SURFCOM TOUCH 550

High-end model in the SURFCOM TOUCH series with an electric column offering high accuracy and size variation

Equipped with a high performing pickup having high resolution and wide range. It offers high flexibility where granite base size, column height, and X-axis drive range can be selected depending on needs.

Extended Z-axis measurement range from 800 to 1,000 µm (25% increase)
The high performing pickup with a measurement range of 1,000 µm and a z-axis minimum resolution of 0.0001 µm allows for wide-range and high resolution skidless measurement. No need to consider measurement range. In addition to flat surface, the roughness or waviness on undulating surface such as stepped or round surface can be evaluated with one trace. Leveling and zeroing before measurement can also be performed easily.

Size variations for various types of workpieces
SURFCOM TOUCH 550 allows users to select a combination of the size of the granite base, the height and type of the column and the drive range in the X axis direction. This meets diverse customer needs such as “we want to reduce the installation space”, “we want to reduce initial costs”, “we want to measure high workpieces” and “we want to measure large flat workpieces”.

Drive axes operable from amplifier
Drive axes of SURFCOM TOUCH 550 can be operated not only with the joystick attached to the instrument but also from the amplifier screen. All operations can be easily carried out from the amplifier.
### Specifications

#### Measurement Range

<table>
<thead>
<tr>
<th>Model</th>
<th>Measurement range (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Z direction</td>
<td>-11: 100 250</td>
</tr>
<tr>
<td>X direction</td>
<td>-11: 100 350</td>
</tr>
</tbody>
</table>

#### Tracing Driver

- **Drive distance**: 100 mm
- **Straightness accuracy**: (0.05 ± 1.5L/1000 mm) (L: measurement length mm)

#### Speed

- **Measurement Speed**: 0.03, 0.05, 0.1, 0.15, 0.3, 0.5, 1, 2, 5, 10 mm/s (switching)
- **Moving speed**: to 3 mm/s (when operating the amplification indication section), to 6 mm/s (when using the joystick)

#### Sensing type

- **Direction resolution**: ±0.0001 µm/x 40, ±0.00125 µm/x 200 µm
- **Standard accessories**: SURFCOM TOUCH (optional)

#### Amplification

- **Filter type**: Gaussian, 2RC (phase compensation), 2RC (non-phase compensation)

#### Analysis item

- **Characteristics graph**: Profil curve, Amplitude density function, Power graph

#### Filter

- **Filter type**: None, 2.5, 8, 25 µm

#### Display

- **Power Supply**: AC 100 to 240 V ±10%, 50/60 Hz, single phase, D-type grounding
- **Power consumption**: Maximum 110 VA

#### Language

- **Japanese, English, Chinese (Traditional Chinese/Simplified Chinese), Korean, Thai, Malay, Vietnamese, Indonesian, German, French, Italian, Czech, Polish, Hungarian, Turkish, Swedish, Dutch, Spanish, Portuguese**

#### Power Supply

- **Power Supply**: AC 100 to 240 V ±10%, 50/60 Hz, single phase, D-type grounding

#### Specifications

- **Maximum allowable load weight**: Approx. 45 kg (W1), Approx. 42 kg (W2), Approx. 33 kg (D1), Approx. 45 kg (D2), Approx. 43 kg (A)
- **External dimensions**: Width 667 mm, Depth 552 mm, Height 100 mm (Manual) to 3 mm/s (when operating the amplification indication section), to 6 mm/s (when using the joystick)
- **Moving speed**: to 3 mm/s (when operating the amplification indication section), to 10 mm/s (when using the joystick)

#### Analysis parameter

- **Profile Curve**: P1, P2, P3, P4, P5, P6, P7, P8, P9, P10, P11, P12, P13, P14, P15, P16, P17, P18, P19, P20
- **Roughness Curve**: R1, R2, R3, R4, R5, R6, R7, R8, R9, R10, R11, R12, R13, R14, R15, R16, R17, R18, R19, R20
- **Evaluation curve**: Profil 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

#### Measurement stand

- **Column**: Drive distance 250 mm, 450 mm, 250 mm, 450 mm
- **Moving speed**: - 3 mm/s (when operating the amplification indication section), - 6 mm/s (when using the joystick)

#### Measurement unit

- **Measurement range**: Z direction 600 mm x 317 mm, X direction 1000 mm x 450 mm
- **Base**: Size 600 mm x 317 mm, Height 115 mm

#### Stylus (standard accessory)

- **Material**: Diamond

#### Maximum allowable load weight

- **Approx. 48 kg (W1)**, **Approx. 42 kg (W2)**, **Approx. 33 kg (D1)**, **Approx. 45 kg (D2)**, **Approx. 43 kg (A)**

