i³C Intelligent Control Station

- 320 x 240 Colour Touch display
- High Resolution Resistive Touch Screen
- Addressable function keys
- Real Time Clock
- 2 Communication Port (RS 232/RS 485)
- 10 - 30 VDC Power Supply
- 256 KB RAM (Program), SMB (Graphical)
- Free Configuration Software
- RS 232 Programming Cable
- IP65 (NEMA 4)
- Remote IO Communication
- Optional: MicroSD up to 2GB, Modem (SMS, GSM, GPRS), Ethernet Expansion Card

### General Specification

<table>
<thead>
<tr>
<th>Specification</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Required Power (Steady State)</td>
<td>500 mA @ 24 VDC</td>
</tr>
<tr>
<td>Primary Power Range</td>
<td>10 - 30 VDC</td>
</tr>
<tr>
<td>Relative Humidity</td>
<td>5 to 95% Non-condensing</td>
</tr>
<tr>
<td>Clock Accuracy</td>
<td>+/-35 ppm maximum at 25°C</td>
</tr>
<tr>
<td>Operating Temperature</td>
<td>-10°C to +60°C</td>
</tr>
<tr>
<td>Terminal Type</td>
<td>Screw Type, 5mm Removable</td>
</tr>
<tr>
<td>Weight</td>
<td>12 oz. (340.19g)</td>
</tr>
<tr>
<td>Approved</td>
<td>CE, UL</td>
</tr>
</tbody>
</table>

### Options & Ordering Codes

<table>
<thead>
<tr>
<th>Standard Options</th>
<th>DI</th>
<th>DO</th>
<th>AI</th>
<th>AO</th>
</tr>
</thead>
<tbody>
<tr>
<td>i3B12Y/10D03-SCHF</td>
<td>12</td>
<td>6</td>
<td>4</td>
<td>-</td>
</tr>
<tr>
<td>i3B12Y/13C14-SCHF</td>
<td>12</td>
<td>12</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>i3B12Y/20O05-SCHF</td>
<td>24</td>
<td>16</td>
<td>4</td>
<td>-</td>
</tr>
</tbody>
</table>

- **i3**
  - 320 x 240 Colour Touch display
  - RS232, RS 232/485/422
  - 4 Programmable Keys
  - No Digital Input
  - 12 Digital Input
  - 24 Digital Input
  - 12 Digital Input + Temperature PT100/TC

- **C**
  - No Analog Input
  - 2 (10 Bit)
  - 2 (14 Bit)
  - 4 (10 Bit)

- **12**
  - No Analog Output
  - 2 (12 bit)

- **Z** / **10**
  - No Digital Output
  - 6 (Relay) + 2 DC
  - 12 (DC)
  - 16 (DC)

- **D**
  - Serial
  - No Option
  - CAN

- **0**
  - No Option
  - CANopen
  - DeviceNet

- **3**
  - No Option
  - GSM Modem
  - Compact Flash
  - Expansion Ethernet
  - USD Flash Card

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## Technical Specifications

### Digital DC Inputs
- **Absolute Max. Voltage**: 35 VDC Max.
- **Input Impedance**: 10kΩ
- **HSC Max. Switching Rate**: 10 KHz Totalizer / Pulse, Edges, 5 kHz Frequency / Pulse, Width, 2.5 kHz Quadrature
- **Input Voltage Range**: 12VDC/24VDC
- **Absolute Min Voltage**: 8VDC
- **Time Response**: 1 ms

### Digital Relay Outputs
- **Max. Output Current per Relay**: 3A at 250 VAC, resistive
- **Max. Total Output Current**: 5A continuous
- **Max. Output Voltage**: 275 VAC, 30 VDC
- **Max. Switched Power**: 1250VA, 150W
- **Contact Isolation to i3 ground**: 1000VAC
- **Max. Voltage Drop at Rated Current**: 0.5V
- **Expected Life at No load**: 5,000,000
- **At Rated load**: 100,000
- **Max. Switched Rate at no load**: 300 CPM
- **At rated load**: 20 CPM
- **Type**: Mechanical Contact
- **Response Time**: One update per ladder scan plus 10ms

### Digital Outputs
- **Output Type**: Sourcing / 10K Pull Down
- **Absolute Max. Voltage**: 28VDC Max
- **Output Protection**: Short Circuit
- **Max. Output Current Per Point**: 0.5A
- **Max. Total Current**: 4A Continuous
- **Max. Output Supply Voltage**: 30VDC
- **Minimum Output Voltage**: 10VDC
- **Max. Voltage Drop at Rated Current**: 0.25VDC
- **Max. Inrush Current**: 650mA Per Channel
- **OFF to ON / ON to OFF response**: 1mS
- **Output Characteristics**: Current Sourcing (Positive Logic)

### Analogue Outputs
- **Output Range**: 0-10V, 0-20mA
- **Nominal Resolution**: 12 bits
- **Maximum Load at 20mA**: 500W
- **Minimum Load at 10V**: 1000W
- **Maximum Error at 25°C**: 0.10%

