

# SmartPRO 5000U-PLUS Programmer

*Full support to the programming of PCF7952*

Rev 0.10 Date: 2012/05/03

## Document Information

TYPE	CONTENT
Key words	SmartPRO 5000U programmer, PCF7952
Abstract	This document describes the advantages of SmartPRO 5000U programmer on programming the PCF7952 chip.

## Revision History

---

Version	Rev. Date	Modifications
V0.00	2012-05-02	Original version created
V0.10	2011-05-03	Translated to English



# Content

---

<b>Description.....</b>	<b>1</b>
<b>Performance Comparison .....</b>	<b>2</b>
2.1 Comparison with J-Link.....	2
2.2 Advantages on programming .....	2
<b>Programming PCF7952.....</b>	<b>4</b>
<b>Customer Feedbacks.....</b>	<b>5</b>
<b>Supportted List.....</b>	<b>6</b>

## Description

---

SmartPRO is a series of universal programmer designed by Guangzhou ZHIYUAN Electronics Stock Co., Ltd. Within the series, SmartPRO 5000U-PLUS and SmartPRO T9000-PLUS both support the programming to PCF7952 chip; also they can be upgraded to support all similar chips. This document provides a brief description on how to use SmartPRO series programmer to program PCF7952; also provides a small performance comparison and lists out some customers feedbacks to illustrate the advantages of SmartPRO programmers on programming PCF7952.



Picture 1-1 Product Picture

## Performance Comparison

The following is a performance comparison with other programmers

### 2.1 Comparison with J-Link

SmartPRO series universal programmer has more convenient programming functions comparing to J-Link emulator tools. Detail comparison is listed as below:

**Table 2-1: SmartPRO vs. J-Link**

Programmer	SmartPRO	J-Link
Programming speed <sup>[1]</sup>	3.9 second	4.5 second <sup>[2]</sup>
Pin detection	Support	Not support
Offline programming	Support	Not support
Over current detection <sup>[3]</sup>	Support	Not support
ICP	Support (5000U-PLUS)	Support
Mass production	Support	Not support
Operation	Simple	Complicated

[1] Speed test including Erase, Programming, Verification, and Set protection four steps;

[2] This speed is tested under IAR environment, for download command mode, it would be slower;

[3] A kind of protection to prevent reverse insertion of chips

### 2.2 Advantages on programming

SmartPRO series programmer is a kind of universal programmer, it supports the programming to most of commonly used chips, including ARM, DSP, FPGA, CPLD, NOR Flash, NAND Flash, EPROM and EEPROM. Comparing to J-Link emulator tools, the SmartPRO series programmer has the following advantages:

1. Pin detection: The SmartPRO programmer can detect the pin connection status of a chip, if a pin of the chip to program is not correctly connected, the software interface can give out warning to notify user. This could effectively improve the efficiency of the programming, increase the life span of the adapter and the successful rate of programming. For offline programming, only all pins are correctly connected, will the programming start; this could prevent misoperations.
2. Over current detection: if a chip is inserted in reverse position, the programmer will not program and will give out a warning to indicate the reverse state to prevent damage to chips.

***Full Support to the Programming of PCF7952***

3. Convenient settings for programming: user can combine several single step operations to define a combo action, after definition, a single press on the mass programming button can run through all predefined steps in a combo action.
4. Offline programming: SmartPRO programmer supports the offline programming, which means that user does not require a PC to connect with the programmer; this function is very convenient for factory mass and pipelining production.
5. Mass production capability: a real support to asynchronous operations on 4 programming sites, achieve no waiting and non-stop programming with 4 programming sites. For mass programming, the non-stop programming is crucial for time-saving; it can greatly improve the efficiency and the capacity of production.

## Programming PCF7952

The SmartPRO series programming provides a user-friendly and convenient software interface for online programming; also its simple keypad operations allows user to master the offline programming quickly; Figure 3-1 shows the flow of programming.

