



HM SERIES

HM104B-0000 HM104B-N000
 HM107B-0000 HM107B-N000
 HM110B-0000 HM110B-N000

In HM series interfaces provide human machine interface for various system. These interfaces establish communication with the equipment using a serial communication port and ethernet port, allowing them to fetch information from the system. They provide a means to monitor and control system through a user-friendly interface, enhancing the efficiency of industrial automation processes.

General Precautions

Please read this instructional booklet for the GIC HMI prior to using the product to ensure correct usage. It is advisable to keep this document readily available for convenient reference whenever needed. It is important to read this entire document before proceeding with the following steps.

- When connecting the wires, please consult the provided wiring diagram.
- For safety purpose, avoid direct contact the power supply to prevent the risk of electric shock.
- It is crucial to ensure proper grounding of the HMI in accordance with the guidelines.
- This product can be used in addition with other industrial automation tools. To ensure safety and minimize risks, it is important to efficiently read and follow the instruction provided in manual.
- When cleaning the product, please use a dry cloth.
- Deviation from the manufacturer's advised usage may reduce the level of protection provided by the equipment

If you have inquiries during your operation, please contact our regional distributors or GIC sales representatives for assistance. Please note that the information provided in this instruction manual sheet is subject to change without prior notice. To obtain the latest version, please consult our distributors or visit the GIC website.

Communication port pin assignment

HM104B-0000, HM104B-N000 COM Port

COM Port	Pin	MODE1		MODE2		MODE3	
		COM1	COM2	COM1	COM2	COM1	COM2
		RS-232	RS-485	RS-485	RS-485	RS-232	RS-422
	1	-	-	D+	-	-	TXD+
	2	TXD	-	-	-	TXD	-
	3	RXD	-	-	-	RXD	-
	4	-	D+	-	D+	-	RXD+
	5	GND		GND		GND	
	6	-	-	D-	-	-	TXD-
	7	RTS	-	-	-	RTS	-
	8	CTS	-	-	-	CTS	-
	9	-	D-	-	D-	-	RXD-

- Note:**
1. HM104B-0000 & HM104B-N000 model consist only one DB9 port that supports RS232, RS422 and RS485 levels on different pins.
 2. Please use a "Y" type cable with the pin information specified in the above table for simultaneous use of COM1 and COM2 port.

HM107B-0000, HM107B-N000, HM110B-0000, HM110B-N000 COM Port

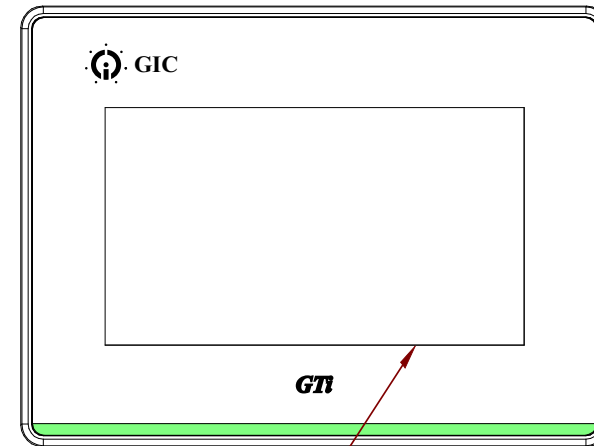
COM Port	Pin	COM1		COM2			
		UNIVERSAL MODE		MODE1		MODE2	
		RS-232	RS-485	RS-232	RS-485	RS-232	RS-422
	1	-	D+	-	-	-	TXD+
	2	TXD	-	TXD	-	TXD	-
	3	RXD	-	RXD	-	RXD	-
	4	-	-	-	D+	-	RXD+
	5	GND		GND		GND	
	6	-	D-	-	-	-	TXD-
	7	RTS	-	-	-	-	-
	8	CTS	-	-	-	-	-
	9	-	-	-	D-	-	RXD-

- Note:**
1. By default, the COM1 Port is set up for RS232 and RS485 connection.
 2. COM2 port is set up by default for RS232. You can configure either RS485 or RS422 at a time for communication
 3. Mark "-" means connection is not required.

