

# Strip Chart Recorders



RD-87-TRH.

RD-87-TEMP.

All models shown smaller than actual size.

## RD-87 Series



- ✓ **J Thermocouple, Temperature, Temperature/Humidity, Voltage, Current, 4 to 20 mA Input Models**
- ✓ **LCD Alphanumeric Display, 16 Characters 2-Line**
- ✓ **100 mm (4") Strip Chart**
- ✓ **Metric (mm) or Standard (inch) Charts**
- ✓ **Probes are Field Interchangeable and Can be Extended**
- ✓ **Over/Under Alarm with Relay and Beeper, Selectable Delay Feature**
- ✓ **Battery Backup for Up to 48 Hours**
- ✓ **+12 Vdc for Mobile Applications Compatible**

The OMEGA RD-87 Series strip chart recorders are offered in different models to record either a J Thermocouple, Temperature, Temperature/Humidity, Voltage, Current, or a 4 to 20 mA input signal on a 100 mm (4") wide strip chart, with a single pen. The temperature/humidity model uses two pens. Pens are colored to maximize chart readability. All RD-87 models offer a LCD display and user friendly controls. A full function alarm feature is provided on the RD-87 Series. The alarm can be set to sound an audible signal when the measured value(s) has exceeded an upper or lower limit. Each limit is individually set from the front panel. A delay time before the alarm is activated may be set by the user to prevent nuisance alarms caused by short-term variations. Low power normally open relay contacts are provided to allow activation of a remote alarm, phone dialer or annunciation.

Power is supplied through a 120 Vac 50/60 Hz plug-in adapter. External power may be supplied from any 12 Vdc source such as automotive, marine, or other battery. Battery backup for up to 48 hours is featured to provide operation during temporary power loss.

### Specifications (General)

**Operating Ambient Temperature**

**Range:** 0 to 50°C (32 to 120°F)

**Storage Temperature:**

-18 to 50°C (0 to 120°F)

**Primary Power:** 115 Vac, 50/60 Hz adapter (220 to 240 Vac, 50 Hz optional)

**Backup Power:** 8 "AA" alkaline batteries (ordered separately)

**Alternative Power:** 12 V vehicle operation

**Chart Strip Chart:** 6 m x 120 mm (20' x 4 3/4"), roll type

**Effective Recording Span:** 100 mm (4")

**Metric Paper Grid Lines:** Time line every 5 mm with markings every 20 mm; 50 minor and 10 major divisions labeled on a rotating basis, with 100 to 0, 10 to 0, 20 to -30, 50 to 0, 60 to -40

**Standard Paper Grid Lines:** Time line every 0.25" with markings every 1"; 50 minor and 10 major divisions labeled on a rotating basis with 100 to 0, 60 to -40, 150 to 50, 250 to 0, 500 to 0  
**Remote Alarm Type:** Normally open, 48 Vac/Vdc, 0.1 A dry contacts  
**Remote Alarm Connection:** 2, ¼" terminal (spade) lugs in battery compartment area

**Chart Speeds:**

- ½ cm/hour, ¼"/hour
- 2 cm/hour, 1"/hour
- 4 cm/hour, 2"/hour
- 8 cm/hour, 4"/hour
- 16 cm/hour, 8"/hour
- ½ cm/min, ¼"/min
- 1 cm/min, ½"/min
- 2 cm/min, 1"/min
- 4 cm/min, 2"/min

**Chart Speed Accuracy:** ±1%

**Alarm Delay Range:** 0, 10, 20, 60, 120 minute

**Display:** Alphanumeric LCD, 16 characters 2 line

**RS232 Port Connection:** RJ11 (4 pin) connector in battery compartment area

**RS232 Port Parameters:**

Data transmitted as measured, 4800 baud, 8, N, 1

**Mounting:** Vertical or horizontal, free standing or wall mounted

**Dimensions:** 235 x 184 x 50 mm (9.25 x 7.25 x 2")

**Weight:** 1.1 kg (2.5 lb)

**Power Consumption:** 3.5 W max

The RD-87-J is a precision strip chart recorder for recording temperature via a J Type thermocouple connected with a miniature (SMP) type connector located in the battery compartment area. A 6' beaded thermocouple fiberglass wire probe is supplied with the unit. Other probes, sold separately, are available as needed for high temperature or other application requirements.

**Specifications (RD-87-J)**

**Temperature Accuracy:** ±1°C (±2°F)

**Temperature Ranges**

°C	°F
-40 to 60	-40 to 60
-30 to 20	0 to 250
0 to 50	0 to 150
0 to 100	0 to 100
0 to 500	0 to 500
	0 to 1000



RD-87-J shown smaller than actual size.

The RD-87-TRH is a precision temperature, relative humidity and dew point recorder with a digital display. The RD-87-TRH is menu driven and all parameters are shown on a 2-line alphanumeric LCD display. A temperature/humidity probe with 6' cable (2' coiled) is supplied with the unit to connect to an RJ14 (6 pin) connector located in the battery compartment area.

