Surface Texture Measuring Instrument

Operator-oriented Operation for the Workplace Compact Field Surface Measuring Instrument

SURFCOM 130A

LCD Panel Simplifies Operation
● Simply select the desired operation from the color LCD touch panel with a wide field of view or the reasonable monochrome LCD.

Highly Portable Compact Unit
● The unit is small enough for use at virtually any location.

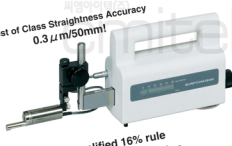
Supports International Standard Analysis Parameters
● Select the desired standard: JIS, ISO, DIN, ASME or CNOMO.

Satisfies European Directives for CE Marking

Monochrome LCD

TFT color LCD

Best of Class Straightness Accuracy 0.3μm/50mm!



Simplified 16% rule automatic discrimination

Supported Languages
English, Japanese, German, French, Italian, Spanish and Chinese!

Customize Icons
The customize function can be used to create a special menu where only the icons that are used most frequently are displayed, substantially enhancing operational efficiency.

AI Function (patented)
The AI (artificial intelligence) function automatically selects the ideal cut-off value, measuring range and other conditions by simply entering the parameters and allowable values denoted on the machining drawing. This automates measurement.

Guidance Function
This function guides the user through the measuring procedures, enabling beginners to make measurements.

Memo Function
A short note or diagram can be entered with the touch pen and printed using the memo function.

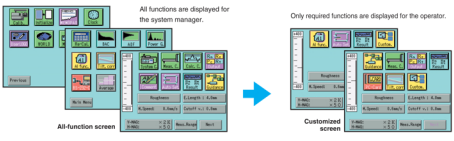
Host of Analysis Functions
The unit incorporates 34 types of roughness parameters (Ra, Rz, Ry, Sm, S, tp, etc.) and 32 types of waviness parameters. The steps on electrical parts, film thickness, surface area and other items can be analyzed.

Tilt Correction Function
Six types of automatic tilt correction are provided: Linear, first half, latter half, both end, round surface and spline curve (patented).

Evaluation Range Setting (patented)
The waveform on the screen is enclosed by two cursors, allowing the desired evaluation range to be set and the parameters to be calculated.

PC Card Slot
Measuring conditions, measured result management or measured data can be output in binary and text format. This data can be easily read from the PC card slot on a personal computer. Storage of data on CF cards and other types of memory cards is possible to use.

■Convenient Mode Select Function for System Manager/Operator



■Flexible Data Analysis

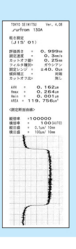
■Sample Data Sheet

■ Outstanding Analysis Functions

●Step Profile Evaluation

【Example Measurement】
Hybrid IC

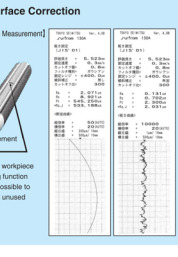
Can be used for hybrid IC, magnetic head, and other step measurement, film measurement, and surface area measurement.



●R-Surface Correction

【Example Measurement】
Shaft

A notched workpiece measuring function makes it possible to eliminated unused parted.



■Options

Roll Foot
E-MA-S62A
Attachment for placing the drive unit on a roll shaped object for measurement
Roll outer diameter: φ60 mm or more

Pickup Holder for All-Orientations
E-DH-S107A
For measuring surface roughness of slanted surfaces, vertical surfaces, ceiling surfaces, and other non-flat surfaces.
Photograph shows unit with E-MA-S63A roll foot.

Pickup Holder for Horizontal Tracing
E-DH-S17A
Attachment for horizontal tracing of items, such as a crankshaft, that have obstacles in the front and back in the measuring direction (using double-side straddling skid)

Battery Option Set
E-MA-S65A
For measuring and recording in a location where there is no power outlet available.
Included items: AC adaptor, battery, charger

PC card
E-MU-S50B
Provides storage for approximately 500 measurement conditions, or approximately 500 data measurements (100 text management items).
Specifications: 64 MB

Compact Measuring Stand
E-ST-S130A
The height and inclination of the drive unit can be adjusted in accordance with the size and shape of the object being measured.
Table size: 410x200mm
Maximum measuring height: 200mm

