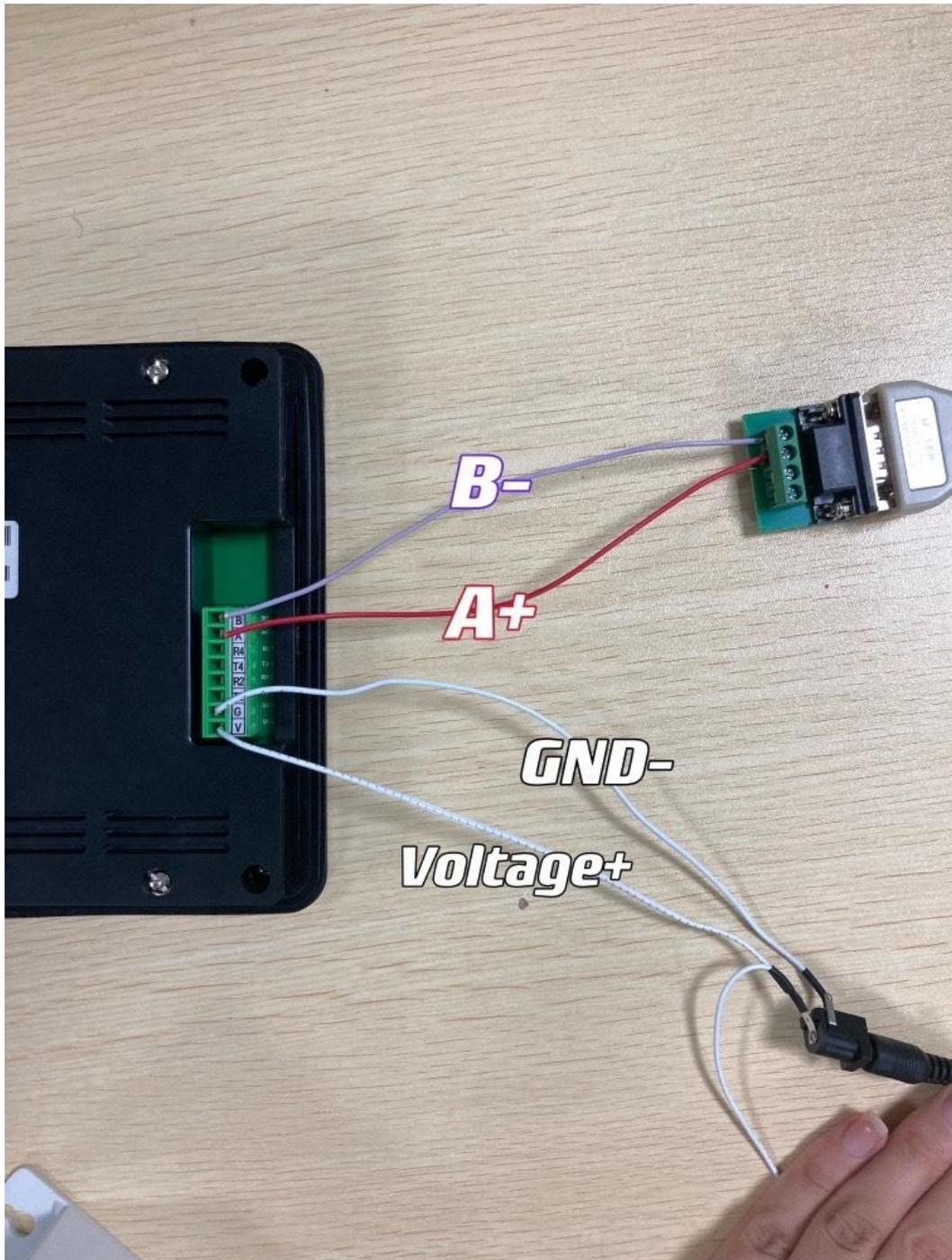


Quick Guide of Modbus Master Communication

1. Hardware preparation

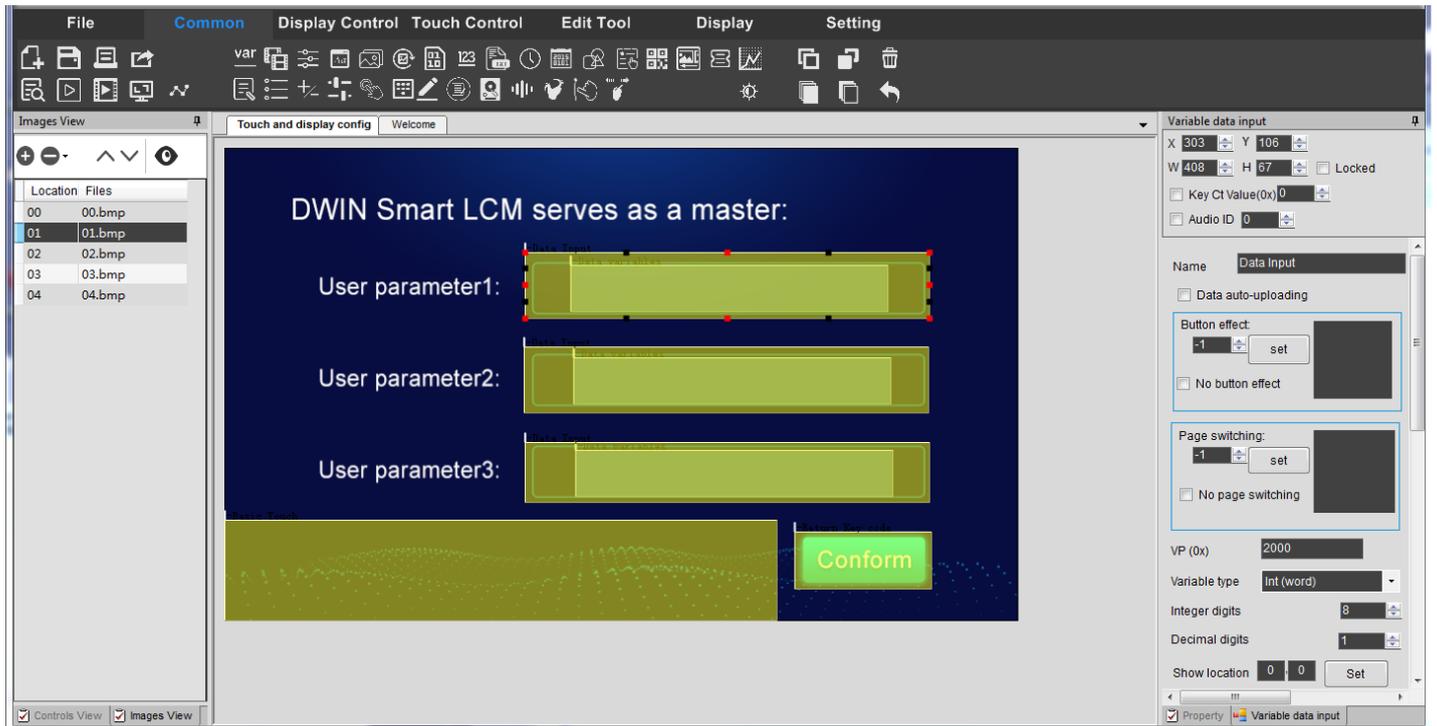


- (1) 1 DWIN screen with 485 interface
- (2) 1 DC/DC adjustable power supply
- (3) 1 485/232 adapter
- (4) 4 jumper wires

Connect 485 R + to the screen Phoenix terminal block A +, R- to B-.

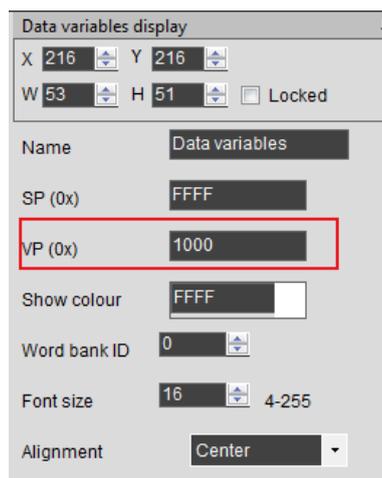
2. Configure the test interface

Software: DGUS



You can design the demo UI as you like.

The more commonly used variable controls for Modbus communication are data variable display, text display, and variable icon display. Click