



**SMARTLAB  
USB STARTER**

**OPERATION MANUAL**



**Decision Group Inc.**



**TABLE OF CONTENTS**

**CHAPTERS**

- 1. Introduction..... 1
- 2. Switch and Jumper Setting..... 2
- 3. Signal Assignment..... 3
- 4. Diagnostic under Windows .....7
- 5. Programming under Windows and Linux..... 7

**APPENDICES**

- A. Warranty Information..... 8



**CHAPTER 1**

**INTRODUCTION**

The USB STARTER provide 8 digital input / 8 digital output channels, and 8 analog to digital channels, which allows to connect industrial DIN rail mountable terminal block adapter for applications of digital I/O, and analog to digital input.

The USB STARTER provides Plug and Play (PnP) feature, it is a programmable I/O interface card for PC/486, Pentium, or compatibles. High speed 8051 uC provides USB functions run at 12Mbps full speed or 1.5Mbps low speed.

**The features of the USB STARTER are:**

- USB2.0 with Plug and Play (PnP) features.
- High speed 8051 uC core.
- Support 8 digital input / 8 digital output channels, and 8 analog to digital channels.
- Each analog to digital channels supports 10 bits 0~10V ADC input.
- Each digital I/O provides voltage range from 0V to 3.5V, where 0 to 0.4V is OFF and 2.8V to 3.4V is ON.
- Power supplied from USB.
- Suitable for Linux, MS/WINDOWS, ... etc.
- Operating temperature range from 0 to 55°C.
- Relative humidity rage from 0 to 90%.
- Dimension 115mm\*80mm\*12mm.

**CHAPTER 2**

**SWITCH AND JUMPER SETTING**

**2.1 Switch Settings**

1. S1 Reset



The S1 switch is used to reset 8051, the signal assignments are shown in the following.

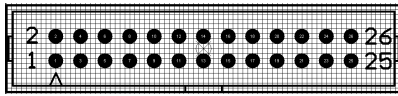
Pin	Signals
1	Reset SW+
2	Reset SW-

## CHAPTER 3

### SIGNAL ASSIGNMENTS

#### 3.1 Digital Input/Output (JP3)

The digital I/O voltage range from 0V to 3.5V, where 0 to 0.4V is OFF and 2.8V to 3.4V is ON and the signal assignments of digital input/output are shown in the following.

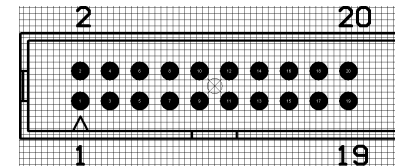


Pin	Signal	Description
1		
2	SGND	Signal Ground
3		
4	SGND	Signal Ground
5	P0D0	IN Port 0/Line 0
6	P0D01	IN Port 0/Line 1
7	P0D02	IN Port 0/Line 2
8	P0D03	IN Port 0/Line 3
9	P0D04	IN Port 0/Line 4
10	P0D05	IN Port 0/Line 5
11	P0D06	IN Port 0/Line 6
12	P0D07	IN Port 0/Line 7
13	P1D00	OUT Port 1/Line 0
14	P1D01	OUT Port 1/Line 1
15	P1D02	OUT Port 1/Line 2
16	P1D03	OUT Port 1/Line 3
17	P1D04	OUT Port 1/Line 4
18	P1D05	OUT Port 1/Line 5
19	P1D06	OUT Port 1/Line 6
20	P1D07	OUT Port 1/Line 7
21	SGND	Signal Ground

22	SGND	Signal Ground
23	+5V	+5V Power
24	SGND	Signal Ground
25		
26	SGND	Signal Ground

#### 3.2 Analog to Digital Input (JP4)

Each analog to digital channels supports 10 bits 0~10V ADC input.



Pin	Signal	Description
1	+3.3V	+3.3V Power
2	SGND	Signal Ground
3	ADIN0	Analog unipolar input channel 0
4	SGND	Signal Ground
5	ADIN1	Analog unipolar input channel 1
6	SGND	Signal Ground
7	ADIN2	Analog unipolar input channel 2
8	SGND	Signal Ground
9	ADIN3	Analog unipolar input channel 3
10	SGND	Signal Ground
11	ADIN4	Analog unipolar input channel 4
12	SGND	Signal Ground
13	ADIN5	Analog unipolar input channel 5
14	SGND	Signal Ground
15	ADIN6	Analog unipolar input channel 6
16	SGND	Signal Ground
17	ADIN7	Analog unipolar input channel 7
18	SGND	Signal Ground
19	+5V	+5V Power
20	SGND	Signal Ground

**CHAPTER 4****DIAGNOSTIC UNDER WINDOWS**

USB Test Program.exe is a diagnostic program to test your USB devices under Windows.

User can get USB Test Program.exe programs from Decision Studio CD.

**CHAPTER 5****SOFTWARE PROGRAMMING UNDER  
WINDOWS AND LINUX**

Under Windows, we provide function library and dll file for users to program the device in supported language. You can find manual “USBDII\_Manual.pdf” and demo code in VB/VC/Delphi from Decision Studio CD.

Under Linux, we provide .C source to allow user directly to access device. You can find manual and example in “dcihid-0.5.4.tgz”.

**APPENDIX A****WARRANTY INFORMATION****A.1 Copyright**

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**A.2 Warranty Information**

SmartLab warrants that for a period of one year from the date of purchase (unless otherwise specified in the warranty card) that the goods supplied will perform according to the specifications defined in the user manual. Furthermore that the SmartLab product will be supplied free from defects



in materials and workmanship and be fully functional under normal usage.

In the event of the failure of a SmartLab product within the specified warranty period, SmartLab will, at its option, replace or repair the item at no additional charge. This limited warranty does not cover damage resulting from incorrect use, electrical interference, accident, or modification of the product.

All goods returned for warranty repair must have the serial number intact. Goods without serial numbers attached will not be covered by the warranty.

The purchaser must pay transportation costs for goods returned. Repaired goods will be dispatched at the expense of SmartLab.

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SmartLab reserves the right to determine what constitutes warranty repair or replacement.

Return Authorization: It is necessary that any returned goods are clearly marked with an RA number that has been issued by



SmartLab. Goods returned without this authorization will not be attended to.