#### Standard accessories

- **Granite**: 60° cone
- **Material**: 60° cone
- **Angle**: 60° cone
- **Radius**: r

#### SURFCOM TOUCH 550 Specifications

<table>
<thead>
<tr>
<th>Model</th>
<th>Width</th>
<th>Depth</th>
<th>Height</th>
<th>Column height</th>
<th>X axis</th>
<th>C axis</th>
<th>Weight (kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>550</td>
<td>W1</td>
<td>D1</td>
<td>H1</td>
<td>H2</td>
<td>A</td>
<td></td>
<td></td>
</tr>
<tr>
<td>-11</td>
<td>610</td>
<td>481</td>
<td>667</td>
<td>552</td>
<td>100</td>
<td>250</td>
<td>89</td>
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<tr>
<td>-12</td>
<td>610</td>
<td>481</td>
<td>738</td>
<td>623</td>
<td>100</td>
<td>250</td>
<td>95</td>
</tr>
<tr>
<td>-13</td>
<td>610</td>
<td>481</td>
<td>958</td>
<td>823</td>
<td>100</td>
<td>250</td>
<td>104</td>
</tr>
<tr>
<td>-14</td>
<td>1000</td>
<td>586</td>
<td>963</td>
<td>823</td>
<td>100</td>
<td>450</td>
<td>209</td>
</tr>
<tr>
<td>-21</td>
<td>610</td>
<td>481</td>
<td>667</td>
<td>552</td>
<td>200</td>
<td>250</td>
<td>109</td>
</tr>
<tr>
<td>-22</td>
<td>670</td>
<td>481</td>
<td>738</td>
<td>623</td>
<td>200</td>
<td>250</td>
<td>106</td>
</tr>
<tr>
<td>-23</td>
<td>670</td>
<td>481</td>
<td>938</td>
<td>823</td>
<td>200</td>
<td>450</td>
<td>214</td>
</tr>
<tr>
<td>-24</td>
<td>1000</td>
<td>586</td>
<td>963</td>
<td>823</td>
<td>100</td>
<td>450</td>
<td>214</td>
</tr>
</tbody>
</table>

*This maximum allowable load weight is for the case when using the optional antivibration table (E-VS-557B for -11,-12,-13,-21,-22,-23 system, and E-VS-R16D for -14,-24 system)
SURFCOM TOUCH 50

High-level compact-type model in the SURFCOM TOUCH series with high resolution and straightness

Extended Z-axis measurement range from 800 to 1,000 µm (25% increase)

The high performing pickup with a measurement range of 1,000 µm and a Z-axis minimum resolution of 0.0001 µm allows for wide-range and high resolution skidless measurement. No need to consider measurement range. In addition to flat surface, the roughness or waviness on undulating surface such as stepped or round surface can be evaluated with one trace. Leveling and zeroing before measurement can also be performed easily.

A compact high performing tracing driver

The portable compact size tracing driver for easy installation has an X-axis measurement range of 50 mm, a straightness accuracy of 0.3 µm/50 mm, and a detector vertical movement volume of 50 mm. Safe positioning at a constant speed is possible by operating the tracing driver in the X direction from the screen of the amplifier.

A handy-type driver can be attached

SURFCOM TOUCH 50 can be connected with a handy-type tracing driver*. Measurement on vertical or ceiling surface and in narrow areas can be performed.

*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.
Usage example of roll footing

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

Usage example of compact measurement stand

An optional compact measurement stand for measuring high workpieces or measuring with jigs.

