Benchtop Digital Thermometers

i Series ® **ΩΕ MONOGRAM**®

Single- and 10-Channel Models with Embedded Ethernet Connectivity Option

Transition junction and quick disconnect thermocouples sold separately. TTSS-18U-6 shown, $20. See page A-74.

Miniature quick disconnect thermocouples sold separately. GKMQSS-125U-6 shown, $29. See page A-50.

Shown smaller than actual size.

MDSi8 Series
Starts at
$415

MADE IN USA · 5 YEAR WARRANTY · CE

- ✔ **Optional Embedded Internet**
- ✔ **Portable, Rugged Metal Benchtop Enclosure with Tilt Handle**
- ✔ **Single- and 10-Channel Models**
- ✔ **Built Around OMEGA's New i Series Meters**
- ✔ **High Quality**
- ✔ **5-Year Warranty**
- ✔ **High Accuracy ±0.5°C (±0.9°F), 0.03% Reading**
- ✔ **User-Friendly, Simple to Configure**
- ✔ **Universal Inputs: Thermocouple, RTD, Process Voltage/ Current, Strain on Single-Channel Models**

✔ **Totally Programmable Color Displays, Standard**

✔ **Optional Alarm Relays or Analog Output**

	Input Type	Range	Accuracy
	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
J	Iron–Constantan	-210 to 760°C/-346 to 1400°F	0.4°C/0.7°F
K	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
T	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
E	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
R	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
S	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	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
C	5%Re–W/26%Re-W	0 to 2320°C/32 to 4208°F	0.4°C/0.7°F
N	Nicrosil–Nisil	-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
L	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 1562°F	0.4°C/0.7°F

The OMEGA® MDSi8 is a ⅛ DIN size (96 x 48 mm) digital panel meter in a rugged benchtop metal enclosure featuring the big iSeries color-changing display. The digits are twice the size of typical ⅛ 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. Other options include isolated programmable analog output, serial communications, MODBUS and Ethernet.

The universal temperature and process instrument (model "i") handles 10 common types of thermocouples, multiple RTD's, and several rocess (DC) voltage and current ranges.
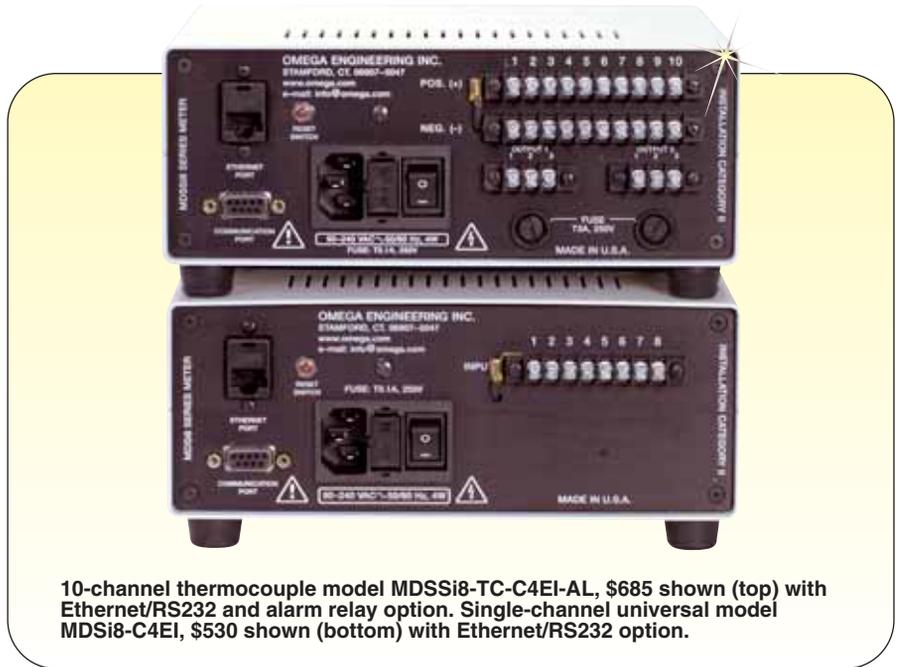
10-channel thermocouple model MDSSi8-TC-C4EI-AL, $685 shown (top) with Ethernet/RS232 and alarm relay option. Single-channel universal model MDSi8-C4EI, $530 shown (bottom) with Ethernet/RS232 option.

iSeries
change color
at any setpoint

Totally Programmable Color Displays

The OMEGA® **i**/8, **i**/16, and **i**/32 are the first complete series of ⅛, 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.

