

i3H Series Models:

- i3H08/00000-SEOL - 8" display model
- i3H10/00000-SEOL - 10" display model
- i3H12/00000-SEOL - 12" display model



INTRODUCTION

i3H provides:

- Powerful Standard Features in one unit including
- ✓ Controller
- ✓ Network
- ✓ Operator Interface
- ✓ Highly Visual Display Screen

Standard Features on i3H			
Base Model	Network	Screen Type	Standard Features
i3H08	On-Board Ethernet 100BaseT	8.4" TFT SVGA with 32,768 colors	CompactFlash 3 Serial Ports
i3H10		10.4" TFT SVGA with 32,768 colors	Ethernet
i3H12		12.1" TFT SVGA with 32,768 colors	

Base Models	i3H08 (8-inch)	i3H10 (10-inch)	i3H12 (12-inch)
Primary Power	Voltage: 24 VDC (+/-10%) Steady State Current: 0.625 A @ 24 VDC Inrush Current: (25 A @ 24 VDC) for 0.7 ms	Voltage: 24 VDC (+/-10%) Steady State Current: 1.25 A @ 24 VDC Inrush Current: (30 A @ 24 VDC) for 1 ms	Voltage: 24 VDC (+/-10%) Steady State Current: 1.25 A @ 24 VDC Inrush Current: (30 A @ 24 VDC) for 1 ms

i3H Dimensions
See Panel Cut-outs and Dimensions for complete details (Section 3.2)

Base Models	i3H08 (8-inch)	i3H10 (10-inch)	i3H12 (12-inch)
Height	7.0" (178 mm)	9.09" (230.9 mm)	10.25" (260.4 mm)
Width	9.17" (233 mm)	11.95" (303.5 mm)	12.87" (326.9 mm)
Mounting Depth	2.35" (59.70 mm)	2.52" (64 mm)	2.52" (64 mm)
Keypad Material	Faceplate made of Lexan® HP92 by GE Plastics. The material is resistant to most corrosive substances found in industrial environments. The material also holds up well in most industrial conditions.		
Serial Ports	3 RS-232 / RS-485 Ports. Software Selectable.		
Network Options	On-board Ethernet 100BaseT		
Control Memory	256K Ladder Memory plus 32KB Register Space		
Control Scan Rate	0.2mS / K Ladder Logic (typical)		
Portable Memory	Compact FLASH (CF) slot		
Temperature & Humidity	32 - 122°F (0 - 50°C), 5 to 95% Non-condensing		
UL CE	Please contact IMO for certificate information		

2 Specifications / Product Descriptions

Table 2 – i3H Base Specifications			
Base Models	i3H08 (8-inch) (SVGA)	i3H10 (10-inch) (SVGA)	i3H12 (12-inch) (SVGA)
Display Type (LCD with backlight)	800 x 600 TFT	800 x 600 TFT	800 x 600 TFT
Display Size	8.4"	10.4"	12.1"
Display Screen Dimensions	6.7"W x 5"H (170 x 128 mm)	8.3"W x 6.2"H (211 x 159 mm)	9.7"W x 7.3"H (246 x 185 mm)
Display Memory	8 MBytes		
User Keys	7 configurable keys + System Key		
Screens Supported	1,023 screens (300 objects per screen)		
Number of Colors	32,768		

3 INSTALLATION

Note: Prior to mounting, observe requirements for the panel layout design and adequate clearances in the **I3 Hardware Manual**. A handy checklist is provided in the *Installation* chapter.

