

DWIN_HMI USER GUIDE

Beijing DWIN Technology Co., Ltd.



Updated English Version 2.1 at 2011.07.15

Instruction

Step1. Open the product package

Accessories:

- DWIN HMI (UART LCM) x1
- DB9 connecting cable x1
- Compact Disc x1
- Double 8 PIN connecting cable x1

Step2. Prepare Terminal Assistant.

• Click by <u>http://www.dwin.com.cn/en/download.aspx?id=12</u> or copy correlative software from accessory CD.

	→ Contact Information Pro	ducts Purchasing & Services Advices & Complaints
	Developed and reliable HMI technology with leading serial-port LCM,	
	here comes the True Color	eral
Softwar	2	
资料 ▶ 氧 Download	Serial debugging assist	ant sscom32 [Download]
Software ·		
Documentation ·	Framework2.0	(Download)
Experiment & Certificate		

- Install Framework 2.0 at first. This software needs support of Microsoft .NET Framework 2.0 or higher version.
- Download Terminal Assistant_v5.6 and extract it.

Step3. Connect TFT LCD Module with PC

Connect TFT LCD Module with PC as the following picture.

- 1 HMI (UART LCM)
- ② DB9 connecting lin
- $\ensuremath{\textcircled{}}$ $\ensuremath{\textcircled{}}$ Power (voltage range caution)
- 4 Serial port of PC



Step4. Shake hands

Double click TerminalAssistant_v5.6.exe

📨 Terminal Assistant - Version5		
Image: Set of an array of the set of a set o	erminal Screen Simulate Area	
chose baud rate choose Serial port	I port shake hands	
Port: COM1 BaudRate: (115200) Open	Hand CheckPort	
Serial PCOM3 audRate: 115200 Port Status: Clo	sed Download Progress-All Files	Single File toolStripStatusLabel7

- 1. Choose resolution ratio and color depth recording to HMI
- 2. Choose the serial port and baud rate you are using. (default baud rate is 115200)
- 3. Click button "Open"
- 4. Click button "Hand"
- 5. Pop-up Window means that communication between HMI and PC is normal.

Congr	atulations, communication with terminal normally 🔀
į,	Terminal software version: V5.5 Display screen config mode:0x01 Touchscreen config mode:0x00
	OK

Step5. Software operation method

1. I Text operation

• Font

- (1) Open "Text Operation"
- (2) Click "Font"
- (3) Select one of five fonts (pre-installed before delivery) you will use.

Note: The five fonts are 8*8 ASCII, 16*16 GBK, 32*32 GB2312, 12*12 GBK, 24*24 GB 2312, among which, the last four are for Chinese. So, they can be ignored.

- (4) Select your desired coordinate at which the words will be displayed, such as (0, 0).
- (5) Enter some words you want to be shown on the screen, such as "How are you?"
- (6) Click "Send", the display will show "How are you?" at (0, 0).

📨 Terminal Assistant - Version5	
Image: State of the	
Serial Port: COMI BaudRate: 115200 Port Status: Open Download Progress-All Files Single File toolStripStatusLabel7	.:
Sound for the Sound of Sound S	.::

(7) Set the limit of textbox if you need.

Extension Font

📨 Terminal Assistant - Version5	
Terrinal Assistant - Version5	
Port: COMM Y BaudRate: 115200 Y Open Closed Hand CheckPort	
Serial Port: COMM BaudRate: 115200 Port Status: Open Download Progress=All Files Single File toolStripStatusLabel7	

- (1) Open Text operation
- (2) Select "Extension font"
- (3) Select Sequence number you want to use
- (4) Choose the coordination you desired
- (5) Choose character show, such as "change both forecolor and bgcolor"
- (6) Select font code according to the font you are using
- (7) Choose size of the font you use
- (8) Choose color you preferred
- (9) Send words "How are you!" for example
- (10) Click "send"
- (11) Set the limit of textbox if you need

Choose font

This item is used to download newly-made font file into the display module. Take downloading Hebrew 24*24 into the display module and saving it as font library 0x01 for example.

