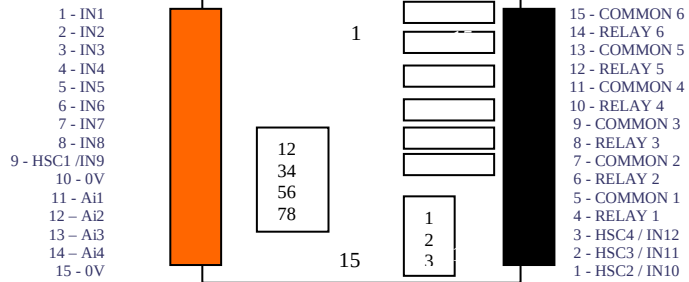


Analogue I/O and Digital I/O

Wiring Specifications

- For I/O wiring (discrete), use the following wire type or equivalent:
Belden 9918, 18 AWG (0.8 mm²) or larger.
- For shielded Analogue I/O wiring, use the following wire type or equivalent: Belden 8441, 18 AWG (0.8 mm²) or larger.
- For CAN wiring, use the following wire type or equivalent: Belden 3084, 24 AWG (0.2 mm²) or larger.



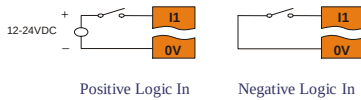
Internal Jumper Configuration

I/O Jumper settings are located internally. Remove the 4 screws on the back and lift casing off to access. **Only access when power is removed from the i³.** Care must be taken to avoid over tightening the case screws.

Digital Input

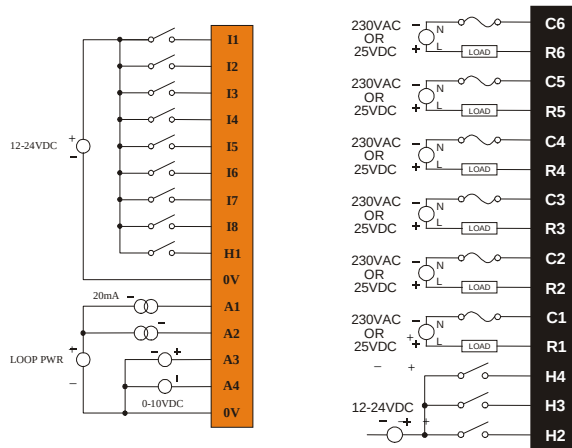
Positive Logic vs. Negative Logic Wiring

The i³ can be wired for Positive Logic inputs or Negative Logic inputs depending on the position of JP1.



For more details on the i3C Mini, See i3C Mini Manual 0812R0

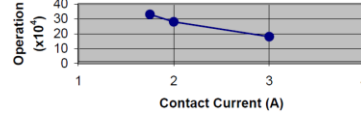
Wiring Example: Positive Logic Digital In / Relay Out



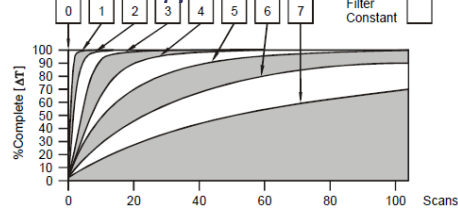
Positive Logic	Negative Logic	Description	JP1 Pins
		24V pull up (PNP)	1-2
		0V common (NPN)	2-3

Channel	0 (4) - 20mA	0 - 10V
Ai1	1-2	Open

Relay Life Expectancy



Analogue



All i³ controllers can have extra analogue and digital I/O added by connecting expansion modules to either MJ1 port or Modbus TCP modules to Ethernet port. Please inquire at IMO technical support. automation@imopc.com



iCAN based expansion I/O is also available on special request. Please inquire at IMO technical support. automation@imopc.com

Expansion I/O Modules

Basic Options

Input - 4 Channel RTD (0-2000ohm, 0-500ohm, PT100, Ni100, PT1000, Ni1000)	iOS / M 04 I P X - D1
Input - 8 Channel DC Current (-20mA to +20mA)	iOS / M 08 I C X - D1
Input - 8 Channel DC Voltage (-10V to +10V)	iOS / M 08 I V X - D1
Input - 8 Channel Thermocouple (J, K, R, S, B, E, T, N, +/- 50mV, +/-100mV)	iOS / M 08 I T X - D1
Output - 4 Channel DC Voltage / Current (0-20mA, 0-10V)	iOS / M 04 O X A - D1
16 Digital Input, 16 Transistor output (0.1A / Channel, 2A / Common)	GSL - D T 4 A
16 Relay Output (2A / Channel, 5A / Common)	GSL - R Y 2 A
32 Digital Input	GSL - D 2 4 A

