NEWPORT®

i Series

i/32

1/32 DIN Temperature,

£101
11/32 DIN meter
£131
with 2 control outputs

- High Quality
- 5-Year Warranty
- High Accuracy ±0.5°C (0.9°F), 0.03% Reading
- First 1/32 DIN Instrument with Totally Programmable Colour Displays (Standard)
- User-friendly, Simple to Configure
- Free Software, Active X Controls
- Full Autotune PID Control
- Universal Inputs: Thermocouple, RTD, Process Voltage/Current, Strain
- First 1/32 DIN Instrument Offering Both RS232 and RS485 Serial Communications in One Instrument (Optional)
- First 1/32 DIN Instrument with Built-In Excitation, 24 Vdc, Standard
- Temperature Stability ±0.04°C/°C RTD and ±0.05°C/°C TC @ 25°C
- IP65 (NEMA 4) Front Panel
- First 1/32 DIN Instrument with Analogue Output Selectable as a Control Output or as Retransmission of Process Variable
- 2 Control or Alarm Outputs (Optional) DC Pulse, Solid State Relays (SSRs), Mechanical Relays, Analogue Voltage & Current
- Removable Front and Plug Connectors

The NEWPORT® i32 is the iSeries meter/controller in the extremely compact and increasingly popular 1/32 DIN size. The i32 is the most sophisticated and accurate instrument available in the small 1/32 DIN package, yet is still easy to configure.

The i32 handles more thermocouple, RTD, process voltage, and current inputs than any other 1/32 DIN controller.

The i32 is the first 1/32 DIN controller with built-in excitation for transmitters or other devices, 24 Vdc @ 25 mA.

The iS32 has built-in excitation for bridge transducers, 5 Vdc @ 40 mA or 10 Vdc @ 60 mA. When communications options are installed, external excitation can be used and ratiometric operation maintained by connecting the external excitation to the sense leads. Both 4- or 6-wire bridge configurations are supported for internal or external excitation. Non-ratiometric operation is supported for voltage and current transducers and is also valuable in measuring offset and millivolt output of bridge devices during manufacturing and calibration.

This model also features 10-point linearisation that allows the user to linearise the signal input from extremely nonlinear transducers of all kinds.

The i32 and iS32 introduce a number of features not yet found on any other 1/32 DIN instrument. The i32 and iS32 are the first 1/32 DIN controllers with a totally programmable display that can change colour at any setpoint or alarm point. The unique 9-segment LED characters greatly improve alphanumeric representations.

The i32 and iS32 are the first 1/32 DIN controllers offering 2 SPDT (single pole double throw) Form C relays, instead of the single throw relays typical on 1/32 DIN controllers.

The i32 and iS32 are the first to offer both RS232 and RS422/485 serial communications in one instrument (C24 option). Both ASCII protocol and MODBUS protocol are selectable from the menu.

The iSeries displays feature unique 9-segment LED characters, which greatly improves alphanumeric representations. The 7-segment LED characters found on most other instruments are adequate for presenting numbers, but not letters. Words are easier to read with the unique 9-segment LED characters on the iSeries, which makes operating and programming simpler and easier.

9-segment LED

7-segment display

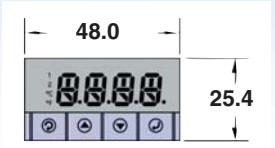
9-segment display

i/32

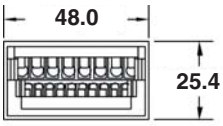
Process, & Strain Meters & PID Controllers