*Note: Font library ID ranges from 0x00 to 0x3B. 0x00-0x1F is for 32 small font library of maximum 128KB. 0x00=ASCII 8*8. 0X20-0X3B is for 28 font Library of maximum 1MB. 0X20, 0X21, 0X22, 0X23 are for Chinese font. Please don't change Lib_ID of the five pre-installed font. Otherwise, some text display commands will be meaningless.*



📨 Terminal Assistant - Version5	
Image: Constant of the second of	
Port: COM1 VBaudRate: 115200 V Open Closed Hand Checkfort Serial Fort: COM1 BaudRate: 115200 Fort Status: Open Download Progress-All Files Single File toolStripStatusLabel7	

- (1) Click "Text operation"
- (2) Click "choose font"
- (3) Click "choose" to load font in your PC.
- (4) Adjust "position path" to download font in the position you preferred
- (5) Smaller than 128KB select "small font", or select "Big font"
- (6) Click "Deliver"
- 2. Shape
- Point

(1) Open "Shape Operation"

Professionalism, Honesty and Committed to Excellence

(2) Select either of two display modes:" Forcolor Display" or "Bgcolor Display". The default

color is white and the default background color is blue

- (3) Select your desired coordinate at which the point will be displayed
- (4) Click "Drawing"

Beeline

Shape Shape Shape Point DisplayMode:	
<pre> Set Set</pre>	3 100,100 5 hen demo. In case nussid range: constrat
Serial Port: COMMI BaudRate: 115200 Port Status: Open Download Progress-All Files Single File toolStripStatusLabel7	FilesSingle File toolStripStatusLabel7

- (1) Open "Shape Operation"
- (2) Click "Beeline"
- (3) Select either of two display modes:" Forcolor Display" or "Bgcolor Display".
- (4) Select your desired coordinate as the start position of the beeline.
- (5) Select your desired coordinate as the end position of the beeline.
- (6) Click "Drawing"

Professionalism, Honesty and Committed to Excellence



(1) Open "Shape Operation"

(2) Click "Circle"

(3) Select Display Mode from four options: "Hollow circle with opposite color", "Hollow circle with forecolor", "Solid circle with opposite color" and "Solid circle with forecolor" according to the specific requirement.

(4) Select Centre angle which is the coordinate of the center of a circle.

- (5) Select Radius
- (6) Click "Drawing"

Professionalism, Honesty and Committed to Excellence

• Rectangle

Terminal Assistant - Version5	
Shape Shape Shipe Shipe	
rort. Comi pauanate: 115200 V upano Closed Rand Lheckrort Serial Port: COMI Baudkate: 115200 Port Status: Open Download Progress-All Files Single File toolStripStatusLabel7	

(1) Open "Shape Operation"

(2) Click "Rectangle"

(3) Select Display Mode from five options: "Hollow rectangle with opposite color", "Hollow rectangle with forecolor", "Solid rectangle with opposite color", "Solid rectangle with forecolor" and "Clean rectangle area" according to the specific requirement.

(4) Select coordinate of the top left corner of the rectangle.

(5) Select coordinate of the bottom right corner of the rectangle.

(6) Click "Drawing"

Region-Move

Shape Shape Shape SticShape Point DisplayMode: Point DisplayMode: Bealine Top left corner: Solution Circle Bectangle Region-Morey 2	
Set ColorFicher Line segment and polygon Clean Storen Cloan the communicate note windows, Wan dawo. In case to the communicate abnormality. Demonstrate drawing of Dynamic curve, Drawi	
Port: COM1 PaudRate: 115200 V Dram Closed Hand CheckFort Serial Port: COM1 BaudRate: 115200 Port Status: Open Download Progress-All Files Single File toolStripStatusLabel7	

(1) Open "Shape Operation"

(2) Click "Region-Move"

(3) Select Display Mode from five options: "Circle Move (Left)", "Circle Move (Right)", "Move to left" and "Move to right".

Note: For option" Circle Move (Left)", the selected area moves from far-left to far-right with no part missing. For option" Move to left", the selected area moves from right to left with far-left area missing and the missing part will be filled by background color.

(4) Select coordinate of top left corner of the area that needs to be moved.

(5) Select coordinate of bottom right corner of the area that needs to be moved.

(6) Select move distance. 1 means one dot matrix.

(7) Click "Drawing".

