Programmable Recorders
100 mm Chart Width

NEW ™

RD260 Series
£770
Basic Unit

1 YEAR WARRANTY

- ✔ **1, 2 or 3 Continuous Pens Or 6 Point Dot Printing Models**
- ✔ **Thermocouple, RTD and DC Voltage Inputs**
- ✔ **Programmable Input Types, Full Scale Ranges, Alarms, Chart Speed**
- ✔ **Powerful but Easy to Use**
- ✔ **Interactive Displays for Easy Setup**
- ✔ **Large-LED Display for Data and Engineering Units**
- ✔ **Compact-Only 175 mm Deep [220 mm for RD260A]**
- ✔ **Removable Terminal Blocks for Easy Wiring**
- ✔ **Optional Alarms and Remote Control**
- ✔ **Optional RS-422A Communications (RD260A Model)**
- ✔ **Pen Offset Compensation Standard for RD260A**

The RD260 Series programmable chart recorders provide continuous monitoring of your essential process. These recorders are designed for ease of use, featuring inputs of thermocouple, or voltage. RTD also available on some models

The simplified operation of these powerful recorders is fully programmable from the front panel. Simple front panel keypad operations enable the user to program each input individually. The recorders are designed for ease of use. In addition to the clear, easy-to-read analogue chart, each recorder prints out on the chart paper the date and time, channel number, scale marking, tag number, the proper engineering units, chart speed, alarm value and complete program list at programmed intervals or on demand. Configuration printout available on demand.

The RD260A recorders utilise a non-contact ultrasonic pen position transducer for higher accuracy when compared to standard pen mechanisms. The wear-free brushless dc servo-motor completely eliminates motor brushes, leadwire and connectors, and is directly mounted to the printed circuit board. These two features contribute to the long, trouble-free life of the recorders.

Optional Communication (RD260A only)
The optional RS-422A interface lets you connect up to 16 units on a multidrop line to a single host computer for datalogging or input/output of any setup parameter.

Versatile Alarm and Remote Control Functions, Optional
Versatile alarm functions are included to select high or low limit. Deviation limits are also available on the RD260A models. Each can be programmed for each individual channel. Optional alarm relay contact outputs are available in 2, 4, or 6 point configurations with versatile front panel selectable feature.

The remote control feature comes with the alarm relays and lets you select: recording start/stop or chart speed change. Manual printout start and message printout are also available on the RD260A models.

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Specifications:

Dimensions: 144 W x 144 H x 175 mm D (5.67 x 5.67 x 6.89") (RD260A; 220 mm D)

Weight: 1.4 kg (3 lb) to 3.4 kg (7.5 lb) depending on unit

Case: Modified Polyphenylene ether (RD260A has drawn steel)

Front Door: Polycarbonate (RD260A has aluminium die cast)

Panel Thickness: 2 to 26 mm (0.078 x 1.02")

Power: 90 to 132, 180 to 250 Vac 50/60 Hz standard

Maximum Power Consumption: 40 VA approximately (70 VA for RD260A)

Ambient Temperature and Humidity: 0 to 50°C (32 to 122°F), 20 to 80% RH at 5 to 40°C(41 to 104°F)

Memory Backup: Lithium battery to preserve setup parameters

Life: approx. 10 years

Insulation Resistance: Between terminals and ground: 20 MΩ or more (at 500 Vdc)

Dielectric Strength: Power terminals to ground: Contact output terminals to ground: Input terminals to ground: Input terminals to input terminals (between measuring channels): 1,000 Vac (50/60 Hz) for one minute. Remote control terminal to ground: 500 Vdc, one minute

(Except dot printing model's RTD-"b" terminals are interconnected)

Clock: With calendar function (**RD260A** only)

Clock Accuracy: 100 ppm, however not including error due to turning ON/OFF Power (**RD260A** only)

A-D Integration Time: Pen Model: Auto, 20 ms (50 Hz), 16.7 ms (60 Hz) selectable

Dot-Printing Model: 100 ms

Input Source Resistance: DC V, TC input: less than 2 KΩ: RTD Input: less than 10 Ω/wire (resistance is well-balanced among 3-wires)

Filter Functions: Pen Model: Signal damping (on/off selectable for each channel) Dot Model: Moving autoranges (on/off selectable for each channel). 1, 2, 5, or 10 sec. can be selected on **RD260A** models

Specifications:

Input	Type*	Measurement Range	Measurement Accuracy RD260A (RD260)	Resolution
TC*	J	-200 to 1100°C (-328 to 2012°F)	±0.15% rdg +0.5°C; -200 to 100°C: ±0.15% rdg +0.7°C (±0.2% rdg +1.3°C)	0.1°C
	T	-200 to 400°C (-328 to 752°F)	±0.15% rdg +0.5°C (±0.2% rdg +0.5°C)	0.1°C
	K	-200 to 1370°C (-328 to 2498°F)	±0.15% rdg +0.7°C; -200 to 100°C: ±0.15% rdg +1.0°C (±0.2% rdg +0.7°C; -200 to 100 °C ±0.15% rdg + 1.0°C)	0.1°C
	E	-200 to 800°C (-328 to 1472°F)	±0.15% rdg +0.5°C (±0.2% rdg +0.5°C)	0.1°C
	N	0 to 1300°C (32 to 2372°F)	±0.15% rdg +0.7°C (±0.2% rdg +0.8°C)	0.1°C
	R/S	0 to 1760°C (32 to 3200°F)	±0.15% rdg +0.1°C; 0 to 100°C: ±0.15% rdg ±3.7°C; 100 to 300°C: ±1.5°C (±0.2% rdg +1.7°C; 0 to 100 °C ±0.2% rdg ± 4.0°C)	0.1°C
	B	0 to 1820°C (32 to 3308°F)	±0.15% rdg +0.1°C; 0 to 100°C ±0.15% rdg ±3.7°C; 400 to 600°C: ±2.0°C (±0.2% rdg ±3.7°C for 400 to 600 °C)	0.1°C
	(W) C	0 to 2315°C (32 to 4199°F)	± 0.15% of rdg + 1.0°C (±0.2% rdg ±0.6°C)	0.1°C
	(L) J DIN	-200 to 900°C (-328 to 1652°F)	±0.15% rdg +0.5°C; -200 to 100°C: ±0.15% rdg +0.7°C (±0.2% rdg ±1.6°C -100 to 0 °C ±0.2% rdg ±0.8°C)	0.1°C
	(U) T DIN	-200 to 400°C (-328 to 752°F)	±0.15% rdg +0.5°C (±0.2% rdg ±1.3°C)	0.1°C
Vdc	20 mV	-20.00 to 20.00 mV	± 0.2% of rdg +3 digits (±0.2% rdg + 3 digits)	10 μV
	60 mV	-60.00 to 60.00 mV	± 0.2% of rdg +2 digits (±0.2% rdg + 3 digits)	10 μV
	200 mV	-200.0 to 200.0 mV	± 0.2% of rdg +2 digits (±0.2% rdg + 3 digits)	100 μV
	2 V	-2.000 to 2.000 V	± 0.1% of rdg +3 digits (±0.1% rdg + 3 digits)	1 mV
	6 V	-6.000 to 6.000 V	± 0.3% of rdg +3 digits (±0.3% rdg + 4 digits)	1 mV
	20 V	-20.00 to 20.00 V	± 0.3% of rdg +2 digits (±0.3% rdg + 3 digits)	10 mV
RTD**	Pt100	-200 to 600°C (-328 to 1112°F)	±0.15% rdg +0.3°C (±0.2% rdg + 0.5°C)	0.1°C
	JPt100	-200 to 550°C (-328 to 1022°F)	±0.15% rdg +0.3°C (±0.2% rdg + 0.5°C)	0.1°C

Input	Range	Measurement	Limit
Contact input (operation recording)	DI 1 voltage input	less than 2.4 V: off; 2.4 or more: ON (TTL)	DI 3 contact inputs contact ON/OFF

*Note: Thermocouple types J, K, T, E R, S, B: ANSI, IEC 584, DIN IEC 584, JIS C 1602-1981; Type N: Nicrosil-Nisil, IEC 584, DIN IEC 584; Type C W5%-R/W-26%; J DIN, T DIN: DIN 43760
** Only available on RD260A models and RD266-RTD.
Pt100: JIS C 1604-1989, JIS C 1606-1989, IEC 751, DIN IEC 751, JPt100 JIS C 1604-1981, JIS C 1606-1989

Large, Bright LED Display, Simple Operating Panels

Maximum Common Mode Voltage:
250 Vac rms (50/60 Hz)
Interface Between Channels:
120 dB (500 Ω, the deviation in the case that 30 V is applied to another channel)
Common Mode Rejection Ratio: 120 dB (50/60 Hz ±0.1% 500 Ω imbalance, between (-) and ground)
Normal Mode Rejection Ratio:
40 dB (50/60 Hz ±1%)

Input

Reference Junction Accuracy: Type J, K, T, E, N, J DIN, T DIN: ±0.5°C(0.9°F); Type R, S, B, C, ±1°C (1.8°F)
Digital Display:
Within ±0.1% of rdg + 1 digit
Recording: Within digital display ±0.3% (±0.2% for RD206 models) of recording span (excluding reference junction)