RED
AMBER
GREEN

Specifications
Single-Channel Universal and 10-Channel Dedicated Temperature and Process Inputs

Accuracy: ±0.5°C (±0.9°F) temp; 0.03% reading process

Resolution: 1°/0.1°; 10 µV process

Temperature Stability:
  RTD: 0.04°C/°C
  Thermocouple @ 25°C (77°F): 0.05°C/°C (cold junction compensation)
  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, 10.2 mm (0.40")
  i32, i16, i16D, i8DV: 21 mm (0.83")
  i8: 10.2 mm (0.40") and 21 mm (0.83"), i8DH—**GREEN, AMBER**, and **Red** programmable colors for process variable, setpoint and temperatureunits

Input Types: Thermocouple, RTD, analog voltage, analog 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 s 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

Network and Communications

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 19.2 Kb; 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: DB-9 connector on rear panel; optional alarm 1 and 2 (programmable)

M

Optional Alarm 1 and 2 (Programmable)

Type: Form "C" SPDT relays, 3A @ 120/240 Vac

Operation: High/low, above/below, band, latch/unlatch, normally open/normally closed and process/deviation; front panel configurations

Optional Analog 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) Analog output is not scaled below 3% of output FS.

General

Power: 90 to 240 Vac, 50 to 60 Hz
*Note: Each unit includes one power cord (model no. **POWER CORD-MOLDED**) rated for 120 Vac. Additional power cords for 230 Vac operation are available. See "Accessories."*

9-segment LED

The **iSeries** displays feature unique 9-segment LED characters, which greatly improves alphanumeric representations. The 7-segment LED characters found on most 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.

7-segment display

9-segment display

☐ *MOST POPULAR MODELS HIGHLIGHTED!*

To Order *(Specify Model No.)*

Model No.	Price	Description
MDSi8	$415	1-channel benchtop thermometer, universal input (thermocouple, RTD, PV)
MDSi8A	465	1-channel benchtop thermometer, universal input (thermocouple, RTD, PV) with analog output
MDSi8S	475	1-channel benchtop strain meter
MDSSi8-TC	470	10-channel benchtop thermometer, dedicated thermocouple input
MDSSi8A-TC	520	10-channel benchtop thermometer, dedicated thermocouple input with analog output
MDSSi8-RTD	470	10-channel benchtop thermometer, dedicated 100 Ω RTD input
MDSSi8A-RTD	520	10-channel benchtop thermometer, dedicated 100 Ω RTD input with analog output
MDSSi8-PV	470	10-channel benchtop thermometer, dedicated voltage/current input
MDSSi8A-PV	520	10-channel benchtop thermometer, dedicated voltage/current input with analog output

Options

-EI	$55	Ethernet with embedded web server*
-C24	60	Isolated RS232 and RS485/422
-C4EI	115	Ethernet with embedded web server and RS484/422
-AL	85	Dual alarm relays (form "C" SPDT, 3 A @ 120/240 Vac)
-500/100	N/A	Configured for 500 or 1000 Ω RTD's (10-channel models only)

Ordering Examples

MDSi8-C24	$475	1-channel universal input benchtop thermometer with RS232/485 communication
MDSi8A-AL	550	1-channel universal input benchtop thermometer with analog output and alarm relays
MDSi8-EI-AL	555	1-channel universal input benchtop thermometer with ethernet and alarm relays
MDSSi8-TC-C24	530	10-channel thermocouple input benchtop thermometer with RS232/485 communication
MDSSi8-RTD-AL	570	10-channel RTD input benchtop thermometer with alarm relays
MDSSi8-PV-EI-AL	625	10-channel voltage/current input benchtop thermometer with ethernet and alarm relays

