

i³D Intelligent Control Station

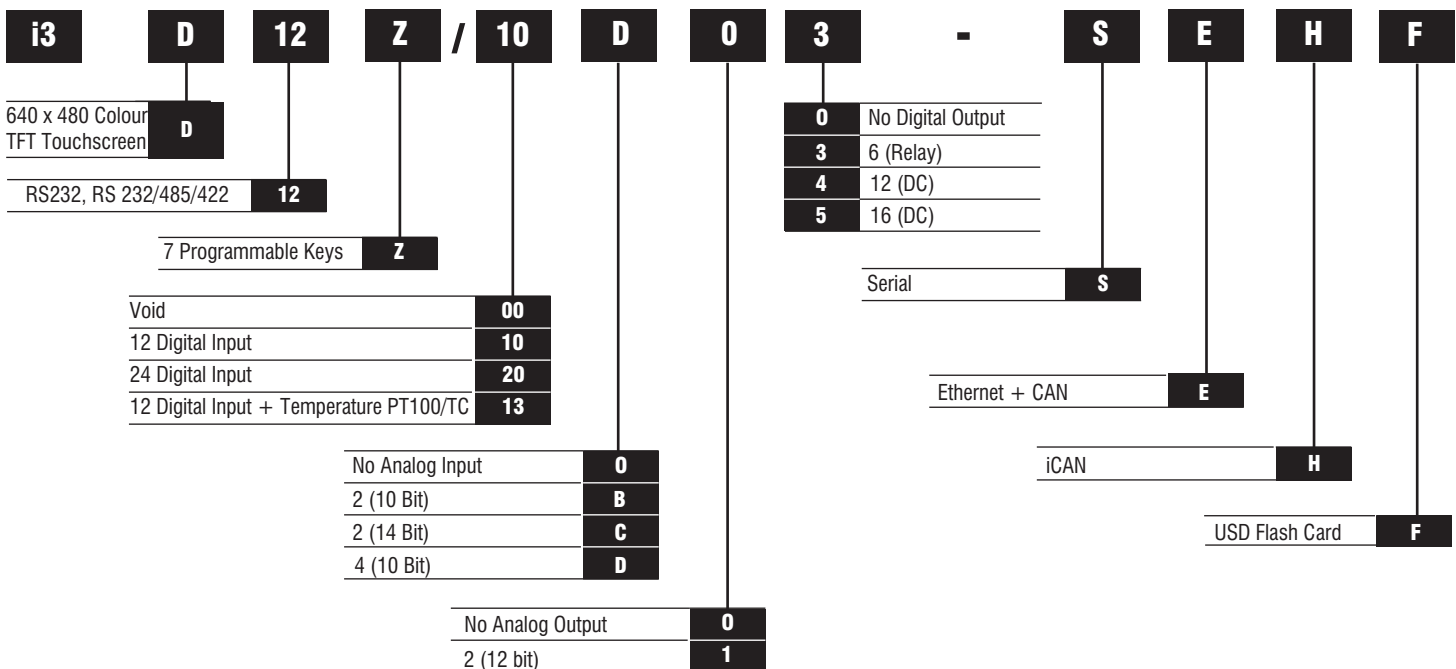


- 10.4" TFT Colour Touchscreen
- 32K of Colours, VGA(640 x 480)
- MicroSD™ Data storage up to 2GB
- CAN Port, RS 232/RS 485
- Real Time Clock
- 10 - 30VDC Power Supply
- Built in Ethernet Port
- Free Configuration Software
- USB Port for Programming and Flash Drive
- IP65(NEMA4)
- Remote IO Communication
- Optional: Modem (SMS, GSM, GPRS)



Options & Ordering Codes

Standard Options	DI	DO	AI	AO
I3D12Z/00000-SEHF	-	-	-	-
I3D12Z/10D03-SEHF	12	6 Relay	4	-
I3D12Z/13C14-SEHF	12	12	2	2
I3D12Z/20B05-SEHF	24	16	2	-