Note: Other I/O configurations and Fieldbus options are available. Please inquire at IMO. automation@imopc.com

For further information on Remote I/O please consult the Remote I/O datasheet, and the i3 Remote I/O tutorial in the downloads section of the IMO website. www.imopc.com/manuals

Technical Specifications			
Digital DC Inputs			
Inputs per Module		12 including 4 configurable HSC inputs	
Commons per Module		1	
Input Voltage Range		12 VDC / 24 VDC	
Absolute Max. Voltage		35 VDC Max.	
Input Impedance		10 kW	
Input Current	Positive Logic		Negative Logic
Upper Threshold	0.8 mA		-1.6 mA
Lower Threshold	0.3 mA		-2.1 mA
Max Upper Threshold		8 VDC	
Min Lower Threshold		3 VDC	
OFF to ON Response		1 ms	
ON to OFF Response		1 ms	
HSC Max. Switching Rate		500 KHz	
Digital Relay Outputs			
Outputs per Module		6 relay	
Commons per Module		6	
Max. Output Current per Relay		3 A at 250 VAC, resistive	
Max. Total Output Current		5 A continuous	
Max. Output Voltage		275 VAC , 30 VDC	
Max. Switched Power		1250 VA, 150 W	
Contact Isolation to i3 ground		1000 VAC	
Max. Voltage Drop at Rated Current		0.5 V	
Expected Life (See Derating section for chart.)		No load: 5,000,000 Rated load: 100,000	
Max. Switching Rate		300 CPM at no load 20 CPM at rated load	
Type		Mechanical Contact	
Response Time		One update per ladder scan plus 10 ms	
Analogue Inputs Medium Resolution			
Number of Channels		4	
Input Ranges		0 - 10 VDC 0 – 20 mA 4 – 20 mA	
Safe input voltage range		-0.5 V to +12V	
Input Impedance (Clamped @ -0.5 VDC to 12 VDC)		Current Mode: 100 W	Voltage Mode: 500 k W
Nominal Resolution		12 Bits	
%AI full scale		32,000 counts	
Max. Over-Current		35 mA	
Conversion Speed		All channels converted once per ladder scan	
Max. Error at 25°C (excluding zero)		4-20 mA	1.00%
*can be made tighter (~0.25%) by adjusting the digital filter setting to 3.		0-20 mA	1.00%
		0-10 VDC	1.50%*
Additional error for temperatures other than 25°C		TBD	
Filtering		160 Hz hash (noise) filter 1-128 scan digital running average filter	

General Specifications	
Required Power (Steady State)	95 mA @ 24 VDC, 190mA @12VDC
Required Power (Inrush)	2A for <1ms @ 24VDC - DC switched
Primary Power Range	10 – 30 VDC
Operating Temperature	-10°C to +60°C
Storage Temperature	-30 to 70°C
Relative Humidity	5 to 95% Non-condensing
Display Type Screen Resolution	3.5” QVGA TFT 320 X 240
Display Memory	64MB
Scan Rate	Controller 0.013 mS/K
Display Life	Minimum 50000 hours (50% brightness , 25°C)
User Keys	4 User Defined Function Keys and a System Key
Screens and Colours Supported	1023 screens and 65535 Colours
Weight	12 oz. (340 g)
CE	Approved
UL	

Small Extras:

RS232 Serial Programming Cable
For programming any *i*³ Model.



PART No: i3PC45

IP65 RJ45 Panel-Mounted Socket
Bring either MJ1 ports to the outside world by installing this into a 22.5mm cut-out.



PART No: i3PAD

USB to RS232 Convertor
For PCs without a serial Com Port.
Add one with this device.



PART No: PC501



Display...
Control...
Connect...

Intergrated Controller

& Associated Products



Communication:

Ethernet Expansion card

Part No. i3-E

Link an i3 to an Ethernet network. Program monitor and debug remotely, or run i3 as a Modbus TCP server.

GSM Modem Expansion Card

Part No. i3-MA

Send and Receive SMS messages via the i3, dial-up connection over GSM data link for remote programming, debugging etc. Or, use a GPRS always-on data connection ideal for programming, debugging, monitoring and connection to a SCADA package for constant data logging and remote control.

ODIN OPC Server (LOKI Datalogger)

Part No. IMO-OPC-SERVER

With no tag limits and 30 + protocols to select from (including IMO, Siemens, Allen Bradley, Mitsubishi), ODIN can be used with LOKI to log data either to an excel spreadsheet or access database.

Panel Point SCADA^{lite}

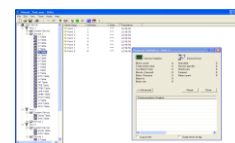
Part No. PANELPOINT (Developer)

Part No. PANELPOINTRT (Runtime)

With no tag limit and 30+ Protocols to choose from (including IMO products, Mitsubishi, Allen Bradley, Siemens), a powerful graphical editor, and a VB-based scripting language, Panel-Point allows a PC to become the central data hub of an application.

