



More Precision

FSC // CFRP paint thickness gauge





- Easy and fast measurement
- Non-destructive principle - no influence onto paints and substrates
- Without coupling medium (transducer gel)
- No minimum thickness
- Configurable tilt prevention
- Statistical functions
- Storage of measured data - export function via USB interface

The FSC is used to measure the thickness of paint and other electrically insulating layers on substrates such as carbon fiber-reinforced plastics (CFRP), CFRP with metallic lightning protection and metals. The substrates can be isotropic and anisotropic and have a medium or high electrical conductivity. When multi-layer paint is measured, the system directly measures the total thickness.

Depending on the device model, the measuring range is up to 1000 μm without minimum thickness. The thickness values are directly displayed and recorded.

The device includes a sensor and a controller for operating and display purposes. The system operates with microwaves in the ISM band (frequency range 24 to 24.25 GHz). No coupling medium (transducer gel) is required and the measured point remains unchanged. One measurement takes approx. 2 second.

The user can autonomously adjust the plastic films provided (with known thickness) to the substrate material used. The system enables to apply the generated data to the respective substrate type. The calibration data can be stored and reused later. A USB port enables to export the measured data for further processing.

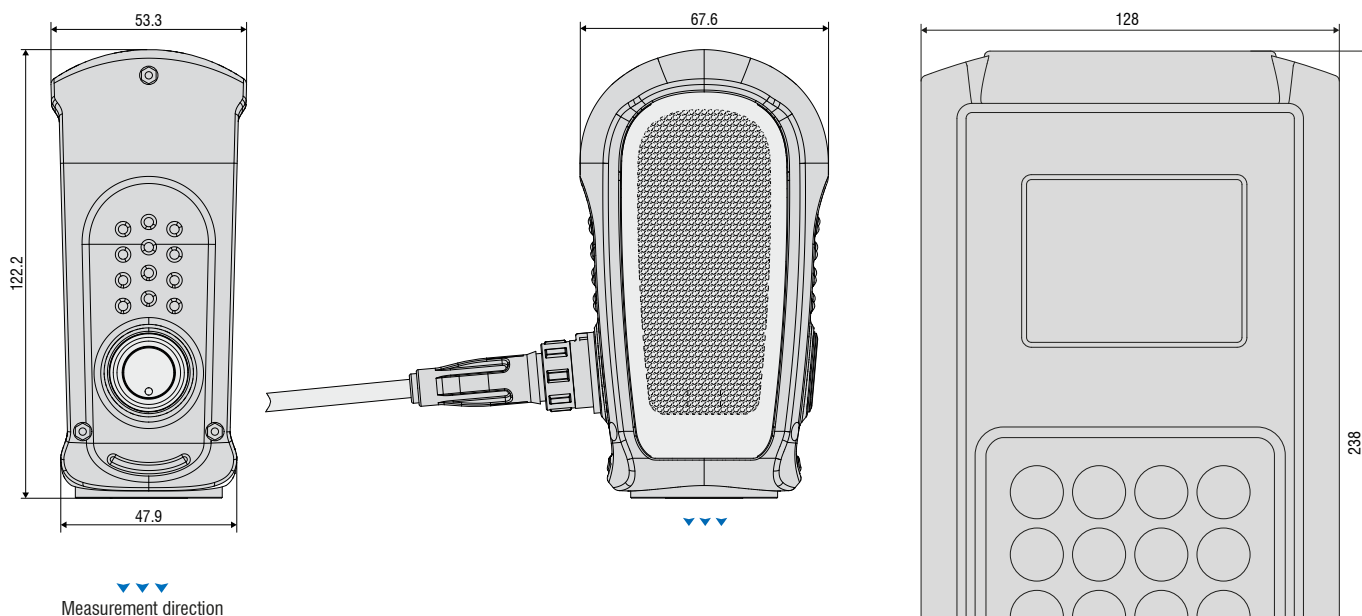
The system is, among other things, used in the aviation industry and is certified for use by renowned aircraft manufacturers.

Model	FSC1/7	FSC1000
Measuring range	0 ... 500 μm	0 ... 1000 μm
Linearity ¹⁾	$\leq \pm 3 \mu\text{m}$	$\leq \pm 5 \mu\text{m}$ ²⁾
Repeatability	$\leq 2 \mu\text{m}$	$\leq 4 \mu\text{m}$
Duration of a single measurement	approx. 2 sec.	
Resolution of the display	1 μm or 0.01 mils	
Active measuring area	approx. 20 mm	
Coupling medium (transducer gel)	not required	
Substrates (selection)	CFRP ³⁾ , CFRP with lightning protection ³⁾ , metals	
Control and display elements	3.2" resistive LCD touch display, membrane keypad	
Dynamic tilt prevention	can be activated, configurable	
Statistical functions (with recording and data export)	Min., Max., counter, median and standard deviation	
Measuring principle	non-destructive and wear-free with microwaves	
Supply voltage	NiMh battery	
Frequency range	24 ... 24.25 GHz (ISM band)	

¹⁾ Adjustment based on support points, distance from support points max. 150 μm , regardless of the film tolerance

²⁾ from 500 μm ; also depends on the dielectric constant, typically $< \pm 3 \%$.

³⁾ With woven materials at least one layer; with laid materials at least two layers with different angles



Scope of supply

- Sensor
- Controller (control & display module)
- 1 set of calibration foils
- Exchangeable battery
- Charger (AC 100 - 240 V, 50 - 60 Hz)
- Shoulder strap for controller
- Operating instructions
- Carry case
- Option: calibration foils with certificate



Sensors and Systems from Micro-Epsilon



Sensors and systems for displacement, distance and position



Sensors and measurement devices for non-contact temperature measurement



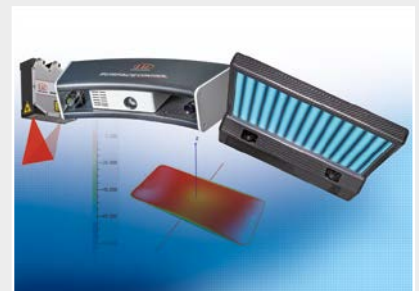
Measuring and inspection systems for metal strips, plastics and rubber



Optical micrometers and fiber optics, measuring and test amplifiers



Color recognition sensors, LED analyzers and inline color spectrometers



3D measurement technology for dimensional testing and surface inspection