

RMH-310A

Digital Strain Recorder

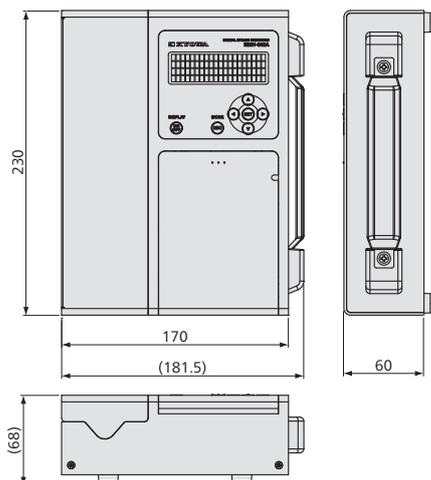


Suitable for long-term measurement in the absence of personnel under the environment without external power supply

- Display is provided to enable confirmation of setting conditions and measured values.
- Data can easily be collected in USB memory.
- No control software required. Keys are provided for operation as an independent unit.
- Measurement with thermocouples possible (K, T)

RMH-310A is a battery-operated digital strain recorder featuring low power consumption. Thus, it is suitable for unattended long-term measurement in remote places, mountainous regions and heavy snowfall districts where no power supply is available. This 10-channel recorder can connect to strain-gage civil engineering transducers, civil engineering transducers with temperature measuring function and thermocouples. The operating panel and display enable the user to set measuring conditions and perform measurement-related operation.

■ Dimensions



- Collects data by USB memory.



Specifications

Channels	10
Applicable Transducers	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 × 10 ⁻⁶ strain 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) (Reference value) ±(0.1% of reading + 1.0)°C Internal point-of-contact compensator: Within ±2.0°C (At the time of an input terminal temperature balance) Note: 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 memory)
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 memory)
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)

Standard Accessories Battery cable (For battery pack other than RB-10A)
USB memory for collection data (Industrial temperature range extended model)
*Auxiliary tool, instruction manual, specifications, outside drawings are saved in the provided USB memory.
Menu sheet

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