UCAM-65C M14

UCAM-60C M14

Data Logger

UCAM-60C M14/65C M14 NEW

Static strain measuring instrument for satisfying on-site measurement needs

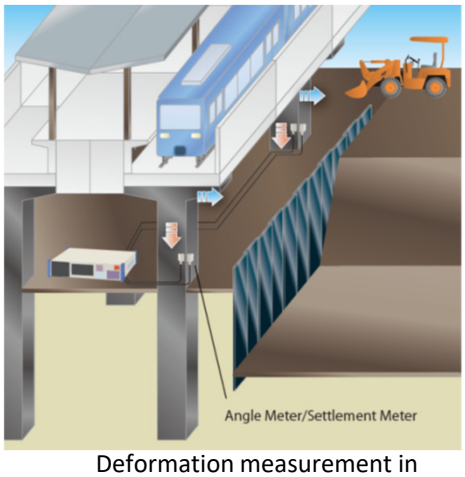
- ☐ Saves long-term measured data in internal memory.
  (Internal memory: Approx. 1.8 GB)
- ☐ Collects data easily with a USB memory.
- ☐ Measures data of max. 1000 channels.
  (With the external scanner USB-70B series)
- ☐ High resolution: 0.1 × 10^{-6} strain
  Measures data of up to 20000 × 10^{-6} strain. (Full bridge mode)

Line-up

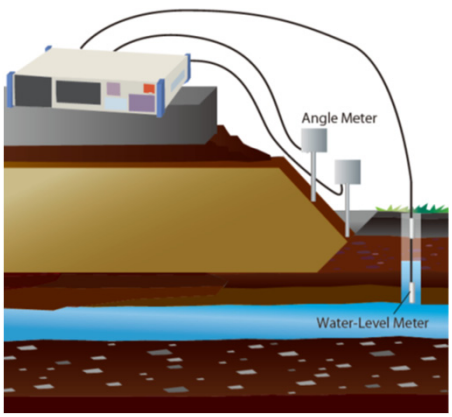
Models	Features	Power supply	Condition settings	Control software UCS-60B	Built-in printer	Display
UCAM-60C-AC M14	Built-in display and printer for checking measured results immediately.	AC	UCAM-60C M14 PC	△ (Optional accessory)	✔	✔
UCAM-60C-DC M14		DC				
UCAM-65C-AC M14	PC-controlled	AC	PC	✔ (Standard accessory)	-	-
UCAM-65C-DC M14		DC				

Measuring targets			Dedicated scanners (Optional accessory)	External scanners (Optional accessory)	
				General purpose	Civil engineering
			USS-61B, 62B, 63B	USB-70B-10, 20	USB-70B-30
Strain gages Strain-gage transducers	Quarter bridge system	120 Ω	✔	✔	✔
		240 Ω	✔	✔	✔
		350 Ω	✔	✔	✔
	Quarter bridge system (true-dummy system)	120 Ω	✔	✔	✔
		350 Ω	✔	✔	✔
	Half bridge system 60 to 1000 Ω	Active-dummy system	✔	✔	✔
		Active-active system	✔	✔	✔
		Common-dummy system		✔	✔
	Full bridge system 60 to 1000 Ω	Opposite-leg active system	✔	✔	✔
		Full bridge system	✔	✔	✔
Civil engineering transducers	Full bridge system 120 Ω	Constant-current excitation	✔		
	Full bridge system 350 Ω	Constant-current excitation	✔	✔	✔
		Transducers with a thermal sensor	✔		✔

