

Winson Demo Board

WDB V2.0



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1. Introduction

Winson Demo Board, **WDB** is a multi-function test board, which are applicable to most products of Winson Semiconductor.

WDB can be used for users to test before system development, and provide test daughter boards for **IC** or **WCS** testing.

Test products include Hall switch ICs, Hall linear ICs, current sensors, current modules and digital current sensors.

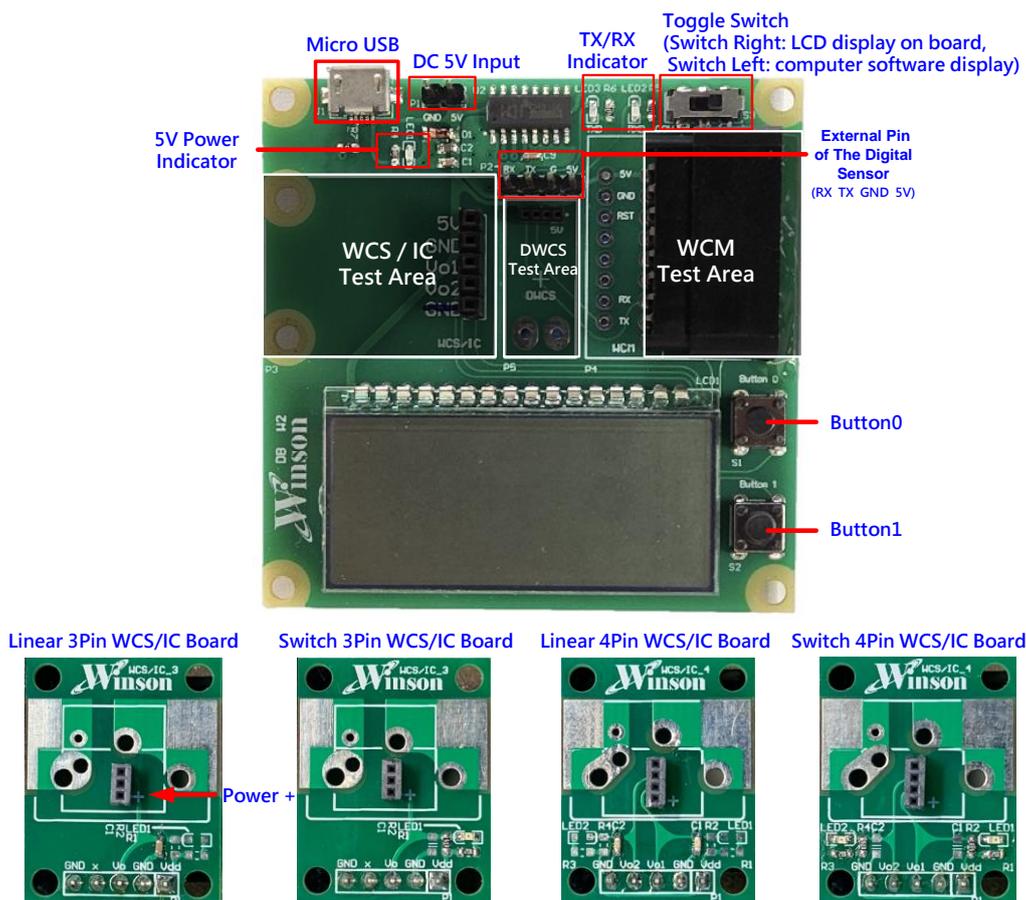


Figure 1 WDB Test Mother Board and Daughter Board

Operating Parameters

DC 5V Input · Micro USB

Item	Symbol	Value			Unit	Note
		MIN.	TYP.	MAX.		
Supply Voltage	V_{DD}	4.900	5.000	5.100	V	
Supply Current	I_{DD}	-	12	13	mA	
Operating Temperature	T_{OPR}	-20	-	70	°C	
Operating Humidity	-	-	-	-	% RH	(1)

Note: (1) $T_{OPR} \leq 50^{\circ}\text{C}$: 90% RH MAX.

$T_{OPR} > 50^{\circ}\text{C}$: Maximum humidity must be lower than the humidity of 90% RH at 50°C (80% RH at 60°C)

Winson reserves the right to make changes to improve reliability or manufacturability.

