Sensing | Detecting | Automation Expert

THM Series HMI

Friendly | Rapid | Open | Flexible

The introduction of BANNER ENGINEERING

BANNER ENGINEERING is a global leading sensing detecting and automation solution supplier, who has more than 22,000 types of products and the most complete product lines, including industrial controllers (PLC & HMI), photoelectric sensors, measuring and detecting sensors, industrial wireless network products, machine vision , industrial safety products, industrial intelligent indicators, rotary encoders and other automation products that can meet different control & detection demands. In the past 4 decades of development, Banner has been taking innovation as the driving force of application and R&D of products.In terms of either factory automation or process automation, Banner can provide leading and reliable control & detection solutions.

The introduction of THM series HMI

THM has excellent performance, elegant outlook and complete product series. It adopts advanced embedded technology, efficient real-time operation system, and simple used operation software. Besides basic functions of monitor, operation and storing data, it also supports major brands of controllers, PLC, inverter and other equipment communication. In various fields of Factory Automation and Process Automation, it has widely application. THM series HMI has eight inches, which are 3.5".4.3".5.6".7".8".10.4".12.1",15".

The main stream adopts 60000 colors TFT displays, from the basic type only with the serial port,to the type integrating various serial ports, various USB interfaces, Ethernet interface, audio interface, and SD card slot of Multi function type.It has various types to realize different users under needs of different application scenes.

Friendly software
BAMS software is integrated the advantages of the major brand globally, which is easy to operate and has abundant function.The well-designed windows and the smooth animation will make you satisfied.

Rapid Response
THM adopts advanced embedded technology, low-power 32-bit RISC CPU clip, and advanced 2D graphics accelerator. High efficient built-in real-time operation system, lights when it powers on instantaneously, communicating with the controller rapidly. THM will finish its communication instantaneously and would not delay when it communicates with IPC & PLC.

Strong Communication
Integrating various serial ports (at most 3 pcs),supporting three sorts of communication styles, which are RS232/RS485/RS422, and able to communicate with controllers of different communication protocol simultaneously.
Integrated Ethernet interface: Realizing the remote monitor on HMI by Ethernet, and the data exchange between HMI and controller, each PC, and each HMI.
Integrated USB interface: Uploding and downloading program, and storing data by USB interface.Also able to connect with other equipments of USB interface, such as Mouse, keyboard and printer. Flexible expansion & wealth of function.

Cool Vision Effect
Adopting 65536 colors,True color TFT LCD screen, which is bright and colourful. It supports picture formats like BMP, JPG and GIF for individualized demonstration.

High reliability
All series of products have certification of CE, FCC, etc, which are consistent with international standards. They have advanced anti jamming performance to the environment like electromagnetic wave, static electricity, humidity, and high and low temperature. Moreover, they have various protection functions, like power reverse connection, short circuit protection, surge protection, and communication protection.

BANNER®

Sensing • Detecting • Automation Expert

Strong | Stable | Reliable | Safe

Overview of THM hardware

Audio interface (partial models)

For playing language file, and outputting language message

Serial port

Supporting
RS232/422/485

Power interface

DC20 ～ 28V

Ethernet interface

Realizing the remote monitor to HMI by Ethernet, and the data exchange between HMI and controller, each PC, and each HMI.

USB interface

Uploading & downloading program, and storing data by USB interface. Also able to connect with other equipments of USB interface, such as mouse, keyboard & printer.

SD card

Able to insert SD card, for program upload & download and data storage.

Overview of BAMS software

- **BAMS software is simple to learn & use.**

- **Large volume of the gallery**

  ※ Suporting the format of BMP, JPG, and
     and GIF; Supporting full color display, and
     meanwhile, the software integrates rich
     gallery for random options.

  ※ The software has over 4000 graphics
     originals for users' making images of various
     effect.

- **Multi languages transformation**

  Supporting all fonts of Windows system;
  Adopting Unicode system, and supporting

  multi languages online transformation, which
  at most reaches to 10 sorts of languages.

- **Simulation function**

  In BAMS software, simulating HMI & PLC could be operated by online or offline patterns, to simulate
  debugging of image and operation.