SURFCOM TOUCH 50 Specifications

<table>
<thead>
<tr>
<th>Model</th>
<th>Measurement range</th>
<th>Measurement range</th>
<th>Z direction</th>
<th>±500 µm</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Measurement range</td>
<td>Measurement range</td>
<td>X direction</td>
<td>50 mm</td>
</tr>
<tr>
<td></td>
<td>Tracing Driver</td>
<td>Tracing Driver</td>
<td>Y direction</td>
<td>±500 µm</td>
</tr>
<tr>
<td></td>
<td>Detector vertical movement</td>
<td>Detector vertical movement</td>
<td>±50 mm</td>
<td></td>
</tr>
<tr>
<td>Measurement Speed</td>
<td>0.15, 0.3, 0.6, 1.5, 3</td>
<td>Measurement Speed</td>
<td>0.1, 0.2, 0.5, 1 mm/s (Switching)</td>
<td></td>
</tr>
<tr>
<td>Sensing type</td>
<td>Differential inducance</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sensing type</td>
<td>Differential inducance</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Measurement Method</td>
<td>Skidless/Skid (optional)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stylus resolution</td>
<td>±40 µm, ±500 µm</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stylus material</td>
<td>Diamond</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Measurement force</td>
<td>0.75 mN</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stylus radius</td>
<td>r tip = 2 µm</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stylus angle</td>
<td>60° cone</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stylus material</td>
<td>Diamond</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Analysis item</td>
<td>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</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Filter</td>
<td>Abbe curve, Amplitude density function, Power graph</td>
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<tr>
<td>Filter</td>
<td>Abbe curve, Amplitude density function, Power graph</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Power Supply</td>
<td>Built-in battery (to be charged using AC adapter), charging period: 3 hours (about 600 measurements can be taken when fully charged)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Power Supply</td>
<td>Built-in battery (to be charged using AC adapter), charging period: 3 hours (about 600 measurements can be taken when fully charged)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>External dimensions</td>
<td>320 x 167 x 44 mm/about 4.2 kg for the entire system</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>External dimensions</td>
<td>252 x 167 x 44 mm/about 3.8 kg for the entire system</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*1 For models with printer only

** Specifications

<table>
<thead>
<tr>
<th>Power Supply</th>
<th>Current</th>
<th>80 VA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power Supply</td>
<td>100 to 240 V ±10%, 50/60 Hz, Single phase</td>
<td></td>
</tr>
<tr>
<td>Power Supply</td>
<td>100 to 240 V ±10%, 50/60 Hz, Single phase</td>
<td></td>
</tr>
<tr>
<td>External dimensions</td>
<td>320 x 167 x 44 mm/about 4.2 kg for the entire system</td>
<td></td>
</tr>
<tr>
<td>External dimensions</td>
<td>252 x 167 x 44 mm/about 3.8 kg for the entire system</td>
<td></td>
</tr>
<tr>
<td>Standard accessories</td>
<td>Thickness gauge (For Japan: E-MC-S109A, For outside Japan: E-MC-S24D), touch pen (E-MA-S112A), printing paper (E-CH-S25A)</td>
<td></td>
</tr>
</tbody>
</table>
SURFCOM TOUCH 35/40/45

Portable-type entry model in the SURFCOM TOUCH series useful in any measurement situation

Small and light tracing drivers selectable for application.  
In addition to horizontal surface, measurement on vertical surface with the driver and in narrow areas with transverse trace can be performed.  
Skid-measurement-type for measurement with different attitudes.

Palm-sized tracing drivers selectable for workpieces and measurement areas

35 (Standard type)  
The standard-type with different attitudes to measure horizontal, inclined, vertical and ceiling surfaces.

40 (Retraction type)  
Retract-type that reduces damage to the stylus and pickup by raising the pickup while waiting for measurement or at ending. It can be used as a detector incorporated into an automatic machine.

45 (Horizontal tracing type)  
The transverse trace-type where the pickup moves sideways. Narrow areas, such as crankshaft pins and journals, that were difficult to measure before can now be measured.

Optional pickups allow for various types of measurement  
(See next page)  

The pickup, that comes in contact with the workpiece is replaceable.  
Various types of workpieces can be measured by using optional pickups such as those for small or extremely small holes, deep grooves, etc.

A calibration plate provided as standard accessory makes calibration work easy  
A roughness specimen for surface texture and a driver selected above are set to the standard calibration plate. Calibration can be conducted easily without need of height and inclination adjustment of the driver as before.
**SURFCOM TOUCH 35/40/45 Specifications**

<table>
<thead>
<tr>
<th>Model</th>
<th>Tip radius 5 µm</th>
<th>Tip radius 2 µm</th>
<th>Tip radius 5 µm</th>
<th>Tip radius 2 µm</th>
<th>Tip radius 5 µm</th>
</tr>
</thead>
<tbody>
<tr>
<td>SURFCOM TOUCH 35</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SURFCOM TOUCH 40</td>
<td></td>
<td></td>
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<td></td>
<td></td>
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<tr>
<td>SURFCOM TOUCH 45</td>
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<td></td>
</tr>
</tbody>
</table>

**Usage example of various pickup (Option)**

- **Pickup for fine hole** E-DT-SM11B / SM50B
- **Pickup for extra fine hole** E-DT-SM12A / SM51B
- **Pickup for deep groove** E-DT-SM13A / SM52B
- **Long Hole Extension Adapter** DMS7506
- **Adapter for horizontal measurement** DMS7507
- **Adapter for bore measurement** E-WJ-S86A