Product Overview:

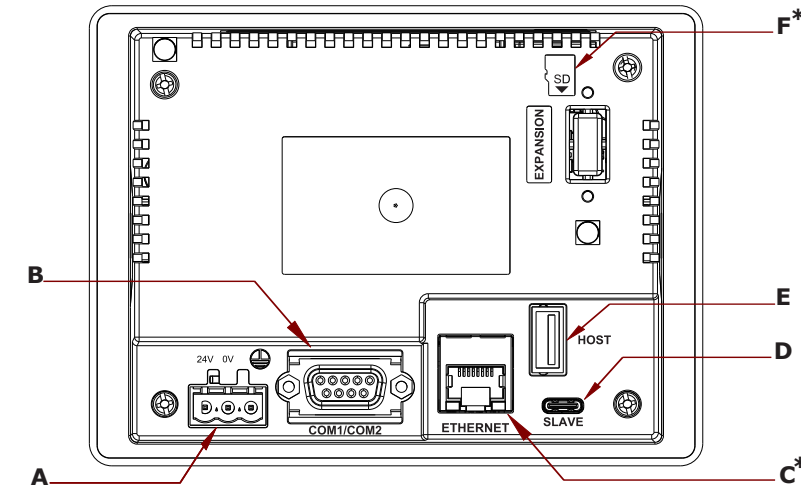
HM104B-0000/ HM104B-N000

(Front view)



Touch screen display

(Rear view)

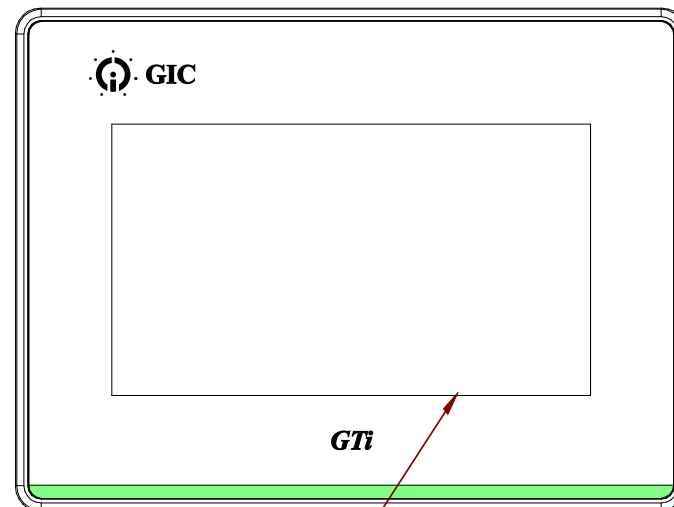


A	Power Input (24VDC)
B	COM1/ COM2 Port
C*	Network Port (LAN)
D	USB Slave
E	USB Host
F*	SD Card

Note: *Applicable for HM104B-N000 model

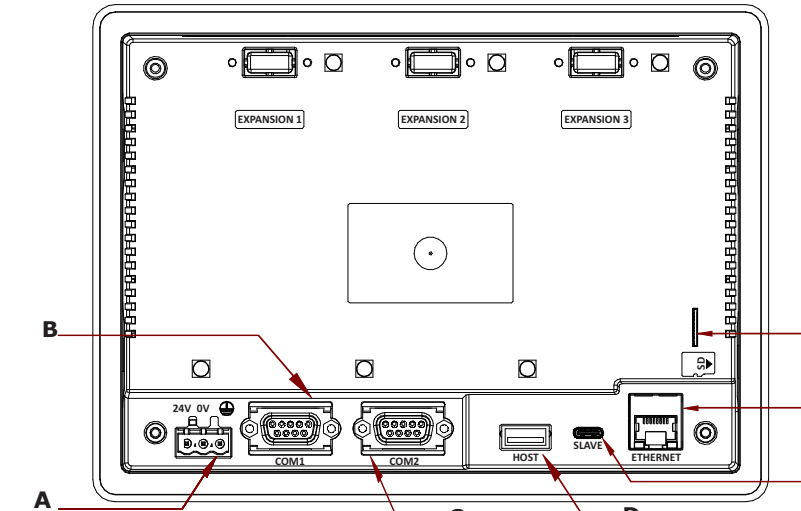
HM107B-0000/ HM107B-N000

(Front view)



Touch screen display

(Rear view)