c UL us LISTED

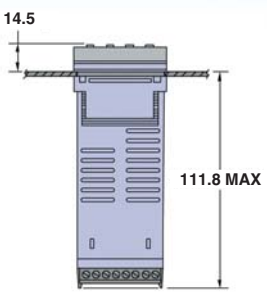
FM APPROVED For Temp. Units



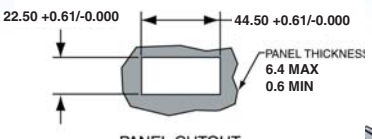
FRONT VIEW



REAR VIEW

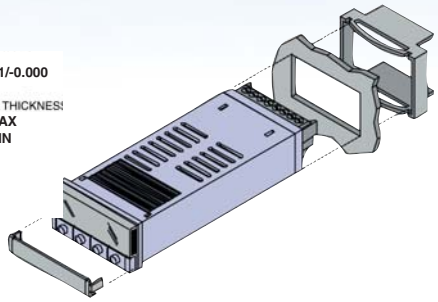


TOP VIEW

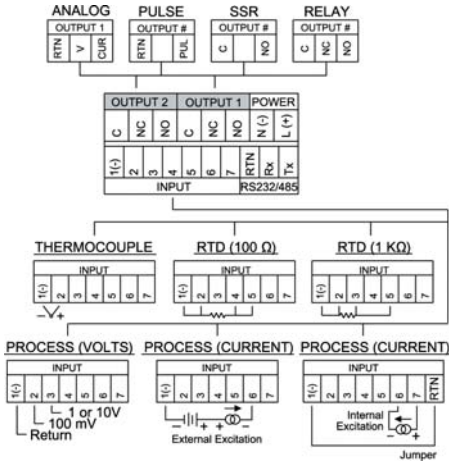


PANEL CUTOUT 1/32 DIN

Dimensions shown in inches (mm)



ALL MODELS AVAILABLE FOR FAST DELIVERY!



To Order *(*Specify Model No.)*

Model Number			Description	Price
DPi32			Temperature/Process (Monitor only) 1/32 DIN	£101
DPiS32			Strain/Process (Monitor only) 1/32 DIN	131
CONTROL OUTPUTS #1 & 2 Direct (Cool) or Reverse (Heat) Acting				
CNi32	(*)	(*)	Temperature/Process with 2 Control Outputs	£131
CNiS32	(*)	(*)	Strain/Process with 2 Control Outputs	161
	2	2	Two solid state relays (SSRs): 0.5 A @ 120/240 Vac continuous	N/C
	2	3	SSR and relay: Form "C" SPDT 3 A @ 120 Vac, 3 A @ 240 Vac	
	2	4	SSR and pulsed 10 Vdc @ 20 mA (for use with external SSR)	
	3	3	2 Relays: Form "C" SPDT 3 A @ 120 Vac, 3 A @ 240 Vac	
	4	2	Pulsed 10 Vdc @ 20 mA (for use with external SSR) and SSR	
	4	3	Pulsed 10 Vdc @ 20 mA (for use with external SSR) and relay: Form "C" SPDT 3 A @ 120 Vac, 3 A @ 240 Vac	
	4	4	Two pulsed 10 Vdc @ 20 mA (for use with external SSR)	
	5	2	Analogue Output selectable as either control or retransmission of process value; 0 to 10 Vdc or 0 to 20 mA @ 500 Ω max. and SSR	
	5	3	Analogue Output 0 to 10 Vdc or 0 to 20 mA @ 500 Ω max. and Relay	
	5	4	Analogue Output 0 to 10 Vdc or 0 to 20 mA @ 500 Ω max., Pulse 10 Vdc	
			-AL Limit Alarm Version (Simplified Menu; No PID Control) *2	

*1 -DC, -C24 not available with excitation. *2 Analogue Output (Option 5) is not available with -AL units.

