



## **SURFCOM TOUCH**

Intuitively Operated Surface Texture  
Measuring Instruments



# SURFCOM TOUCH 50

## Surface roughness and straightness in one compact machine

Skidless measurement with a high performance pickup while having high resolution and with a wide measuring range. Various types of workpieces can be measured by changing the stylus for deep, long, or small holes or a round surface.

### Extended Z-axis measurement range from 800 to 1,000 $\mu\text{m}$

The high performance pickup with a measurement range of 1,000  $\mu\text{m}$  and a Z-axis minimum resolution of 0.0001  $\mu\text{m}$  allows for wide-range and high resolution skidless measurement. In addition to a flat surface, the roughness or waviness on an undulating surface such as a stepped or round surface can be evaluated with one trace.

### A compact high performance tracing driver

Retract-type that reduces damage to the stylus and pickup by raising the pickup while waiting for measurement or at the end.

### A handy-type driver can be attached

SURFCOM TOUCH 50 can be connected with a handytype tracing driver\*.

### Advantages

Suited for measuring cylindrical workpieces, a tracing driver can be placed on workpieces by using an optional roll footing.



### Technical data summary

### SURFCOM TOUCH 50

<b>Z direction</b>	$\pm 500 \mu\text{m}$
<b>X direction</b>	50 mm
<b>Evaluation length</b>	0.1 to 50 mm
<b>Straightness accuracy</b>	0.3 $\mu\text{m}/50 \text{ mm}$
<b>Detector vertical movement range</b>	50 mm
<b>Measurement Speed</b>	0.15, 0.3, 0.6, 1.5, 3 / 0.05, 0.1, 0.2, 0.5, 1 mm/s (Switching)

\* Tracing driver attached to SURFCOM TOUCH 35/40/45, HANDYSURF E-35B/40A/45A, and SURFCOM FLEX-35B/40A/45A.  
An optional dedicated cable is required for connection.

# SURFCOM TOUCH COMMON FUNCTIONS

Intuitive and easy-to-use screen for condition setting, calibration, measurement and analysis

An amplifier with a 7-inch wide touch panel and a new interface provides higher operability. Easy-to-use operation eliminates the need of instructions.



## Main Screen

- Settings can be performed such as language, icon layout, management of internal/USB memories.

## Advantages

- Multi-language support available worldwide
- Easy-to-follow user's guide/quick reference guide
- USB/micro USB ports as standard equipment
- Measurement results can be printed quickly

## Control screen of the driver

- It shows the level meter (Z) (contact level of the stylus with the workpiece), and horizontal (X) and vertical (C) positions of the tracing driver. (Z is shown on all models, X on TOUCH 50/550, C on TOUCH 550)
- The pickup can be moved horizontally and the tracing driver can be moved vertically from the screen. (TOUCH 50 can move the pickup, and TOUCH 550 can move the pickup and tracing driver) Two moving speeds are available for selection.

## Setting Condition Screen

### Parameter Selection Screen

### Output Item Screen

- Output items can be set for printing with the small printer attached to SURFCOM TOUCH\*.  
*\*Some TOUCH 35, 40, 45 and 50 types have no printer.*

### Calibration Screen

- Calibration can be performed before measurement.
- Any wear or chip of the stylus tip can be checked with the waveform and values.

## Measurement Result Screen

- Measurement results are shown in waveform and selected parameters. Horizontal and vertical display magnification for waves can be changed intuitively with pinch-in or pinchout. No need to specify magnification in number (although it is also possible).
- OK/NG is easily identified by setting acceptance/rejection criteria in advance.