  ※ Offline simulation. Without HMI & PLC, directly simulating the computer as one HMI & PLC, for users'
     conveniently learning software and design the image.

  ※ Online simulation, directly regarding the computer
     as one HMI & PLC to communicate and
     exchange data. The effect is the same as
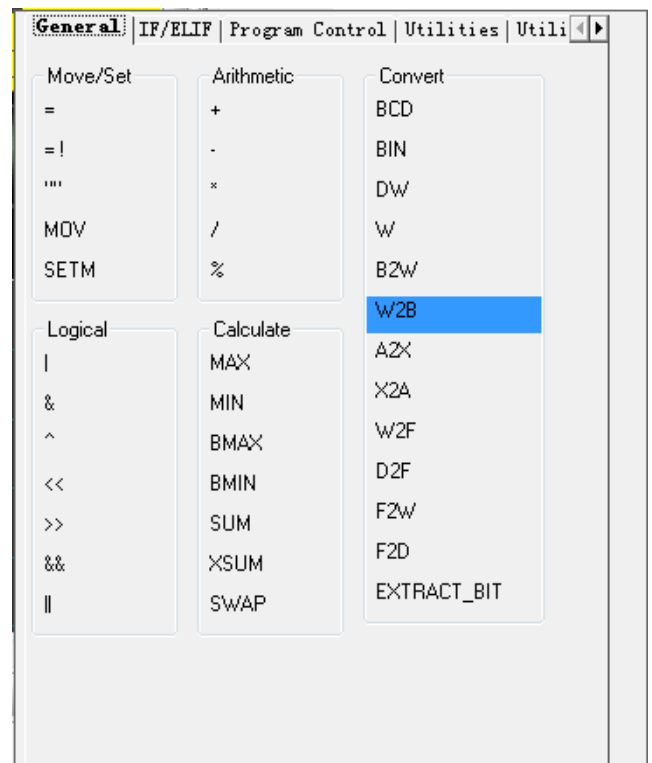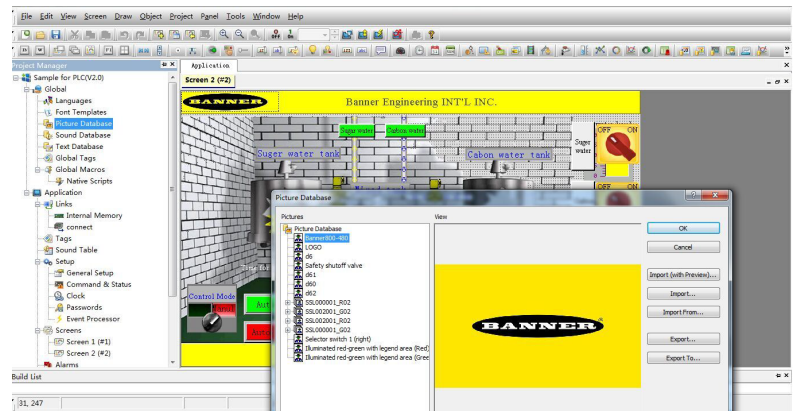   online operation of HMI & PLC.

- **Strong MACRO Editor**

  Supporting MACRO script. The MACRO
  The MACRO instruction is rich for users'
  freely writing program to realize the necessary
  functions.

  ※ Various MACRO instruction for flexible use

  ※ MACRO instruction Pattern of Various
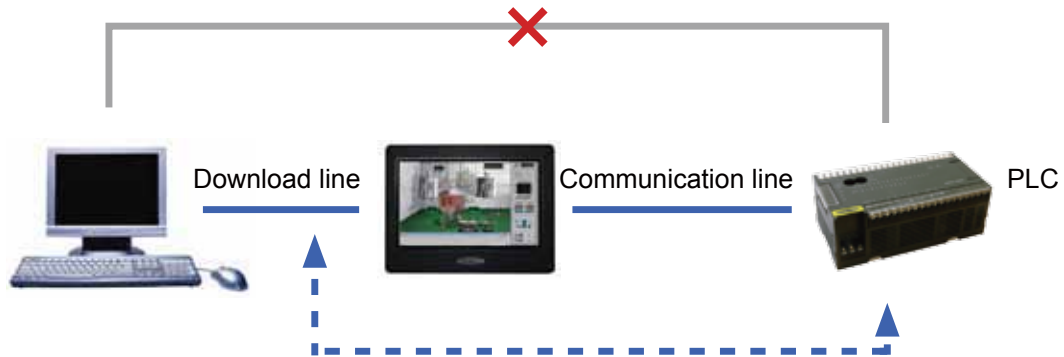   controlling methods for options

