



T-ZACCS 3

Pocket
Load meter

MM-014L



Peak value of instantaneously changing load is securely detected

The MM-014L is a hand-held instrument used in combination with a strain gauge type transducer such as load cell or displacement transducer for direct reading of physical quantities. It is small, light-weight and easy-to-carry. The measurement is possible by only setting the capacity and rated output of the connected transducer. Its peak hold function enables display and recording of peak value in addition to ordinary measured value. The

measured values are stored in the internal data memory and a SD card, which allows easy and smooth data acquisition.

The display is clearly visible even outdoors owing to the use of reflective color LCD.

Intuitive operation is possible using the function keys which are linked with icons in the screen.

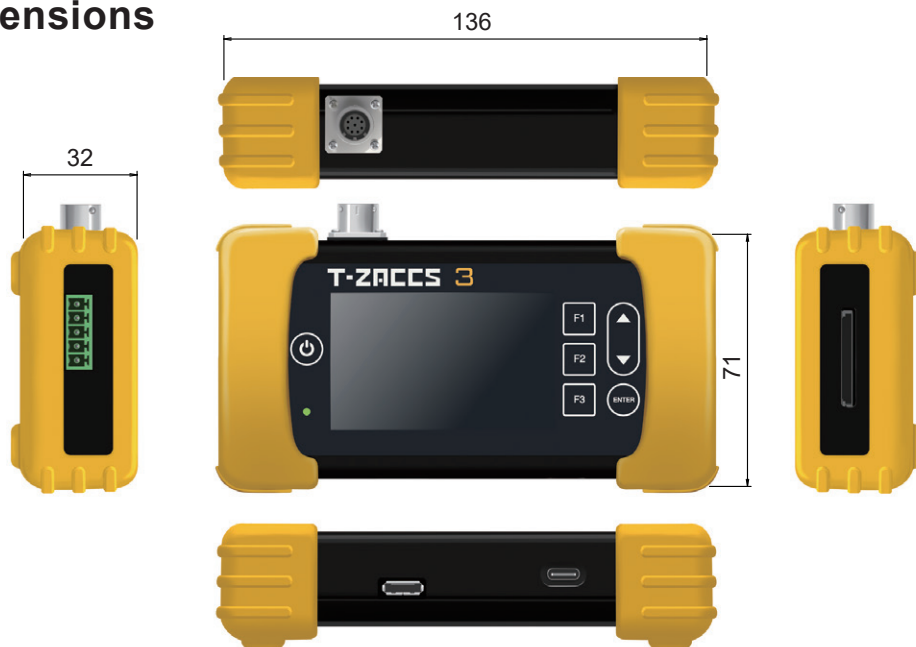
Features

- Small, light-weight and easy to carry
- Peak hold function provided
- Simultaneous display of monitored value and peak value
- Bridge excitation is switchable between constant voltage and constant current
- Settings of 20 transducers can be stored and retrieved for easy setting
- Batch setting of coefficient, unit, display digit and offset using "Sensor ID"
- Accepts TEDS (Transducer Electronic Data Sheet) sensor
- Reflective color LCD with low power consumption (display switchable between Japanese and English)
- Measured data are recorded into internal memory for up to 6000 times
- Easy data acquisition using SD card