the control, draw the size on the background image and set the corresponding vp and parameters.



Note that the value of vp should be set to 1000 and above. Also, you should set vp to be consecutive values to test the 10 instruction of sending data to consecutive addresses.

After the project is completed, click save and generate, and the controls and parameters will be generated as the configuration files.

3. Configure Modbus master initialization file 22.bin

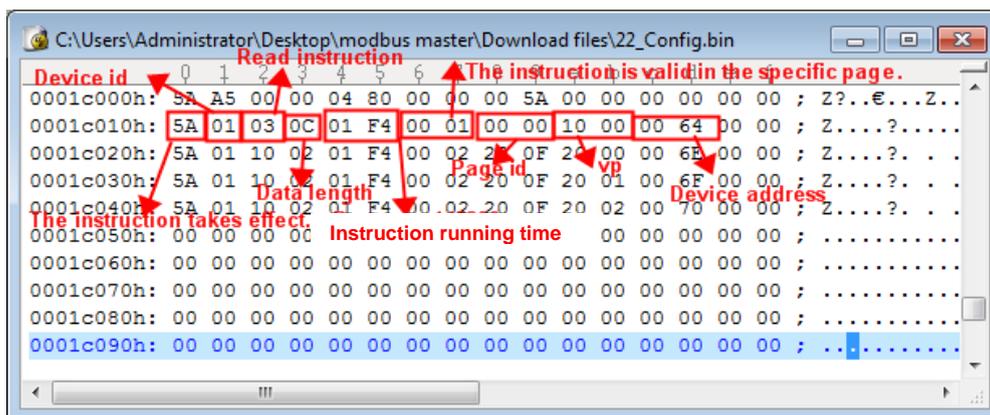
Open the 22 file by the binary software Ultraedit and jump to 0x1C000 to start configuring the 22 file in bytes.