NETWORK OPTIONS		Price
-C24	Isolated RS232 and RS485/422. 300 to 19.2K Baud *1	£41
EIS-2B	Industrial iServer Microserver™, serves 32 devices	131
POWER SUPPLY		
*	Standard power input: 90 to 240 Vac/Vdc, 50 to 400 Hz (no entry required)	N/C
-DC	12 to 36 Vac/Vdc, 24 Vac *1	£17
FACTORY SETUP		
-FS	Factory Setup and Configuration (req. -C24 Serial Communication option)	N/C
SOFTWARE (REQUIRES NETWORK OPTION)		
OPC-SERVER LICENSE	OPC Server/Driver Software License	£198

Ordering Examples: CNi3222-C24**, 1/32 DIN PID controller with two solid state relays for PID control and serial communications, both RS232 and RS485, £131 + 41 = **£172.
***DPi32**, 1/32 DIN temperature/process monitor, **£101**.*
***CNiS322-AL**, 1/32 DIN strain/process controller, limit alarm version with SSR output, **£161**.*

iServer

The "iServer" is a DIN rail mounted device that can be a hub connecting up to 32 instruments to an Ethernet and the Internet. The "iServer" is both a Web server and an Ethernet-Serial bridge. To connect to the iServer, iSeries devices must feature the "C24" Serial Communications option. See page 83.

i Series Common Specifications (All i/8, i/16, i/32 DIN)

Universal Temperature & Process Input (Model "i")

Accuracy: ±0.5°C temp; 0.03% reading process
Resolution: 1°/0.1°; 10 µV process
Temperature Stability:
1) RTD: 0.04°C/°C
2) TC @ 25°C: 0.05°C/°C - Cold Junction Compensation
3) Process: 50 ppm/°C
NMRR: 60 dB
CMRR: 120 dB
A/D Conversion: Dual slope
Reading Rate: 3 samples per second
Digital Filter: Programmable
Display: 4-digit 9-segment LED
21 mm: i8
10.2 mm: i32, i16, i16D, i8DV
10.2 mm and 21 mm: i8DH red, green and amber programmable colours for process variable, setpoint and temperature units
Input Types: Thermocouple, RTD, analogue voltage, analogue current
Thermocouple Lead Resistance: 100 Ω max
Thermocouple Type (ITS 90): J, K, T, E, R, S, B, C, N, L
RTD Input (ITS 68): 100/500/1000 Ω Pt sensor, 2-, 3- or 4-wire; 0.00385 or 0.00392 curve
Voltage Input: 0 to 100 mV, 0 to 1 V, 0 to 10 Vdc
Input Impedance: 10 MΩ for 100 mV 1 MΩ for 1 or 10 Vdc
Current Input: 0 to 20 mA (5 Ω load)
Configuration: Single-ended
Polarity: Unipolar
Step Response: 0.7 sec for 99.9%
Decimal Selection: None, 0.1 for temperature. None, 0.1, 0.01 or 0.001 for process.
Setpoint Adjustment: -1999 to 9999 counts
Span Adjustment: 0.001 to 9999 counts
Offset Adjustment: -1999 to 9999

EXCITATION
(Not included with communication): 24 Vdc @ 25 mA (not available for low power option)

Universal Strain & Process Input (Model "iS")

Accuracy: 0.03% reading
Resolution: 10/1 µV
Temperature Stability: 50 ppm/°C
NMRR: 60 dB
CMRR: 120 dB
A/D Conversion: Dual slope
Reading Rate: 3 samples per second
Digital Filter: Programmable
Input Types: Analogue voltage, analogue current
Voltage Input: 0 to 100 mVdc, -100 mVdc to 1 Vdc, 0 to 10 Vdc
Input Impedance: 10 MΩ for 100 mV; 1 MΩ for 1 V or 10 Vdc
Current Input: 0 to 20 mA (5 Ω load)
Linearisation Points: Up to 10 linearisation points
Configuration: Single-ended
Polarity: Unipolar
Step Response: 0.7 sec for 99.9%
Decimal Selection: None, 0.1, 0.01 or 0.001
Setpoint Adjustment: -1999 to 9999 counts
Span Adjustment: 0.001 to 9999 counts
Offset Adjustment: -1999 to 9999
Excitation (optional in place of communication): 5 Vdc @ 40 mA; 10 Vdc @ 60 mA

