

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	Channels	AC adapter compatible	NTB-100/200 series connection
SME-30A	1		
SME-31A		Yes	
SME-100A	1		
SME-101A	Max. 33	Yes	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>Compatible 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	Compatible gage resistance	Quarter bridge	120, 240, and 350 Ω	Half/full bridge	120 to 1000 Ω
Bridge systems	Compatible 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: $\pm (0.05\% \text{ of reading} + 2) \times 10^{-6}$ strain $\pm 30 \text{ k}$ to $\pm 300 \text{ k} \times 10^{-6}$ strain: $\pm (0.1\% \text{ of reading} + 20) \times 10^{-6}$ 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 min to 99 h 59 min in 1 min 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 $\times$ 64						
TEDS	Reads information from TEDS-installed sensors. Channel name writing (Kyowa ID only in up to 10)						
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 $\times$ 41 H $\times$ 108.4 D mm (Excluding protrusions)						
Weight	Approx. 450 g (Excluding batteries)						
Compliance	Directive 2014/30/EU (EMC) Directive 2011/65/EU, (EU)2015/863 (10 restricted substances) (RoHS)						

Standard Accessories	Input cable U-119 AA alkaline battery $\times$ 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) Temperature measuring adapter for SME SMET-1A



Data Loggers



Data Loggers

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

Measuring Range, Accuracy, Resolution

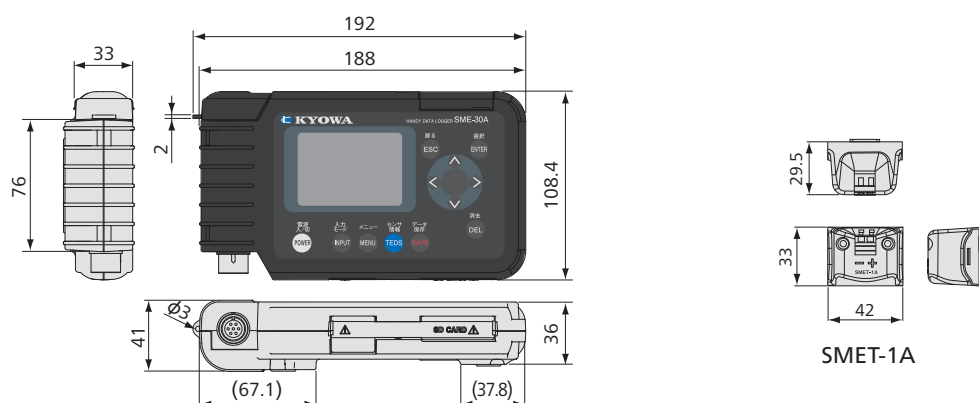
Types	Measuring range	Resolution	Accuracy		Accuracy of internal reference junction compensator (25 ±10°C)	
K	-200.0 to 1230.0°C	0.1°C	-200.0 to below -100.0°C	±(0.2% of specified value + 0.6)°C	±2.0 °C	
			-100.0 to 1230.0°C	±(0.1% of specified value + 0.4)°C	±1.0 °C	
T	-200.0 to 400.0°C		-200.0 to below -100.0°C	±(0.2% of specified value + 0.6)°C	±2.0 °C	
			-100.0 to 400.0°C	±(0.1% of specified value + 0.4)°C	±1.0 °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.

Check Functions	Burnout check (By operation of SME)
Operating Temperature	-10 to 50°C
Operating Humidity	20 to 85% (Non-condensing)
Dimensions	42 W × 33 H × 29.5 D mm (Excluding protrusions)
Weight	Approx. 35 g
Compliance	Directive 2014/30/EU (EMC)
	Directive 2011/65/EU, (EU)2015/863
	(10 restricted substances) (RoHS)

Standard Accessories	Mounting screw×2 Instruction manual (CD-R)
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■ Dimensions



SME-30A/31A/100A/101A (SME-31A/100A/101A is the same in dimensions.)