Performance Under Reference Operating Conditions:
Temperature:
23°C ±2°C (73°F ± 3.6°F)
Humidity: 55% ±10%
Usable Power Voltage:
90 to 132, 180 to 250 Vac 50/60 Hz
Warm Up-time: 30 minutes
Measurement Intervals:
Pen Models: 250 ms/channel (125 ms on **RD260A**)
Dot-Models: 10 sec/6 channels (0.5 sec. on RD260A)
Input Resistance: dc voltage 2 V or lower and TC ranges: 10MΩ min; dc voltage 6 V and higher range: Approx. 1 MΩ.
Input Bias Current: 10 nA max. (approx. 100 nA on a TC input if burnout detection selected)
Thermocouple Burnout Detection: On/off programmable for each channel or more detected as open circuit
Maximum Input Voltage: 2 Vdc or lower and TC ranges: ±10 Vdc continuous; 6 to 20 Vdc ±30 Vdc continuous
Recording System
Recording Span: 100 mm (4")
Pen-writing: Disposable felt pens (analogue recording), plotter pens (digital recorder)
Dot Printing: 6-colour wire dot recording
Recording Paper:
16 m (52.5') Z-fold chart
Step Response Time:
2 sec. max. (1 sec. **RD260A**)

Digital Display (Data Display)
1. Channel Number
2. Alarm Indications
3. Measured Value
4. Day (year, month, day)
5. Time (hour, minute)
6. Battery End-of-Life Indication
Status Indicators
7. Recording in Progress
8. Shared Alarm
Panel Keys
Upper...Display for Set Mode
Lower...Display for Operation Mode

(Operation Mode)
9. Changes Data Display Screen and Switches Recorder Between Operation and Set Modes
10. Selects Manual Printout or List Printout
11. Chart Feed Key
12. Channel-Up Key in Manual Display

(Set Mode)
13. Returns Recorder to Initial Setup Screen
14. Changes Numeric Value or

Selects Other Setup Parameter
15. Moves Cursor to Right
(Operation/Set Mode)
16. Recording Start/Stop Key
17. Starts Manual Printout or List Printout and "Enter" Key for Setting Entry

Deadband: Pen Model 0.2% of recording span max.
Maximum Recording Resolution: Dot printing models 0.1 mm
Recording Format:
Normal, zone and partial expanded recording
Chart Speed: Pen models:
10 to 12,000 mm/h (40 increments) Dot printing models 10 to 1,500 mm/h (28 increments)
Analogue Recording Cycles:
Pen Models: Continuous
Dot Printing Models: 6 dots/20 sec
Print Cycle Time:
Dot Printing Models (Auto mode) chart speed determines analogue recording cycle rate; FIX mode recording is done at fastest analogue recording interval
Chart Speed Accuracy: Less than ±0.1% (chart running more than 1000 mm continuously and related to grid of the paper)
Message Print Out: (RD260A only)
5 messages, 16 characters
List Printout: (RD260A only)
Prints listing of range settings, alarm settings, and other parameters
Manual Printout: (RD260A only)
Provides a digital printout of measured results

Periodic Printout: At the left side of the chart, date (m/d), time (h/m), chart speed and measured data of every channel will be printed:
Channel No.
Measuring printout
Scale printout (At 0 and 100% values will be printed)
Printout of recording colours (pen model only)
Date, time and chart speed
Chart Speed Change Printout: (RD260A Only) Printouts of the chart speed and time when the change occurs can be made by the user
Display System
Display: LED 7-segment, 7-character
Display and Status Indicator Items: Channel number, alarm type, measured value, time and date
Alarm: Number of Alarm Levels: Two levels/channel (4 levels/channel on **RD260A**)
Types: High, low, (**RD260A** also has delta high, delta low)
Alarm Indications: Shared alarm indicator flashes
Alarm Recording: Prints channel number, alarm type, and time ON or OFF on right side of chart

Computing Functions (RD260A only)
Linear Scaling
Scaling Ranges: Vdc
Scaling Limits: -19,999 to 20,000
Data Display/Printout Range: -19,999 to 20,000
Decimal Point Position: User-set
Engineering Units: User-set (6 characters max.)
Interchannel Difference (Δ T): Between any two channels (Reference CH<Measurement CH)
Range: VDC, TC, RTD
Square Root: (RD260A only) Available for Vdc range
Scaling Limits: -19,999 to 20,000
Data Display/Printout Range: -19,999 to 20,000
Decimal Point Position: User-set
Engineering Units: User-set
Offset Function (**RD260A** only)
Range Types: DCV, TC, RTD, (SCL on **RD260A** only)
Compensation: 10% of recording span
Optional Alarm Relay Contact Output and Remote Control Relays

Alarm Relays: 2 or 4 relays on basic unit or 6 relays on **RD260A** models; energise or de-energise on alarm (shared by all relays)