Control

Action: Reverse (heat) or direct (cool)
Modes: Time and Amplitude Proportional Control Modes; selectable Manual or Auto PID, Proportional, Proportional with Integral, Proportional with Derivative with Anti-Reset Windup and ON/OFF
Rate: 0 to 399.9 seconds
Reset: 0 to 3999 seconds
Cycle Time: 1 to 199 seconds; set to 0 for ON/OFF operation
Gain: 0.5 to 100% of span; setpoints 1 or 2
Damping: 0000 to 0008
Soak:
00.00 to 99.59 (HH:MM), or OFF
Ramp to Setpoint:
00.00 to 99.59 (HH:MM), or OFF
Auto Tune:
Operator initiated from front panel

Control Output 1 & 2

Relay: 250 Vac or 30 Vdc @ 3 A (Resistive Load); configurable for on/off, PID and Ramp and Soak
Output 1: SPDT type, can be configured as Alarm 1 output
Output 2: SPDT type, can be configured as Alarm 2 output
SSR: 20 to 265 Vac @ 0.05 to 0.5 A (Resistive Load); continuous
DC Pulse: Non-isolated; 10 Vdc @ 20 mA
Analogue Output (Output 1 only): Non-Isolated, Proportional 0 to 10 Vdc or 0 to 20 mA; 500 Ω max

Network and Communications (Optional -C24, -C4EI, -EI)

Ethernet: Standards Compliance IEEE 802.3 10Base-T
Supported Protocols:
TCP/IP, ARP, HTTPGET
RS232/RS422/RS485: Selectable from menu; both ASCII and MODBUS protocol selectable from menu. Programmable 300 to 19.2K baud; complete programmable setup capability; program to transmit current display, alarm status, min/max, actual measured input value and status
RS485: Addressable from 0 to 199
Connection: Screw terminals

Alarm 1 & 2 (programmable)

Type: Same as Output 1 & 2
Operation:
High/low, above/below, band, latch/unlatch, normally open/normally closed and process/deviation; front panel configurations
Analogue Output (programmable):
Non-Isolated, Retransmission 0 to 10 Vdc or 0 to 20 mA, 500 Ω max (Output 1 only). Accuracy is ± 1% of FS when following conditions are satisfied.
1) Input is not scaled below 1% of Input FS.
2) Analogue Output is not scaled below 3% of Output FS.

General

Power: 90 to 240 Vac ±10%, 50 to 400 Hz*, 110 to 375 Vdc, equivalent voltage
Low Voltage Power Option: 24 Vac**, 12 to 36 Vdc, power for i8, i8C, i16, i32; 20 to 36 Vdc, power for i8DH, i8DV, i16D from qualified safety approved source

Insulation
Power to Input/Output:
2300 Vac per 1 minute test
1500 Vac per 1 minute test
(For Low Voltage Power Option)
Power to Relays/SSR Outputs:
2300 Vac per 1 minute test
Relays/SSR to Relay/SSR Outputs:
2300 Vac per 1 minute test
RS232/485 to Input/Outputs:
500 Vac per 1 minute test

Environmental Conditions:
90% RH non-condensing
All models: 0 to 55°C
i8DV, i8DH, i16D: 0 to 50°C for UL only

Protection:
IP65 (NEMA 4) front bezel
Approvals: FM, UL, C-UL, CE per EN61010- 1:2001

Dimensions
i/8 Series: 48 H x 96 W x 127 mm D
i/16 Series: 48 H x 48 W x 127 mm D
i/32 Series: 25.4 H x 48 W x 127 mm D

Panel Cutout
i/8 Series: 45 H x 92 mm W, ⅛ DIN
i/16 Series: 45 mm square, ⅛ DIN
i/32 Series: 22.5 H x 45 mm W, ⅛ DIN

Weight
i/8 Series: 295 g
i/16 Series: 159 g
i/32 Series: 127 g

*No CE compliance above 60 Hz
**Units can be powered safely with 24Vac power, but no certification for CE/UL is claimed