ELC-43TS Touch Screen User Guide

4.3 Inches, 480xREGBx272, 65K Colors.

1. **How to get ELC-43TS and xlogic CPU to be connected together?**
   The ELC-RS232 cable is required as the connection cable between Touch screen and xLogic CPU.

-Programming cable or connection cable

2.Terminal definition

Terminal connection instructions:
 G: The ground of the signal and the power ground
 B: NULL
 A: NULL
 T: TXD(Green wire)
 R: RXD(Blue wire)
 V: DC+12V---+24V

2. **Supported CPU model list**

Below listed xLogic CPUs can be used with the ELC-43TS

| Series	Model
Standard ELC-12	ELC-12DC-DA-R-CAP
	ELC-12DC-DA-R-HMI
	ELC-12AC-R-CAP
	ELC-12AC-R-HMI
Upgraded ELC-18	ELC-18AC-R-U
	ELC-18DC-D-R-U
	ELC-18DC-DA-R-U
	ELC-18DC-DA-TN-U
	ELC-18DC-DA-TP-U
ELC-22	ELC-22AC-R-HMI
	ELC-22DC-D-R-HMI
ELC-26	ELC-26AC-R-HMI
	ELC-26DC-D-R-HMI
	ELC-26DC-DA-R-HMI
	ELC-26DC-DA-TN-HMI
SSR-12	SSR-12AC-R-H
	SSR-12DC-DA-R-H
	SSR-12AC-R
	SSR-12DC-DA-R

Note: ELC12-TS-CABLE also can be connected to the standard ELC-12 CPUs if CPU's programming port shall be required for other purpose. As while ELC-RS232 is being used as connection cable, then XLOGIC CPU'S programming port has to be occupied.

4.Standard function

In fact, the touch screen(ELC-43TS) plays the 100% same role of CPU's front panel/LCD, the only difference is that such ELC-43TS can enable users to have bigger display size and also separate installation between touch screen and CPU. Moreover, the distance between these two items can be up to 15 meters away from CPU.

All the contents able to be displayed on the front LCD of the CPU itself can be synchronously displayed on the Touch screen as well,including the operation menu, alarming messages. However, some special symbols can not be displayed on the touch screen.
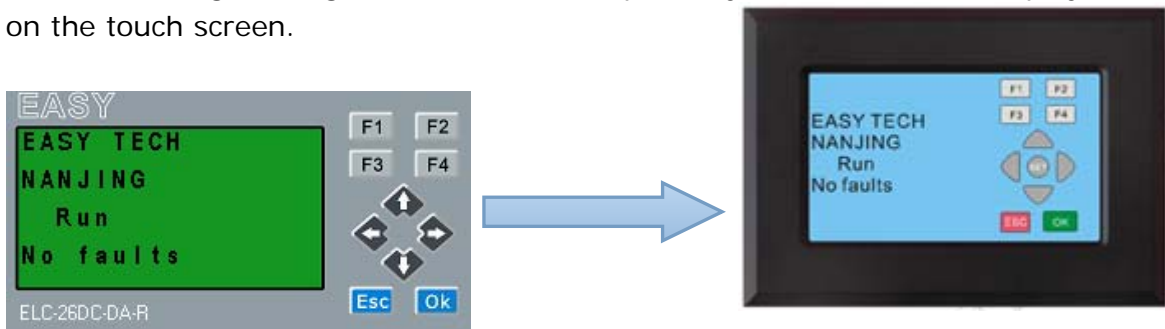

All the panel keys on the touch screen have the same function as those physically on the CPU itself.

The different function is to modify the parameters in the text message block, you need press the "ok" key on CPU itself for 3 seconds; But for the same

purpose, you only need to press the " SET " button for once on the touch screen. For example, you want to modify the counter value which had been inserted into the message text block(Block number B002), you can press "OK" key for 3

