

iSeries Temperature, Process and Strain PID Controllers

CNiSeries
Starts at

\$195



Ω MONOGRAM®



CNI32

CNI16

CNI8

- ✔ User Friendly, Simple to Configure
- ✔ High Quality
- ✔ Extended 5-Year Warranty
- ✔ Powerful Features
- ✔ Free Software, Active X Controls
- ✔ Full Autotune PID Control
- ✔ Totally Programmable Color Displays, Standard
- ✔ High Accuracy $\pm 0.5^{\circ}\text{C}$ (0.9°F), 0.03% Reading
- ✔ Temperature Stability $\pm 0.04^{\circ}\text{C}/^{\circ}\text{C}$ RTD and $\pm 0.05^{\circ}\text{C}/^{\circ}\text{C}$ TC @ 25°C (77°F)
- ✔ Both RS232 and RS485 MODBUS on 1 Instrument Selectable from Menu (Optional)
- ✔ Universal Inputs: RTD Thermocouple, Process, Voltage/Current, Strain
- ✔ Built-In Excitation (Standard)
- ✔ 2 Control or Alarm Outputs: DC Pulse, Solid State Relays, Mechanical Relays, Analog Voltage and Current
- ✔ Embedded Internet Connectivity

The innovative OMEGA® iSeries devices feature state-of-the-art technology, uncompromising accuracy, and quality backed by an extended 5-year warranty.

The iSeries family includes extremely accurate digital panel meters and single loop PID controllers that are simple to configure and use, while providing tremendous versatility and a wealth of powerful features.

Embedded Internet and Serial Communications

Featuring optional “embedded Internet” (specify EI option) the iSeries are the first instruments of their kind that connect directly to an Ethernet network and transmit data in standard TCP/IP packets, or even serve Web pages over a LAN or the Internet. The iSeries are also available with serial communications. With the C24 option, the user can select from the push-button menu between RS232, RS422, and RS485, with straightforward ASCII commands or MODBUS.

iSeries Family

The OMEGA® iSeries is a family of microprocessor-based instruments offered in 3, true DIN sizes with NEMA 4 (IP65) rated front bezels. All of the instruments share a similar set-up and configuration menu and method of operation, which is a tremendous time saver for integration of a large system.

Programmable Color Display

The OMEGA® iSeries are the first complete series of $\frac{1}{8}$, $\frac{1}{6}$ and $\frac{1}{32}$ DIN process control instruments with totally programmable color displays. The display can be programmed to change color at any set point or alarm point.

For example, the instrument can be programmed to display the process value in **GREEN** during warm-up, switching to **AMBER** to signal the normal operating range, and in **RED** to signal an alarm condition. The changes in color are quickly seen from a distance, and machine operators can intuitively react to changing conditions. The colors can be programmed to change back when the value drops back below the alarm point or to “latch” on until being reset by the operator.

The instrument can also be programmed to display only 1 unchanging color: **GREEN**, **AMBER**, or **RED**. This is a useful way to let an operator identify, at a glance, process values in 3 separate locations, or to display 3 different measurements such as temperature, pressure, and flow.

Quality and Technology

Designed and manufactured in the USA, the innovative OMEGA® iSeries of meters and controllers features an extended 5-year warranty at no extra charge. The iSeries packs a wealth

iSeries change color



Totally Programmable Color Displays

The OMEGA® i/8, i/16, and i/32 are the first complete series of 1/8, 1/6 and 1/2 DIN process control instruments with totally programmable color displays. The display can be programmed to change color at any setpoint or alarm point.



of power and features into the smallest of packages, utilizing COB and SMT assembly techniques and automation. Every iSeries instrument is thoroughly calibrated and tested at several stages throughout production. The iSeries offers the highest accuracy for industrial instrumentation at 0.03% of reading. The analog-to-digital conversion utilizes a proprietary 20-bit ASIC (application specific integrated circuit) patented algorithms and smart filtering.

Universal Inputs

The innovative iSeries offers the broadest selection of signal inputs available on one industrial instrument. The choices are easily selected from the menu with four front panel pushbuttons, or by serial or ethernet communications.

