

Benchtop Recorders

10-Color, 20 Input Hybrid

Wireless Conversion Receivers Available. For Details Visit omega.com/mwtc-rec6

DR130 Series Starts at **\$4365**



*Optional

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- ✓ High-Speed Scanning and Recording
- ✓ Ten-Color Recording
- ✓ Thermocouple, RTD, Voltage Inputs
- ✓ Optional Floppy Drive for Data Storage
- ✓ Easy-to-Carry, Lightweight Design

The OMEGA® DR130 Series portable hybrid recorder offers high speed scanning of 20 points/2 sec and high speed recording. This versatile recorder weighs less than 10 kg (21 lb). Operation is simple, yet powerful optional computing functions and floppy disk enhance the units performance. The DR130 uses a high breakdown voltage solid state relay that permits high scan speed and long relay life without noise.



DR130-12-1, \$4970.

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Specifications

Number of Inputs: Up to 10 or 20 points

A/D Resolution: ±20,000

Reference Junction Compensation

Error: ±1°C (1.8°F) (R, S, B, C, W), ±0.5°C/0.9°F (K, J, T, E, N, U, L CHROMEGLA® vs. Au7% Fe)

Scan Cycle Time: 2 to 60 sec selectable (2, 3, 4, 5, 6, 10, 12, 15, 20, 30, 60 sec)

A/D Integration Time: 20 msec (50 Hz), 16.7 msec (60 Hz), and 100 msec (10 Hz), (50/60 Hz) selectable

Input Impedance: >10 MΩ on 2V or lower ranges and T/C; approx. 1 MΩ on 6V or higher ranges

Input Bias Current: <10 nA

Thermocouple Burnout Protection: ON or OFF selectable for each channel

Temperature Coefficient: Zero drift; 0.01% of range/°C, full span; 0.01% of range/°C

Max Input Voltage: ±10 Vdc (60V on 6V or greater ranges)

Common Mode Voltage: 250 Vrms AC (50/60Hz)

* Refer to footnote on page S-30 for CE ordering information.

Ranges

Input Type and Range	Measurement (Digital Display and Printout)	
	Accuracy	Resolution
±20.000 mVdc ±60.00 and ±200.00 ±2.0000 Vdc ±6.000 and ±20.000 ±50.00 Vdc	±(0.05% of rdg + 5 digits) ±(0.05% of rdg + 2 digits) ±(0.05% of rdg + 2 digits) ±(0.05% of rdg + 2 digits) ±(0.05% of rdg + 2 digits)	1 μV 10 μV 100 μV 1 mV 10 mV
R 0 to 1760°C S 0 to 1760°C B 0 to 1820°C	±(0.05% of rdg + 1°C) However: R, S: 0 to 100°C ±3.7°C 100 to 300°C ±1.5°C and B: 400 to 600°C ±2°C ±(0.05% of rdg + 0.7°C)	0.1°C
K -200 to 1370°C	However: -200 to -100°C ±(0.05% of rdg + 1°C)	
E -200 to 800°C J -200 to 1100°C T -200 to 400°C	±(0.05% of rdg + 0.5°C)	0.1°C
J DIN (L) -200 to 900°C T DIN (U) -200 to 400°C	However: J, L DIN: -200 to -100°C ±(0.05% of rdg + 0.7°C)	
Kp vs Au7Fe 0 to 300K	±(0.05% of rdg + 0.7K)	0.1K
N 0 to 1300°C	±(0.05% of rdg + 0.7°C)	0.1°C
C (W) 0 to 2315°C	±(0.05% of rdg + 1°C)	
PT100 -200 to 600°C	±(0.05% of rdg + 0.3°C)	0.1°C
PT100 -140 to 150°C	±(0.05% of rdg + 0.3°C)	0.01°C
Ni100/120 -60 to 180°C	±(0.05% of rdg + 0.3°C)	0.1°C
Cu 10Ω -200 to 800°C	±(0.2% of rdg + 0.7°C)	0.1°C

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DR130 Series display, shown smaller than actual size.



Common Mode Rejection:
120 dB (50 or 60 Hz ±0.1%)

Normal Mode Rejection:
40 dB (50 or 60 Hz ±0.1%)

Max Between Chan: 150 Vrms AC
(50/60 Hz except RTD)

Printout

Printing Technique: Raster scan using a wire-dot printer and 10-color ribbon

Effective Recording Span:
150 mm (5.9"), analog

Chart: Z-fold chart, 230 mm W x 20 m L (9" x 65.5')

Recording Resolution: ±0.1 mm

Recording Accuracy: Measurement accuracy plus (±0.2% of effective recording span)

Printout Format: Analog trend/analog trend plus digital data logging

Chart Speed: 1 to 1500 mm/hr

Chart Drive: Pulse motor drive

Chart Speed Accuracy: ±0.1%

Recording Modes: Normal, print on alarm, chart speed/interval changes at set alarm

Standard Printing Functions:

Engineering units (up to 6 alphanumeric), tag number (up to 7 alphanumeric), alarms (channel number, alarm types, and the time of alarm On/Off), scale markings (0/100%, 0/50/100%, or 20% steps), program list, manual, message (max 16 characters), and header (60 characters x 5 lines)

Display and Controls

Display: 5 x 7 dot matrix, 3 row, vacuum fluorescent; 1st row 22 large, 2nd and 3rd 40 small characters

Data Display: Measured data (tag number, channel number, alarm status, measured value, engineering unit), bar graph, clock, alarm status, relay status, programming data, battery status, and recording format (trend/log)

Scaling Range: -30,000 to 30,000

Calculation: Difference between any channels or moving average for every 2 to 64 scans

Internal Memory: 10-yr lithium battery back up; 512 KB SRAM with floppy disc drive option

Optional Memory:
3.5 inch floppy; 1.4 MB or 720 K

Alarms: Up to 4-channel

Outputs: 12 max with -A4 and -R1 opt

Alarm Types: High (H), low (L), high rate of change (RH), low rate of change (RL), delta high (ΔH) and delta low (ΔL)

Recording:

Trend Mode: CH# alarm types, and on/off times in the right margin

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Logging Mode: CH# and alarm types at the start of measured data

Alarm Acknowledgement: Pressing the ACK key stops the alarm display flashing and resets the dedicated common relay output

Alarm Reset: Hold type relay output by pressing the RESET key

Display: Flashing display can be obtained for 20 point alarm status (channels 1 to 20) plus one common point for computing channels (channels 31 to 60)

General

Ambient Operating Temperature:
5 to 40°C (40 to 104°F)

Humidity Range: 20 to 80%

Power Supply: 90 to 250 Vac,
50 or 60 Hz ±2%

Power Consumption: Approx 130 VA

Clock: With calendar function

Input Terminals: Clamped input terminal block (standard) and screw input terminal block (optional)

Mounting: Desktop or flush panel mounting (can be inclined up to 30° backward from vertical)

Dimensions:
221 H x 338 W x 335 mm D
(8 7/8 x 13 1/8 x 13 1/8")

Weight: 9.3 kg
(20.5 lb) approx

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Optional Features

Alarm Outputs (-A4 option): 10 points, contact rating 30 Vdc or 250 Vac, 2 A resistive; AND, OR, REFLASH, or latching option type output

Remote Control (-R1 Option): Through the contact input, start/stop, chart speed/interval change, manual printout, message recording, digital recording in the trend mode, writing on the memory card, and loading trigger available; input signal; TTL-level, open collector, and contact status, plus 2 alarm outputs

GPIB Interface (-C1 Option):
conforms to IEEE standard 488-1978

RS232C Interface (-C2 Option):
conforms to EIA RS232C

Computation (-M1 option): Functions: +, -, x, =, SQR (square root), ABS (absolute value), LOG (common logarithm), EXP (exponential), logic (AND, OR, NOT, XOR), CLOG and TLOG (group or channel; max, min, avg, totals, max, minus, min)

Software: Runs on Windows® 95, 98 or NT 4.0



OMEGACARESM extended warranty program is available for models shown on this page. OMEGACARESM covers parts, labor, and equivalent loaners. Ask your sales representative for full details when placing an order.

MOST POPULAR MODELS HIGHLIGHTED!

To Order (Specify Model Number)		
Model Number	Price	Description
DR130-00-1	\$4365	10-input hybrid recorder
DR130-12-1	4970	10-input hybrid recorder with floppy drive
DR130-00-2	5085	20-input hybrid recorder
DR130-12-2	5975	20-input hybrid recorder with floppy drive
DR130-12-2-R1	6524	20-input recorder with floppy remote and alarm
DR130-12-2-C1	6524	20-input recorder with floppy and GPIB
DR130-12-2-C2	6524	20-input recorder with floppy and RS232
DR130-12-2-M1	6524	20-input recorder with floppy and math
DR130-ZFP-1	18	Z-fold paper, 20 m (65'), 1 each
DR130-RC	29	Replacement 10-color printing ribbon

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Comes complete with one 20 m (65') Z-fold chart, one 10-color ribbon and operator's manual. All units may have display with °F/°C and 50 Hz option field selectable.

Only 1 communications option per unit. Other options can be combined as required. Floppy drive units include free conversion software.

* For CE option add suffix "-CE" to model number and \$380 to price.

Ordering Examples: DR130-12-2-C2, hybrid recorder with RS232 interface, plus DR130-ZFP-10, paper, plus DR130-RC, replacement 10-color printing ribbon, \$6524 + 18 + 29 = \$6571.

OCW-3, OMEGACARESM extends standard 2-year warranty to a total of 5 years (\$350), \$6571 + 350 = \$6921.

Recommended Reference Book: Space Vehicle Mechanisms, AV-1015, \$175
See Section Y for Additional Books