seconds on CPU itself, the cursor will be flashing, then you can adjust the value with the arrow keys and confirm with OK key. Now if you use the touch screen, you can click the" Set" button on the touch screen, the cursor will be flashing and you also can use the arrow keys to adjust the values and confirm with the "ok" button on the touch screen.
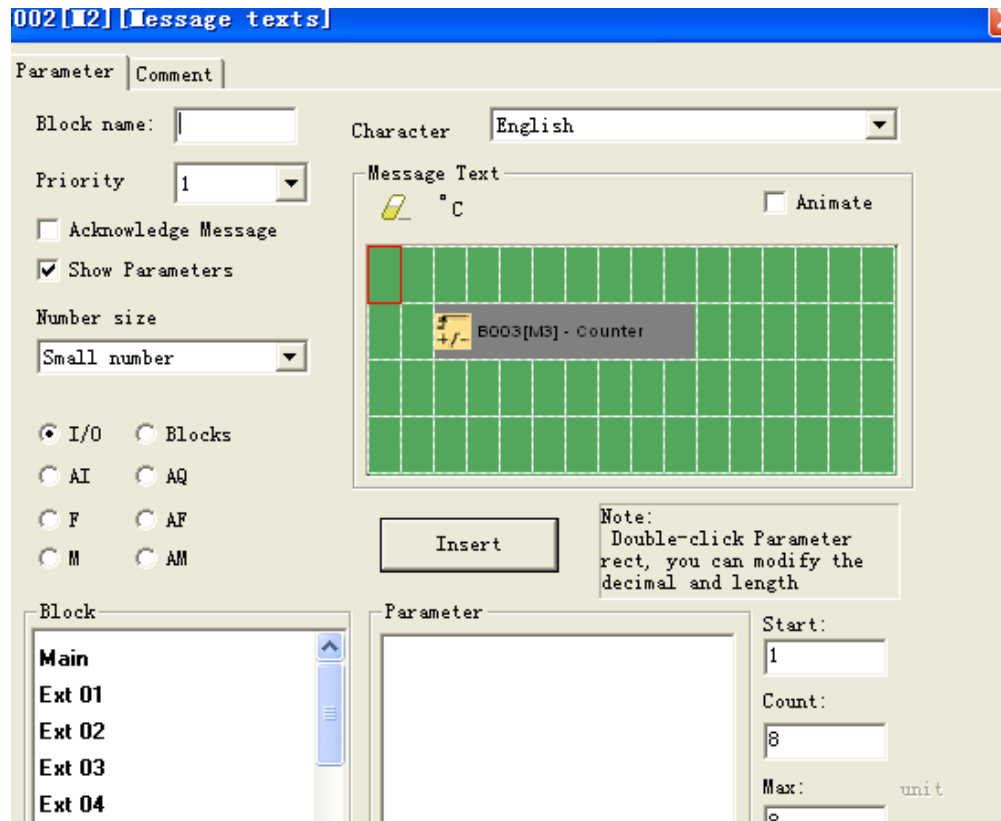
Press "ok" key for 3 seconds, and adjust the value will arrow keys, then confirm the value with "ok" key.

Notes:

1. The panel key on the touch screen only can output a trigger, it cannot output a continuous HI signal even if you keep pressing it down for some time. That means if you press F1 once (No matter how long you would press it down),

the block PK can merely output a short trigger.

2. The CPU can search for the touch screen only when it had been powered up, hence, you either have to power on the touch screen before the CPU or both of them at the same time.

3. If the CPU is communicating with the touch screen, however, you need download a new program into CPU, then you need to disconnect CPU and touch screen and further recycle the power supply of the CPU. Then the new program can be downloaded.

Brightness adjustment:
You can adjust the brightness via the menu Set..->Set LCD->Contrast on the touch screen

Backlight Control ON/OFF

The Backlight of the touch screen can be controlled ON/OFF in your program, the Bit for backlight is "F64", For example, if you want to use it as light alarming, you can turn on/off with 1 seconds. The below is example program :
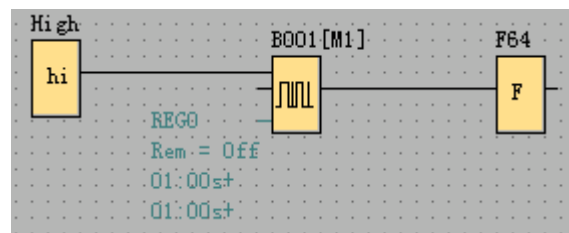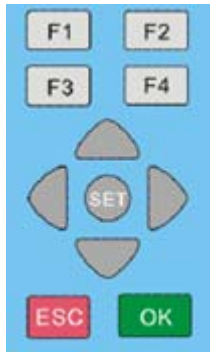

