

SME-30A/31A/100A/101A

Handy Data Logger



Compact & lightweight Palm size, therefore easily to carry

- Built-in bridge circuit for direct connection of a strain gage
- Wide measuring range: $\pm 300 \text{ k} \times 10^{-6}$ strain
- Data saved in a CSV file in SD card is read and controlled by a PC.
- Driven by AA batteries (Easy to get)
- TEDS compatible (Not only reading, but also writing possible)

No time waiting for measuring after power on. The strap is useful for field inspection and for confirming proper sensor installation. The SD card (option) simplifies data transmission to PC. Using the attached input cable, a strain gage is easily connected. The SME-100A/101A measures data of up to 33 channels by connecting the NTB-100/200 series.

Models

| Function Models | Measurement channel | AC adapter compatible | NTB-100/200 series connection |
|--------------------|---------------------|-----------------------|-------------------------------|
| SME-30A | 1 | | |
| SME-31A | | Yes | |
| SME-100A | 1 | | Yes |
| SME-101A | Max. 33 | Yes | |

SME-30A/31A/100A/101A Specifications

| Channels | 1 (when using single SME) Max. 33 channels by connecting the NTB. *Max. 33 channels (SME-100A/101A+ 32 channels of the NTB) | | | | | | |
|--|---|----------------|----------------------------|----------------|----------------------------|------------------|----------------------|
| Sampling Period | Approx. 0.5 s: 0 to $\pm 30 \text{ k} \times 10^{-6}$ strain Approx. 1 s: $\pm 30 \text{ k} \times 10^{-6}$ strain or more Approx. 1 s: Civil engineering transducers with a thermal sensor | | | | | | |
| Measuring Functions | RELATIVE measurement (Relative value measurement): Each value is obtained by subtracting the ZERO value. *ZERO value is equivalent to the initial unbalance value. Capable of obtaining the ZERO value at arbitrary timing | | | | | | |
| Arithmetic Operations | Calculation using coefficients | | | | | | |
| Measuring Targets | Strain gages, strain-gage transducers, civil engineering transducers with a thermal sensor | | | | | | |
| | <table border="1"> <thead> <tr> <th>Bridge systems</th> <th>Applicable gage resistance</th> </tr> </thead> <tbody> <tr> <td>Quarter bridge</td> <td>120, 240, and 350 Ω</td> </tr> <tr> <td>Half/full bridge</td> <td>120 to 1000 Ω</td> </tr> </tbody> </table> | Bridge systems | Applicable gage resistance | Quarter bridge | 120, 240, and 350 Ω | Half/full bridge | 120 to 1000 Ω |
| Bridge systems | Applicable gage resistance | | | | | | |
| Quarter bridge | 120, 240, and 350 Ω | | | | | | |
| Half/full bridge | 120 to 1000 Ω | | | | | | |
| Bridge Excitation | Constant-voltage bridge excitation: Approx. 2 VDC Constant-current bridge excitation: Approx. 5.6 mA (Bridge resistance 350 Ω) | | | | | | |
| Measuring Range | At strain measurement 0 to $\pm 300 \text{ k} \times 10^{-6}$ strain (Constant-voltage bridge excitation) 0 to $\pm 20 \text{ k} \times 10^{-6}$ strain (Constant-current bridge excitation) When measuring temperature with civil engineering transducers with a thermal sensor: -30.0 to 70.0°C | | | | | | |
| Resolution | At strain measurement 0 to $\pm 30 \text{ k} \times 10^{-6}$ strain: 1×10^{-6} strain $\pm 30 \text{ k}$ to $\pm 300 \text{ k} \times 10^{-6}$ strain: 10×10^{-6} strain When measuring temperature with civil engineering transducer with a thermal sensor: 0.1°C | | | | | | |
| Accuracy (With Full Bridge NDIS4102 (7 pins) Connector) | At full bridge strain measurement 0 to $\pm 30 \text{ k} \times 10^{-6}$ strain: $\pm (0.05\%$ of reading $+ 2) \times 10^{-6}$ strain $\pm 30 \text{ k}$ to $\pm 300 \text{ k} \times 10^{-6}$ strain: $\pm (0.1\%$ of reading $+ 20) \times 10^{-6}$ strain When measuring temperature with civil engineering transducers with a thermal sensor: $\pm 0.5^\circ\text{C}$ | | | | | | |
| Check Functions | Insulation resistance measurement: 2 M to 100 M Ω Resistance measurement: 0 to 20 k Ω | | | | | | |
| Interval Measurement | 1 minute to 99 hours 59 minutes in 1-minute steps Starting time: year/month/day/hour/minute | | | | | | |
| Storage | SD card (Option) | | | | | | |
| Applicable Cards | 256 MB, 512 MB, 1 GB, 2 GB (FAT16) (SDHC and SDXC not supported) | | | | | | |
| Display | Monochrome LCD, 128 x 64 | | | | | | |
| TEDS | Reads information from TEDS-installed sensors. Channel name writing (Kyowa ID only in up to 10 characters) | | | | | | |
| Operating Temperature | -10 to 50°C | | | | | | |
| Operating Humidity | 20 to 85% (Non-condensing) | | | | | | |
| Power Supply | 2 AA alkaline batteries | | | | | | |
| Consecutive Operation Time | Approx. 10 h (With alkaline batteries) *Nickel metal hydride batteries are also used. *An AC adapter (Optional, SW-0522E) is provided for SME-31A/101A. | | | | | | |
| Auto Power Off | Power is automatically turned off if no key operation is detected for 5 minutes. In interval measuring mode with an interval of 3 minutes or longer, power is automatically turned off during standby period and turned on again 1 minute before the next measurement is started. (ON/OFF of Auto Power Off is settable.) | | | | | | |
| Dimensions | 188 W x 41 H x 108.4 D mm (Excluding protrusions) | | | | | | |
| Weight | Approx. 450 g (Excluding batteries) | | | | | | |