  ※ The program can be inputted various MACRO
     instruction

- **Transparent communication**

    PC communicates through THM & PLC, which makes the debugging of PLC more convenient. When the communication style is RS422/485, the specialized PLC communication cable can be replaced. PC can directly online amend and monitor PLC system by THM without the specialized PLC communication cable.

Download line   Communication line   PLC

- **Strong opening**

    THM supports various communication interfaces for convenient flexible networkings as follows
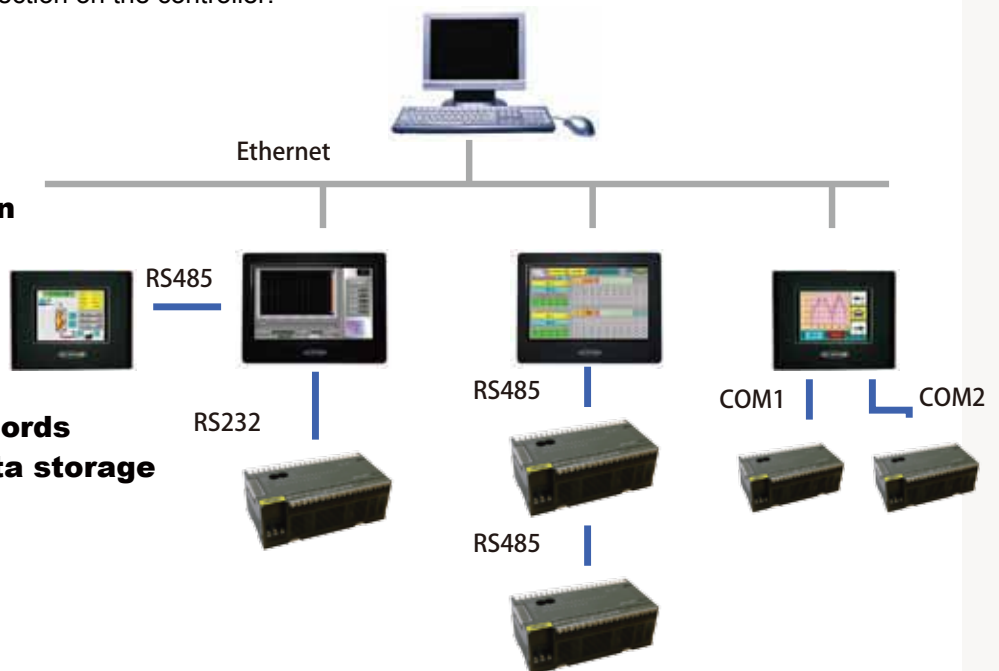
    1. One HMI connecting one PLC (1:1) or the two serials of one HMI individually connecting two different controllers (2:2)
    2. One serial (RS485) of one HMI connecting various controllers(1:n)
    3. Various HMI (RS485) connecting one controller (n:1)
    4. One HMI connecting various controllers by Ethernet.
    5. One HMI connecting PC by Ethernet; Connecting the controller by serial ports, which makes PC realize the data collection on the controller.