**Control Buzzer of the touch screen ON/OFF**

The buzzer of the touch screen can be controlled ON/OFF in your program, the Bit for the buzzer is "F63", For example, if you want to use it as voice alarming(Beep-Beep..), you can turn on/off with 0.3 seconds. The below is example program :
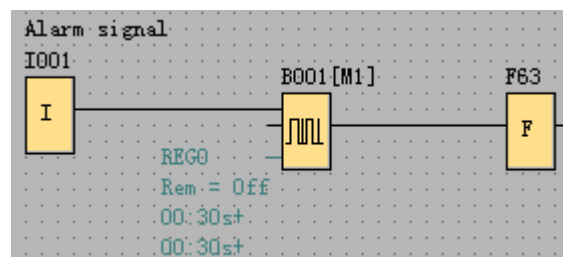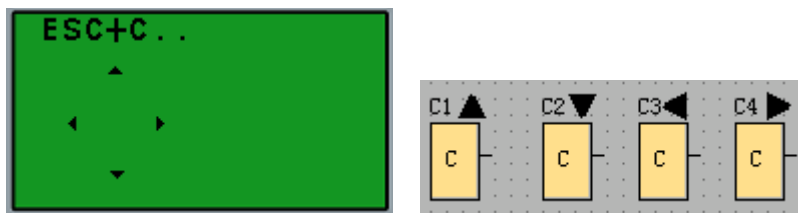

Panel keys and Cursor keys instruction   :

The panel keys are corresponding to the panel keys block in xlogicsoft.
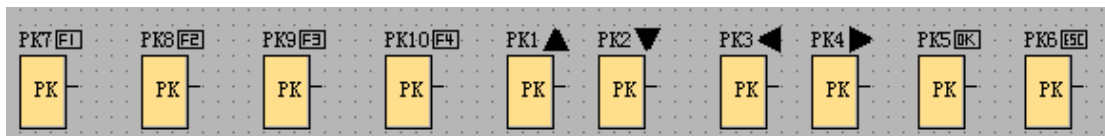
Two or more panel keys cannot be pressed down at the same time, so the Cursor keys have no function on the touch screens.(You can not find the cursor keys page in touch screen, it will display blank when the LCD of CPU itself display the cursor key page.)
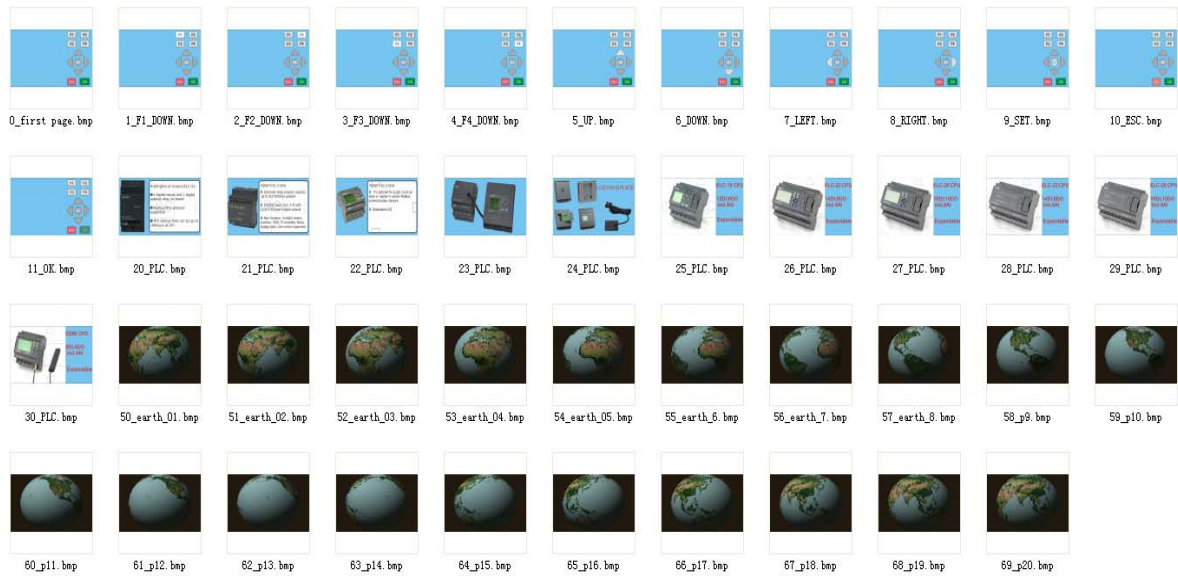

5. Expandable function (tailor service with pay)

1.Users can design the panel keys and the whole screen 100% according to their own requirements, in this case, all the required pictures have to be sent to us and further tell us your detailed requirements, after that, we can process the pictures and add the "touch files". At last we can send the pictures(converted) and the "touch files" to you, you only need update the touch screen with 2G SD card(FAT32 format).