### Analogue Inputs - Medium Resolution
- **Input Ranges**: 0 - 10VDC, 0 - 20mA, 4 - 20mA
- **Safe input voltage range**: -0.5V to +12V
- **Nominal Resolution**: 10 Bits
- **%AI full scale**: 32,000 counts
- **Max. Over-Current**: 35mA
- **Max. Error at 25°C 4-20mA**: 1.00%
- **Max. Error at 25°C 0-20mA**: 1.00%
- **Max. Error at 25°C 0-10VDC**: 1.50%
- **Filtering**: 160Hz Hash Noise Filter

### Analogue Inputs - High Resolution
- **Input Ranges**: 0 - 10VDC, 0 - 20mA
- **Safe input voltage range**: 10VDC: -0.5V to +12V
- **Nominal Resolution**: 12 Bits
- **RTD/TC**: +/- 15V
- **PT100 RTD**: +/- 24VDC
- **Max. Over-Current**: 35mA
- **%AI full scale**: 32,000 counts, RTD/TC : 20 counts / °C
- **Open Thermocouple Detect Current**: 50mA
- **Thermocouple Temp. range**: B/R/S: 2912°F to 32°F (1600°C to 0°C)
- **E**: 1652°F to -328°F (900°C to -200°C)
- **T**: 752°F to -400°F (400°C to -240°C)
- **J**: 1382°F to -346°F (750°C to -210°C)
- **K/N**: 2498°F to -400°F (1370°C to -240°C)
- **Thermocouple Common Mode Range**: +/-10V
- **Max. Error at 25°C**: 0.1%
- **Max. Error at 25°C PT100**: +/-0.1°C
- **Max. Error at 25°C 0-100mV**: +/-0.05%
- **Max. Error after 1Hr Warmup TC**: +/- 0.2%
- **RTD Excitation Current**: 250mA

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Communication Ports

<table>
<thead>
<tr>
<th>Pin</th>
<th>Signal</th>
<th>Signal Description</th>
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<tbody>
<tr>
<td>8</td>
<td>TD1</td>
<td>RS-232 Transmit Data</td>
</tr>
<tr>
<td>7</td>
<td>RD1</td>
<td>RS-232 Receive Data</td>
</tr>
<tr>
<td>6</td>
<td>0V</td>
<td>Ground</td>
</tr>
<tr>
<td>5</td>
<td>5</td>
<td>+5 VDC max</td>
</tr>
<tr>
<td>4</td>
<td>RTS1</td>
<td>RS-232 Request to Send</td>
</tr>
<tr>
<td>3</td>
<td>CTS1</td>
<td>RS-232 Clear to Send</td>
</tr>
<tr>
<td>2</td>
<td>RX/TX-</td>
<td>Receive / Transmit Negative</td>
</tr>
<tr>
<td>1</td>
<td>RX/TX+</td>
<td>Receive / Transmit Positive</td>
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<td>Ground</td>
</tr>
<tr>
<td>5</td>
<td>5</td>
<td>+5 VDC 60mA max</td>
</tr>
<tr>
<td>4</td>
<td>TX-</td>
<td>RS-485 Transmit Negative</td>
</tr>
<tr>
<td>3</td>
<td>TX+</td>
<td>RS-485 Transmit Positive</td>
</tr>
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External Jumper Configuration

Factory Use
RS 485 Termination
For MJ2
RS 485 Termination
for MJ1

Dimension

- 5.964in (151.49mm)
- 7.682in (195.12mm)
- 2.055in (52.20mm)
- 2.853in (72.46mm)
- 0.37in (9.40mm)

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**Accessory Products**

1. Communication Cable: RS 232 Serial Communication Cable for programming and i3 Controllers, Part No. i3PC45.

2. IP65 RJ45 Panel Mounted Socket: Brings either MJ1 or MJ2 ports outside by installing this into a 22.5mm cut out, Part No. i3PAD.

3. USB to RS232 Converter for PC’s without a serial Com port to communicate with the controllers, Part No. PC501.

**Add - ins**

1. Ethernet Expansion Card - Link an i3 to an ethernet network. Program, debug and monitor and even run i3 as a Modbus TCP Server, Part No. i3-E

2. GSM Modem Expansion Card - 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, Part No. i3M.

3. ODIN OPC SERVER with LOKI Data Logger - ODIN can be used with LOKI to log either to an excel spreadsheet or an access database, with no tag limit and 30+ protocols to chose from (including IMO products, Mitsubishi, Allen Bradley and Siemens), Part No. IMO-OPC-Server.

4. Panel Point SCADA lite - A powerful graphical editor, and a VB-based scripting language. Panel Point allows a PC to become the central data hub of an application, with no tag limit and 30+ protocols to chose from (including IMO products, Mitsubishi, Allen Bradley, Siemens), Part No. PANELPOINT (Developer) - Part No. PANELPOINT (Runtime)