# Technical Data

## SURFCOM TOUCH 50

Model		SURFCOM TOUCH 50
Measurement range		
Z direction		±500 µm
X direction		50 mm
Tracing Driver		
Evaluation Length		0.1 to 50 mm
Straightness accuracy		0.3 µm/50 mm
Detector vertical movement volume		50 mm
Measurement Speed		0.15, 0.3, 0.6, 1.5, 3 / 0.05, 0.1, 0.2, 0.5, 1 mm/s (Switching)
Pickup		
Sensing type		Differential inductance
Measurement Method		Skidless/Skid (optional)
Z direction resolution		0.0001 µm/±40 µm, 0.00125 µm/±500 µm
Model		DM43801
Stylus (standard accessory)	Measurement force	0.75 mN
	Radius	r <sub>tip</sub> = 2 µm
	Angle	60°cone
	Material	Diamond
Analysis item		
Calculation Standards		Comply with ISO 4287-1997/2009, ISO 13565, ASME B46.1-2002/2009, JIS2013/2001, JIS1994, JIS1982, CNOMO and further standards
Characteristics graph	Parameter	
	Profile Curve	Pa, Pq, Pp, Pv, Pc, PSm, PΔq, PPc, Psk, Pku, Pt, Pmr(c), Pmr, Pδc, Rz82, TILTA, AVH, Hmax, Hmin, AREA, Rmax, Rz, Sm, Δa, Δq, λa, λq, Lr, Rsk, Rku, Rk, Rpk, Rvk, Mr1, Mr2, Vo, K, tp, tp2, Hp
	Roughness Curve	Ra, Rq, Rz, Rv, Rc, Rt, RSm, RΔq, Rsk, Rku, Rmr(c), Rmr, Rδc, Rz94, R3z, RΔa, Rλa, Rλq, Ry, Lr, Sm, S, tp, tp2, PC, RPc JIS, RPc ISO, RPc EN, Pc, PPI, Rp, Rmax, Rz.l, RS, Rmr2, Mr1, Mr2, Rpk, Rvk, Rk, Vo, K, A1, A2, Rpm, Δa, Δq, Htp
	Waviness Profile Curve	Wa, Wq, Wt, Wp, Wv, WSm, WPC, Wsk, Wmr(c), Wmr, Wδc, Wz, Wc, Wku, WΔq, WEM, WEA, WE-a, WE-q, WE-p, WE-v, WE-Sm, WEC-q, WEC-m, WEC-p, WEC-v, WEC-Sm
	Motif	R, Rx, AR, W, Wx, AW, Rke, Rpke, Rvke, NCRX, NR, CPM, SR, SAR, Wte, NW, SAW, SW, Mr1e, Mr2e, Vo, K
Evaluation Curve		Profile Curve, Roughness Curve, Filtered Waviness Curve, Waviness Profile Curve, ISO13565 Special Roughness Curve, Roughness motif curve, Waviness motif curve, Upper envelope waviness curve, Rolling Circle Waviness Curve
Characteristics graph		Abbot curve, Amplitude density function, Power graph
Filter type		
Filter type		Gaussian, 2RC (phase compensation), 2RC (non-phase compensation)
Cutoff value	λ <sub>c</sub>	0.08, 0.25, 0.8, 2.5, 8, 25 mm
	λ <sub>s</sub>	None, 2.5, 8, 25 µm
Amplification indicator		
Display		7-inch color liquid crystal touch panel
Data output		USB connectors for USB memory x 2 (model without printer) x 1 (model with printer), Micro USB connector for USB communication x 1
Print output		Standard function for models with printer and optional for models without printer (external printer unit)/Thermal recording paper width: 58 mm (recording width: 48 mm)
Language		Japanese, English, Chinese (Traditional Chinese/Simplified Chinese), Korean, Thai, Malay, Vietnamese, Indonesian, German, French, Italian, Czech, Polish, Hungarian, Turkish, Swedish, Dutch, Spanish, Portuguese
Specifications		
Power Supply	Charging	Built-in battery (to be charged using AC adaptor), charging period: 3 hours (about 600 measurements can be take when fully charged)
	Power Supply	AC100 to 240 V ±10%, 50/60 Hz, Single phase
	Power consumption	Maximum 80 VA
External dimensions (W x D x H)/Weight		
Printer-Equipped Model		Amplification indicator : 320 x 167 x 44 mm/about 4.2 kg for the entire system
Models without Printer		Amplification indicator : 252 x 167 x 44 mm/about 3.8 kg for the entire system
Standard accessories		Roughness specimen (E-MC-S24C), touch pen (E-MA-S112A), printing paper (E-CH-S25A)*1, instruction manuals, SupportWare II

\*1 For models with printer only