

More Precision.

ISC1000 // Industrial coating thickness measurement on CFRP





Measurements on thinnest substrates from 1 μm

Suitable for CFRP measurements

Determines the total thickness of insulating layers up to 1000 μm

No minimum layer thickness required

Precise, fast and easy measurement via push button

Non-destructive & residue-free measurement without coupling medium, no spade-/rework

Measurement of thin coatings on CFRP material

The ISC1000 is a high-performance device for thickness measurement of coatings. It is used in process control through to final quality inspection. Its innovative technology based on microwaves allows the ISC1000 to measure the total layer thickness of insulating materials on CFRP and metal substrates in a non-destructive way without a coupling medium. The measurement can be performed on any metallic substrate with the same signal quality regardless of electric and magnetic properties. The ISC1000 is factory-calibrated and can be individually adjusted to the customer's material (metals, CFRP). The adjustment is done once per material or once for all metals.

Unmatched precision with a large range of features

The ISC1000 measures CFRP substrates and metals with a resolution of 1 μm . In addition to the measurement value display, the ISC1000 offers diverse features such as statistical functions, storage options with USB data export, individual calibration possibilities and configurable, dynamic tilt prevention. The large LCD touch display of the controller indicates the measurement values.



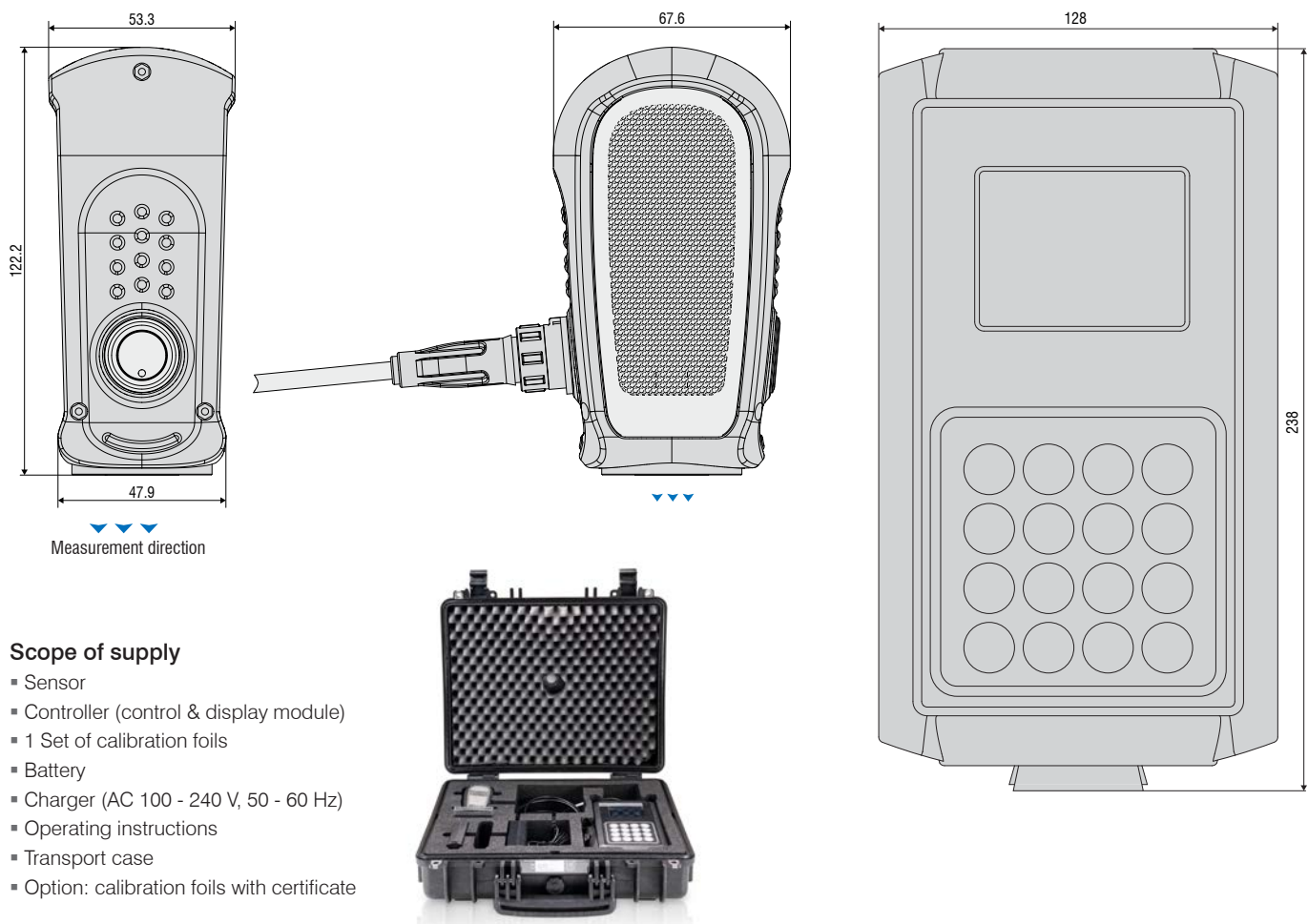
The ISC1000 is used with

- CFRP substrates and metal substrates (carrier material) from 1 μm
- Dry, electrically insulating coatings such as paint or plastic
- Flat and curved surfaces
- Layer thicknesses from 0 to 1000 μm
- Static measurements or random checks

Model		ISC1000
Measuring range		1000 μm
Resolution	Static	2 μm (0 ... 500 μm) 1 μm (500 ... 1000 μm)
	Display	1 μm or 0.01 mils
Repeatability		< 4 μm
Linearity ¹⁾		< $\pm 5 \mu\text{m}$ ²⁾
Duration of a single measurement		< 2 s
Frequency range		24 ... 24.25 GHz (ISM band)
Supply voltage		NiMH battery 6 V, 4500 mAh
Battery life		approx. 8 hours ³⁾
Min. target thickness	Coating	none
	Substrate	depending on material and its conductivity ⁴⁾ , > 1 μm