2.Alarming pictures and simple animation displays.

Some default pictures are already available in the Touch screen, so you can make program to display them, then you can design your own pictures and send to us for pictures conversation and add the touch files. At last we can send the pictures(converted) and the "touch files" to you, you only need update the touch screen with 2G SD card(FAT32 format).

The default pictures in the touch screen:

0_first page.bmp	1_F1_DOWN.bmp	2_F2_DOWN.bmp	3_F3_DOWN.bmp	4_F4_DOWN.bmp	5_UP.bmp	6_DOWN.bmp	7_LEFT.bmp	8_RIGHT.bmp	9_SET.bmp	10_ESC.bmp

11_OK.bmp	20_PLC.bmp	21_PLC.bmp	22_PLC.bmp	23_PLC.bmp	24_PLC.bmp	25_PLC.bmp	26_PLC.bmp	27_PLC.bmp	28_PLC.bmp	29_PLC.bmp

30_PLC.bmp	50_earth_01.bmp	51_earth_02.bmp	52_earth_03.bmp	53_earth_04.bmp	54_earth_05.bmp	55_earth_6.bmp	56_earth_7.bmp	57_earth_8.bmp	58_p9.bmp	59_p10.bmp

| 60_p11.bmp	61_p12.bmp	62_p13.bmp	63_p14.bmp	64_p15.bmp	65_p16.bmp	66_p17.bmp	67_p18.bmp	68_p19.bmp	69_p20.bmp

Each picture has their own sequence number:

You can use the "message text" block in the program to display them. For example you want to trigger the picture 26.

Then you need tick up the " Animate" option in text message block, then input the 26 into start and end box. When B001 is triggered, the picture No.26 will be displayed on the touch screen. We have added the touch buttons on each pictures, so you can press "UP", "DOWN" buttons to switch the alarming messages(The triggered message text block), and press "LEFT" and "RIGHT" button to switch the message text with no connection on the input leg of the

message text block in the program. And the "ESC" button is at the middle of the screen, you can press it into the LCD menu.
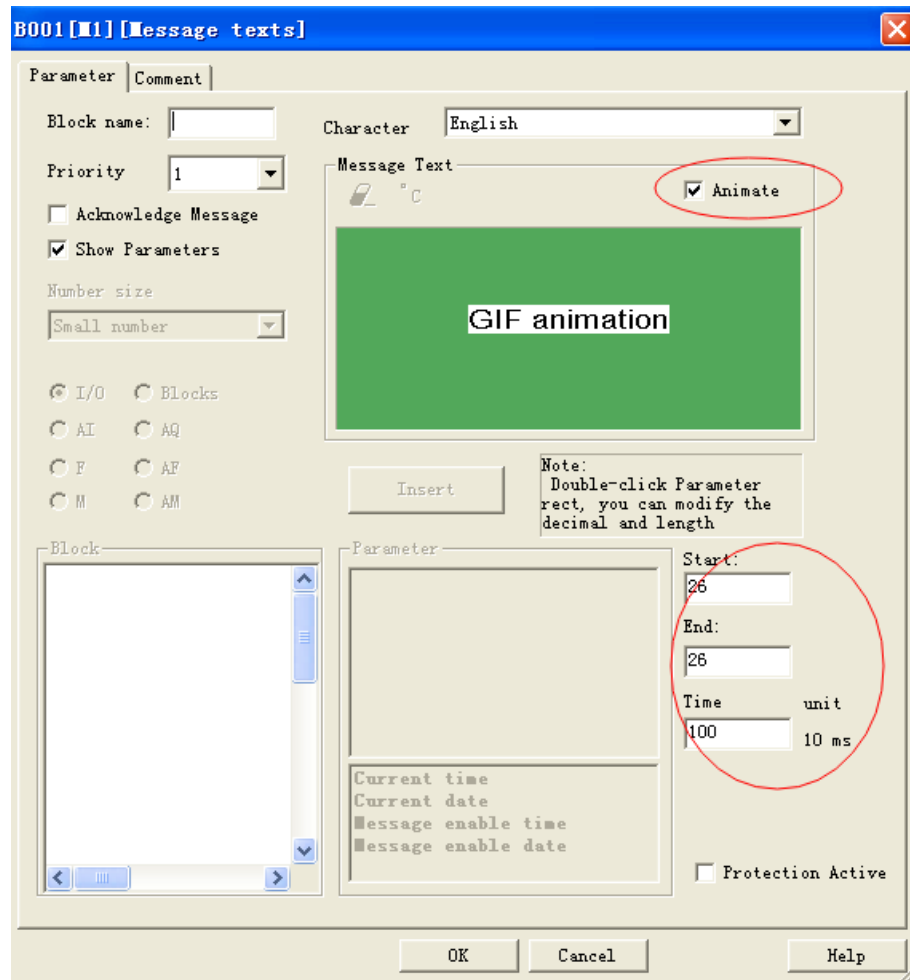
To play a simple animation, you can make a serial pictures, then you can play them one by one. For example, you can start the pictures 50 and end the pictures 69, then if the message text block is triggered, the touch screen will show a .gif picture/animation.