• Line segment and polygon

Stage Stage </td <td>playMod: [ricle Move(Left)] left corner: 50,50 Bottom right Corner: 100,100 Move-Distance: 10 Drwing polygon Close the communicate note windows, Then demo. In case the communicate abnorality. more Dynamic curve. Drwing a red sinusoid a curve on the white background Curve rung: a curve on the curve rung curve</td>	playMod: [ricle Move(Left)] left corner: 50,50 Bottom right Corner: 100,100 Move-Distance: 10 Drwing polygon Close the communicate note windows, Then demo. In case the communicate abnorality. more Dynamic curve. Drwing a red sinusoid a curve on the white background Curve rung: a curve on the curve rung curve
Serial Port: COMMI BaudRate: 115200 Port Status: Open Download Frogress-All Files Single File toolStripStatusLabel7	en Download Frogress-All Files Single File toolStripStatusLabel7

- (1) Open "Shape Operation"
- (2) Select line you desired
- (3) Click "Demon start"

3. 📥 File download

Note: This is to download some configuration files into the display module to realize some simple operating system function. In this way, less code workload will be required for the software engineers.

📨 Terminal Assistant - Version5	
Configuration file deliver Value Value <	
rort: COMI Baudkate: 115200 Fort Status: Open Download Fragress-All Files Single File toolStripStatusI	_abel7

(1) Open "File download"

(2) Click "..." to find the configuration files you want to download

Note: configuration files include 1A,1B,1C,1D, 1E configuration file, please download them in the corresponding position.

(3) Click "Send"

4. 🕒 Connect Record

Note: This interface is mainly for recording what commands you have sent to the
display module and what responding data sent from the HMI.

📨 Terminal Assistant - Version5	
Image: Second	
2014-00-01 15:42:27 Received: AA 00 4F 4E 5F 56 35 2E 35 01 07 00 00 00 CC 33 c5 95 2	
Clean Screen	
4803272 💌	
<mark>⊙ 0* ○ 90</mark> *	
16 bit 💌	
Fort. UMM. Paudkate: 115200 Port Status: Open Download Progress-All Files Single File toolStripStatusLabel7	

5. Miscellaneous function Pinyin

Note: Pinyin is something in Chinese like phonetic symbols in English. Please ignore this function.

Terminal Assistant - Version5	
Fort: LUMI PaudRate: 115200 M Books Llosed Fand CheckFort Serial Fort: COMI BaudRate: 115200 Port Status: Open Download Progress-All Files Single File toolStripStatusLabel7 .:	

• 16-bit color contract

Note: This is to obtain color value of Hex. The color value is often used when setting fore color, background color and text color.



- (1) Click "Miscellaneous function"
- (2) Click the square. The default color is white
- (3) Select one kind of color
- (4) Click "OK"

(5) Color value of Hex will appear as the color value. Then you can use the value to send some command related to color, such as Command 0x40, 0x98 and so on.

1. 🔳 Picture Download

Image: Starse position: Image: Starse position:
Serial Fort: COMMI BaudRate: 115200 Fort Status: Open Download Progress-All Files Single File toolStripStatusLabel7

(1) Click "Picture download

(2) Click "Picture Select", selecting the pictures you need to save into the display module

(3) Assign the PIC_ID for the pictures you need to save in the display module. The PIC_ID starts from "0".

(4) Press "Send".

Picture cut

🖅 Terminal Assistant - Version5		
Rem Sete Sete <	Ficture Select Delete selected Delete all	
Serial Port: COM1 BaudRate: 115200 Port Status: Open Download Progress-All Files Single File toolStripStatu	sLabel7 .::	

- (1) Click "Picture download"
- (2) Select the Pic ID of the picture that you are going to use.

Note: The pictures shall be pre-saved in the display module.

- (3) Select the coordinate of top left corner of the picture you are going to cut
- (4) Select the coordinate of bottom right corner of the picture you are going to cut.

(5) Select the coordinate (top left corner), at which the cut picture will show on the current screen.

(6) Click "Cut".

• Change picture

This function used to change picture displayed on the HMI, and save one picture in another position.

Terminal Assistant - Version5	
BITTSZAMZ Store position: Store position:	Ficture Select Delete selected
Port: COM1 SeudRate: 115200 Span Closed Hand CheckFort	

2. 墬 Display Setting

• Cursor and spacing

Terminal Assistant - Version5	
Image: State of the	
Serial Port: COMMI BaudRate: 115200 Port Status: Open Download Progress-All Files Single File toolStripStatusLabel7	

- (1) Click "Display setting"
- (2) Select coordinate of top left corner of the cursor
- (3) Select width of the cursor
- (4) Select height of the cursor
- (5) Click "Open", then the cursor will appear at prescribed position.
- If yon don't need the cursor, click "Close". Then the cursor will disappear from the screen.
- (6) Select row spacing of character
- (7) Select column spacing of character
- (8) Click "Enter", the spacing will be according to the set value.