Button Function: switch the board's upper right switch to the **right**

		Button 0		Button 1	
		press 1 sec.	press 2 sec.	press 1 sec.	press 2 sec.
WCS / IC		—	—	Vo1 / Vo2 (1)	—
DWCS / WCM	Continuous	Reset Current (2)	—	—	—
	AT Command		AC or DC Current (3)	Current or Temperature (2)	—
	Modbus -RTU				Change Modbus-RTU Slave Address (4)

- (1) Refer to 2.1.2 description
- (2) Refer to 2.2.2 description
- (3) Refer to 2.2.3 description
- (4) Refer to 2.2.4 description

2. Test Method

Step 1: switch the board's upper right switch to the **right** (MCU position).

Step 2: plug in the **WCS / IC Daughter Board, DWCS** or **WCM**

Step 3: supply DC 5V voltage into board through **Micro USB** or **Pin Header**

Step 4: the system will automatically check the signal and display on LCD

<Note: WDB can only test one daughter board or sensor at once, unless it is in digital Modbus-RTU mode (Multipoint)>

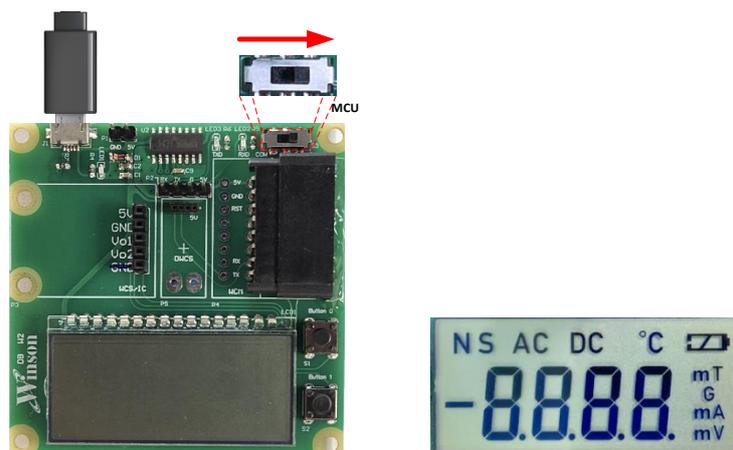


Figure 2 WDB Setting and LCD startup screen

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2.1 WCS / IC:

2.1.1 Please solder the sensor to the daughter board, and connect the **WCS/IC daughter board** to the **WDB motherboard**. The test position is as below.

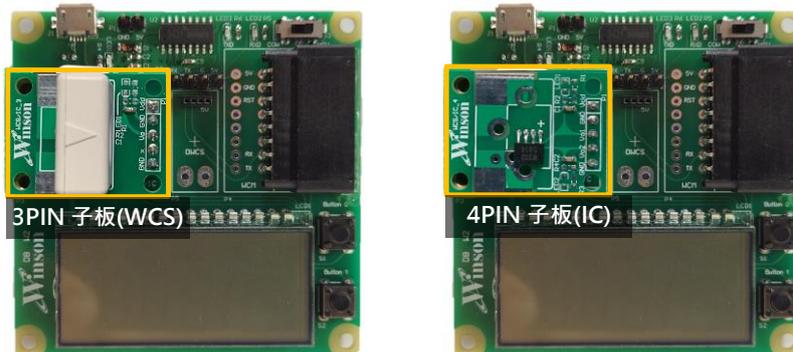


Figure 3 WCS or IC test position

2.1.2 Vout1 will display "S" in the upper left corner of the LCD, and Vout2 will display "N".

Button 1: switch to Vout1 or Vout2.



Figure 4 Vout1 and Vout2

2.2 DWCS / WCM

2.2.1 Connect the digital current sensor or digital current module to the **WDB Motherboard**. The test position is as below.

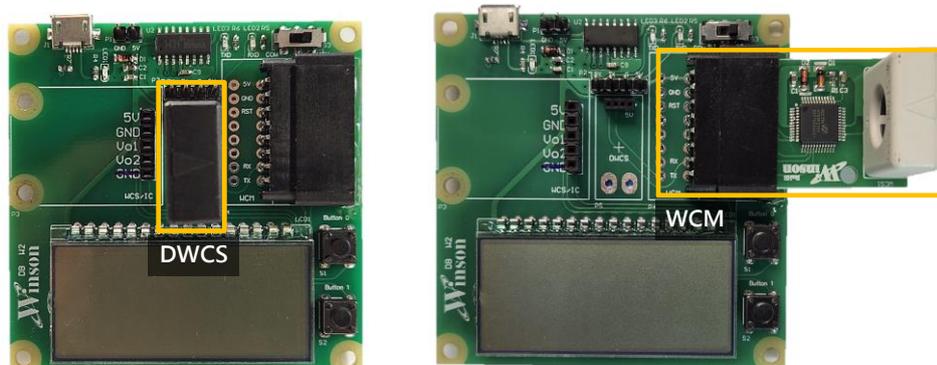


Figure 5 DWCS and WCM

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2.2.2 LCD display is as below (AC current, +DC current, -DC current, temperature).