General Specifications

Required Power (Steady State)	650 mA @ 24VDC, 1.3A @ 12VDC
Primary Voltage Range	10 - 30VDC
Required Power (Inrush)	25A for <1ms @ 24VDC - DC switched 15A for <1ms @ 12VDC - DC switched 2.5A for <1ms @ 24VDC - AC switched
Relative Humidity	5 to 95% Non-condensing
Clock Accuracy	+/- 35ppm maximum at 25°C (+/- 1.53 Minutes per Month)
Operating Temperature	-10°C to +60°C
Storage Temperature	-30°C to +70°C
Display Type	10.4" VGA TFT (550 nit Typical)
Screen Resolution	640 x 480
Display Memory	2.75MB
Scan Rate	Controller 0.2ms/k
Display Life	Min 50000 Hours (50% brightness, 25°C)
User Keys	7 User defined Function Keys
Screen Supported	1023
Colours	32768
Weight	70 oz. (2 Kg.)
Approvals	CE, UL

Technical Specifications

Digital DC Inputs		
Input Voltage Range	12VDC/24VDC	
Absolute Max. Voltage	35VDC Max.	
Input Impedance	10kΩ	
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	8VDC	
Min. Lower Threshold	3VDC	
Time Response Off to ON / ON to OFF	1 ms	
HSC Max. Switching Rate	10kHz Totalizer / Pulse, Edges	
	5kHz Frequency / Pulse, Width	
	2.5kHz Quadrature	

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	500 Ohms
Minimum Load at 10V	1000 Ohms
Maximum Error at 25°C	0.10%
Additional Error for Temp. other than 25°C	0.01 / 1°C

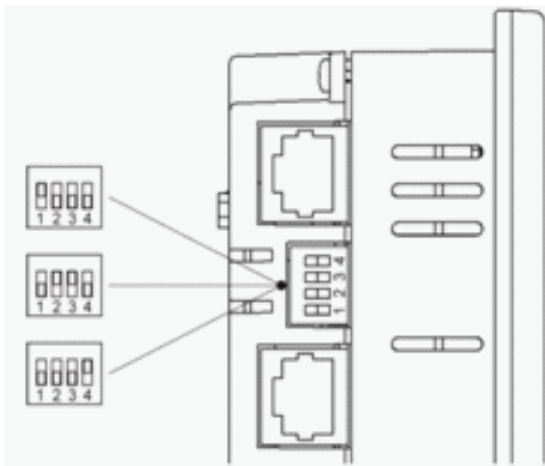
Analogue Inputs - Medium Resolution	
Input Ranges	0 - 10VDC
	0 - 20mA
	4 - 20mA
Safe input voltage range	-0.5V to +12V
Input Impedance (Clamped @ -0.5VDC to 12VDC)	Current Mode: 100Ω Voltage Mode: 500kΩ
Nominal Resolution	10 Bits
%AI full scale	32,000 counts
Max. Over-Current	35mA
Max. Error at 25°C 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
Additional Error for Temp. other than 25°C	TBA

Analogue Inputs - High Resolution	
Input Ranges	0 - 10VDC
	0 - 20mA
	100mV
	4 - 20mA
	J,K,N,T,E,R,S,B Thermocouples PT100 RTD
Safe input voltage range	10VDC: -0.5V to +12V 20mA : -0.5V to +15V RTD/TC : +/- 24VDC
Nominal Resolution	10V, 20mA, 100mV : 14 Bits RTD, Thermocouples : 16 Bits
Input Impedance	Current Mode : 100W, 35mA Max Voltage Mode : 500kW, 35mA Max
%AI full scale	10V,20mA,100mV -32,000 counts RTD/TC: 20 counts / °C
Max. Over-Current	35mA
Open Thermocouple Detect Current	50nA
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 (4(0)-20mA, 0-10VDC)	+/-0.1%
Max. Error at 25°C PT100	+/-1.0°C
Max. Error at 25°C 0-100mV	+/-0.05%
Max. Error after 1Hr Warmup TC	+/- 0.2%
Conversion speed both channels converted	10V, 20mA, 10mV : 30 Times/Second RTD, Thermocouple : 7.5 Times/Second
Conversion time per channel	10V, 20mA, 100mV : 30 Times/Second RTD, Thermocouple : 66.7ms
RTD Excitation Current	250mA