3. 🖹 Peripheral Device

• Key code configuration Note: This interface is mainly for making configuration file of keying. If you don't need

keyboard as peripheral device, this function can be ignored. Take 8*8 keyboard for example.

📨 Terminal Assistant - Version5	
Terminal Peripheral Device Setti	ings
	7 4X4Keyboard DisplayMode HH: MM:SS
	6X5Keyboard Font family 8*8 V Position 0,0
	SX3Keyboard Font color Dpen Den Adjust clock:
	Current keycode: 2011-06-01 16:23:53 🔽 Clock adjust
	4
	Initial Keycode 2 Read current clock:
	Gregorian calendar Lunar calendar
	Current datetime of terminal
ColorPicker Backlight Brightness: 63	Sound Play music of specific location: Function HMI
Clean Screen Backlight mode:	Start location 0 🗢 Number 0 🗢 Format PAL 🗸
480X272 V	Time CVBS
⊙ 0" ○ 90" Close brightness: 0 ♀	Yolume:
16 bit V Duration: 0 🗘 X0.5 Second Set	Left track 0
Time: 1 📚 X10ms Twee	Stop: Stop Test On Org
Port: COM1 BaudRate: 115200 Dpen Closed Hand	CheckFort
Serial Port: COM1 BaudRate: 115200 Port Status: Open Download	l Frogress-All FilesSingle File toolStripStatusLabel7

- (1) Click "Peripheral Device"
- (2) Select "8x8 Keyboard"
- (3) Click "Initial Keycode" for Initialization
- (4) Press one key, then "4" will appear on "Current keycode".

Set keycode

- (1) Click "Peripheral Device" and Select "8x8 Keyboard"
- (2) Input a keycode you desired
- (3) Press "Set keycode"

Backlight

Note: Select the relevant parameters as per your requirements.



- (1) Click "Peripheral Device "
- (2) Adjust the Brightness of the HMI

(3) Select the backlight mode parameters such as lighten brightness and close brightness

- (4) Select duration
- (5) Press "Set"

Buzzer

Note: Select the relevant parameters as per your requirements.



Sound & HMI and Video switch

Note: This function is not available unless the users ask for it when ordering. Please ignore it.



• Clock

💳 Terminal Assistant - Version5	
Image: Second	
Fort: COM1 MBaudRate: 115200 Dpan Closed Hand CheckFort Serial Fort: COM1 BaudRate: 115200 Port Download Progress-All Files Single File toolStripStatusLabel7	

- (1) Click "Peripheral Device"
- (2) Select Display Mode
- (3) Select display mode
- (4) Select position the clock will displayed on the terminal
- (5) Select the color you prefer
- (6) Click "Open"
- (7) Adjust the clock if you need
- (8) Click "Clock adjust"
- (9) Click to read current clock

• Touch screen

Terminal Assistant - Version5	
Image: State of the set of the se	
Serial Port: COM1 BaudRate: 115200 Port Status: Open Download Progress-All Files Single File toolStripStatusLabel7 🤢	

- (1) Click "Peripheral Device"
- (2) Click "Adjust Touch screen" to adjust touch panel accuracy.
- (3) the screen will become blue. Three white spots will appear one by one. Press the three spots

as per instruction on the screen.

(4) Click "on", then when you press the touch panel, there will be a dot displayer on the panel

Configuration of touch screen

- (1) Click "Peripheral Device"
- (2) Click "Configuration of Touch screen"

Project							
New Open Save	Resolution Ad	ld Picture Delete Pict	ure Add Button Copy Paste	- Templet - Delete Bu	tton Freview P	🗿 👌 🕺 Build Download 🛛 Exit	
Picture	Num				COM.CN	WWW.DW	IN.CO
					VWW.DW	IN.COM.CN	WW
					COM.CN	WWW.DW	IN.CO
					VWW.DW	IN.COM.CN	WW
					COM.CN	WWW.DW	IN.CO
		I.COM.CN	WWW.DWIN.	COM.CN V	WWW.DW	IN.COM.CN	WW
Information Resolution: Picture:	Button Position X Y Size W	Jump To	Assign	imation	Assign	Code: Notice:	Delate

