



Temperature/Process Digital Indicators



Model DP21-TC

\$299

Shown

- ✓ ±0.25% High Accuracy Indication
- ✓ User-Selectable Inputs (Thermocouples)
- ✓ User-Selectable Ranges
- ✓ Programmable Scaling (mV dc, mA dc)
- ✓ Power Supply: 100 to 240 Vac or 24 Vac/dc
- ✓ Versatile Alarm Configurations
- ✓ Standard Min/Max Recall
- ✓ Transducer Power Supply Available
- ✓ Optional RS-232C, RS-422A, or RS-485 Interface
- ✓ Analog Output Scaling Available

The DP20 series indicators, available for thermocouple, RTD, voltage or current inputs, feature a large, easy-to-read, 4-digit LED display. This indicator has programmable multi-range inputs and a high accuracy of ±0.25% plus one digit. The unit also offers fast response of 0.25 seconds, decimal point setting, plus scaling lower and higher limit setting. It features minimum and maximum reading storage, for later recall. Available options are normal or latching relay alarms, 4 to 20 mA, 0 to 10 Vdc and 0 to 10 mV analog output. The DP20 operates on universal power supply or 24 Vac/Vdc. Other options include a communications interface and transducer power supply.



Shown larger than actual size

Specifications

Display

Range Display: 7-segment LED (4-digit)

Display Accuracy: ±0.25% + 1 digit of measuring range

Display Cycle Range: 0.25 sec or 2 sec (by internal switch)

Legend Change: °C and °F (by internal switch)

Monitor Display: Max., min, hold, communication, alarm and range

Setting

Setting Method: By front key

Setting Keys: Display, communication, alarm, range, setting, shift and up

Setting Type: Position of decimal point, display scaling, sensor compensation, analog output scaling, alarm, alarm sensitivity, latching OFF, communications (interface), etc.

Input

Sampling Cycle: 0.25 second

Thermocouples: J, K, T, E, R, S, B, C, J DIN and T DIN

Input Impedance: 500 kΩ min.

Lead Wire Resistance:

100 Ω max.

Sensor Compensation:

±99.9 or ±9.99 unit (depending on input range)

Burnout Scaling:

Up-scale (standard feature)

RTD: 3-wire, Pt, 100 Ω, both 0.00385 and 0.00392 curves

Excitation Current: 0.6 mA

Lead Wire Resistance:

5 Ω max. per wire

Sensor Compensation:

±99.9 or ±9.99 unit (depending on input range)

Voltage: 0 to 10 mV, 0 to 50 mV, or 0 to 100 mV dc changeable; 0 to 1 V, 0 to 5 V, 0 to 10 Vdc changeable

Input Impedance: 500 kΩ min

Current:

4 to 20 mA or 0 to 20 mA dc changeable

Input Impedance: 250 Ω

Display Scaling: Only voltage and current inputs available (-1999 to +9999 minimum span 100 counts, maximum span 10,000 counts)

Isolation: Between input and internal circuit

Optional Functions

Alarms

Operating Mode: Individually set for high/low and deviation or absolute action

Setting Range: -1999 to 9999

Sensitivity: 0.2 to 9.9 or 2 to 99 by front key

Mechanical Relay:

SPDT, 250 Vac, 2.5 A/Resistive load

Inhibit/Non-Inhibit: Selectable by internal switch

Analog Output

Output: 0 to 10 mV dc (output resistance 10 Ω)

0 to 10 Vdc (load current 2 mA max.)

4 to 20 mA dc (load resistance 300 Ω max.)

Accuracy: $\pm 0.25\%$ FS of display value

Resolution: Approx. 0.0125 FS (1/8000)

Isolation: Isolated between input and internal circuit

Interface

Communications

Type of Interface: RS-232C, RS-422A or RS-485

Speed: 1200, 2400, 4800 or 9600 bps selectable

Data Bit:

Selectable 7-bit odd-parity or 8-bit without parity

Address: 0–31

Code: ASCII code

Isolation: Isolated between input and internal circuit

General

Transducer Power Supply: 24 Vdc (± 3 V), 50 mA

Power Supply: 100 to 240 Vac, 50/60 Hz or 24 Vac/dc

Power Consumption: 8 VA, 24 Vdc 8 W

Insulation Resistance: 500 Vdc 20 M Ω between input terminal and earth terminal. 500 Vdc 20 M Ω between power supply terminal and ground terminal

Dielectric Strength: One minute at 500 Vac between input terminal and earth terminal. One minute at 1500 Vac between power supply terminal and earth terminal

External Dimensions: 48 H x 96 W x 110 mm D (1.89 x 3.78 x 4.33")

Panel Cutout: $\frac{1}{2}$ DIN, 45 x 92 mm (1.772 x 3.622")

Weight: 300 g (0.66 lb)

Input Code and Range Table

Input Code	Input Type	Range °C	Range °F
TC	J	-100 to 600.0	-148 to 1112
	K (high)	-200 to 1200	-328 to 2192
	K (low)	-100.0 to 800.0	-148 to 1472
	T	-199.9 to 200.0	-328 to 392
	E	0 to 700.0	32 to 1292
	R	0 to 1700	32 to 3092
	S	0 to 1700	32 to 3092
	B	400 to 1800	750 to 3300
	C	0 to 2300	32 to 4172
	J DIN	0.0 to 600.0	32 to 1112
T DIN	-199.9 to 200.0	-328 to 392	
RTD	100 Pt,0.00385 and 0.00392	-199.9 to 600.0	-328 to 1112
		0.00 to 99.99	32.0 to 212.0
MV	Low Level Voltage	0 to 10 mV*	
		0 to 50 mV*	
		0 to 100 mV*	
V	High Voltage	0 to 1 V*	
		0 to 5 V*	
		0 to 10 V*	
MA	Current	0 to 20 mA*	
		4 to 20 mA*	

*User scalable; range is -1999 to 9999 counts, min. span is 100 counts, max. span is 10,000 counts

To Order (Specify Model Number)

Model No.	Price	Description
DP21-(*)	\$299	Digital panel indicator

*Specify Input Type: **TC** – Thermocouple, **RTD** – Pt RTD 3-wire 100 Ω , **MA** – Current to 20 mA dc, **MV** – Voltage to 100 mV, **V** – Voltage to 10 V

Ordering Example: DP21-TC-AL, meter with thermocouple input and optional dual alarms, \$299 + 100 = \$399

Options

Ordering Suffix	Add'l Cost	Description
-AL	\$100	Dual alarms
-ALL	120	Dual latching alarms
-AO1 ¹	60	0 to 10 mV dc recorder output
-AO2 ¹	60	4 to 20 mA dc recorder output
-AO3 ¹	60	0 to 10 Vdc recorder output
-RS232 ¹	120	RS-232 communications
-RS422 ¹	120	RS-422 communications
-RS485 ¹	120	RS-485 communications
-XP	50	Transducer power supply
-24VDC ²	50	24 Vdc power supply
-24VAC	50	24 Vac power supply

¹Only one of these options can be installed per unit.

²When computer interface options are ordered, "-24VDC" (dc power supply) is not available.



KMTSS-125G-6 Thermocouple, \$24.
Probe is sold separately. See Section A.



UNITED STATES

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

CANADA

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

GERMANY

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