

# iSeries 1/8 DIN Temperature, Process and Strain PID Controllers

## i8 Series



shown smaller than actual size.



- ✓ High Quality
- ✓ 5-Year Warranty
- ✓ High Accuracy:  $\pm 0.5^{\circ}\text{C}$  ( $\pm 0.9^{\circ}\text{F}$ ), 0.03% Reading
- ✓ User-Friendly, Simple to Configure
- ✓ Free Software
- ✓ Full Autotune PID Control
- ✓ Universal Inputs: RTD, Thermocouple, Process Voltage/Current, Strain
- ✓ Totally Programmable Color Displays Standard
- ✓ Built-In Excitation Standard
- ✓ 2 Control or Alarm Outputs: DC Pulse, Mechanical Relays, Analog Voltage and Current
- ✓ Embedded Internet Connectivity Available

The NEWPORT® i8 is a 1/8 DIN size [96 x 48 mm (3.7 x 1.9")] digital panel meter featuring the big iSeries color-changing display. The digits are twice the size of typical 1/8 DIN panel meters. The iSeries meters feature the only LED displays that can be programmed to change color between GREEN, AMBER, and RED at any setpoint or alarm point. The "i8" model is available as an extremely accurate programmable digital panel meter with no outputs or with dual outputs for controlling or alarming functions. Other options include isolated programmable analog output, serial communications, Modbus and Ethernet. The user can easily program the i8 for any control or alarming requirement from simple on/off to full autotune PID with a choice of form C SPDT relays, solid state relays, DC pulse, and analog (voltage and current) outputs.

Fully isolated analog output for retransmission of the process value is available in addition to the control and alarm relays (specify model i8A33).

The i8 covers a broad selection of transducer and transmitter inputs with 2 input models.

The universal temperature and process instrument (i models) handles 10 common types of thermocouples, multiple RTDs, and several process (DC) voltage and current ranges. This model also features built-in excitation, 24 Vdc @ 25 mA. With its wide choice of signal inputs, this model is an excellent choice for measuring or controlling temperature with a thermocouple, RTD, or 4 to 20 mA transmitter.

The strain and process instruments (iS models) measure inputs from load cells, pressure transducers, and most any strain gage sensor as well as process voltage and

current ranges. The iS has built-in 5 or 10 Vdc excitation for bridge transducers, 5 Vdc @ 40 mA or 10 Vdc @ 60 mA (any excitation voltage between 5 and 24 Vdc is available by special order). This iS model supports 4- and 6-wire bridge configurations, ratiometric and non-ratiometric measurements.

The iS features fast and easy "in process" calibration/scaling of the signal inputs to any engineering units. This model also features 10-point linearization which allows the user to linearize the signal input from extremely nonlinear transducers of all kinds.

Input Type	Range	Accuracy	
<b>Universal Process</b>			
Process Voltage	0 to 100 mV, 0 to 1 V, 0 to 10 Vdc	0.03% rdg	
Process Current	0 to 20 mA (4 to 20 mA)	0.03% rdg	
Excitation	24 V @ 25 mA	—	
<b>Universal Strain/Process</b>			
Process Voltage	0 to 100 mV, -100 to 1 V, 0 to 10 Vdc	0.03% rdg	
Process Current	0 to 20 mA (4 to 20 mA)	0.03% rdg	
Excitation	5 V @ 40 mA, 10 V @ 60 mA	—	
<b>Nickel RTD Input (FS Required)</b>			
RTD-1N (Nickel MIL-T-7990B)	0 to 200°C (32 to 392°F)	0.1°C (0.2°F)	
RTD-2N (Nickel MIL-T-7990B)	-40 to 300°C (-40 to 572°F)	0.3°C (0.5°F)	
<b>Temperature</b>			
<b>J</b>	Iron - Constantan	-210 to 760°C (-346 to 1400°F)	0.4°C (0.7°F)
<b>K</b>	CHROMEGA™- ALOMEGA™	-270 to -160°C/-160 to 1372°C (-454 to -256°F/-256 to 2502°F)	1.0°C/0.4°C (1.8°F/0.7°F)
<b>T</b>	Copper - Constantan	-270 to -190°C/-190 to 400°C (-454 to -310°F/-310 to 752°F)	1.0°C/0.4°C (1.8°F/0.7°F)
<b>E</b>	CHROMEGA™ - Constantan	-270 to -220°C/-220 to 1000°C (-454 to -364°F/-364 to 1832°F)	1.0°C/0.4°C (1.8°F/0.7°F)
<b>R</b>	Pt / 13%Rh-Pt	-50 to 40°C/40 to 1768°C (-58 to 104°F/104 to 3214°F)	1.0°C/0.5°C (1.8°F/0.9°F)
<b>S</b>	Pt / 10%Rh-Pt	-50 to 100°C/100 to 1768°C (-58 to 212°F/212 to 3214°F)	1.0°C/0.5°C (1.8°F/0.9°F)
<b>B</b>	30% Rh-Pt / 6%Rh-Pt	100 to 640°C/640 to 1820°C (212 to 1184°F/1184 to 3308°F)	1.0°C/0.5°C (1.8°F/0.9°F)
<b>C</b>	5% Re-W / 26%Re-W	0 to 2320°C (32 to 4208°F)	0.4°C (0.7°F)
<b>N</b>	Nicrosil - Nilil	-250 to -100°C/-100 to 1300°C (-418 to -148°F/-148 to 2372°F)	1.0°C/0.4°C (1.8°F/0.7°F)
<b>L</b>	J DIN	-200 to 900°C (-328 to 1652°F)	0.4°C (0.7°F)
RTD	Pt, 0.00385, 100, 500, 1000 Ω	-200 to 900°C (-328 to 1652°F)	0.4°C (0.7°F)
RTD	Pt, 0.00392, 100, 500, 1000 Ω	-200 to 850°C (-328 to 1652°F)	0.4°C (0.7°F)