Accessories

Accessories	Price	Description
POWER CORD-DM	$20	Power cord with connector for Denmark
POWER CORD-E-10A	20	Power cord with connector for Continental Europe
POWER CORD-IT	20	Power cord with connector for Italy or Ireland
POWER CORD-SE	7	Power cord with stripped ends (no connection), all countries 250 Vac max
POWER CORD-UK	35	Power cord with connector for United Kingdom
POWER CORD-MOLDED	7	Power cord with connector for North America (USA, Mexico, Canada), standard 120 Vac

Comes with complete operator's manual.
*Ethernet options are not available for the MDSi8A or MDSSi8A meters. For 10-channel models, communication port can only access input currently selected by 10-point selector switch on front of unit.

omega.com®
Your One-Stop Source for Process Measurement and Control!

UNITED KINGDOM
www. omega.co.uk
Manchester, England
0800-488-488

UNITED STATES
www.omega.com
1-800-TC-OMEGA
Stamford, CT.

FRANCE
www.omega.fr
Guyancourt, France
088-466-342

CANADA
www.omega.ca
Laval(Quebec)
1-800-TC-OMEGA

CZECH REPUBLIC
www.omegaeng.cz
Karviná, Czech Republic
596-311-899

GERMANY
www.omega.de
Deckenpfronn, Germany
0800-8266342

BENELUX
www.omega.nl
Amstelveen, NL
0800-099-33-44

More than 100,000 Products Available!

• Temperature

Calibrators, Connectors, General Test and Measurement Instruments, Glass Bulb Thermometers, Handheld Instruments for Temperature Measurement, Ice Point References, Indicating Labels, Crayons, Cements and Lacquers, Infrared Temperature Measurement Instruments, Recorders Relative Humidity Measurement Instruments, RTD Probes, Elements and Assemblies, Temperature & Process Meters, Timers and Counters, Temperature and Process Controllers and Power Switching Devices, Thermistor Elements, Probes and Assemblies,Thermocouples Thermowells and Head and Well Assemblies, Transmitters, Wire

• Flow and Level

Air Velocity Indicators, Doppler Flowmeters, Level Measurement, Magnetic Flowmeters, Mass Flowmeters, Pitot Tubes, Pumps, Rotameters,Turbine and Paddle Wheel Flowmeters, Ultrasonic Flowmeters, Valves,Variable Area Flowmeters, Vortex Shedding Flowmeters

• pH and Conductivity

Conductivity Instrumentation, Dissolved Oxygen Instrumentation, Environmental Instrumentation, pH Electrodes and Instruments, Water and Soil Analysis Instrumentation

• Data Acquisition

Auto-Dialers and Alarm Monitoring Systems, Communication Products and Converters, Data Acquisition and Analysis Software, Data Loggers Plug-in Cards, Signal Conditioners, USB, RS232, RS485 and Parallel Port Data Acquisition Systems, Wireless Transmitters and Receivers

• Pressure, Strain and Force

Displacement Transducers, Dynamic Measurement Force Sensors, Instrumentation for Pressure and Strain Measurements, Load Cells, Pressure Gauges, Pressure Reference Section, Pressure Switches, Pressure Transducers, Proximity Transducers, Regulators, Strain Gages, Torque Transducers, Valves

• Heaters

Band Heaters, Cartridge Heaters, Circulation Heaters, Comfort Heaters, Controllers, Meters and Switching Devices, Flexible Heaters, General Test and Measurement Instruments, Heater Hook-up Wire, Heating Cable Systems, Immersion Heaters, Process Air and Duct, Heaters, Radiant Heaters, Strip Heaters, Tubular Heaters

• *click here to go to the omega.com home page* •

EPG05