You can refer to “Modbus Setting Guide for T5L” for the corresponding meaning of 0xE000~0xE00F

Variables Position	Definition	Description
0xE000	Modbus run on mark	Input 0x5AA5 to run Modbus communication
0xE001	Master/slave mark	0x0000: Modbus master, other: Modbus slave
0xE002	Baud rate setting	Unit: Kbps, one fixed decimal, E.g.115200bps=0x480
0xE003	Serial mode	0x0000=8N1(No parity), 0x0001=8E1(Even parity), 0x0002(Odd parity), 0x0003=8N2(no parity, two stop bits), Other=8N1
0xE004	Slave device position	Device position of slave mode, default: 0x005A
0xE005: H	Modbus output serial port	Range: 0x03-0x07, default: 0x04=UART4(this function cannot be set, read only)
0xE005: L	OS version	Read only
0xE006-0xE007	Preserved	

E.g.

For the configuration of Modbus instructions:



Variables Position	Definition	Description
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0xE008-0xE00F	The first line of Modbus instruction(16bytes)	<p>0x00(0xE008H): 0x5A=Valid, other=invalid</p> <p>0x01(0xE008L): Modbus device position to write and read</p> <p>0x02(0xE009H): Modbus command for write/read</p> <p>0x03(0xE009L): Data length, 0x00 represent this line invalid</p> <p>0x04(0xE00A): Instruction running time, in ms, max: 9999ms, as for read instruction this represents slave device response time.</p> <p>0x06(0xE00B): Instruction running modes 0x0000:Run this instruction among all the pages;</p> <p>0x0001: Run this instruction at specified page;</p> <p>0x0002: Run this instruction only at variable buffer whose variable position's low byte is 0x5A, after running it will remove the contents on this position.</p> <p>0x08(0xE00C): 01 mode=Page_ID, 02 mode=VP variable position.</p> <p>0x0A(0xE00D): The starting position for writing and reading data at variable memory space (0x0000-0xDFFF, 0x0000-0x1000 is system variable interface)</p> <p>0x0C(0xE00E): The starting position of Modbus device for data writing and reading</p> <p>0x0E(0xE00F): Communication bus status response 0x0000=failed, 0x00FF=succeeded; this content needs to be removed after getting read.</p>
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Note that you should not modify the 22. file under DWIN_SET folder, because it will be overwritten when you save and generate in the project. You can copy the 22 file to the desktop for modification, and finally move it to the download file.

4.Project download

 13TouchFile.bin	2021/12/8 17:19	BIN File
 14ShowFile.bin	2021/12/8 17:19	BIN File
 22_Config.bin	2021/12/6 16:42	BIN File
 32.icl	2021/12/8 17:20	Icon library
 DWINOS_T5L_Modbus_V7-UART5.bin	2020/5/9 10:09	BIN File

File name	Description
13.bin and 14.bin	Generated by DGUS
22.bin	Generated by DGUS, should be configured according to the "Modbus Setting Guide for T5L".
DWIN OS file	Provided by DWIN and can be used directly in common applications without extra modification.
ICL file	The background images and icons used in you project should be generated to the ICL file.

5.Communication test

Modbus Instruction	Function	Data Length	Modbus Starting Position
0x01	Read inputting coil status	The number of coil/8	Starting coil position
0x02	Read inputting bit variables status	The number of bit variable/8	Starting input position
0x03	Read staying registers data	The number register*2	Starting position of staying register
0x04	Read inputting registers data	The number register*2	Starting position of inputting register
0x05	Place a single coil	0x02	Coil position
0x06	Reserve a single register	0x02	Register position
0x07	Read abnormal status	0x01	Random
0x0F	Place multiple coils	The number of coil	Starting position of coils
0x10	Reserve multiple registers	The number of register*2	Starting position of registers

E.g. 5A 01 10 02 01 F4 00 02 20 0F 20 00 00 6E 00 00

The above instruction means DWIN screen serving as master of id 01 uses 10 command to write data of vp 2000 to device id 110 when the value of vp 200F is a specific value.

Besides,

5A means this instruction is valid;

02 means data length of 2 bytes;

01F4 means baut rate of 115200 bps.