



The high efficiency type of 2 points adjustment "ZERO" and "STANDARD" adjustment methods applicable for standards, rules, used in public or private offices, laboratories, corporations and also international standards such as ASTM, ISO, etc.

SPECIAL FEATURES

APPLICATIONS

- 1. Wide variety :**
Selectable the most suitable type for use among various kinds of sensor types, measuring ranges, displays, etc.
- 2. CVD treatment electrode :**
Special CVD treatment is applied to almost every electrodes for long and high repeatability and initial characteristic.
(Confirm the specifications as it depends on the type of the meter.)
- 3. Multifunction and simple function :**
Multifunction types are equipped with various functions requested for coating measurements and managements. Simple function types are laid emphasis on simple and easy operation.
- 4. Digital and analog :**
Digital display types are easily readable without individual differences. Analog scale types are suitable for perceiving a coating thickness quantitatively.
- 5. Easy operation :**
Large and easily readable display, key-layout, zero-standard adjustments by human engineering designs.
- 6. High reliability :**
Anti-shock structure, CVD electrodes, highly reliable elements, durable cords and our after-service.

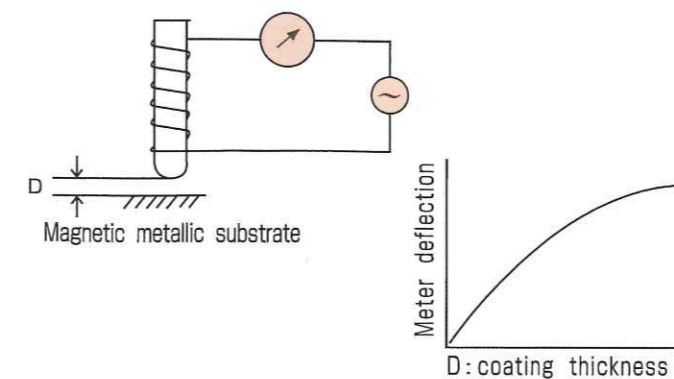
- **Electro-magnetic type :**
For non-destructive measurements of the thickness of non-magnetic and non-conductive coatings and linings applied to magnetic metallic substrate including ferritic stainless steel.
- **For magnetic metallic substrate :**
 - ▶ Paintings : Machines, automobiles, ships, buildings, bridges.
 - ▶ Linings : Resin, tar epoxy, rubber, enamel, glass.
 - ▶ Platings : Zinc, copper, chrome except electrolytic nickel.
 - ▶ Metallikon, parkerizing, spray deposit coatings, oxide films.
- **Eddy current type :**
For non-destructive measurements of the thickness of non-conductive and anodic films applied to non-magnetic metallic substrate (aluminum, aluminum alloy, copper, austenitic stainless steel).
- **For non-magnetic metallic substrate :**
 - ▶ Paintings : Building materials, vehicles, aircrafts, machines.
 - ▶ Anodized coatings : Aluminum sashes, home electric products.
 - ▶ Linings : Tanks, pools, chemical containers, rollers, machines.

Specifications		
Model	SWT-7000 III F	SWT-7000 III N
Method	Electromagnetic	Eddy current
Range	0~2.50mm	0~2.0mm
Display	Graphic LCD (data, messages), Backup light	
Resolution	1μm: 0~999μm switching to 0.1μm: 0~400μm, 0.5μm: 400~500μm 0.01mm: 1.00~2.50mm	1μm: 0~999μm switching to 0.1μm: 0~400μm, 0.5μm: 0~400~500μm 0.01mm: 1.00~2.00mm
Accuracy (perpendicularly testing on flat face)	0~100μm: ±1μm or ±2% of reading 101μm~2.50mm: ±2% of reading	0~100μm: ±1μm or ±2% of reading 101μm~2.00mm: ±2% of reading
Probe	One point contact constant pressure type, V cut φ 13×48mm	One point contact constant pressure type, V cut φ 13×47mm
Power source	Dry Battery (LR6 × 2), Auto-Power-Off	Dry Battery (LR6 × 2), Auto-Power-Off
Accessories	Standard thickness, Zero plate for testing (Fe), Carrying case	Standard thickness, Zero plate for testing (NFe), Carrying case

