-00	Sectors of flash	n code Se	ector Option PO	GM Interface: JTAG
Chip Options i Control Option Customize Pass/Fail/L						Limit 1/1/1000
ogram Report	10.401.4					
023-10-13 17: 022-10-12 17:	13:42] Auto dete 12:42] Switch to	ectd devices: ProU6	C		Socket 1	0%
	19:01] Select Ch	nip: SH79F3283				C
023-10-13 17:	10.041 0	Pro06C) connected	Firmware Versio	n: 2.00	Socket 2	0%
023-10-13 17: 023-10-13 17:	19:01] Device (F					
023-10-13 17: 023-10-13 17:	19:01] Device (F					\smile
023-10-13 17: 023-10-13 17:	19:01] Device (F			ſ	De-1-+ 2	
023-10-13 17: 023-10-13 17:	19:01] Device (F			\$	Socket 3	
023-10-13 17: 023-10-13 17:	19:01] Device (f				Socket 3	0%

Figure 6.1.9.b Programming examples_ 'Load Code' & 'Load Data'

6.1.10 Automatic programming settings

Configure specific operations during the programming process (such as 'erase', 'program', 'verify', and 'security'). Please refer to Chapter 4.2.4 of this article for details.



SinoWealth Progra	mmer - Advance M	ode				- □ >
de Language (Operation Help					Sino Wealth
Blank	🔶 🔶 Rea	ad 📝 Verify		Auto	Download	Upgrade FW
Load Project	Socket Setting ☑ Socket 1	Auto Program Setting	Writer s	etting for key press	Multi-Program:	Power O 3.3V
Save Project	Socket 2	— ✓ Program	Auto	Detect	O Assign Area:	• 5V
	Socket 3 Verify		Mate	Match machine		Power on time: Default
Code Window	Socket 4	Security Option			O Next Area	6 ms 🛛 🗸 Auto Scan
🔋 Data Window	Custom Security	/ /	hole flash cod	e (Include op	tion,security,SN,ID)	
	Old: 00-00	0-00-00-00	E2PRom	BootRom]Use RESET pin enter mode
	New: 00-00	D-00-00-00	ctors of flash	code Se	ector Option PO	SM Interface: JTAG ~
Chip Options 🔯 Control Option 🔝 Customize Pass/Fail/Lim					.imit: 1/1/1000	
Program Report 2023-10-13 17:	13:42] Auto dete	ectd devices: Pro06C		<u>^</u>	Socket 1	0%
2023-10-13 17:	13:42] Switch to	:Pro06C		Γ		
2023-10-13 17: 2023-10-13 17:	19:01] Select Cr 19:01] Device (F	Pro06C) connected! Firm	ware Version	: 2.00	Socket 2	0%
	- ,	-		1		
					Socket 3	0%
				1		
c				>	Socket 4	0%

Figure 6.1.10.a Configuration of programming steps and code encryption



6.2 Save the project as a nopf file

Save the project to generate a nopf file. It can be divided into long-term valid version nopf files and limited time valid version nopf files. This article explains the generation of a 'long-term version nopf file'.

6.2.1 Generate long-term valid version nopf file

Load Project			· · · · · · · · · · · · · · · · · · ·	115	Dominoau	Upgrade in
Save Project	Socket Setting	Auto Program Settin	g Writer setting nk ⊠Wait for ke	Multi y press	-Program: Powe urrent Area 03.	er 3V X
Code Window	Socket 3	Filename: C	::\Users\a1212\Desktop\no	opf test\test5.nopf		Defaul
Data Window	Custom Secu Old: 00- New: 00-	Version: 1 Company: S	.0 inowealth			enter mod
'rogram Report 2023-10-16 13:43	Chip Optic	Author: a Password: et encryption pass Repeat Password:	1234 sword for nopf file	Specify the Assign Progr 25-A5-9B-53-4	programmer by rammer's SN Re B-FB-BA-79-38	ad SN
2023-10-16 13:43 2023-10-16 13:43 2023-10-16 13:43	3:07] Device 3:07] Auto de 3:07] Switch	To prevent code cogenerated nopf fi	de	Validi e de or data	ty period Unlimited Unlimited 15-Minute 30-Minute 60-Minute Cancel 90-Minute 120-Minute	

Figure 6.2.1.a Generate long-term valid version nopf file

Password

Customers can decide whether to set a 'password' based on their actual needs.

• Specify the SN of the programmer

Check 'Assign Programmer's SN' and fill in the serial number of the programmer that needs to be specified in the format.

• Hide Code

Users should choose whether to check 'Hide Code' according to their actual



needs.

Hide Data

Users should choose whether to check 'Hide Data' according to their actual needs.

Save the project to generate a long-term valid version of nopf



Figure 6.2.1.b Save the project to generate long-term valid version nopf file

Note:

1. If the user needs the nopf file to have the "Program Limit" function, please create a limited time valid version of the nopf file.



Chapter 7 Common Problems and Corresponding

Solutions

- 1. Pro06C/Pro06B has been powered on and connected to the upper computer through a USB cable, but the ProWriter UI displays "No Writer":
- 1) Check if the USB cable connection is normal.
- Click on "Auto Detect", and if successful, the device name and firmware version information will be displayed.
- 3) Check if the hardware device driver is functioning properly.

