Benchtop Digital COMEGA Thermometers Series Single- and 10-Channel Models with Embedded Ethernet Connectivity Option



Transition junction and quick disconnect thermocouples sold separately. TTSS-18U-6 shown. Visit us online. Miniature quick disconnect thermocouples sold separately. GKMQSS-125U-6 shown. Visit us online.

MDSi8 Series



- Optional Embedded Internet
- Portable, Rugged Metal Benchtop Enclosure with Tilt Handle
- Single- and 10-Channel Models
- Built Around OMEGA's New iSeries 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 RoHS 2 Compliant

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
Τ	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
Ε	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
В	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
С	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 ½ 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 ½ 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 process (DC) voltage and current ranges.





The OMEGA® i/8, i/16, and i/32 are the first complete series of $\frac{1}{2}$, $\frac{1}{2}$ and $\frac{1}{2}$ DIN process control instruments with totally programmable color displays. The display can be

programmed to change color at any setpoint or alarm point.





10-channel thermocouple model MDSSi8-TC-C4EI-AL, shown (top) with Ethernet/RS232 and alarm relay option. Single-channel universal model MDSi8-C4EI, shown (bottom) with Ethernet/RS232 option.

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 M Ω for 100 mV, 1 M Ω 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)



Optional Alarm 1 and 2 (Programmable)

Type: Form "C" SPDT relays **Operation:** High/low, above/below, (limited output to 30 Vrms only) 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 \pm 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 number **POWER CORD-NA**) 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 si



programming simpler and easier.

To Order				
Model No.	Description			
MDSi8	Product Discontinued	eter, universal input		
MDSi8A	Product Discontinued	ter, universal input analog output		
MDSi8S	Product Discontinued Chtop strain meter			
MDSSi8-TC	10-channel benchtop thermor thermocouple input	neter, dedicated		
MDSSi8A-TC	10-channel benchtop thermometer, dedicated thermocouple input with analog output			
MDSSi8-RTD	10-channel benchtop thermor RTD input	neter, dedicated 100 Ω		
MDSSi8A-RTD	10-channel benchtop thermor RTD input with analog output	neter, dedicated 100 Ω		
MDSSi8-PV	10-channel benchtop process voltage/current input	meter, dedicated		
MDSSi8A-PV	10-channel benchtop process voltage/current input with ana	meter, dedicated log output		
Options				
-EIT	Product Discontinued >mbedded web	server*		
-C24	Product Discontinued 2 and RS485/42	22		
-C4EIT	Product Discontinued >mbedded web	server and RS484/422		
-AL	Dual alarm relays (form "C" SPDT, 3 A @ 120/240 Vac)			
-500/100	Configured for 500 or 1000 Ω RTD's (10-channel models only)			
Ordering Examples				
MDSi8-C24	Product Discontinued	htop thermometer with		
MDSi8A-AL	Product Discontinued	htop thermometer with		
MDSi8-EIT-AL	Product Discontinued	htop thermometer with		
MDSSi8-TC-C24	10-channel thermocouple input benchtop thermometer with RS232/485 communication			
MDSSi8-RTD-AL	10-channel RTD input benchtop thermometer with alarm relays			
MDSSi8-PV-EIT-AL	10-channel voltage/current inp meter with ethernet and alarm	out benchtop process r relays		

Accessories	Description
POWER CORD-DM	Power cord with connector for Denmark
POWER CORD-E-10A	Power cord with connector for Continental Europe
POWER CORD-IT	Power cord with connector for Italy or Ireland
POWER CORD-SE	Power cord with stripped ends (no connection), all countries 250 Vac max
POWER CORD-UK	Power cord with connector for United Kingdom
POWER CORD-NA	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.