Application Examples



Deformation measurement in neighboring construction



Dynamic observation of earth filling

Main Specifications of Data Logger UCAM-60C M14/65C M14

Measuring Targets and Connectable Scanners	Measuring targets: Strain gages, strain-gage transducers (TEDS-compatible models), DC voltage-output or DC current-output instruments, civil engineering transducers with a thermal sensor, potentiometer sensors, thermal sensors (thermocouples and platinum resistance thermometer bulbs) Connectable scanners: USS-61B, 62B, 63B (Dedicated scanners) The main unit can connect to the following scanners via the optional scanner interface. USB-70B series (via USI-67A)
Channels	Max. 30 with dedicated scanners Max. 1000 with external scanners connected Max. 1000 with dedicated scanners and external scanners connected
Input Terminals	Can connect to lead wires through either soldering or screwing. NDIS4102 (7 pins) connectors (USS-62B)
Scanning Speed	50 ms/channel (Standard mode) 0.28 s/channel (High-resolution mode) *Individually switchable for desired channels. 20 ms/channel (High-speed mode) *Only collective switching for all channels of dedicated scanners.
Switching Terminal	Semiconductor relays
Operating Modes	Real-time, monitor, and automatic
Measurement Functions	Initial (Initial values are measured and stored in internal memory.) Measure (Initial values are subtracted from original values.) Original (Raw values are measured without subtraction of initial values.) Easy Measure (Auto zero balancing function is activated.) (Measured value = Original value – Auto zero value) *The selected function is applied to all channels.
Coefficient Calculation Function	Multiplication by calibration coefficient, calibration by TEDS, conversion of measured values to physical quantities, scaling and correction
Unit	59 units
Storage	Internal memory Capacity: Approx. 1.8 GB
Strain Measurement (Standard Mode)	Constant voltage excitation: Approx. 2 or 5 VDC Constant current excitation: Approx. 5.7 mA (Bridge resistance 350 Ω) Approx. 16.7 mA (Bridge resistance 120 Ω) Gage factor: 2.00 fixed (Coefficient calculation function enables correction with 2.00/Ks) Measuring range: Max. ±500000 × 10^{-6} strain
Voltage Measurement (Standard Mode)	Measuring range: Max. ±50 V
Current Measurement (Standard Mode)	Measuring range: Max. ±50 mA
Temperature Measurement with Civil Engineering Transducers with a Thermal Sensor	Measuring range: -50.0 to 200℃ (Varies with the safe temperature range of the transducers.)
Temperature Measurement with Thermocouple (Standard Mode)	Type: K, T, E, J, R
Temperature Measurement with Platinum Resistance Thermometer Bulb (Standard Mode)	Type: Pt100, JPt100 (Connection is 3-wire system.)
Measurement with Potentiometer Sensor (Standard Mode)	Sensor power supply: Approx. 2 VDC Potentiometer resistance: 1 to 10 kΩ
Internal Timer	Real-time clock is built-in. (Battery backup)

*For details, see our web pages.

Display (UCAM-60C M14)	Fluorescent display tube (VFD) 128 × 64
Printer (UCAM-60C M14)	Printing: Thermal Paper width: 58 mm (24 characters/line) Printing speed: 60 mm/s
Interface	RS-232C LAN (10BASE-T/100BASE-TX) USB2.0 (Collects measurement data by USB Flash Drive.)
File Conversion (UCAM-60C M14)	Measurement data can be converted to CSV.
Self-diagnosis Function	Checks display, printer, bridge excitation, leadwire-off, input/output resistance, insulation resistance, mode, etc.
TEDS	・Interface IEEE1451.4 Mixed mode Transducer Interface Class 2 ・Applicable sensor Should have information written in accordance with IEEE template No. 33. Cable length should be 30 m or less. *With a dedicated scanner USS-61B/62B/63B.
Operating Temperature	0 to 50 ℃
Operating Humidity	20 to 85 % (Non-condensing)
Setting Maintenance Function	ACOM at measurement circuit is switchable between floating and GND connect.
Power Supply	100 to 240 VAC (AC-operated version) 10 to 16 VDC (DC-operated version)
Current Consumption	100 VAC: 0.5 A or less (With 3 dedicated scanners mounted) 12 VDC: 4 A or less (With 3 dedicated scanners mounted)
Dimensions	UCAM-60C M14: 360 (W) × 88 (H) × 400 (D) mm (Excluding protrusions) UCAM-65C M14: 327 (W) × 88 (H) × 365 (D) mm (Excluding protrusions)
Weight	UCAM-60C M14: Approx. 6.3 kg (Excluding dedicated scanner) UCAM-65C M14: Approx. 5.0 kg (Excluding dedicated scanner)

Standard Accessories

AC power cable P-18 (With 2-pin conversion plug CM-52) (AC-operated version), DC power cable P-76 (DC-operated version), recording paper UCAM-60A-RP (1 roll for UCAM-60C M14 only), screwdriver, fuse, CD-R (Instruction manual), CD-R (Control software UCS-60B for UCAM-65C M14 only), ground wire

Optional Accessories

Recording paper UCAM-60A-RP (10 rolls/pack, for UCAM-60C M14 only)
Dedicated scanners USS-61B, 62B, 63B
External scanner USB-70B
Scanner interface USI-67A
External input unit UIO-60A
USB memory

PC Requirements of Control Software UCS-60B

OS	Windows Vista®, Windows® 7, 8, 8.1 or 10 (English/Japanese, 32, 64 bits support)
CPU	Core2Duo, 2 GHz or advanced
Memory	If 32-bit OS, 2 GB or more If 64-bit OS, 4 GB or more
Display	1024 × 768 pixels or more
HDD	At installation, 10 MB + measured data storage space
Interfaces	UCAM-60C M14 RS-232C/100BASE-TX or advanced UCAM-65C M14 RS-232C/100BASE-TX or advanced

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Manufacturer's Representative

⚠ Safety Precautions

Be sure to observe the safety precautions given in the instruction manual, in order to ensure correct and safe operation.

• Specifications are subject to change without notice for improvement.

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