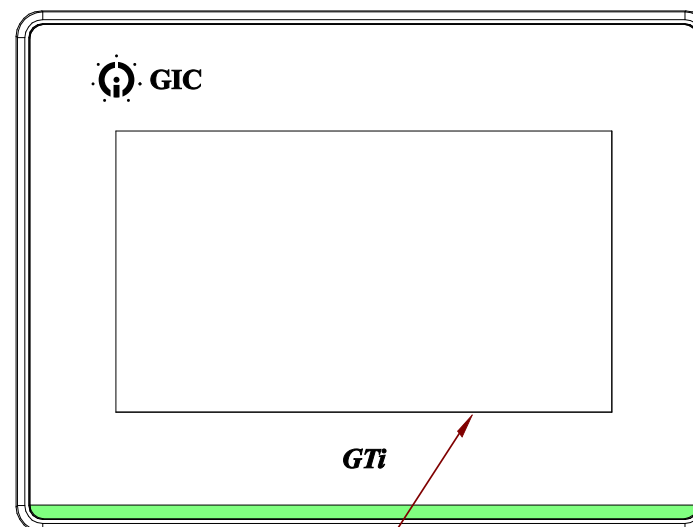


A	Power Input (24VDC)
B	COM1 Port
C	COM2 Port
D	USB Host
E	USB Slave
F*	Network Port (LAN)
G*	SD Card

Note: *Applicable for HM107B-N000 model

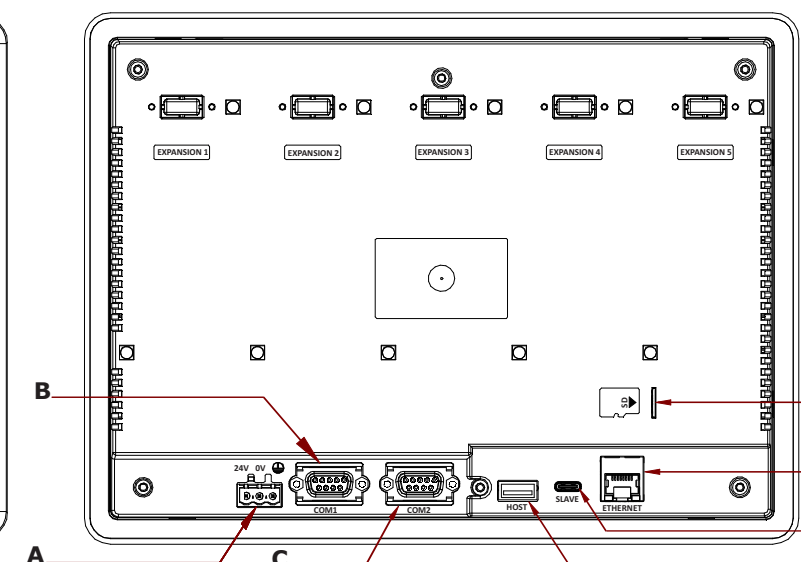
HM110B-0000/ HM110B-N000

(Front view)



Touch screen display

(Rear view)



A	Power Input (24VDC)
B	COM1 Port
C	COM2 Port
D	USB Host
E	USB Slave
F*	Network Port (LAN)
G*	SD Card

Note: *Applicable for HM110B-N000 model

Hardware Specifications:

Model	HM104B-0000	HM104B-N000	HM107B-0000	HM107B-N000	HM110B-0000	HM110B-N000
Nominal Supply voltage Un	24V DC (-15% to +20%)					
Power consumption (max.)	4W	4.5W	6W	6.5W	6.5W	7W
Over voltage category	2					
Backup	3V lithium battery					
Backup battery life	5 years or more at 25°C					
Panel type	4.3" TFT LCD (65535 colors)		7" TFT LCD (65535 colors)		10.1" TFT LCD (65535 colors)	
Resolution	480 x 272 pixels		800 x 480 pixels		1024 x 600 pixels	
Back light	LED backlight (half-life under room temperature 25°C > 50,000 hours)					
Brightness	440 Cd/m2		400 Cd/m2			
CPU	Cortex-M7 (600MHz) , 1284 DMIPS (2.14DMIPS/MHz)					
ROM	32MB	64MB	32MB	64MB	32MB	64MB
RAM	32MB					
Touchscreen	4 wire resistive > 1,000,000 operated					
RTC	Builtin					
Accuracy of the real-time clock	Typ. ± 2 sec/day @ ambient					
USB	1 USB slave Ver 2.0; 1 USB host Ver 2.0					
SD*	No	Yes	No	Yes	No	Yes
Ethernet	No	Yes	No	Yes	No	Yes
COM1*	RS232/RS485		Default RS232/RS485			
COM2	RS422/RS485		Default RS232 and RS422/RS485			
Cooling method	Natural cooling					
Mounting	Flush with screw clamp					
Mounting position	Horizontal					
Panel cutout Dimensions (L) x (W) in mm	118.8 X 92.8		190 X 135		255 X 185	
Dimensions (L) x (W) x (H) in mm	136 X 102 X 36.5		207 X 152.3 X 36.5		273 X 203 X 38	
Terminal Type	Pluggable Euro type terminal					
Terminal Torque	0.4 N.m (3.5 Lb.in)					
Weight	Approx. 230g	Approx. 250g	Approx. 490g	Approx. 510g	Approx. 940g	Approx. 960g
Degree of Protection	IP 65 (Front fascia only with panel Gasket)					
Pollution Degree	2					
Operation temperature	0°C to +50°C					
Storage temperature	-20°C to +60°C					
Humidity	10% to 90% RH [0°C - 40°C] and 10% to 55% RH [41°C - 50°C]					
Maximum operating Altitude	Operation: 2000 m ; Transport: 0 - 3000 m					
Vibration resistance	Conforms to IEC61131-2: continuous vibration 5 Hz - 8.3 Hz with amplitude 3.5 mm; 8.3 Hz - 150 Hz with amplitude 1G					
Shock resistance	Conforms to IEC60068-2-27:11 ms, 15 G Peak, in X, Y, Z directions each for 6 times					
Approvals	CE and RoHs					

*COM1 port RS232 supports flow control RTS-CTS
 *SD card capacity up to 4GB.

Operating Environment:

- The minimum system requirements for running the 'GIC studio' software are:
1. Processor: 2GHz or equivalent processor
 2. Operating system: windows 10, 11.
 3. Hard disc: 20GB
 4. RAM: 4GB and above.
 5. Display: supports 1024 x 768 solution for full-color display

Software Installation:

1. Download the GIC Studio software for GIC HM series through the website <http://www.gicindia.com>,
2. After downloading, extract the software installation files and then run the 'GIC Studio.msi' file.
3. Always use the latest software version.