3.1 Installation Procedures

a. i3H Base Installation

1. Per specifications of the I3H model you are using, carefully prepare the panel cutout. Make sure the corners of the cutout are square and free from burrs. (Locate the panel cut-outs and dimensions that pertain to your I3H model as shown in this document.)
2. Cut the host panel
3. Insert the i3H (base unit only) through the panel cutout from the front. The gasket material needs to lie between the host panel and the I3H.
Caution: Do not force the I3H into the panel cutout. An incorrectly sized panel cutout damages the I3H screen.
4. Install and tighten the mounting clips (provided with the I3H) until the gasket material forms a tight seal.
Caution: Do not over-tighten. Over-tightening damages the case.
5. Connect cables as needed such as communications, programming, power and fiber optic cables to the I3H ports using the provided connectors.
6. As a final step before using, carefully remove the protective, plastic sheet from the front of the unit. The protective, transparent sheet is used to protect the display window.
7. Begin configuration procedures for the I3H.

3.2 Panel Cut-Out and Dimensions

3.2.1 i3H08 (8-inch)

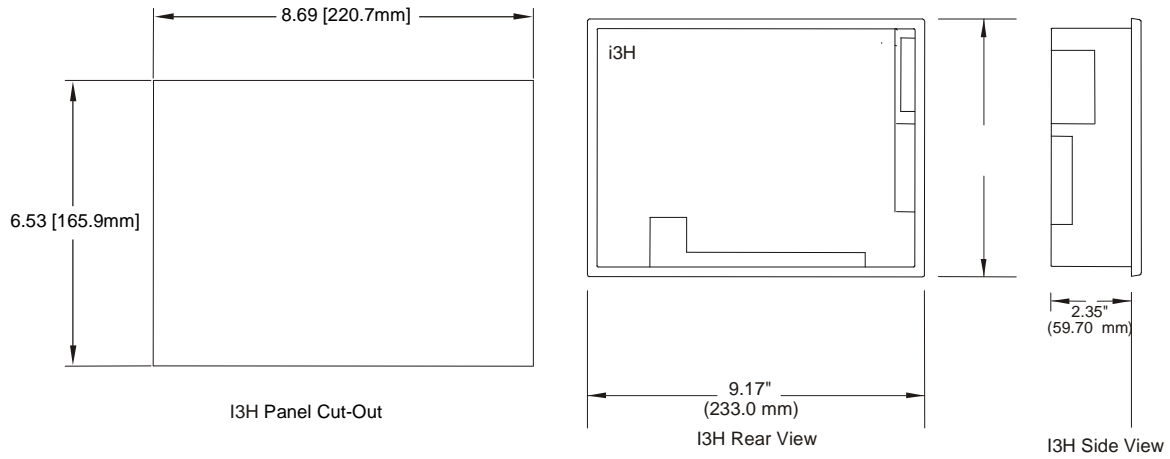


Figure 2 – Panel Cut-out and Dimensions 8-inch

3.2.2 i3H10 (10-inch)

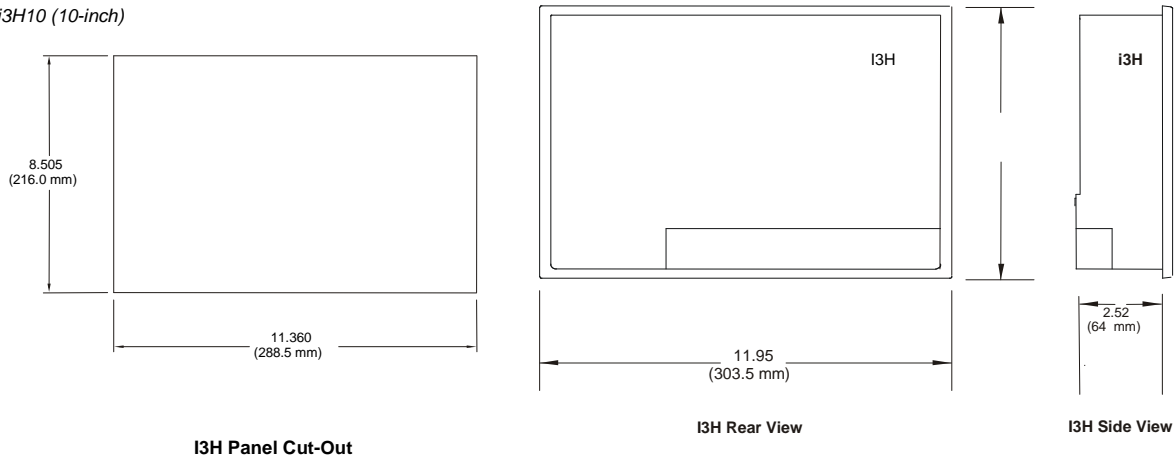


Figure 3– Panel Cut-out and Dimensions 10-inch

3.2.2 i3H12 (12-inch)