The delay time between 2 pictures can be set in the Time box and the unit of such delay time is "10ms", so you can change the speed of the animation though

adjusting this delay time( ).
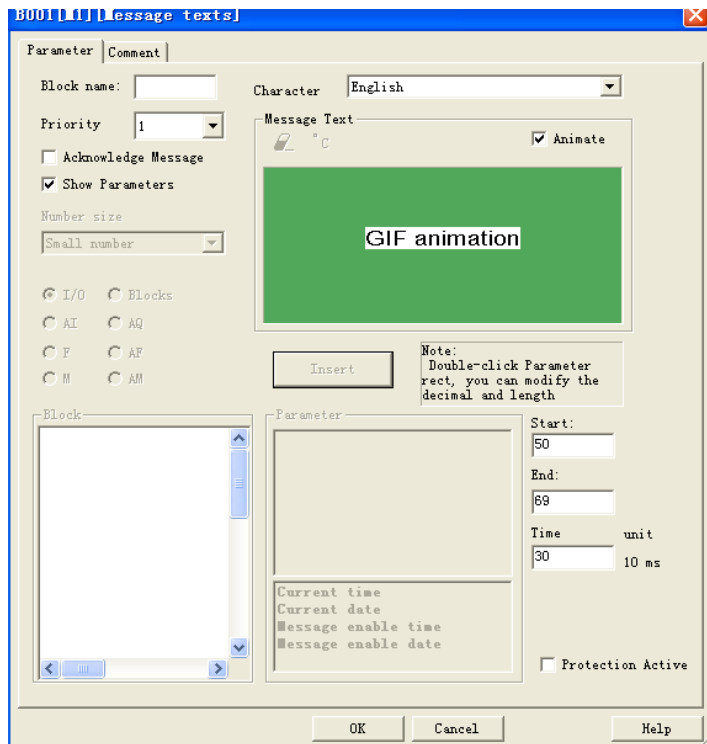
 (You can see a the earth is going around if the B001 block is triggered in your program)

Up to 256 pictures can be saved in the screens.(The resolution of pictures is 480x272)

6. How to upgrade the pictures and file for touch screen

You only need inserted the 2G SD card into the SD card slot of the touch screen, then the screen can copy the pictures and the files automatically, and you need move away the SD card after copy being finished .

Hardware Features

Item	Parameter	Description
LCD type	TFT	
Resolution	480 x272	90˚ rotation by configuration file(272x480)
Color	65k(65535)colors	16 bit color 5R6G5B
Active Area(A.A.)	95.0mm(W) x 53.9mm(H)	
Touch screen Type	4-wire resistance touch screen	
Touch screen Inaccuracy	+/-0.5%	Calibrate on running
Backlight Type	LED	The half brightness life will not less than 30000 hrs.
Brightness	300nit	adjustable
SD Slot	SD/SDHC	FAT32 file format; Download and upgrade pictures and touch files.
Other hardware	Buzzer	Software control tweet; Automatically sound prompt when effective touch button is clicked

Working Environment& Reliability Test

Item	Conditions	Min	Typ.	Max	Unit
Working Temperature	60%RH at 12V voltage	-20	25	70	℃
Storage Temperature	-	-30	25	85	℃
Working Humidity	25℃	10%	60%	90%	RH
Aging Test	-	-	24	-	H
ESD Protection Grade	IP65(Front)				
Other Certification	CE ROHS				