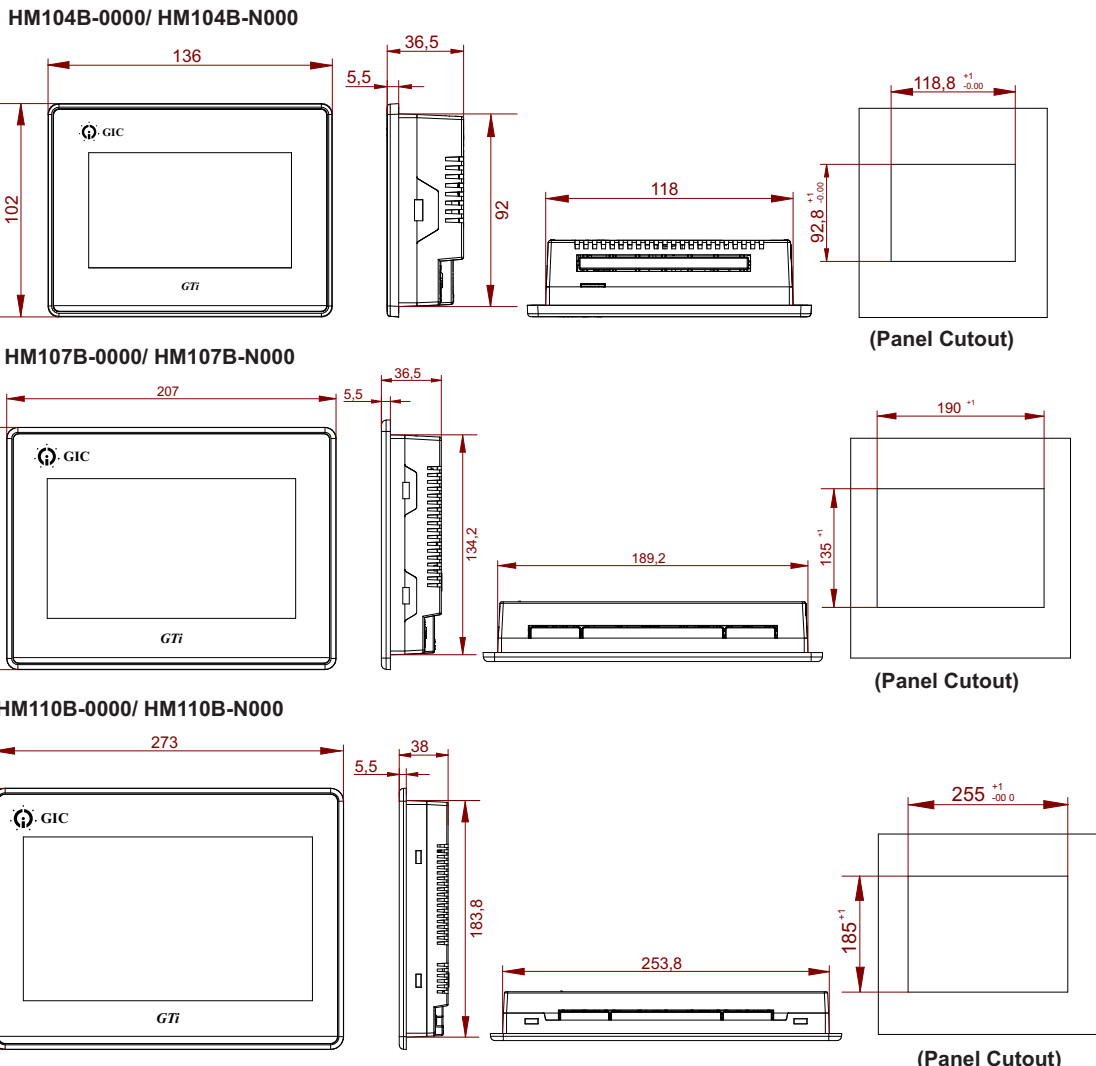
Note:

- It is recommended to use isolated power supply .
- HMI can be used with other industrial automation equipment. To ensure safety, Please thoroughly read this manual and follow the provided instructions during installation.
- The technical information provided in this document was correct at the time of publish.
- Product innovation being a continuous process, we reserve the right to alter specifications without any prior notice.

Screen Calibration:

- Step 1:** First power off device.
Step 2: Touch & hold exact center of screen & then power on device.
Step 3: After power on, calibration screen will appear.
Step 4: Plus sign(+) will get appear touch that sign at middle intersection point with (pointed stick) stylus.
Step 5: After that 2nd + sign appears, touch that sign at middle intersection point with (pointed stick) stylus.
Step 6: At last 3rd + Sign Appears. When user touches 3rd + sign, then "Screen Calibration done" message will appear on screen.
Step 7: After completion of this calibration process the previously downloaded application in HMI will appear on screen.
Note : User have to perform this steps very quickly.

Mounting Dimensions (in mm):



Terminal Torque & Capacity:

Type	Wire gauge (AWG)	Stripped length	Torque
Solid	28 - 12	7- 8 mm	0.4 N.m (3.5 Lb.in)
Stranded	28 - 12	7- 8 mm	0.4 N.m (3.5 Lb.in)

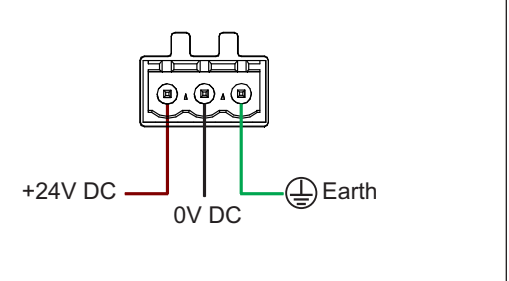
Installation and Wiring:

- Precautions:**
- Power off : Before starting the installation, ensure that the power to the panel is turned OFF.
 - Proper installation of the HMI into the panel is crucial to avoid potential issues such as reduced HMI's life-span, short circuits or other failures that may arise from incorrect or insufficient Installation.
 - Ensure that the ventilation openings are not obstructed and leave sufficient space around the HMI for proper airflow.
 - Mounting panel thickness must be no greater than 6 mm
 - Do not install in areas with : excessive or conductive dust, corrosive or flammable gas, excessive moisture or rain, excessive heat, regular impact shocks or excessive vibration.