Communication Ports		
MJ1 Serial Port Pin Assignments		
Pin	Signal	Signal Description
8	TD1	RS-232 Transmit Data
7	RD1	RS-232 Receive Data
6	0V	Ground
5	5	+5 VDC max
4	RTS1	RS-232 Request to Send
3	CTS1	RS-232 Clear to Send
2	RX/TX-	Receive / Transmit Negative
1	RX/TX+	Receive / Transmit Positive

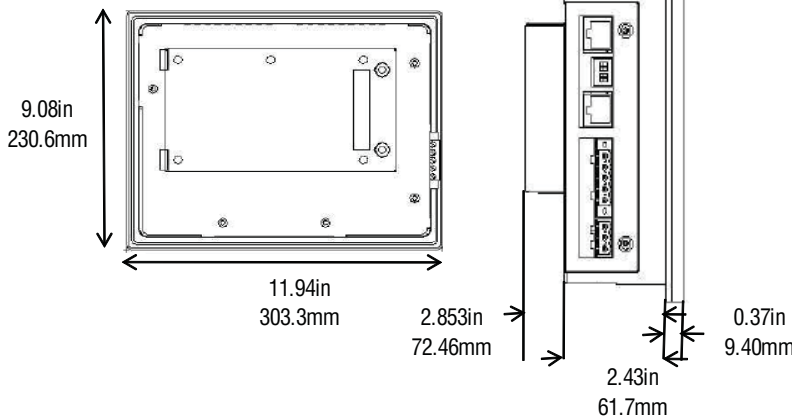
Communication Ports		
MJ2 Serial Port Pin Assignments		
Pin	Signal	Signal Description
8	TD1	RS-232 Transmit Data
7	RD1	RS-232 Receive Data
6	0V	Ground
5	+5	+5 VDC 60mA max
4	TX-	RS-485 Transmit Negative
3	TX+	RS-485 Transmit Positive
2	RX-	RS-485 Receive Negative
1	RX+	RS-485 Receive Positive

External Jumper Configuration

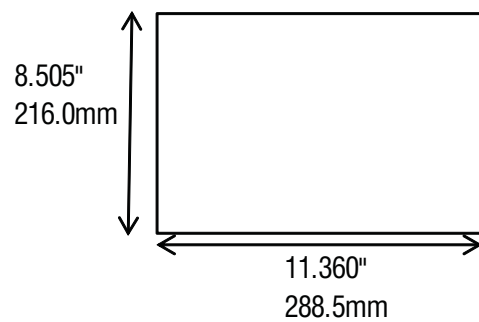


SW 1 ON - MJ2 RS 485 Termination On (121Ω)
 SW 2 & 3 ON - MJ2 RS 485 in Half Duplex mode
 SW 2 & 3 OFF - MJ2 RS 485 in Full Duplex mode
 SW 4 ON - MJ1 RS 485 Termination On (121Ω)

Dimension



Cut Out Details



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. 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.



2. 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 choose from (including IMO products, Mitsubishi, Allen Bradley and Siemens), Part No. IMO-OPC-Server.



3. 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 choose from (including IMO products, Mitsubishi, Allen Bradley, Siemens), Part No. PANELPOINT (Developer) - Part No. PANELPOINT (Runtime)



4. i3Portal is a low-cost, powerful Windows® based software application that will allow to view and access remote i3 controllers via PC, Part No: i3-Transfer



5. i3-Transfer is a low-cost, powerful Windows® based software application that allows to easily transfer files between PC and remote i3 controllers, Part No: i3-Transfer