**Specifications (RD-87-TRH)**

**Temperature Accuracy:** ±1°C (±2°F)

**Relative Humidity Accuracy:** ±2%

(0 to 95% RH)

**Temperature Range:** -40 to 60°C

(-40 to 140°F)

**Relative Humidity Range:** 0 to 100%

**Dewpoint:** Calculated value

**Probe Dimensions:** 118 x 14 mm diameter (4.6 x 0.55")

**Chart Ranges**

°C	°F
-40 to 60	-40 to 60
-30 to 20	50 to 150
0 to 50	0 to 100



RD-87-TRH shown smaller than actual size.

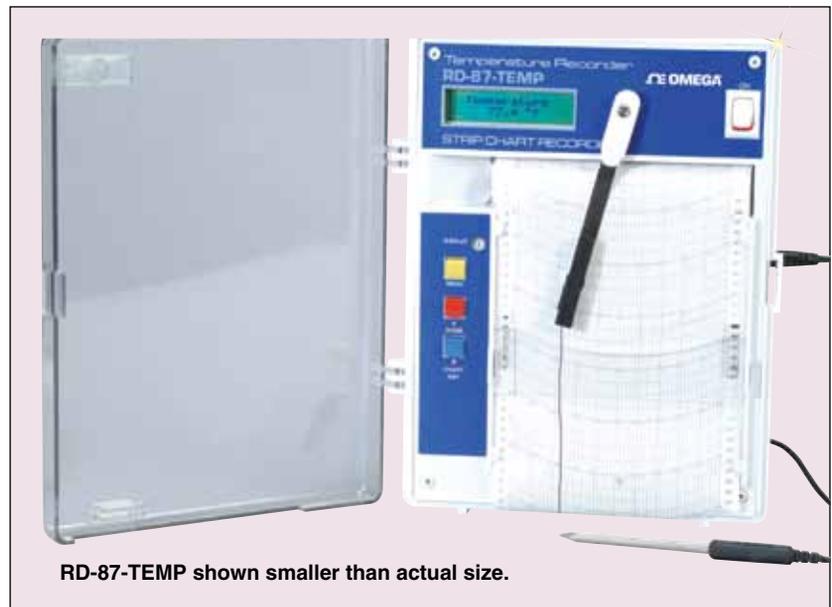
The RD-87-TEMP is a precision strip chart recorder for recording temperature. The RD-87-TEMP features a proprietary temperature sensor that is enclosed with a 4" stainless steel jacket, which may be immersed in any solid or liquid that is compatible with 300 series stainless steel. The probe has 15' of cable and utilizes a standard RCA (stereo plug) jack to connect to the connector located in the battery compartment area.

### Specifications (RD-87-TEMP)

**Temperature Accuracy:**  $\pm 1^{\circ}\text{C}$  ( $\pm 2^{\circ}\text{F}$ )  
**Probe Dimensions:** 72 x 5 mm diameter (2.8 x 0.2") with pointed tip

### Chart Ranges

$^{\circ}\text{C}$	$^{\circ}\text{F}$
-40 to 60	-40 to 60
-30 to 20	50 to 150
0 to 50	0 to 100



The RD-87-MA is a precision strip chart recorder for measuring and recording DC voltage and current. The RD-87-MA is specifically designed to record the output of 4 to 20 mA loop transmitters and voltage output transducers. The RD-87-MA is supplied with a removable screw type connector plug to facilitate connection to 4 to 20 ma current loops. The connector is located in the battery compartment area.

### Range (Accuracy)

0 to 5.00 V	( $\pm 0.01$ V)
0 to 100 mV	( $\pm 1$ mV)
0 to 20 mA	( $\pm 0.1$ mA)
4 to 20 mA	( $\pm 0.1$ mA)



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

Comes complete with 1-pen per channel, 1 roll metric paper, 1 roll standard paper, 120 Vac power adapter, and complete operator's manual. **RD-87-J** includes a 6' beaded thermocouple wire. **RD-87-TEMP** includes 4 inch probe with 15 feet cable. **RD-87-TRH** includes a temperature/humidity probe with coiled cable. To order unit for 220 Vac, add suffix "-220V" to model number. No additional charge.

**Ordering Example:** RD-87-J, thermocouple recorder, JHSS-18U-RSC-12, handle probe, RD-87-RP-A, replacement paper, CT87-PEN-BLACK, replacement pen. **OCW-3**, OMEGACARE<sup>SM</sup> extends standard 1-year warranty to a total of 4 years.

### To Order

Model No.	Description
RD-87-J	J-Type thermocouple recorder
RD-87-TEMP	Temperature recorder
RD-87-TRH	Temperature/humidity recorder
RD-87-MA	4 to 20 mA and DC voltage recorder

### Accessories

Model No.	Description
RD-87-RP-A	Replacement paper, American scale, package of 4
RD-87-RP-M	Replacement paper, metric scale, package of 4
CT87-PEN-BLACK	Replacement black pen
CTH89-PEN-BLUE	Replacement blue pen (for RD-87-TRH)
CTH89-PEN-RED	Replacement red pen (for RD-87-TRH)
JHSS-18U-RSC-12	Handle probe, J type with retractable cable and SMP connector
MN1500	Batteries, alkaline 1.5 V "AA", 2/pack