Button 0: reset current. **Button 1**: switch to current or temperature.



Figure 6 Current and Temperature

2.2.3 Long press **Button 0** for 2 seconds to enter the setting to measure AC or DC current, short press to switch the AC current or DC current until long press for 2 seconds to exit the setting.



Figure 7 AC / DC Current

2.2.4 Long press **Button 1** for 2 seconds to enter the setting of Modbus-RTU slave address (address 1~9), short press to change the read address until long press for 2 seconds to exit the setting. If the sensor does not belong to this address, no signal will be output, and the system will automatically search for the signal again.



Figure 8 Read the Current of Different Modbus-RTU Slave Address

2.2.5 For Modbus-RTU one-to-many measurement, it is necessary to connect to the breadboard or adapter board through the external pin of the digital sensor (as shown in Figure 1) for expansion. The external method is as shown in the figure below.

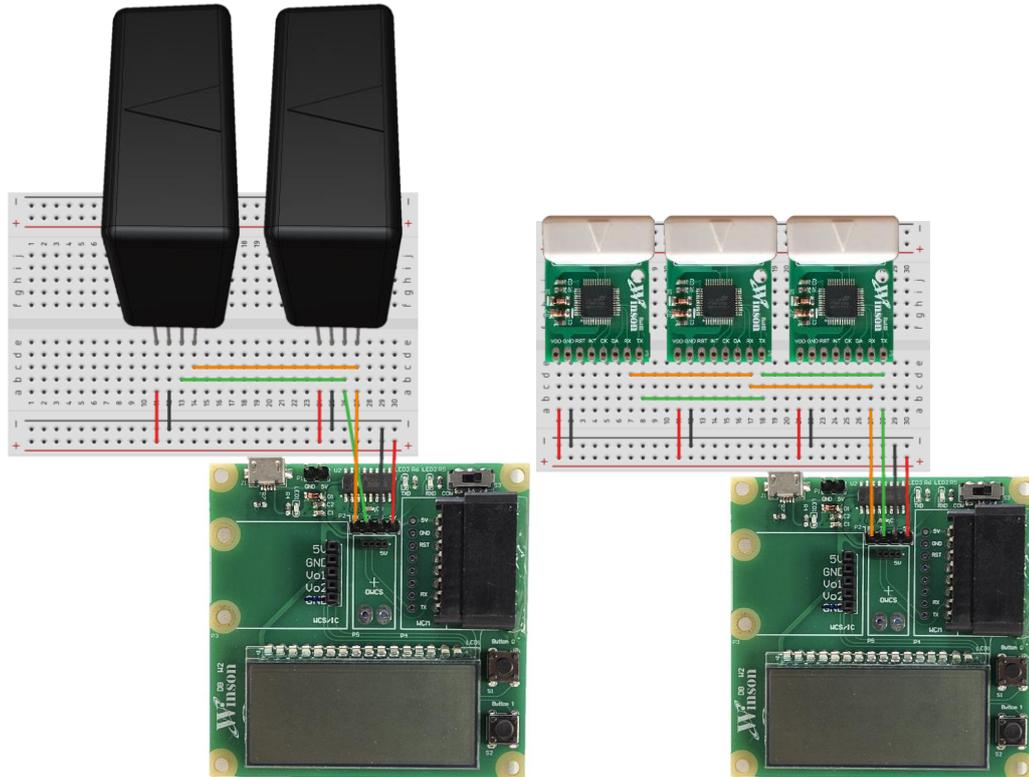


Figure 9 External Pin of the Digital Sensor

2.3 When no signal is detected, the LCD will continue to display "-"→"-.-"→"-.-.-"→"-.-.-.-" until received signal.



Figure 10 Waiting for Test Signal

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2.4 Using the test software : connect the board to PC

Step 1: switch the board's upper right switch to the **left** (COM position).