Interface

| Item	Description
Power voltage	DC12-24V, With Reversed Polarity Protection
Power Consumption	2.4W(12V,200mA)
Connection with xLogic	Standard ELC-RS232 cable

Installation features

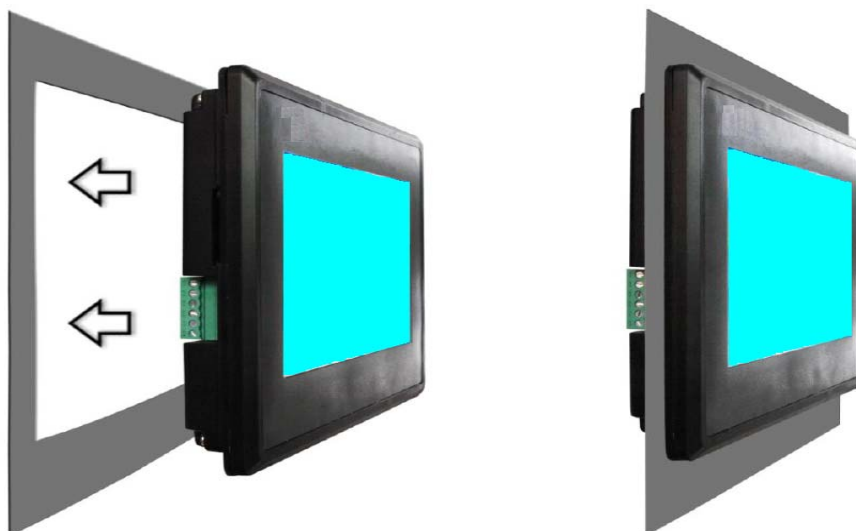| Item	Description
Case Material	ABS +PC Engineering Plastic
Case Color	Black
Dimension	140.0(mm) x 98.0(mm) x19.7(mm)
Hole Size	129.6(mm) x87.6(mm)
Installation Depth	22.7(mm)(incl.6pin_3.81mm Phoenix Connector)
Weight	200g
Accessories	Waterproof rubber gasket, buckles