2. Program fail:

- 1) Check if the "Socket Setting", "PGM Interface", programming area, etc. are selected correctly.
- 2) Update ProWriter to the latest software version.
- 3) Check if the firmware of the programmer and the library files of the chip have been updated to the latest version.
- 4) Check if the "Power on time" parameter settings are appropriate. You can use the "Auto Scan" method to check. If the external capacitance of the VDD is large, it is recommended to manually modify the "Power on time" parameter for an attempt. After each attempt, it is necessary to manually short-circuit the VDD and GND to discharge.
- 5) Check if there is an external circuit on the IC programming pin. For resistors connected in series on the programming pin, pull-up resistors on the programming pin, or pull-down resistors on the programming pin, it is recommended to follow the maximum value in the "Application Reference" table. For other application circuits, it is recommended to disconnect the circuit before programming. If it cannot be disconnected, it is recommended to programming the chip first before welding.



Parameter		Symbo1	TIN.	TYP.	TAX.	Unit	Condition
Resistor connected in	SWE	R _S	-	-	47	Ω	
	JTAG		-	-	100	Ω	
Series	ting ter cted in SWE JTAG SWD SWE JTAG SWD SWD SWE JTAG SWD Capacitor of pressing Key		-	-	100	Ω	
	SWE	$R_{\rm PH}$	3.3	-	-	kΩ	
Pull-up resistor	JTAG		1	-	-	kΩ	
	SWD		1	-	-	kΩ	
Pull-down resistor	SWE	R _{PL}	33	-	-	kΩ	
	JTAG		4.7	-	-	kΩ	
	SWD		4.7	-	-	kΩ	
VDD Capacitor		C _{VDD}	-	-	1000	uF	
The duration of pressi	T _{KEY}	200	-	-	mS		
The level of the Key		V _{KEY}	GND	-	GND+0.6	v	Active at low level

Figure 7.2.a Application reference table

- 6) Check if there are high-power modules or other modules that may pull lower the VDD level on the board. If so, it is recommended to disconnect them before programming them.
- 7) If there is an external power supply on the board, the RST pin must be used for programming, and the "Use RESET pin enter mode" option on the software UI needs to be checked. For Pro06C/Pro06B, VDDx cannot be connected, otherwise it may damage the programmer. At this time, the detection connection function needs to be disabled (check "Turn off the chip connection detection function" in "Operation" → "Setting").

3. Pro06C/Pro06B detection connection failure:

- If there is an external power supply on the board, the RST pin must be used for programming, and the "Use RESET pin enter mode" option on the software UI needs to be checked. For Pro06C/Pro06B, VDDx cannot be connected, otherwise it may damage the programmer. At this time, the detection connection function needs to be disabled (check "Turn off the chip connection detection function" in "Operation" → "Setting").
- Check if there is an external circuit on the IC programming pin, disconnect the external circuit, or shield the detection connection function.
- 3) If the "Auto Detect" method is checked for programming, when the probability of error is high, it is necessary to first check the wiring/thimble and other connectors, as shaking during contact can affect the programming. Therefore, it is usually recommended to check the "Wait for key press" method.

4. Automatic programming machine matching problem:

 It is recommended to check the "Wait for key press" method for programming. Please refer to the "Application Reference" table for key signal requirements, as shown in Figure 7.2.a.



- 2) For multi-channel programming, it is recommended to connect all the selected channels before providing a unified start signal. Otherwise, when some channels program, the "key press" detection function will temporarily fail, and other channels cannot start programming.
- 3) Ensure that the START, BUSY, and OK signals are connected correctly, and check "Match machine" on the software UI.

5. Although there is a prompt of "successful programming ", the Main area Code obtained from reading is actually inconsistent with the original programming value:

- 1) Is "Program" and "Verify" not checked.
- 2) Is the code area not checked (both "Whole flash code" and "Sectors of flash code" are not checked).
- Is' Sectors of flash code 'checked, but the sectors to be programmed are not checked in "Sector Option...".
- 4) Is it encrypted? Such as sector encryption("B0/B1"), "Ultra Security", "Custom Security", "The low/high level of read protect", etc.

6. If the "Code Option", "Customer ID", and "Serial Number" cannot be programmed in, the following operations can be attempted:

- 1) Check if "Whole flash code (Include option.security.SN.ID)" is checked.
- The operation options such as "Erase" and "Program" in the "Auto Program Setting" option bar must be checked.
- 3) Code option, Customer ID, serial number, etc. are not zero.

7. Error related to chip name selection:

- 1) Check whether the chip name selected on the software UI is consistent with the IC name to be operated on.
- 2) Check if the chip is encrypted.
- 3) Check if the wiring is correct.

8. Software usage related issues:

- 1) If the required chip name cannot be found, please update the software to the latest version.
- If you are unable to load code or data about flash blocks such as data, OTP, Boot, etc., please check if the corresponding flash block is checked.
- 3) After loading opf/nopf, if you need to update E2/Code content, you can check "Allow changes to



EEPROM content operating options" or "Allow changes FLASH operation options" in "Operation" → "Setting".

- 4) For chips with a code option length of 8 bytes, ProWriter V3.0 and above must be used.
- 5) The software UI displays 4 digits of "code checksum", with the low two bytes of "0000-0000" indicating the code checksum and the high two bytes indicating the code option checksum.

9. Check the ProWriter software version and programmer firmware version:

- 1) View ProWriter software version information in the "Help" \rightarrow "About..." window.
- 2) View firmware version related information in the "Chip Options" sub UI of the software main UI.
- 3) For more information, please open "Help" \rightarrow "Help" for query.