10 Thermocouple Types

The iSeries handles 10 thermocouple types: K, J, T, E, R, S, B, C, N, and J DIN. The patented thermocouple linearization algorithms employed in the iSeries produce the highest standard of accuracy. The MIL standard nickel RTD with MIL-T-7990B curve is available as a Factory Setup.

Most Accurate RTD Measurements

The iSeries works with the widest selection of RTD's and produces the most accurate RTD measurements. Handles both Pt 0.00385 and 0.00392 curves, and 100 Ω, 500 Ω and 1000 Ω. A choice of 2-, 3- and 4-wire RTD connections ensures the absolute highest degree of accuracy.

Process Voltage and Current

The OMEGA® iSeries measures process voltage: 0 to 100 millivolt, 0 to 1 Volt, 0 to 10 Volt ranges, and process current: 0 to 20 mA.

Strain Gage

The strain/processmeters and controllers measure inputs from load cells, pressure transducers, and most any strain gage sensor.

Input ranges include 0 to 100 mVdc, -100 mVdc to 1 Vdc and 0 to 10 Vdc in addition to 0 to 20 mA. Excitation for transducers of 5 V and 10 V is standard. Strain/process meters and controllers are available in all iSeries models.

Analog Output

The optional analog output can be programmed within a range of 0 to 10 Vdc or 0 to 20 mA. It is selectable as either a control output or as a calibrated retransmission of the process value — a unique feature among controllers.

Built-in Excitation Standard

The temperature/process instrument (model "i") comes standard with built-in excitation (24 Vdc @ 25 mA). Any excitation voltage between 5 and 24 Vdc is available by special order. This means the same instrument can handle thermocouple, standard RTD's or 4 to 20 mA transmitters with the meter's built-in excitation. The strain/process model (model "is") comes standard with built-in excitation (10 V @ 60 mA), 5 V excitation is user selectable. (Built-in excitation is not available with optional RS232/RS485 serial communications or DC power option.)

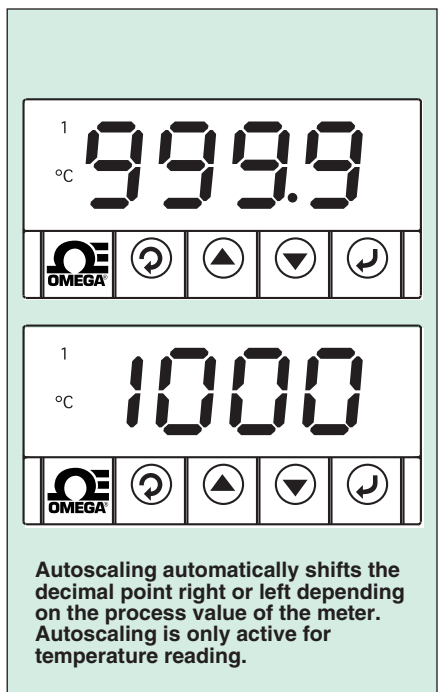
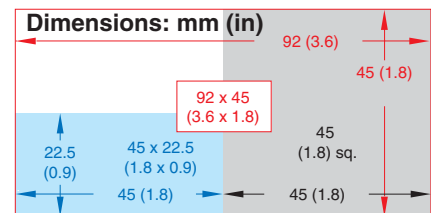
Control Functions

The iSeries can control simple manual operation to on/off and full autotune PID control (selectable preset tune, adaptive tune, PID, PI, PD control modes). The dual control outputs can be configured for a variety of independent control and alarm applications such as heat/heat, heat/cool, heat/alarm, cool/cool, cool/alarm or alarm/alarm. The ramp-to-setpoint feature allows the user to define the rate of rise to setpoint, minimizing thermal shock to the load during start-up. Maximum ramp time: 99.59 (HH.MM); soak, 00.00 to 99.59 (HH.MM); damping, 1 to 8 in unit steps.

Embedded Internet Connectivity!



CNI6D33, shown smaller than actual size. See page P-17 for details.



Autoscaling automatically shifts the decimal point right or left depending on the process value of the meter. Autoscaling is only active for temperature reading.

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