PRINCIPLE

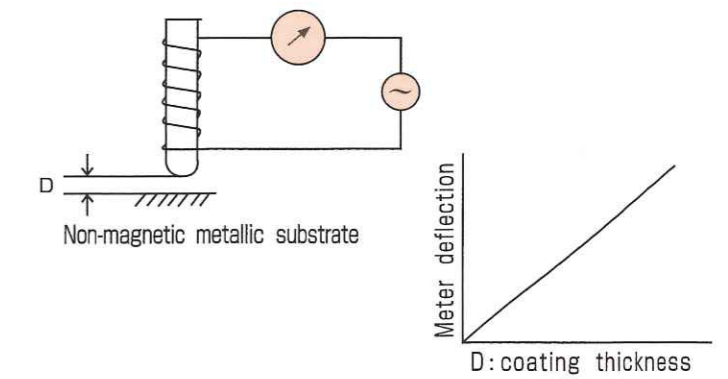
● **Electromagnetic type :**

When iron is moved toward or away from a steel core coil, self-inductance changes in accordance with distance. This principle is utilized to measure the thickness of non-magnetic coatings applied to magnetic metallic substrate.



● **Eddy current type :**

By utilizing the relativity between eddy current induced on the surface of metal by high frequency field of coil and distance to substrate from probe, the thickness of insulating coatings applied to non-magnetic metallic substrate can be measured with high accuracy.



SANKO LINE OF BUSINESS

- Coating thickness meter (DUAL TYPE, Electro-magnetic & Eddy current)
- Pinhole / Holiday detectors (High voltage spark type and dampened type)
- Electric moisture meter (for Wood, Paper, Mortar, Plaster)
- Infrared moisture meters
- Needle and Iron piece detectors



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SP 1405.5S

SAMAC series

SAMAC-F is for ferrous metal substrates.
 SAMAC-FN and SAMAC-Pro are Dual use for Ferrous / Nonferrous coating metals with Auto-Detection / Setting Function .



SAMAC-F · SAMAC-FN



SAMAC-Pro



Detachable stable legs with strap

SANMAC-F/FN/Pro are Probe built-in, Easy-to-Operate, Compact grip sized types with a Big display, Backup light.
 SAMAC-Pro is professional use with 10 calibration / 20,000 memory.

Specifications			
Model	SAMAC-F	SAMAC-FN	SAMAC-Pro
Method	Electromagnetic	Electromagnetic/Eddy current/Dual	
Range	0~2.5mm	0~2.5 (Fe)/2.0mm (NFe)	
Display	Graphic LCD (data, messages), Backup light		
Resolution	1μm: 0~999μm switching to 0.1μm: 0~400μm, 0.5μm: 400~500μm 0.01mm: 1.00~2.50mm	1μm: 0~999μm (Fe/NFe substrates) switching to 0.1μm: 0~400μm (Fe/NFe substrates) 0.5μm: 400~500μm (Fe/NFe substrates) 0.01mm: 1.00~2.50mm (Fe substrate) 0.01mm: 1.00~2.00mm (NFe substrate)	
Accuracy (perpendicularly on flat face)	0~100μm: ±1μm or ±2% of reading 101μm~2.5mm: ±2%	0~100μm: ±1μm (Fe/NFe substrates) or ±2% of reading 101μm~2.5mm: ±2% (Fe substrate) 101μm~2.0mm: ±2% (NFe substrate)	
Probe	One point contact constant pressure type, with Cross V cut Measuring part: φ28mm Probe part: φ10mm		
Additional function	① Switching of measuring mode (hold/non-interruption) ③ Backup light		② Auto-Power-OFF ④ Switching of Display Resolutions
			⑤ Switching of display (main/sub.) ⑥ Deletion of calibration values ⑦ Calibration 10 ⑧ Upper/lower limit setting (alarm /calib.) ⑨ Statistical calculations ⑩ USB connection
Power source	3 V DC (LR03 × 4), Continuous operation hours: 25 hours		
Temperature	0~40°C (Non-condensing)		
Dimensions & Weight	63 (W) × 84 (H) × 30 (D) mm, about 125g		
Accessories	Thickness standards, Zero plate for checking, Carrying case		

SWT-7000III series + FN-325 Probe

- The pair set provide you with Dual use for both Ferrous (Fe) and Nonferrous (NFe) coating metal substrates with Auto-Detection / Setting function.
- Probe FN-325 automatically checks and identifies Ferrous or Nonferrous metal of coating substrates for self-setting.