**Usage example of various adapter (Option)**

- **Adapter for fine hole pickup** E-DT-SM11B / SM50B
- **Adapter for extra fine hole pickup** E-DT-SM12A / SM51B
- **Adapter for deep groove pickup** E-DT-SM13A / SM52B
- **Long Hole Extension Adapter** DMS7506
- **Adapter for horizontal measurement** DMS7507
- **Adapter for bore measurement** E-WJ-S86A

**Usage example of magnetic stand (Option)**

- **Magnetic Stand** E-ST-MAC
- **Post Mount** E-CS-S26A
- **Post Mount Holder** 0102050

**Nose Piece for Flat Surfaces / Cylinders (Option)**

- For Flat Surfaces E-WJ-S88A
- For Cylinders E-WJ-S85A

Enables handheld measurement of planes and cylinders with very small surfaces to be measured.

**SURFCOM TOUCH 35/40/45**

- **Power Supply** Charging: AC100 to 240 V ±10%, 50/60 Hz, Single phase
- **Power consumption** Maximum 80VA
- **External dimensions** (W x D x H): 320 x 167 x 44 mm
- **Weight** 2 kg

**Standard accessories**

- Roughness specimen (For Japan: E-MC-S109A, For outside Japan: E-MC-S24D), calibration table (E-WJ-S1045B), touch pen (E-MA-S112A), printing paper (E-CH-S25A)
- *1 For models with printer only
- *2 For SURFCOM TOUCH 45 only

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**SURFCOM TOUCH 35/40/45**

- **Power Supply** Charging: AC100 to 240 V ±10%, 50/60 Hz, Single phase
- **Power consumption** Maximum 80VA
- **External dimensions** (W x D x H): 320 x 167 x 44 mm
- **Weight** 2 kg

**Standard accessories**

- Roughness specimen (For Japan: E-MC-S109A, For outside Japan: E-MC-S24D), calibration table (E-WJ-S1045B), touch pen (E-MA-S112A), printing paper (E-CH-S25A)

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**SURFCOM TOUCH 35/40/45**

- **Power Supply** Charging: AC100 to 240 V ±10%, 50/60 Hz, Single phase
- **Power consumption** Maximum 80VA
- **External dimensions** (W x D x H): 320 x 167 x 44 mm
- **Weight** 2 kg

**Standard accessories**

- Roughness specimen (For Japan: E-MC-S109A, For outside Japan: E-MC-S24D), calibration table (E-WJ-S1045B), touch pen (E-MA-S112A), printing paper (E-CH-S25A)

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**SURFCOM TOUCH 35/40/45**

- **Power Supply** Charging: AC100 to 240 V ±10%, 50/60 Hz, Single phase
- **Power consumption** Maximum 80VA
- **External dimensions** (W x D x H): 320 x 167 x 44 mm
- **Weight** 2 kg

**Standard accessories**

- Roughness specimen (For Japan: E-MC-S109A, For outside Japan: E-MC-S24D), calibration table (E-WJ-S1045B), touch pen (E-MA-S112A), printing paper (E-CH-S25A)
Intuitive and easy-to-use screen for condition setting, calibration, measurement and analysis

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

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

- Measurement/analysis conditions can be set.

Parameter Selection Screen

- Parameters to be evaluated in measurement can be selected.
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 pinch-out. No need to specify magnification in number (although it is also possible).
- OK/NG is easily identified by setting acceptance/rejection criteria in advance.

Menu Screen

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

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.
Multi-language support available worldwide

20 Asian and European languages including Japanese, English and German are provided as standard. Language can be easily changed with one touch.

Easy-to-follow user's guide/quick reference guide

The user's guide is easy to understand like that for home appliances. A quick reference guide showing basic operation procedures is also available so that users do not need to create written procedures.
USB/micro USB ports as standard equipment

15 measurement conditions and 20 measurement results can be stored in the SURFCOM TOUCH amplifier. More conditions and results can be stored by connecting a USB memory to the standard USB port.

The amplifier is also equipped with a micro USB port. Measurement data can be transferred to the computer when connected with a USB cable, and a simple inspection certificate can be created using attached SupportWare II, or a full-scale analysis can be performed by the Off-line ACCTee analysis program, accessory to the high-end model, SURFCOM series (PC type).

Measurement results can be printed quickly

The dedicated printer allows for quick printing of measurement results. Of course, any measurement data saved in the amplifier or USB memory can be output.

- TOUCH 550 has a built-in printer.
- TOUCH 35 to 50 have two models: with/without printer
Models without printer can be connected with an external printer unit.