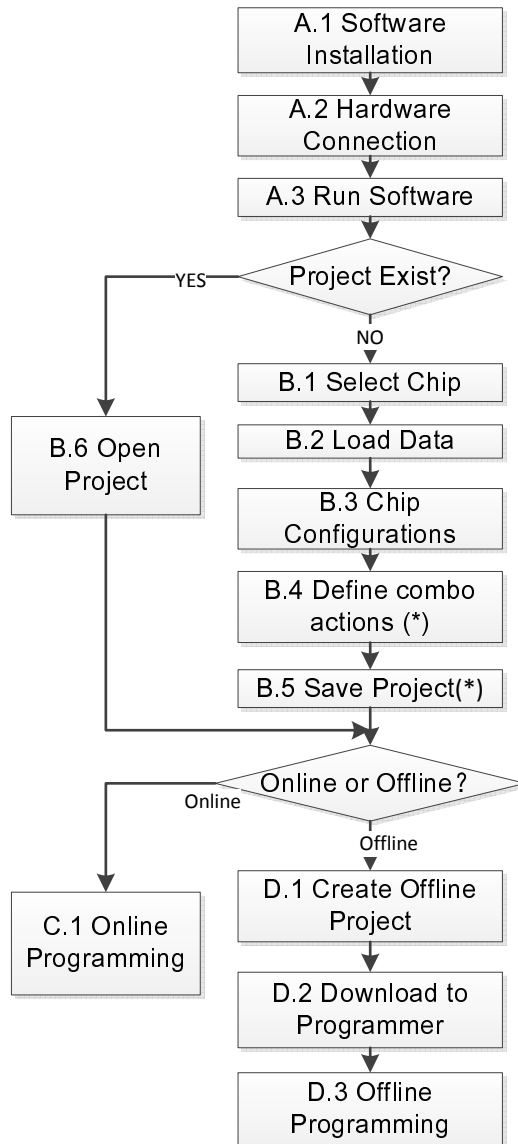


Figure 3-1: Programming flow

## Customer Feedbacks

The following table listed out two of our major customers that using PCF9752, they both reported that our programmer perfectly supports the programming to this chip:

**Table 4-1: PCF9752 Customers with good feedback**

Customer name	Programmer	Programming mode
BYD Auto (China)	SmartPRO 5000U	ICP and Socket Adapter
Shanghai NAEN Automobile Technology Co., Ltd.	SmartPRO 5000U	Socket Adapter



## Supported List

The following table listed out all chips which have been supported by SmartPRO 5000U-PLUS:

**Table 5-1: Supported List**

Part Number	Adapt	Part Number	Adapt
PCF7922@ICPLine		PCF8582C	
PCF7922@TSSOP20	ZY290D	PCF8582C@SOIC8(3.9mm)	ZY300A
PCF7961@ICPLine		PCF8582D	
PCF7961@TSSOP20	ZY290D	PCF8582D@SOIC8(3.9mm)	ZY300A
PCH7970@SSOP28	ZY291A	PCF8582E	
PCH7970@SSOP24	ZY291A	PCF8582E@SOIC8(3.9mm)	ZY300A
PCF7941@TSSOP20	ZY290A	PCF8582F	
PCF7941@ICPLine		PCF8582F@SOIC8(3.9mm)	ZY300A
PCF7952@TSSOP24	ZY290A	PCF8594C	
PCF7952@ICPLine		PCF8594C@SOIC8(3.9mm)	ZY300A
PCA24S08D@SOP8	ZY300A	PCF8594D	
PCA24S08DP@TSSOP8	ZY200A	PCF8594D@SOIC8(3.9mm)	ZY300A
PCA9500@SO16	ZY328A	PCF8594E	
PCA9500@TSSOP16	ZY290A	PCF8594E@SOIC8(3.9mm)	ZY300A
PCF85102C		PCF8598C	
PCF85102C@SOIC8	ZY300A	PCF8598C@SOIC8(7.5mm)	ZY328A
PCF85103C		PCF8598D	
PCF85103C@SOIC8	ZY300A	PCF8598D@SOIC8(7.5mm)	ZY328A
PCF85116		PCF8598E	
PCF85116@SOIC8	ZY300A	PCF8598E@SOIC8(7.5mm)	ZY328A

Company name: Guangzhou ZHIYUAN Electronics Stock Co., Ltd.  
Address: Floor 2, No.7 Building,  
Huangzhou Industrial Estate  
Guangzhou, CHINA  
Post code: 510660  
Technical Support:support@zlg.cn  
Tel: 020-226443727, 28872569  
28872453, 38601786  
Website: [www.zlg.cn](http://www.zlg.cn)  
Product Website: [http://www.embedtools.com/pro\\_tools/program.asp](http://www.embedtools.com/pro_tools/program.asp)