- **Supporting 8 level code protection**

- **Rich alarm function**

- **Supporting recipe function of various zones & groups.**

- **Historical data records displaying, and data storage of various zones**

Ethernet

RS485

RS232

RS485

RS485

COM1   COM2

Model		THM035B	THM043A	THM043C2	THM056A	THM070A	THM070AE	THM070C2
Specification	Size	3.5″	4.3″	4.3″	5.6″	7.0″	7.0″	7.0″
	Display	256 colors TFT, LED backlight	65536 colors TFT, LED backlight					
	Resolution	320×240	480×272	480×272	320×234	800×480	800×480	800×480
	Lightness(cd/m2)	300	400	250	250	300	300	280
	Touch panel							
	CPU	32-bit RISC						
	Memory(SDRAM)	512KB	32MB	32MB	32MB	64MB	64MB	32MB
	Battery backup memory	None	128KB (1MB optional)	128KB	128KB (1MB optional)	128KB (1MB optional)	128KB (1MB optional)	128KB
	Flash Memory	2MB	8MB	8MB	8MB	8MB	128+8MB	128+8MB
	SD	None	None	None	None	None	Max. 16GB	None
Communication interface	USB	None	1 Master & 1 Slave					
	Serial	COM1：RS232 COM2：RS422/485	COM1：RS232/422/485 COM2：RS232/485 COM3：RS232	COM1：RS232/422/485 COM2：None COM3：RS232	COM1：RS232/422/485 COM2：RS232/485 COM3：RS232	COM1：RS232/422/485 COM2：RS232/485 COM3：RS232	COM1：RS232/422/485 COM2：RS232/485 COM3：RS232	COM1：RS232/422/485 COM2：None COM3：RS232
	Ethernet	None	None	None	None	None	Yes	None
	Audio	None	Optional	Optional	Optional	Optional	Optional	Optional
Electricity characteristics	Watt	6W	13W	13W	13W	15W	15W	15W
	Power	DC20V ～28V	DC20V ～28V	24VDC±10%	DC20V ～28V	DC20V ～28V	DC20V ～28V	24VDC±10%
Conditions	Operation temperature	0℃～50℃						
	Operation humidity	10%~90% RH, No condensation						
	Vibration resistance	10Hz ～55Hz(X,Y,Z direction 1G/30 minutes)						
Certifications	IP Class	IP65(Front panel)						
	CE	EN550 22，EN61000-4-2，EN61000-6-4，EN61000-4-8						
Physical specification	Dimensions (mm)	130.0×106.2×39.0	130.0×106.2×39.0	130.0×106.2×39.0	188.0×143.3×40.0	188.0×143.3×40.0	188.0×143.3×40.0	204.4×151.0×40.0
	Cutout dimensions (mm)	118.5×92.5	118.5×92.5	118.5×92.5	174.5×132.5	174.5×132.5	174.5×132.5	191.5×138.0
	Weight	0.27kg	0.35kg	0.35kg	0.59kg	0.6kg	0.6kg	0.6kg

THM070CE	THM080A	THM080AE	THM101C2	THM101CE	THM104A	THM104AE	THM121CE	THM150AE
7.0″	8″	8″	10.1″	10.1″	10.4″	10.4″	12.1″	15″
65536 colors TFT, LED backlight								
800×480	800×600	800×600	1024×600	1024×600	800×600	800×600	800×600	1024×768
350	300	300	200	300	400	400	450	400
Resistor; Surface hardness 4H								
32-bit RISC								
32MB	64MB	64MB	32MB	32MB	64MB	64MB	64MB	64MB
128KB	128KB (1MB optional)	128KB (1MB optional)	128KB	128KB	128KB (1MB optional)	128KB (1MB optional)	128KB (1MB optional)	128KB (1MB optional)
128+8MB	8MB	128+8MB	128+8MB	128+8MB	8MB	128+8MB	128+8MB	128+8MB
None	None	Max. 16GB	None	None	None	Max. 16GB	Max. 16GB	Max. 16GB
1 Master & 1 Slave								
COM1 : RS232/422/485 COM2 : None COM3 : RS232	COM1 : RS232/422/485 COM2 : RS232/485 COM3 : RS232	COM1 : RS232/422/485 COM2 : RS232/485 COM3 : RS232	COM1 : RS232/422/485 COM2 : None COM3 : RS232	COM1 : RS232/422/485 COM2 : None COM3 : RS232	COM1 : RS232/422/485 COM2 : RS232/485 COM3 : RS232	COM1 : RS232/422/485 COM2 : RS232/485 COM3 : RS232	COM1 : RS232/422/485 COM2 : None COM3 : RS232	COM1 : RS232/422/485 COM2 : RS232/422/485 COM3 : RS232
Yes	None	Yes	None	Yes	None	Yes	Yes	Yes
Optional	Optional	Optional	Optional	Optional	Optional	Optional	Optional	Optional
	20W	20W	20W	20W	20W	20W	18W	25W
	DC20V～28V	DC20V～28V	24VDC±10%	24VDC±10%	DC20V～28V	DC20V～28V	DC20V～28V	DC20V～28V
0℃～50℃								
10%~90% RH, No condensation								
10Hz～55Hz(X,Y,Z direction 1G/30 minutes)								
IP65(Front panel)								
EN550 22，EN61000-4-2，EN61000-6-4，EN61000-4-8								
204.4×151.0×40.0	231.6×174.6×42.5	231.6×174.6×42.5	270.1×212.1×42.5	270.1×212.1×42.5	270.1×212.1×42.5	270.1×212.1×42.5	330.35×245.88	399.1×297.6×62.6
191.5×138.0	220.5×163.5	220.5×163.5	259.0×201.0	259.0×201.0	259.0×201.0	259.0×201.0	301.5×228.0	384.5×283.0
0.6kg	0.93kg	0.93kg	1.2kg	1.2kg	1.2kg	1.2kg	2.2kg	2.8kg