Probe FN-325



Specifications of FN-325 probe (exclusive for SWT-7000 III series only)	
Model	FN-325
Method	Dual / electromagnetic / eddy current (Auto-selection substrate)
Range	Ferrous: 0~3.00mm / Nonferrous: 0~2.50mm
Resolution	1μm: 0~999μm switching to 0.1μm: 0~400μm, 0.5μm: 400~500μm 0.01mm: (ferrous 1.00~3.00mm, nonferrous 1.00~2.50mm)
Accuracy (perpendicularly on flat face)	Ferrous / Nonferrous dual use 0~100μm: ±1μm or ±2% the reading value (Ferrous) 101μm~3.00mm: ±2% of reading (Nonferrous) 101μm~2.50mm: ±2% of reading
Probe	One point contact constant pressure type, with v-cut shape, φ13×52mm
Option	V type probe adaptors*
Accessories	Thickness standard foils. Zero plate for testing (for ferrous/nonferrous)
Measuring object	Ferrous substrate: coating, lining, thermal spray film, plating (except electrolyte nickel plating), etc. on magnetic metal substrates like ferrous, steel, etc. Nonferrous substrate: insulated films etc. on non-magnetic metal substrates like aluminum, copper, etc.

* V type probe adaptor has 3 different sizes, (for φ5 or less, φ5~10, φ10~20) .

SWT series



SWT-7000 III / 7100 III



SWT-7200 III

● All SWT-7000 III type probes (Fe/NFe / FN-325 type probes) are optional and interchangeable with SWT main units.

Auto-Power-Off, USB data transfer (except for SWT-7000 III) are equipped.

SWT-7200 III is professional use with 10 calibration / 20,000 memory.

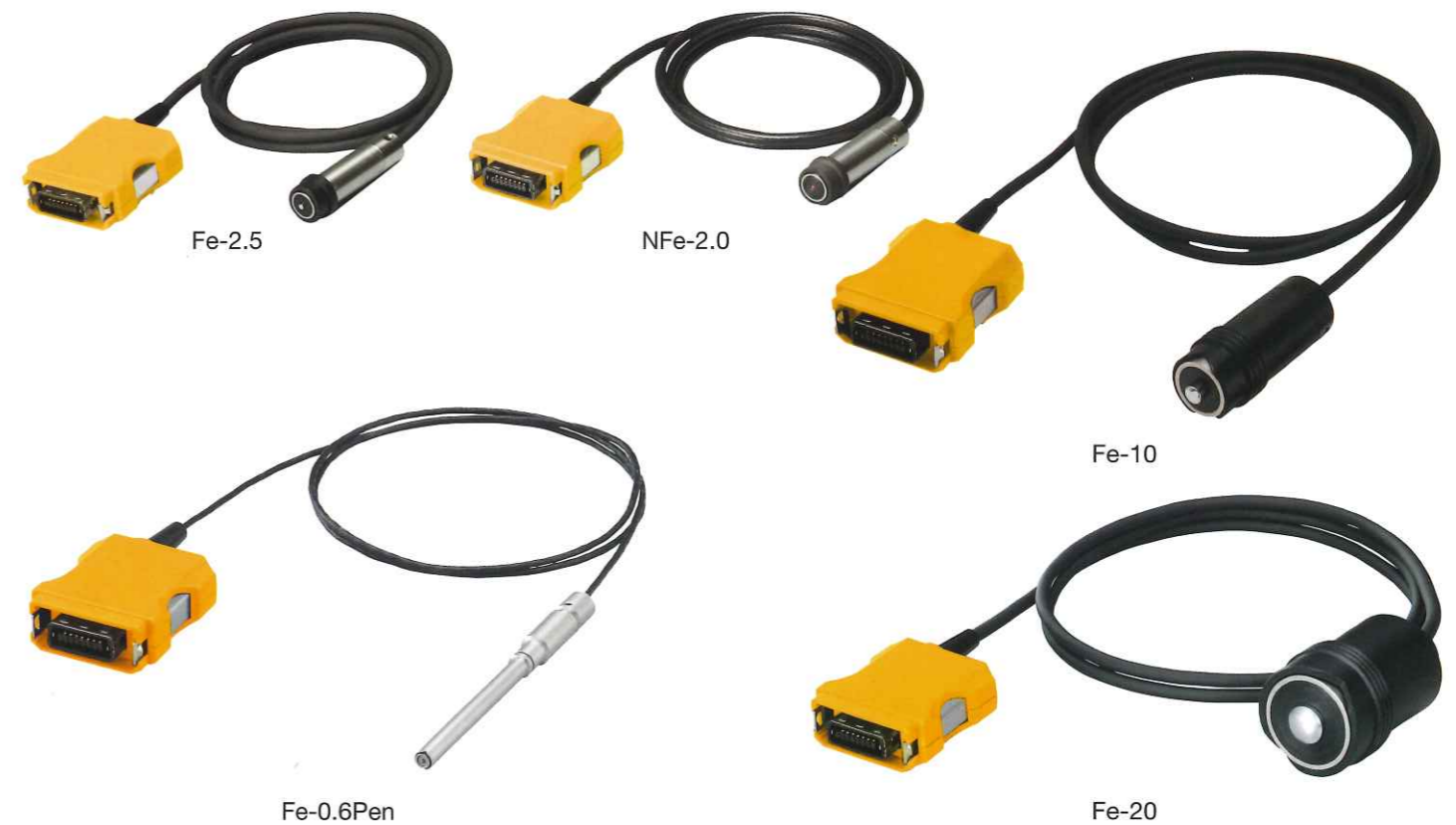
Specifications			
Model	SWT-7000 III	SWT-7100 III	SWT-7200 III
Range	Depending on optional probes		
Display	Graphic LCD (data, messages), Backup light		
Calibration	2 points (zeroing, thickness standards)		
Calibration curve	1		10
Measured value memory	Non		20,000
Data transfer	Non	USB	USB
Statistics	Non		
Addition	• Backup light • Measurement mode switching (hold/non-interrupt) • Calibration curve: value deletion • Auto-Power-Off (3 min.) • Display resolution switching • Limits-value setting (SWT-7200 III)		
Power source	Dry Battery (LR6 × 2), Continuous operation hours : 50 hrs.	Dry Battery (LR6 × 2), exclusive AC adaptor Continuous operation hours : 50 hrs.	
Temperature	0~40°C (Non-condensing)		
Dimensions & Weight	72 (W) × 156 (H) × 30 (D) mm, about 200g		
Accessories	Dry Battery (2 pcs), carrying case	Dry Battery (2 pcs), Exclusive AC adaptor, carrying case, USB cable (2.0m), USB driver (CD)	
Probe (Probe must be ordered separately)	Probe for ferrous (Fe), Probe for non-Ferrous (NFe), Dual probe for Fe and NFe metal substrates (FN-325)		