- Standard Accessories** Input cable U-119
AA alkaline battery x 2
Shoulder belt
Hand strap
Instruction manual (CD-R)
Communication cable N-102 (SME-100A/101A)
- Optional Accessories** AC adapter SW-0522E (For SME-31A/101A)



SMET-1A Specifications

| | |
|------------------------------|---|
| Measuring Targets | Thermocouples (K, T) |
| Channels | 1 |
| Sampling Frequencies | Approx. 0.5 s |
| Input | Terminal block |
| | Applicable wires Solid wire: UL AWG14 to 28 Twisted wire: UL AWG20 to 24 |
| Applicable Models | Handy data logger SME-30A/31A Handy data logger SME-100A/101A |
| Check Functions | Burnout check (By operation of SME) |
| Operating Temperature | -10 to 50°C |
| Operating Humidity | 20 to 85% (Non-condensing) |
| Dimensions | 42 W x 33 H x 29.5 D mm (Excluding protrusions) |
| Weight | Approx. 35 g |

Measuring Range, Accuracy, Resolution

| Types | Measuring range | Accuracy | | | Resolution |
|-------|--------------------|----------------------------|--|--|------------|
| | | Temperature range | With external standard junction compensation | Ambient temperature with internal standard junction compensation (25 ± 10)°C | |
| K | -200.0 to 1230.0°C | -200.0 to below -100.0°C | ±(0.2% of specified value + 0.6)°C | ±(0.2% of specified value + 2.6)°C | 0.1°C |
| | | -100.0 to 1230.0°C or less | ±(0.1% of specified value + 0.4)°C | ±(0.1% of specified value + 1.4)°C | |
| T | -200.0 to 400.0°C | -200.0 to below -100.0°C | ±(0.2% of specified value + 0.6)°C | ±(0.2% of specified value + 2.6)°C | |
| | | -100.0 to 400.0°C | ±(0.1% of specified value + 0.4)°C | ±(0.1% of specified value + 1.4)°C | |

- Notes: 1. Accuracy does not include the accuracy of the sensor.
 2. For the standard junction compensator, switching between internal and external is possible using the SME.
 3. Thermocouple resistance is 1 kΩ or less.

Standard Accessories Mounting screwx2
 Instruction manual (CD-R)

■ Dimensions



SME-30A/31A/100A/101A (Figure is SME-30A.)