Min. target size		$\varnothing$ 20 mm
Target material (substrate)		Metals and CFRP (conductive or poorly conductive materials)
Coupling medium (transducer gel)		not required
Active measuring area		approx. 15 mm
Interfaces		USB
Temperature range	Storage	0 ... +45 °C
	Operation	+10 ... +40 °C
Humidity		20 ... 80 % r.H. (non-condensing)
Protection class (DIN EN 60529)		IP40 (sensor and controller)
Control and display elements		3.2" resistive LCD touch display, membrane keypad Statistical functions with recording and data export: Min., Max., counter, mean value and standard deviation Dynamic tilt prevention (can be activated, configurable)

¹⁾ Adjustment based on calibration points, distance max. 150 μm ; not taking into account the film tolerance ²⁾ From 500 μm : also depends on the dielectric constant, typically < ± 3 %

³⁾ With approx. 1,000 measurements, new and charged battery ⁴⁾ With CFRP woven materials at least one layer; with CFRP laid materials at least two layers with different angles



Scope of supply

- Sensor
- Controller (control & display module)
- 1 Set of calibration foils
- Battery
- Charger (AC 100 - 240 V, 50 - 60 Hz)
- Operating instructions
- Transport case
- Option: calibration foils with certificate

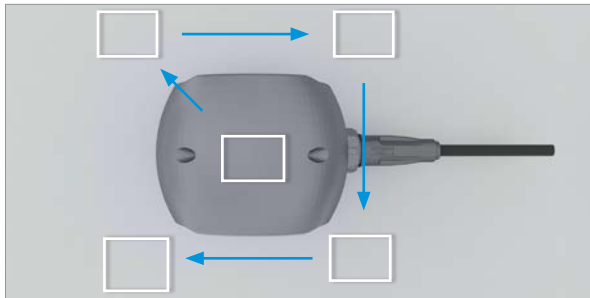
Robust controller directly displays measurement values

- Battery-powered
- Resistive color touch display 3.2"
- Keypad for fast data entry
- Measurement value memory
- USB interface for data export
- Individual display of current measurement value
- Statistical functions (mean value, standard deviation, minimum, maximum)
- Display of stored measurement data
- Acoustic signal with measurement / incorrect measurement



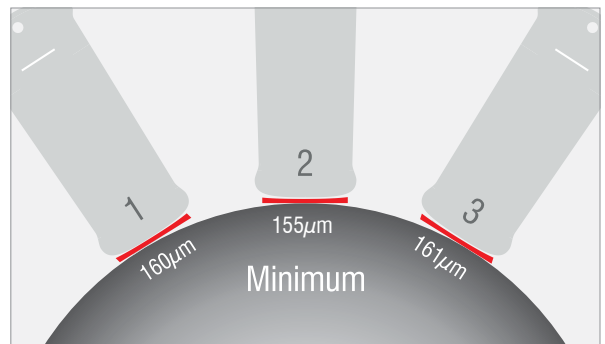
Typical procedure of a coating thickness measurement in 5 different positions

Measure more pieces from more positions in less time compared to conventional destructive gauges. This saves time during measurement, reduces costs for test samples and avoids additional checks.



Measuring numerous industrial surfaces

This process-capable, battery-powered device directly displays the measurement result and provides reliable measurement values even on curved surfaces.



Measuring coated metals

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