Specifications of SWT (Fe probes)			
Model	Fe-2.5 ^{*1} /2.5L	Fe-2.5LwA	Fe-0.6Pen
Method	Electromagnetic		
Range	0~2.50mm		0~600μm
Resolution	1μm: 0~999μm switching to 0.1μm: 0~400μm, 0.5μm: 400~500μm 0.01mm: 1.00~2.50mm		1μm: 0~600μm switching to 0.1μm: 0~400μm, 0.5μm: 401~500μm
Accuracy (perpendicularly testing on flat face)	0~100μm: ±1μm or ±2% of reading 101μm~2.50mm: ±2% of reading		0~100μm: ±1μm or ±2% of reading 101μm~600μm: ±2% of reading
Probe	One point contact constant pressure type, V cut Fe-2.5: φ 13×48mm Fe-2.5L: 18×23×67mm	One point contact constant pressure type, Measuring part: About 20×57mm Total Length: about 550~1,550mm (flexible)	One point contact constant pressure type, V cut φ 5.6×94mm
	V type probe adaptors ^{**2} /Non		
Accessories	Standard thickness, Zero plate for testing (Fe)	Standard thickness, Zero plate for testing (Fe) Carrying case	Standard thickness, Zero plate for testing (Fe)
Measuring object	Coating, lining, thermal spray films, plating (except electrolyte nickel plating) etc. on magnetic metal substrate like iron, steel.	Coating, lining, plating on high/hard-to-reach /remote place on magnetic metal substrate like iron, steel.	Coating, lining, plating on a narrow/small place and part substrate like iron, steel.

Probe must be ordered separately.

※1. Probes are heat-resistant (about 200°C). (Fe-2.5)

※2. V type probe adaptors (3 kinds: less φ 5, φ 5~10, φ 10~20) can be used with Fe-2.5.



Specifications of SWT (Fe probes)		
Model	Fe-10	Fe-20
Method	Electromagnetic	
Range	0~10mm	0~20mm
Resolution	1 μ m:0~999 μ m 0.01mm:1~10mm	1 μ m:0~999 μ m 0.01mm:1~5mm 0.1mm:5~20mm
Accuracy (perpendicularly testing on flat face)	0~3mm: $\pm(5\mu\text{m} + \pm 3\%$ of reading) 3.01mm or Over : $\pm 3\%$ of reading	
Probe	One point contact constant pressure type, V cut $\phi 18 \times 47\text{mm}$	One point contact constant pressure type, V cut $\phi 35 \times 59\text{mm}$
Accessories	Standard thickness, Zero plate for testing (Fe)	
Measuring object	Relatively thicker objects	Thick objects

Probe must be ordered separately.

