

# Paperless Recorder



## RD8250 Series



- ✓ 2 Configurable Isolated Inputs for DC Voltage and Current, Thermocouples, RTDs, Frequency, and rpm Pulse
- ✓ 4 Internal Alarm Setpoints
- ✓ 2 Alarm Relay Outputs
- ✓ 1 Digital Control Input
- ✓ Maximum Storage Rate of 100 Samples/s
- ✓ Compact Flash Cards Can Store Up to 2 GB of Data in Memory
- ✓ Bright, Clear Display
- ✓ Optional Software for Graphic Analysis, Printing, Transfer, and Exporting
- ✓ Standard ¼ DIN Panel Mount

With its dual-function keys and sharp display, OMEGA's RD8250 is a sophisticated process recorder. The graphic user interface makes configuration easy.

This recorder can display real-time data in digital or trend format. Via the front-panel USB port (order "-USB" option), the user can upload data from a flash memory card to a PC.

The RD8252 comes with an external AC adaptor with universal plug set for 120 to 240 Vac, 50/60 Hz. Other power options include 12 to 24 Vdc isolated input (RD8253), and rechargeable battery pack option (RD8252-UPS). With the battery pack installed, the RD8252-UPS can function for up to 8 hours, preserving data and settings in the event of a power loss.

RD8252

## Specifications

### Input Power:

**RD8252:** 9 ±0.5 Vdc @ 5 VA (depends on external loads) non-isolated; external AC wall transformer (included), 100 to 240 Vac, 50/60 Hz

**RD8253:** Isolated 12 to 24 Vdc (not compatible with internal battery pack option below)

**RD8252-UPS:** With internal battery pack option; provides uninterrupted operation and controlled output

**Output:** 2 outputs, 5 Vdc @ 50 mA, to power external sensors

### Number of Channels:

2 universal, user selectable

**Isolation:** 300 Vac/Vdc channel input to chassis ground

### DC Input

#### Voltage:

**Ranges:** 0 to 250 mV, 0 to 1.25V, 0 to 2.5V, 0 to 5V, 0 to 12.5V, 0 to 25V

**Accuracy:** 0.1% of reading

**Resolution:** 0.025% FS

#### Current:

**Ranges:** 0 to 20 mA, 4 to 20 mA, 0 to 50 mA

**Accuracy:** 0.1% of reading, excluding 250 Ω external shunt (required)

**Resolution:** 0.025% FS

#### Thermocouple:

**Accuracy:** 0.3% FS (typical)

### Ambient Temperature Sensor

**Accuracy:** ±1.5°C (2.7°F)

#### Type Range:

**J:** -100 to 760°C ±2°C

(-148 to 1400°F ±3°F)

**K:** -100 to 1000°C ±2°C

(-148 to 1830°F ±3°F)

**T:** -100 to 400°C ±2°C

(-148 to 750°F ±3°F)

**E:** -80 to 400°C ±2°C

(-112 to 750°F ±3°F)

