

RMH-310A

Digital Strain Recorder



Ideal for unmanned long-term measurement in places where power is not available

- Channels: 10/unit
- Equipped with a display for confirming settings and measurement values
- Easy data collection via USB flash drive
- Key operation without control software
- Capable of measuring thermocouples (K, T)

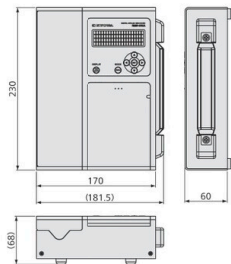
This is a low-power data recorder powered by batteries. This makes it suitable for unmanned long-term measurement in places where power is not available, such as remote areas, mountainous regions, and areas with heavy snowfall. It can be connected to strain gage civil engineering sensors, civil engineering sensors equipped with temperature measuring function, and thermocouples, allowing for 10 channels of measurement.

It also has operation and display sections, allowing for operations related to setting of measuring conditions and performing measurements.

- **Standard Accessories** Battery cable (For battery pack other than RB-10A)
USB flash drive for data collection (Industrial temperature range extended model)
*Supplementary tool (for converting data format and creating measuring conditions), instruction manual, specifications, outline drawings are saved in the provided USB flash drive.

- **Optional Accessories** Battery Pack RB-5A (5 Ah), RB-10A (10 Ah)

- **Dimensions**



Specifications

Channels	10
Measuring Targets	Strain-gage civil engineering transducers Civil engineering transducer with a thermal sensor Strain-gage transducers Thermocouples (Types K and T)
Compatible Bridge Resistance	350 Ω (Full-bridge system)
Cable Length	Max. 2.0 km (4-conductor (0.5 mm ²) shielded cable)
Gage Factor	2.00 fixed
Bridge Current	Approx. 2.19 mA DC (Constant current)
Measuring Range	Strain ±20000 μm/m Temperature (Civil engineering transducer with a thermal sensor) -30.0 to 70.0°C Temperature (Thermocouple) K: -200 to 1200°C, T: -200 to 350°C
Resolution	Strain 1 × 10 ⁻⁶ strain Temperature (Civil engineering transducer with a thermal sensor) 0.1°C Temperature (Thermocouple) 0.1°C
Accuracy	Strain ±0.1% FS Temperature (Civil engineering transducer with a thermal sensor) ±0.5°C Temperature (Thermocouple) ±(0.1% rdg + 1.0) °C Internal point-of-contact compensator: Within ±2.0°C (At the time of an input terminal temperature balance) *The accuracy of an internal reference point-of-contact compensator and accuracy of a thermocouple are not included in measurement accuracy.
Temperature Stability	Strain Zero point Within ±1 × 10 ⁻⁶ strain/°C Sensitivity Within ±0.02%/°C Temperature (Civil engineering transducer with a thermal sensor) Zero point Within ±0.025% FS/°C Sensitivity Within ±0.04%/°C Temperature (Thermocouple) Zero point Within ±0.025% FS/°C Sensitivity Within ±0.04%/°C
Measuring Time	Within 40 s/10 channels (Scanning)
Temperature Measurement Current	0.24 mA DC (Constant current)
Data Storage	32000 times/channel
Clock	Year (2 digits of the Gregorian calendar), month, date, hour, and minute
Measuring Interval	1 to 59 minutes (1 minute/step) 1 to 99 hours (1 hour/step)
Check Function	Sensor check (Parallel resistance method and during strain measurement) Battery voltage Memory check
Display	LCD (20 digits × 4 lines, with no back light)
Display Functions	The contents of the data below are displayed on LCD. Measurement state, current time, data acquisition, real-time monitor, measurement start, measurement stop, condition setting, self-check, date setting, backup data collection, and version display
Operation	Arrow keys, ON/OFF, SET, ESC
Interface	USB 2.0 (Only saved in USB flash drive)
Power Supply	6 to 15 VDC, optional battery pack
Current Consumption	During operation: 100 mA or less Standby status: 100 μA at 6 VDC
Input Specifications	M3 terminals for both solder and screw
Number of Measurement Times	7000 times or more (When measuring at intervals of 10 minutes at 23°C using the optional RB-10A battery pack [10 Ah])
Operating Temperature	-20 to 50°C (Varies depending on the operating temperature when using USB flash drive)
Operating Humidity	10 to 95%
Operating Environment	Dust or the inductive noise of a bulk motor must not be present.
Dimensions	170 W × 230 H × 60 D mm (Excluding protrusions)
Weight	2 kg or less (Excluding the battery)
Others	Lightning surge protector provided (SD4-75)

*The model with communication function (RS-232C) can be manufactured. Please contact us.

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Measuring Instrument



Data Logger

Amplifier

Indicator
&
Display

Handheld