Step 2: plug in the **DWCS** or **WCM**

Step 3: use the **Micro USB** connect to **PC**

Step 4: open the test software

<Please refer to [TerminalUserGuide](#) for how to use the software:

<http://www.winson.com.tw/Product/82>>

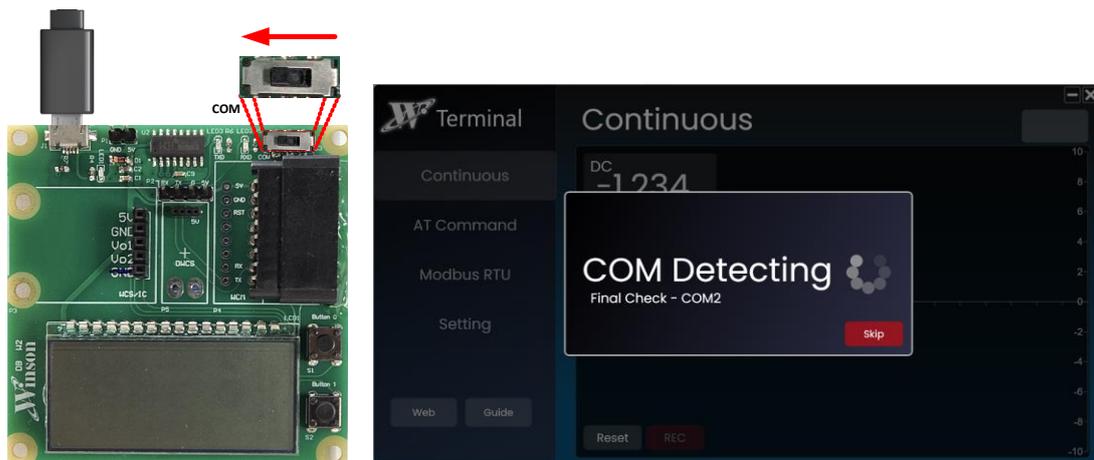


Figure 11 Motherboard Setting and Test Software

3. Driver (Test Software)

3.1 Download and unzip the **USB-TTL** driver:

URL: <http://www.winson.com.tw/Product/82> .

3.2 Install the **USB-TTL** driver, and confirm that the installation is successful.

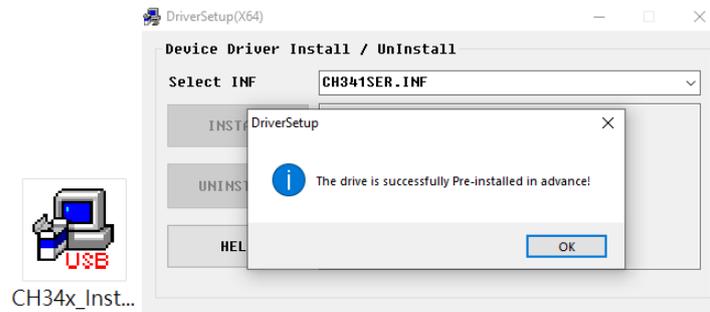


Figure 12 USB-TTL Dirver

3.3 Check whether the USB-SERIAL CH340 (COMn) is detected: Computer Management → Device Manager → Ports (COM & LPT) → USB-SERIAL CH340 (COMn).

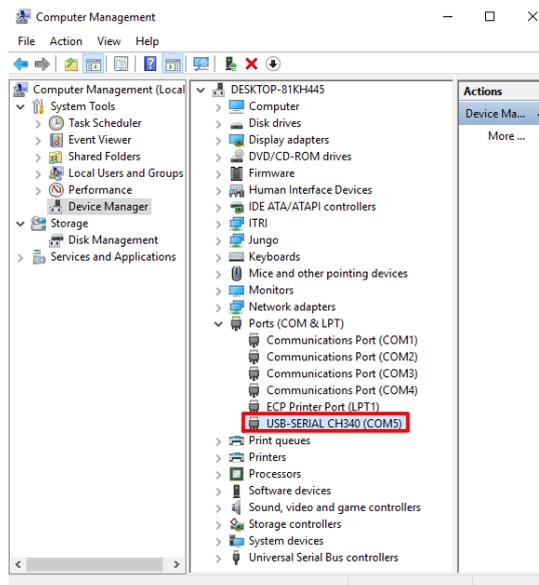


Figure 13 Device Manager

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