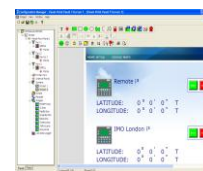
i3Transfer Part No. i3-Transfer

i3Transfer is a low-cost, Windows® based software application that allows you to easily transfer files between your PC and the IMO i3 Controllers via PC.

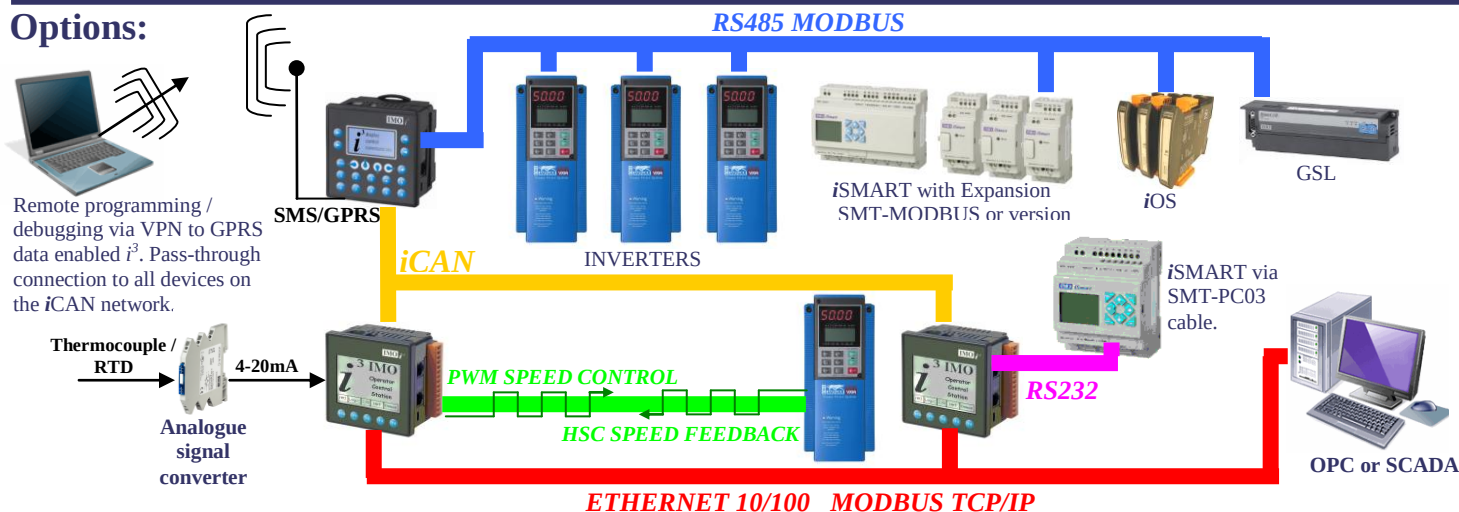


i3Portal Part No. i3Portal

i3Portal is a low-cost, powerful Windows® based software application that will allow you to view and access remote IMO i3 controllers via PC.



Options:

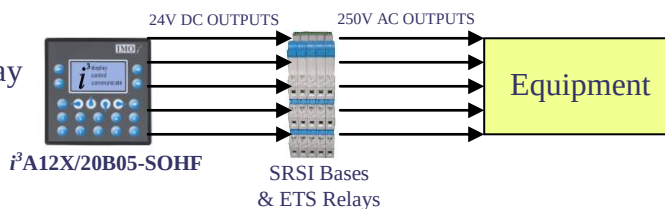


Miscellaneous:

DIN rail mounted SRSI Base and ETS Relay

Use the Transistor outputs of the i³ to operate the relay coils to switch up to 6A @ 250VAC.

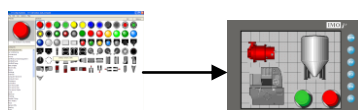
Part Numbers: SRSI-24AC/DC, ETS-1AN-SL-24VDC



i³ Configurator with Symbol Library

Obtain a copy of the i³ Software with a library of colour buttons, pipes, vessels, motors, pumps, fans etc. To enhance the look and feel of applications on the i³C, i³C Mini, i³D, i³H.

Part Numbers: IMO-CDSUITE



GPS Receiver

Locate your i³ Controller anywhere in the world by connecting this device to MJ2 of a unit equipped with a GPRS enabled modem.



Part Number: i³-GPS

Custom screen overlays

Ask at IMO for custom overlays. Overlays are tooled to a customer's design.