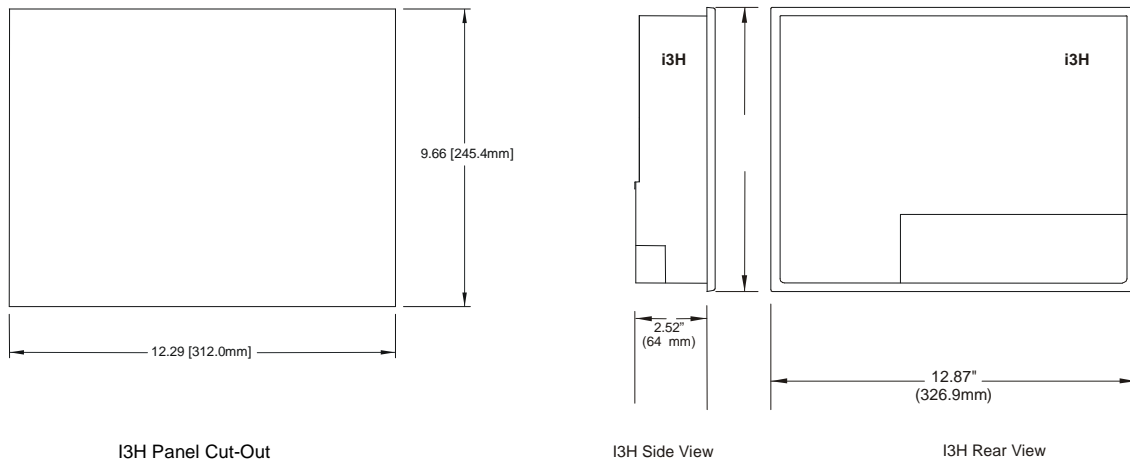


Figure 4 – Panel Cut-out and Dimensions 12-inch

3.3 i3H Base Ports and Connectors

The I3H base has power, network, programming and fiber optic ports. Three RS-232 and RS-485 ports are available. (Default programming port is MJ1)