Specifications of SWT (NFe probes)			
Model	NFe-2.0 ^{*1} /2.0L	NFe-0.6	NFe-8
Method	Eddy current		
Range	0~2.00mm	0~600 μ m	0~8mm
Resolution	1 μ m:0~999 μ m switching to 0.1 μ m:0~400 μ m, 0.5 μ m:400~500 μ m 0.01mm:1.00~2.00mm	1 μ m:0~600 μ m switching to 0.1 μ m:0~400 μ m, 0.5 μ m:400~500 μ m	1 μ m:0~999 μ m 0.01mm:1~8mm
Accuracy (perpendicularly testing on flat face)	0~100 μ m: $\pm 1\mu\text{m}$ or $\pm 2\%$ of reading 101 μ m~2.00mm: $\pm 2\%$	0~100 μ m: $\pm 1\mu\text{m}$ or $\pm 2\%$ of reading 101 μ m~600 μ m: $\pm 2\%$	0~3mm: $\pm(5\mu\text{m} + \pm 3\%$ of reading) 3.01mm or Over : $\pm 3\%$ of reading
Probe	One point contact constant pressure type, V cut 2.0: $\phi 13 \times 47\text{mm}$ 2.0L: $18 \times 23 \times 67\text{mm}$ V type probe adaptors ^{*2} /Non	One point contact constant pressure type $\phi 11 \times 48\text{mm}$	One point contact constant pressure type, V cut $\phi 35 \times 61\text{mm}$ Non
Accessories	Standard thickness, Zero plate for testing (NFe)		
Measuring object	Insulated films on non-Magnetic metal substrates like aluminum, copper		
	Relatively general use objects	like aluminum, copper for high stability for narrow bar, tube, minute pieces	Relatively thick objects

Probe must be ordered separately.

*1. Probes are heat-resistant (about 200°C). (NFe - 2.0)

*2. V type probe adaptors (3 kinds: less $\phi 5$, $\phi 5 \sim 10$, $\phi 10 \sim 20$) can be used with NFe-2.0.

SM-1500D

Specifications	
Range	0~15.00mm
Resolution	0.1/0.01mm (conversion)
Accuracy	$\pm 0.01\text{mm}$ or $\pm 2\%$ of reading
Display	LCD digital with hold function
Limit alarm	Alarm for upper and lower coating thickness
Probe	1-point contact, constant pressure type with V groove $\phi 50 \times 45\text{mm}$, CVD treated electrode
Min.measurement area	Plane : $\phi 50$, Concave : R50, thickness : 1 Applicable minimum size of object plane $\phi 300 \times$ thickness over 3mm
Measurement speed	Approx. 3 seconds after contacting with the object to be measured
Power source	Dry batteries (LR03 $\times 4$), With auto power off function
Temperature range	0~40°C (Non-condensing)
Dimensions & Weight	80 (W) \times 35 (H) \times 150 (D) mm, 460g
Accessories	Standard thickness plate, Carrying case



SP-1100D

Specifications	
Range	0~300 μ m (Option : 0~500 μ m)
Resolution	1 μ m
Accuracy	$\pm 1\mu\text{m}$ or $\pm 2\%$ of reading
Display	LED digital with hold function
Probe	3-point contact type with 2 electrodes and 1 supporting leg Completely constant pressure loading system with counterweight, 42 \times 50 \times 62mm Distance between electrodes : 16mm Electrode: $\phi 8$
Power source	AC 100V 50/60Hz
Temperature range	0~40°C (Non-condensing)
Dimensions & Weight	200 (W) \times 80 (H) \times 250 (D) mm, 3kg
Accessories	Standard thickness plate, Zero plate for testing, Counterweight



Pro-2

Specifications	
Range	0~500 μ m 0.2~5mm
Accuracy	$\pm 2\mu\text{m}$ or $\pm 5\%$ of reading
Probe	2 electrodes and 1 supporting leg Radius of contact surface : 5R Distance between electrodes : 16mm
Power source	Dry batteries (LR03 $\times 6$)
Temperature range	0~40°C (Non-condensing)
Dimensions & Weight	105 (W) \times 48 (H) \times 165 (D) mm, 500g
Accessories	Standard thickness plate, Carrying case
Option	Dial cover, Exclusive AC Adapter