- (3) Click "New" to build a new dmc project
- (4) Click "Add Picture" and input the available number



📨 Project – 222	
Rew Open Save Resolution Add Ficture Delete Ficture Add Button Copy Paste Templ	et Delete Button Preview Build Download Exit
Picture Num Picture Num Picture Cure Cure Cure Cure Cure Cure Cure C	W.DWIN.COM ON.CN WWW WW.DWIN.COM OM.CN WWW WW.DWIN.COM OM.CN WWW WW.DWIN.COM OM.CN WWW
Information Button Resolution: 640×480 Position X: Jump To Y: (None) Picture: Size W: H: D	Code: (None) Delete Assign Delete
Device: Disconnect	

- (1) Click "Add Button"
- (2) Drag the button to your preferred position
- (3) Choose the picture the button refer to
- (4) Choose Animation if you need
- (5) Defy Code for this button





🛲 Project - 222		
New Open Save Resolution	Add Picture Delete Picture Add Button Copy Paste Templet Delete Butto	on - Preview Build Download Exit
Picture Num	Page[0]	
	DWIN Beijing DWIN Technology Co., Ltd.	EDS W.DWIN.COM
(lond) for some (o star)		OM.CN WWW
State State <td< th=""><th></th><th>W.DWIN.COM</th></td<>		W.DWIN.COM
lees SCQC sites Play= 8797 + =	Information 3 [Success] © Documents and Settings Administrator Wy Documents 222 sin	OM.CN WWW
2 (10)		VW.DWIN.COM
Jean 2020 Calker Mage 2000 + 1 -		OM.CN WWW
		w.dwin.com
	·	OM.CN WWW
Information Resolution: 640×480 Positi Picture: 320×240 Siz	n X:20 Jump To Y:16 1 Assign (None) H:475 1 ↓ Control (None) H:475 1 ↓ Control (None)	Code: Notice: (None) Delete Assign Delete
Basi a a Bi a a a a a a		

- (1) Click "Preview" to Preview your project
- (2) Click "Build" to build bin file
- (3) Pup up window means success

4. 💷 System setting

• Terminal Mode Settings

💳 Terminal Assistant - Version5		
Tersinal Assistant - Version5	Terminal Tode Settings X ScreenSettike 00 2 BaudRat 115200 3 Don't upload command 0x72 automaticlly when releasing screen. 3 Automaticlly upload command 0x72 sutomaticlly when releasing screen. 3 Automaticlly upload command 0x72 Nor79 9 Orith a interval of 100ses when touch the screen till release 1 Screen till release Switch touchscreen or keying. Switch touchscreen or keying. Switch touchscreen or keying. Backlight controlled by touchscreen or keyboard meanwhile users can use Mo base when pressing the monitor or keyboard deflect 90 degrees display, When choosing	
Clean Screen 320X240 V © 0° 090° 16 bit V	Beep when pressing the effective position with the Upload command Ox72 Paral: 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	
Port: COM1 BaudRate: 115200	Deel Hand CheckPort	
Serial Port: COM1 BaudRate: 115200 Port Status	: Open Download Progress-All Files Single File toolStri	pStatusLabel7

- (1) Click "System setting"
- (2) Select correct "Screen setting"
- (3) The default baud rate is "115200"
- (4) The touch screen configure mode
- (5) Click "enter"

5. 🖾 self-write command

🔤 Terminal Assistant - Version5 💦 📃 🗙	
Forward Assistant - Versiont Self-vrite Command Self-vrite Command <	
Port: COMI V BaudRate: 115200 V Closed Hand CheckFort Serial Port: COMI BaudRate: 115200 Port Status: Open Download Progress-All Files Single File toolStripStatusLabel7	

- (1) Click "self-write command"
- (2) Two different modes to sending command
- (3) Write command in this blank
- (4) Click "Send"

6. Clean Screen

	Screen Simulate Area
Port: COMI PauRate: IIS200 Open Closed Hand CheckFort Swid Port: COMI Research 115200 Port Single File tolStrictingtoiner	losed Hand CheckFort Remlast Program All File Single File toolStrinStatur[abs]7

- (5) Set ColorPicker
- (6) Click "Clean Screen"