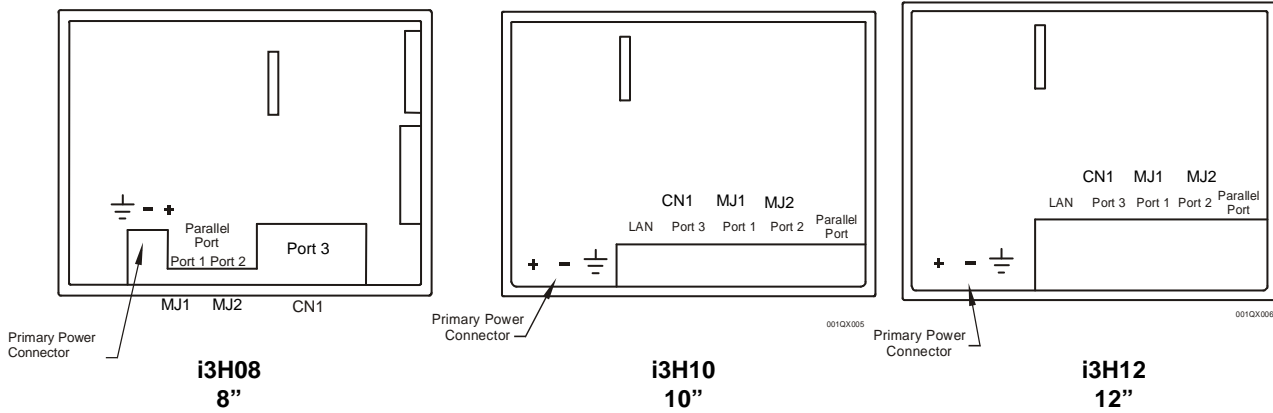


Figure 5 – I3H Base Ports and Connectors

3.3.1 Primary Power Port / Grounding

Table 4 – Primary Power Port Pins	
Signal Pin	Description
V+	Input power supply voltage
V-	Input power supply ground
	Frame Ground

Note: Power Supply Voltage Range is from 24VDC ±10%.

3.3.2 RS-232 Port / RS-485 Port

There are a variety of ways to connect to the RS-232 and RS-485 ports; You can use two modular jacks (MJ1 and MJ2) or the 25-pin Dsub connector (CN1).

Table 5 – Ports and Functions (Port 1, 2, and 3)			
Functions	Port 1 (MJ1)	Port 2 (MJ2)	Port 3 (CN1)
RS-232	✓	✓	✓
RS-485	✓	✓	✓
Hardware Handshaking			✓
Programming	✓		
Ladder Function Controlled	✓	✓	✓
Modem	✓*	✓*	✓

* Not supported by i3 Config Modem Function Blocks

a. Port 1 (MJ1) / Port 2 (MJ2) Modular Jacks

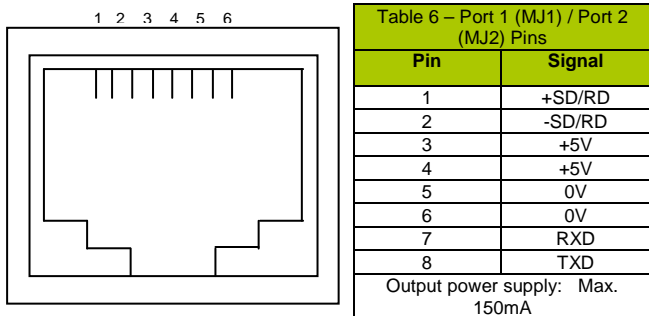


Figure 6 – Close-up of Port 1 (MJ1) / Port 2 (MJ2) (RS-232 and RS-485)

b. Port 3 (CN1) Connector

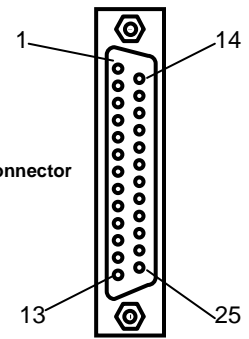


Table 7 – Port 3 (CN1) Pins			
Pin #	Signal	Pin #	Signal
1	FG	14	I3H451, 551, 651: +RTS
2	TXD	15	Not Used
3	RXD	16	Not Used
4	RTS	17	I3H451, 551, 651: -RTS
5	CTS	18	-CTS
6	Not Used	19	+CTS
7	SG	20	Not Used
8	Not Used	21	Not Used
9	+5V	22	Not Used
10	0V	23	Not Used
11	Not Used	24	+RD
12	+SD	25	-RD
13	-SD		

Figure 7 – Port 3 (CN1) RS-232 / RS-485 Connector

3.3.3 DIP-Switch

The DIP switch is used for setting the terminating resistance of the RS-485 signal line at the CN1, MJ1, or MJ2 connector.

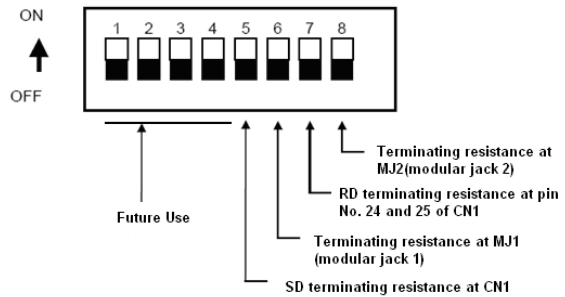


Figure 7 – DIP Switch

- (1) Set DIPSW 8 to ON position when termination is required on MJ2.
- (2) Set DIPSW 7 at the terminating station of the i3H units to the ON position when connecting PLCs through RS-422/485.
- (3) Set DIPSW 6 to ON position when termination is required on MJ1.