Sensing │ Detecting │ Automation Expert

Model	Description
THM035B	3.5" TFT LCD. 320×240. 256 colors. LED backlight. No USB interface & Ethernet
THM043A	4.3" TFT LCD. 480×272. 65536 colors. LED backlight. 2 USB interfaces No Ethernet.
THM043C2	4.3" TFT LCD. 480×272. 65536 colors. LED backlight.2 USB interfaces No Ethernet.
THM056A	5.6" TFT LCD. 320×234. 65536 colors. LED backlight. 2 USB interfaces No Ethernet.
THM070A	7" TFT LCD. 800×480. 65536 colors. LED backlight. 2 USB interfaces No Ethernet.
THM070AE	7" TFT LCD. 800×480. 65536 colors. LED backlight. 2 USB interfaces With Ethernet.
THM070C2	7" TFT LCD. 800×480. 65536 colors. LED backlight. 2 USB interfaces No Ethernet.
THM070CE	7" TFT LCD. 800*480. 65535 colors. LED back light. 2 USB interfaces WithEthernet
THM080A	8" TFT LCD. 800*600. 65536 colors. LED backlight. 2 USB interfaces No Ethernet.
THM080AE	8" TFT LCD. 800*600. 65536 colors. LED backlight. 2 USB interfaces With Ethernet.
THM101C2	10.1"TFT LCD. 1024*600. 65536 colors. LED backlight. 2 USB interfaces No Ethernet
THM101CE	10.1"TFT LCD. 1024*600. 65535 colors. LED back light. 2 USB interfaces With Ethernet
THM104A	10.4"TFT LCD. 800*600. 65536 colors. LED backlight. 2 USB interfaces No Ethernet
THM104AE	10.4"TFT LCD. 800*600. 65536 colors. LED backlight. 2 USB interfaces With Ethernet
THM121CE	12.1"TFT LCD. 800*600. 65535 colors. LED back light. 2 USB interfaces With Ethernet
THM150AE	15" TFT LCD. 1024*768. 65535 colors. LED backlight. 2 USB interfaces With Ethernet

Model	Description
BAMS1-Datawatch	SCADA Software

Banner Engineering Corporate | Banner Electronic (Suzhou) Co., LTD
Shanghai Rep Office (The marketing headquarters in China):
12th Floor，No.2 Xinlian Scientific Research Building, No. 1535 Hongmei Road, Shanghai

Postal Code：200030
Telephone：021-24226888
Facsimile：021-24226999

The nation-wide technical service hotline: 400-630-6336
Web： www.bannerengineering.com.cn

BANNER ®

Sensing • Detecting • Automation Expert