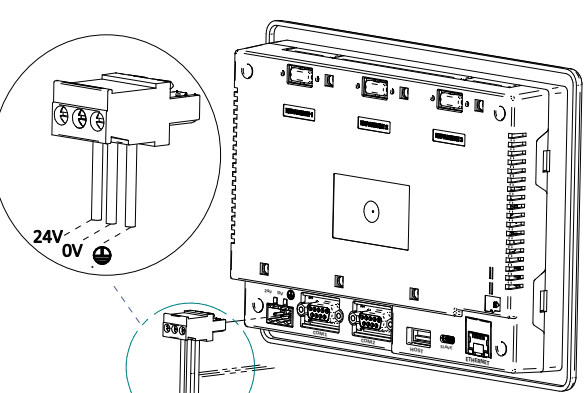
Grounding:

To ensure the best grounding for electric equipment, it is recommended to individually connect each functional ground point to the earth of the system, keeping them separate from other high-power system.

Refer below image for the grounding marked terminal which is provided on unit.

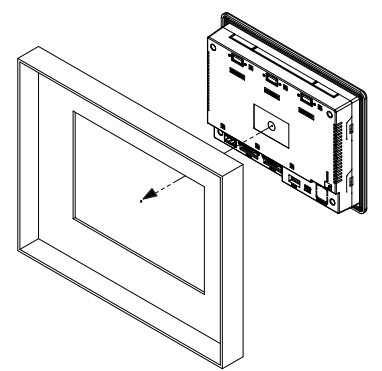


WARNING When wiring the power connector please refer to the following diagram. Connect the device to a regulated power source in the event of voltage fluctuations or non-compliance with voltage power supply specifications.

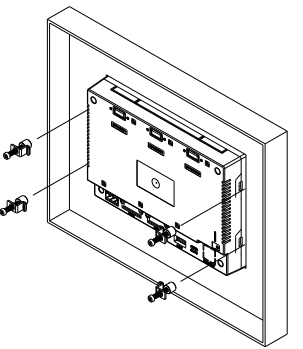


Installation steps:

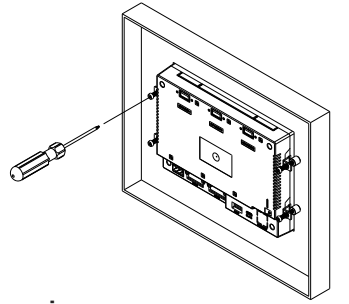
- Step 1:**
 Slide the HMI into panel cut out.
 Note: While Installation, do not remove the gasket.



- Step 2:**
 Push the mounting clamps into it's slots on the sides of the panel as shown below.



- Step 3:**
 Tighten the clamp screws with the torque less than 0.5 N-M to avoid damage to the plastic case. (Torque:0.5 N.m. (4.4 lb.in))



- Accessories:**
1. HMAUSB: HMI accessories USB type C to USB A male programming cable.
 2. HMAETH: HMI accessories shielded ethernet cable.
 3. HMA01: HMI COM1(DB9 Male) to PLC Port1 (RJ11)-RS232/RS485.
 4. HMA02: HMI COM2(DB9 Male) to PLC Port1 (RJ11)-RS232/RS485.
 5. HMA03: HMI Y cable for 4.3" HMI,COM1(DB9 male) to other end 2 DB9 female.
 6. HMA04: HMI COM1/COM2 (DB9 male) to other end open.
- Note:
1. User should order programming and communication cables separately.
 2. For communication use Shielded cables.
 3. For communication cable connections, please refer the HMI Help File.

- E-Waste Regulatory notice:**
 Kindly treat, recycle or dispose of this equipment in an environmentally sound manner after End of Life, as per WEEE (Waste Electrical and Electronic Equipment) regulations; or as per local norms; or hand it over to General Industrial Ltd, through website <https://www.gicindia.com/get-in-touch/>

www.gicindia.com