Port 3

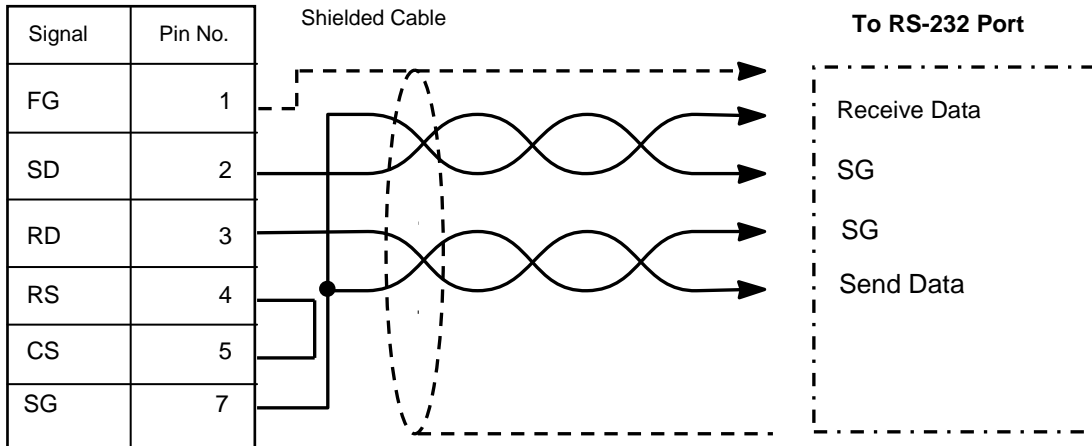


Figure 8 - Port 3 (CN1) RS-232 Port

Port 3

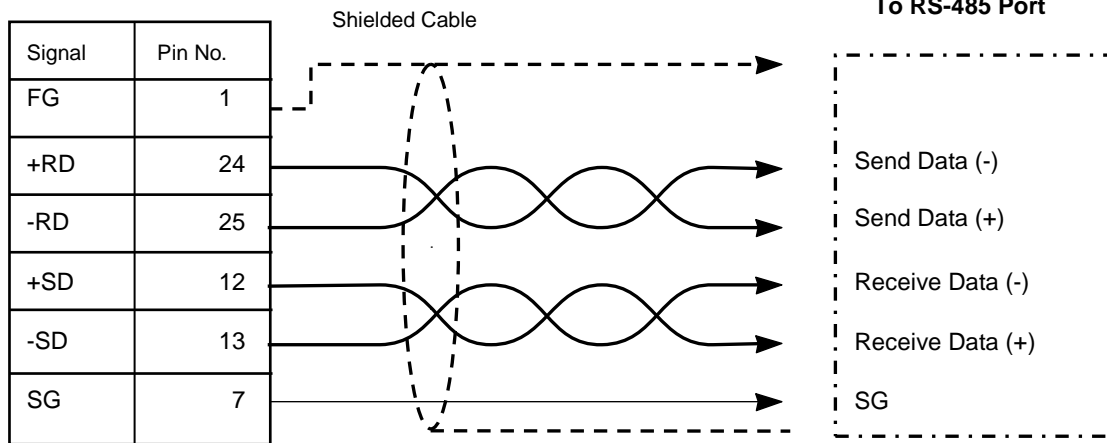


Figure 9 – Port 3 (CN1) RS-485 Port

3.5 Quick Start Instructions

1. Download i3 Configurator V9.0 (or better) from the IMO website and install, following on-screen instructions.
2. Connect a suitable 24Vdc supply to the screw terminals as shown in Figure 5, and power up.