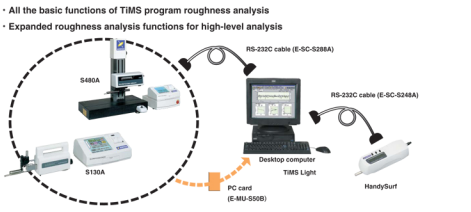
Specifications

Model		SURFCOM 130A
Measuring Range	X-axis (horizontal)	50mm
	Z-axis (vertical)	800μm (Measuring range/resolution: 800μm/10nm, 80μm/1nm, 8μm/0.1nm)
Straightness accuracy		0.3μm/50mm
Analysis items	Standards	Complies with JIS-2001, JIS-1994, JIS-1982, ISO-1997, ISO-1984, DIN-1990, ASME-1995, CNOMO
	Parameters	Ra, Rq, Rp, Rv, Rc, Rz, Rmax, Rt, Rz,J, R3z, Sm, Sr, R Δa, R Δq, R λa, R λq, TLT A λ, Pc, Rpk, Rku, Rk, Rpk, Rvk, Mr1, Mr2, VO, K, tp, Rmr, tp2, Rmr2, R δc, AVR, Hmax, Hmin, AREA, NCRX, R, Ra, ARi, NR, CPM, SR, SAR
	Evaluation curves	Section profile curve, roughness curve, filtered waviness curve, filtered center line waviness curve, rolling circle waviness curve, rolling circle center line waviness curve, DIN4776 special curve, roughness motif curve, waviness motif curve, envelope waviness curve
	Surface Characteristics graphs	Bearing area curve, amplitude distribution (ADF) curve, power graph
	Tilt correction	Linear correction, round surface correction, first half correction, latter half correction, both end correction, spline curve correction (linear, round surface, and both end correction possible at arbitrary range)
Magnification	Vertical (Z-axis)	50, 100, 200, 500, 1K, 2K, 5K, 10K, 20K, 50K, 100K auto
	Horizontal (X-axis)	1, 2, 5, 10, 20, 50, 100, 200, 500, 1K, 2K, 5K, auto
Filter types		Standard filter (2RC), phase compensation filter (2RC), phase compensation filter (Gaussian)
Measuring Speed		0.3, 0.6, 1.5, 3mm/s (4 speeds)
Detector		Tip radius: 2μm, Material: Diamond, Measuring force: 0.75mN
Special functions	AI Function	AI functions provides for easy procedures, enabling beginners to make measurements.
	Step analysis	Ideal for film thickness and surface area measurement of semiconductor parts.
	PC card	Data output as text file for transfer to a personal computer.
Standard accessories		Standard specimen (E-MC-S24B), recording paper (E-CH-S21A), touch pen (E-MA-S54A), instruction manual
Dimensions and weight	Power Source	AC100~240V ±10%, 50/60Hz, 30VA
	Installation dimensions	700 (W) ×300 (D) ×150 (H) mm
	Weight	8kg

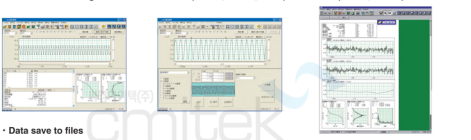
* PC card (E-MU-S50B) and PC connection cable (E-SC-S288A) are options.

TiMS Light Software

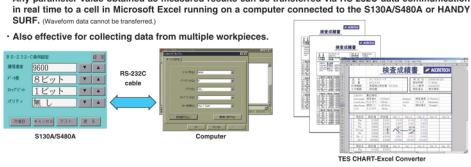
- On-site SURFCOM surface analysis software
- All the basic functions of TiMS program roughness analysis
- Expanded roughness analysis functions for high-level analysis



- Data Transfer using an RS-232C interface (S130A, S480A, E35A) or PC card (S130A, S480A).



- Data save to files
- Allows analysis of measured data to be performed on-site. Computer-based operation allows sharing of data with other computers.

■TESCHART — Excel Converter

- Any parameter value obtained as measured results can be transferred via RS-232C data communication in real time to a cell in Microsoft Excel running on a computer connected to the S130A/S480A or HANDY SURF. (Waveform data cannot be transferred.)
- Also effective for collecting data from multiple workpieces.