Remote Control: Basic unit allows recording start/stop and chart speed change. **RD260A** models enable any mix of the following to be assigned to five contact inputs: recording start/stop; chart speed change; manual printout start; message printout start (up to five)

Input Signal: TTL, open collector, contact
Input Signal Width: 1 second minimum
Contact Capacity: 0.1 A @ 250 Vdc 250 Vac, 3 A (resistive load)
Optional Communication Output (RD260A models only)
RS-422A Interface: Conforms to EIA RS-422A. Can be used to output measured values, input and output setup parameters
Addresses: 1 to 16
Asynchronous: Start-stop synchronisation
Communication System: Half duplex
Wiring: 4-or 5-wire
Data Length: 7 or 8 bit
Parity: odd, even or none
Communication Rate: 75, 150, 300, 600, 1200, 2400, 4800, 9600 bps
Communication Mode: ASCII or binary
Communication Distance: 500 m
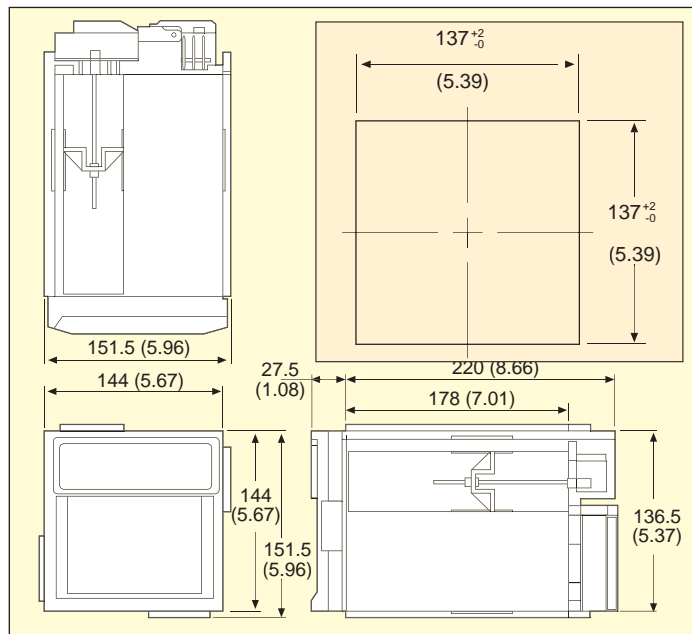
To Order: *(Specify Model Number)*

Model No.	Price	Input Channels	Recording Type
RD261	**£770**	1	100 mm (4") continuous
RD262	1115	2	100 mm (4") continuous
RD263	1460	3	100 mm (4") continuous
RD266	1500	6	100 mm (4") dot
RD261A	985	1	100 mm (4") continuous
RD262A	1285	2	100 mm (4") continuous
RD263A	1675	3	100 mm (4") continuous
RD266A	1630	6	100 mm (4") dot

Recorder comes complete with 1 pen per channel, 1 pack of chart paper and operator's manual.

Note: RD260A *models have universal inputs and offer **A6** and **S4** option. RTD inputs are not available on the **RD261**, **RD262** or **RD263***

Ordering Example: RD263A-A2-S4, *3-channel input, 2-alarm output with RS-422A communications, £1675 + 107 + 148 =* **£1930**

Options *(Not Field Installable)*

Suffix No.	Price	Description
-A2	**£107**	2 alarm outputs
-A4	172	4 alarm outputs
-A6	295	6 alarm output (RD260A models only)
-R	131	Remote control
-S4	148	RS-422A Communications (RD260A models only)
-RTD	N/C	RTD input (RD266 only)

Accessories

Model No.	Price	Description
RD260-01	**£11.25**	Disposable red felt pen channel 1
RD260-02	11.25	Disposable green felt pen channel 2
RD260-03	11.25	Disposable blue felt pen channel 3
RD260-PP	7.80	Plotter pen (RD260A models only)
RD260-RC	16.50	6-colour print ribbon purple, red, green, blue, brown, black (RD266 and RD266A only)
RD100-ZFP-10	62.00	Z-fold chart paper (pkg. of 10) RD260 Series 16 m (52')
RD260-NEMA	164.00	IP64 (NEMA-3) cover

RD260 Panel Cutout   Dimensions in mm (in)

137 $^{+2}_{-0}$ (5.39)
137 $^{+2}_{-0}$ (5.39)
151.5 (5.96)
144 (5.67)
27.5 (1.08)
220 (8.66)
178 (7.01)
144 (5.67)
151.5 (5.96)
136.5 (5.37)

NOTE: *The mounting hardware is attached on both sides or top and bottom for panel mounting. See general specs for the panel cutout for side by side or top and bottom mounting*