Dimensions:
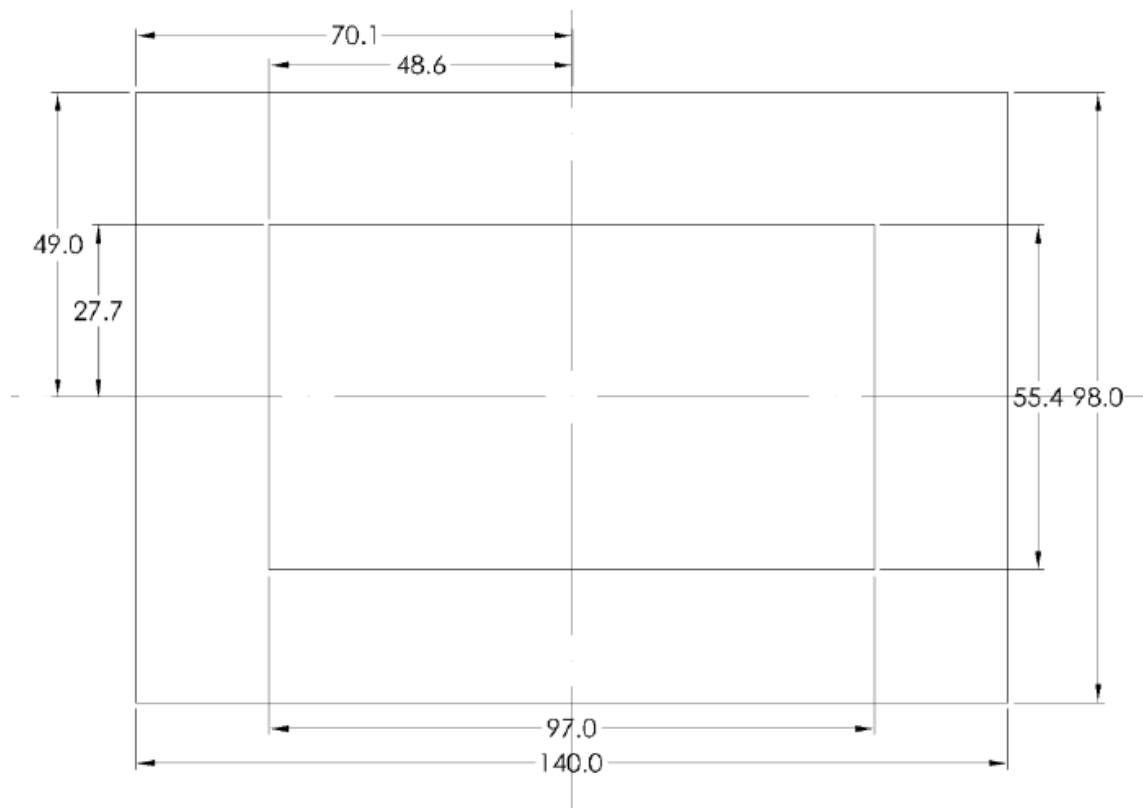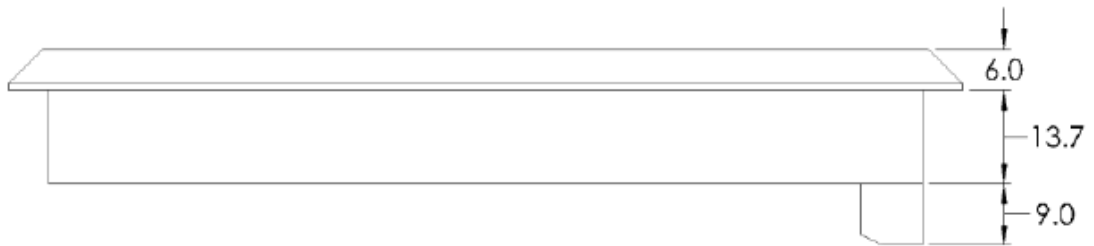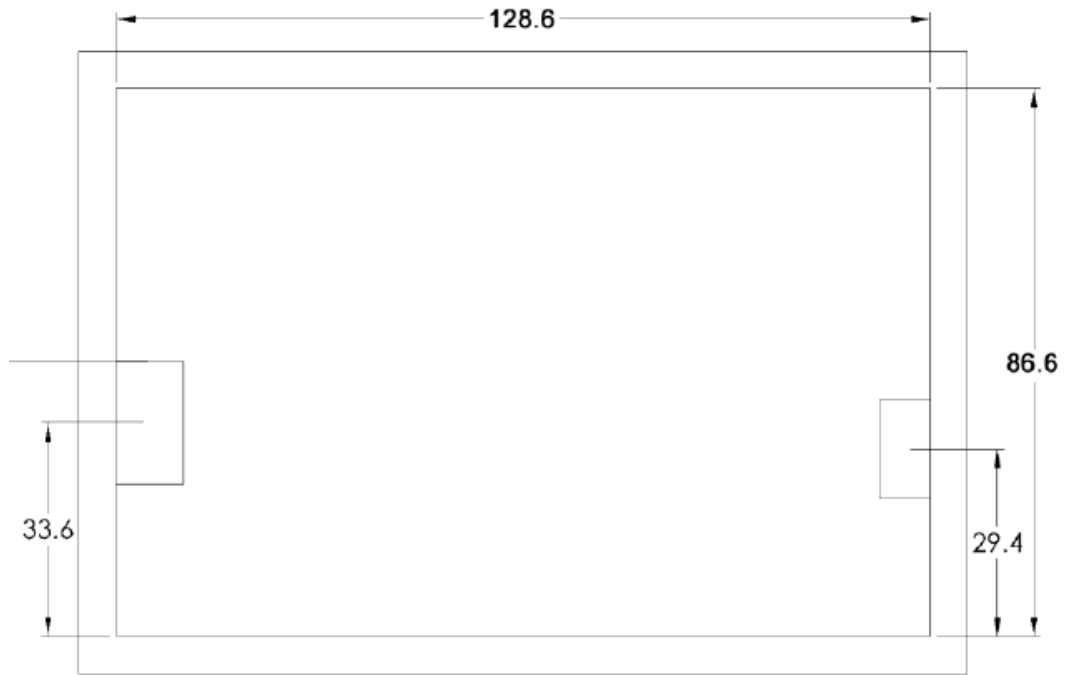
Note: Unmarked tolerance is +/-0.3mm.

HMI installation guide

Step1: Embed the HMI in the hole.

The mounting holes are marked by the red circles.
The picture above shows the top view, there are the same mountings on the other side.

Step2: Place the buckles into the mounting holes as shown.

Step3: Tighten the screws to fix the HMI on the device.