Easy operation and small size held in both hands

External Dimensions



Specifications

Strain measurement		
Number of measuring point	1 point	
Bridge excitation	Constant voltage method: DC 2V Constant current method: 5.7 mA (2V at 350Ω bridge)	
Applicable transducer	Strain gauge type transducer (full bridge)	
Applicable gauge resistance	Constant voltage method: 120 ~ 1000 Ω Constant current method: 350 Ω	
Cable extension distance for constant current mode	Total resistance of cable 45 Ω or less	
Measuring range	$\pm 30,000 \times 10^{-6}$ strain	
Resolution	1×10^{-6} strain	
Sampling speed	0.2 seconds	
Initial value memory range	$\pm 16,000 \times 10^{-6}$ strain	
Input	Terminal block / Connector (EPRC07)	
Peak hold		
Peak hold item	+ peak value, - peak value	
Peak hold method	Analog detection, Digital hold	
Peak hold accuracy	DC ~ 100Hz: $\pm 1\%$ FS 100 ~ 200Hz: $\pm 3\%$ FS 200 ~ 300Hz: $\pm 5\%$ FS (when low pass filter is PASS)	
Low pass filter	30, 100, 300 Hz and PASS -3dB \pm 1dB	
Function		
Measurement mode	Initial, Direct, Measure	
Program setting	Coefficient	Coefficient $\pm(0.0001 \sim 99999)$ (CAP, RO setting)
	Unit	40 kinds including μ e, kgf, N, Pa, mm
	Decimal point	Display after decimal point 0 ~ 5 digit Possible to set arbitrarily
	Offset	Possible to write arbitrarily
Sensor ID	Sensor ID	Function: Reading and setting sensor ID Writing to sensor ID
	TEDS	Standard: Conforms to IEEE1451.4 Class 2 (Template No. 33) Function: Reading and setting sensor information
Interval function	Function	Measurement at set intervals
	Interval to be set	1,2,3,5,10,20,30 seconds 1,2,5,10,15,20,30 minutes
Zero tracking function	If the change of measured value remains within the set value in the set time, the current measured value is regarded as zero. This process is repeated. Set value: 1 ~ 10 digits in increments of 1 digit Set time: 10 ~ 60 seconds in increments of 10 seconds	
Auto power OFF	Automatically turns off the power if neither key operation nor command through interface is accepted for the specified time (ON/OFF setting of auto power-OFF function possible)	

Display / Operation		
Display	2.7 inch TFT color liquid crystal display	
Resolution	400 × 240 dot	
Point defect	10 dots or less (excluding aging degradation)	
Operation	Function key 1/2/3, UP/DOWN key, ENTRY key, POWER key	
Recording		
Internal memory	Function	Measured data recording Setting file recording/reading
	Capacity	6000 data at maximum
	Recording method	Interval timer, ENTRY key (manual)
SD card	Function	Measured data recording Setting file recording/reading
	Physical format	FAT16/32
	Recording format	CSV format
Capacity	512 Mbyte (specified by our company)	
Interface		
RS-232C	Conforms to RS-232C (Various settings, measurement, data acquisition)	
Battery		
Built-in battery	Lithium-ion battery	
Battery capacity	1900 mAh	
Continuous operating time	Approx. 6 hours (Condition Temperature: 23°C \pm 5°C Measurement: Monitoring (350Ω bridge))	
Charging time	Approx. 3 hours (at standby status)	
External power supply		
Power supply	Exclusive USB AC adaptor AC 100 ~ 240 V 50/60 Hz	
Connecting terminal	USB Type-C	
Current consumption	1.5A Max. (DC 5V)	
Environment		
Operating environment	0 ~ +50°C 85%RH or less (No condensation)	
Charging environment	0 ~ +40°C 85%RH or less (No condensation)	
Others		
External dimensions	136(W) × 32(H) × 71(D) mm (except projecting parts)	
Weight	Approx. 300 g	
Standard accessories	Operation manual ----- 1 copy NDIS conversion cable (CR-8140) ----- 1 pc. Terminal block for full bridge ----- 1 pc. Exclusive USB AC adaptor (CR-1970) ----- 1 pc.	
Option		
SD card (512 MB)	RS-232C cable (CR-5532)	
External printer (Applicable Type: DPU-S245)	Printer cable (CR-4511)	

Approval Certificate **ISO9001**
Design and manufacture of
strain gauges, strain measuring
equipment and transducers

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8-2, Minami-ohi 6-chome, Shinagawa-ku, Tokyo 140-8560, JAPAN
TEL: +81-3-3763-5614 FAX: +81-3-3763-6128