# iSeries change color

**PATENTED**

## Totally Programmable Color Displays

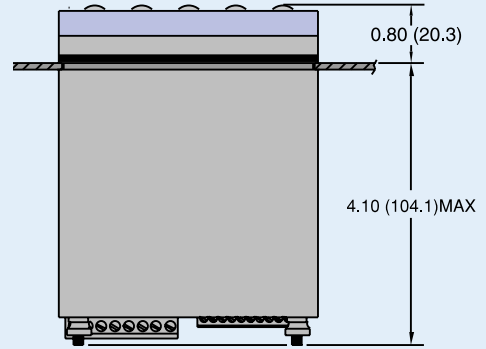
The NEWPORT® i/8, i/16, and i/32 are the first complete series of 1/8, 1/16 and 1/32 DIN process control instruments with totally programmable color displays. The display can be programmed to change color at any setpoint or alarm point.



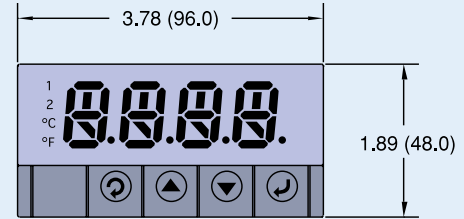
At Any  
Setpoint



Dimensions: in (mm)



TOP VIEW



### Options

Ordering Suffix	Description
-AL	Limit alarm version (alarms only, no PID control) <sup>*4</sup>
-SM	Simplified menu (on/off control or alarms, no PID) <sup>*6</sup>
<b>Networks Options</b>	
-EIT	Ethernet with embedded Web server
-C24	Isolated RS232 and RS485/422, 300 to 19.2 Kb <sup>2</sup>
-C4EIT	Ethernet with embedded Web server + isolated RS485/422 hub for up to 31 devices <sup>*1</sup>
<b>Power Supply</b>	
-DC	12 to 36 Vdc, 24 Vac <sup>*5</sup>
<b>Factory Setup</b>	
,FS	Factory setup and configuration
,FS(RTD-1N)	Customized "iS" Model for MIL-T-7990B nickel RTD input, 0 to 200°C (32 to 392°F)
,FS(RTD-2N)	Customized "iS" Model for MIL-T-7990B nickel RTD input, -40 to 300°C (-40 to 572°F)
<b>Software (Requires Network Option)</b>	
OPC-SERVER LICENSE	OPC server/driver software license

<sup>\*1</sup> Ethernet options are not available for the i8A controller.

<sup>\*2</sup> "-DC", "-C24", and "-C4EIT" not available with excitation.

<sup>\*3</sup> Analog output is not available with "-AL" units.

<sup>\*4</sup> i8A0x-AL contains 1 alarm and 1 analog retransmission.

<sup>\*5</sup> 20 to 36 Vdc for i8A, i8-C4EIT, i8-EIT.

<sup>\*6</sup> "-SM" option not available on iS strain models.

**To Order** Visit [newportUS.com/i8\\_embed](http://newportUS.com/i8_embed) for Pricing and Details

Model No.	Output 1	Output 2
<b>2 Control Outputs</b>		
i833	Relay	Relay
i844	DC pulse	DC pulse
i843	DC pulse	Relay
i842	DC pulse	0.5 A SSR
i822	0.5 A SSR	0.5 A SSR
i823	0.5 A SSR	Relay
i824	0.5 A SSR	DC pulse
i853	Analog	Relay
i854	Analog	DC pulse
i852	Analog	0.5 A SSR
<b>2 Control Outputs and Isolated Analog Output</b>		
i8A33	Relay	Relay
i8A44	DC pulse	DC pulse
i8A43	DC pulse	Relay
i8A42	DC pulse	0.5 A SSR
i8A22	0.5 A SSR	0.5 A SSR
i8A23	0.5 A SSR	Relay
i8A24	0.5 A SSR	DC pulse
<b>Strain/Process Input with 2 Control Outputs</b>		
iS833	Relay	Relay
iS834	Relay	DC pulse
iS844	DC pulse	DC pulse
iS843	DC pulse	Relay
iS842	DC pulse	0.5 A SSR
iS822	0.5 A SSR	0.5 A SSR
iS823	0.5 A SSR	Relay
iS824	0.5 A SSR	DC pulse
iS853	Analog	Relay
iS854	Analog	DC pulse
iS852	Analog	0.5 A SSR

Comes with complete operator's manual.

**Ordering Examples:** i8A22, 1/8 DIN temperature/process controller with isolated analog output and 2 SSR outputs.  
iS833, 1/8 DIN strain/process controller with 2-relay outputs.



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