Serial Programming:

Requirements: i3-PC45 programming cable (optional part: PC501 - USB to Serial Converter for PC's without serial port), PC with Windows XP or better.

1. Connect the RJ45 connector of the i3-PC45 cable to the i3H port MJ1 and connect the 9-pin D-type connector to the PC and open i3 Configurator.
2. Select Tools->Application Settings->Communications->Configure->Com Port (or USB if convertor used). Input the required com port number then press OK.
3. If the connection is successful, then the status of the i3 should no longer be grayed out and display as shown
4. To get started with the programming download the i3 Basic Tutorial from the IMO website.

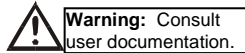
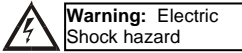
Ethernet Programming:

Requirements: Ethernet cross-over patch cable, PC with Windows XP or better.

1. Set up the PC to have a fixed IP and Subnet of 192.168.254.1/ 255.255.255.0 (for in-depth instruction on how to do this please download the i3 Ethernet tutorial.pdf).
2. Connect the RJ45 connector of the patch cable to the i3H LAN port and to the PC LAN port and open i3 Configurator.
3. Select Tools->Application Settings->Communications->Configure->Ethernet. Then enter IP address 192.168.254.128, select mode iNX/i3Ce then press OK.
4. If the connection is successful, then the status of the i3 should no longer be grayed out and display as shown
5. To get started with the programming download the i3 Basic Tutorial from the IMO website.

4 Safety

When found on the product, the following symbols specify:



WARNING – EXPLOSION HAZARD – Substitution of components may impair suitability for Class I, Division 2
AVERTISSEMENT - RISQUE D'EXPLOSION - LA SUBSTITUTION DE COMPOSANTS PEUT RENDRE CE MATERIAL INACCEPTABLE POUR LES EMPLACEMENTS DE CLASSE 1, DIVISION 2.

WARNING - The USB parts are for operational maintenance only. Do not leave permanently connected unless area is known to be non-hazardous.

WARNING – EXPLOSION HAZARD - BATTERIES MUST ONLY BE CHANGED IN AN AREA KNOWN TO BE NON-HAZARDOUS
AVERTISSEMENT - RISQUE D'EXPLOSION - AFIN D'EVITER TOUT RISQUE D'EXPLOSION, S'ASSURER QUE L'EMPLACEMENT EST DESIGNE NON DANGEREUX AVANT DE CHANGER LA BATTERIE

WARNING - Battery May Explode If Mistreated. Do Not Recharge, Disassemble or Dispose Of In Fire

WARNING: Only qualified electrical personnel familiar with the construction and operation of this equipment and the hazards involved should install, adjust, operate, or service this equipment. Read and understand this manual and other applicable manuals in their entirety before proceeding. Failure to observe this precaution could result in severe bodily injury or loss of life.

For detailed installation and a [handy checklist](#) that covers panel box layout requirements and minimum clearances, refer to the hardware manual.

- All applicable codes and standards need to be followed in the installation of this product.

Adhere to the following safety precautions whenever any type of connection is made to the module.

- Connect the green safety (earth) ground first before making any other connections.
- When connecting to electric circuits or pulse-initiating equipment, open their related breakers. Do not make connections to live power lines.
- Make connections to the module first; then connect to the circuit to be monitored.
- Route power wires in a safe manner in accordance with good practice and local codes.
- Wear proper personal protective equipment including safety glasses and insulated gloves when making connections to power circuits.
- Ensure floor, hands and shoes are dry before making any connection to a power line.
- Make sure the unit is turned OFF before making connection to terminals. Make sure all circuits are de-energized before making connections.
- Before each use, inspect all cables for breaks or cracks in the insulation. Replace immediately if defective.

5 Technical support

Please contact automation@imopc.com

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For further technical information and a full specification,
 please consult the Hardware Manual