### Shutdown During Blackout:

6 Vdc, 2400 mAh NiMH

**Backup Time:** 8 hours typical (depends on external load)

### RTD

**Accuracy:** 0.3% FS (typical)

**Resolution:** 0.1°C

**Internal Current Source:** 1 mA

**Type Range (2- or 3-Wire):**

**100 Ω Pt 385:** -100 to 750°C (-148 to 1380°F)

**100 Ω Pt 392:** -100 to 750°C (-148 to 1380°F)

**Frequency Input (Hz)/Range:**

0 to 10,000/0 to 600,000 rpm

**Speed Input (rpm) Accuracy:**

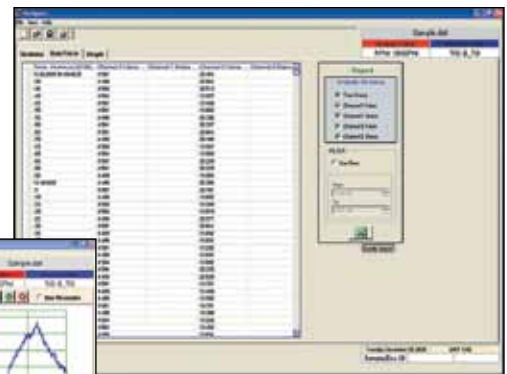
**Frequency:** ±1 Hz

**rpm:** ±1 rpm below 9999 rpm,

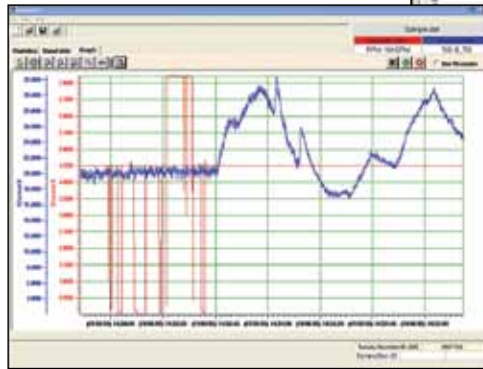
±10 rpm above 9999 rpm



RD8252 displaying alternate reading mode, shown smaller than actual size.



RD8250-SW, Windows software for graphics analysis, printing and exporting. See Accessories table for ordering information.



**Input:**

- Low: <1 Vdc
- High: >3 and <12 Vdc

**Pulse Width:** 10 ms minimum

**Input Impedance:** >100 kΩ

**Measurement Rate:**

Up to 100 samples/s per channel

**Math Functions:**  $y = mx + b$ ; average, high peak, low peak

**Media:** Compact flash to 2 GB

**Display:** LCD graphics, 160 x 80 pixels, black FSTN with white LED backlight, user-controlled backlight level and contrast adjustment (electronic)

**Display Modes:** Trending (horizontal), large dual digital readout, mixed mode

**User Interface:** 5-button keypad (dual-function buttons)

**Clock:** Auto leap year and daylight-saving adjustments, internal battery backup

**Relay Output:** 2 alarm outputs, 30 V and 0.5 A form "A" relays

**Opto-Isolated Input:** 1 input, 5 to 12 Vdc activation @ 10 mA typical

**Audible:** Internal beeper (multiple tones)

**Dimensions (Front Panel):**

96 H x 96 W x 152 D mm (3.78 x 3.78 x 6") (¼ DIN)

**Environmental:** Indoor use only, Installation Category II per IEC 664; Pollution Degree Level II per IEC61010-1

**Operating Temperature:** -10 to 50°C (14 to 122°F)

**Max Relative Humidity:** 80% for temperatures up to 31°C (88°F), decreasing linearly to 50% @ 40°C (104°F)

**Optional USB:** Front-panel USB 2.0 slave port for data and remote real-time display when using Navigator software (non-volatile)

**Ethernet:** Real time data display, historic data transfer, remote control and recorder configuration when using navigator software; built-in web server displays current measured values



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.



**To Order Visit [omega.com/rd8250](http://omega.com/rd8250) for Pricing and Details**

Model No.	Description
RD8252	Paperless recorder, 2 inputs, universal AC adaptor
RD8253	Paperless recorder, 2 inputs, DC power 12 to 24 Vdc

**Options**

Order Suffix	Description
-UPS	Rechargeable battery for RD8252 unit
-USB	USB communications with basic software
-EI	Ethernet communications port

**Accessories**

Model No.	Description
RD8250-SW	Windows software for graphics analysis, printing and exporting
RD8250-CFCR	Compact flash card reader, USB 2.0 compatible
RD8250-NEMA4X-KIT	NEMA 4X (IP66) enclosure kit
RD8250-MC512MBCF	512 MB memory card
RD8250-MC1024MBCF	1024 MB memory card
RD8250-MC2048MBCF	2048 MB memory card
RD8250-RESISTOR	250 Ω shunt resistor

**Replacement Part (Field Installable)**

Model No.	Description
RD8250-PSC-2W	Universal 100 to 240 Vac adaptor with universal plug set

Comes complete with Windows software CD with operator's manual on CD and AC adaptor. **Ordering Example:** RD8252, paperless recorder, 2 inputs. OCW-3, OMEGACARE<sup>SM</sup> extends standard 1-year warranty to a total of 4 years.