

# TLM-SCAN+ V210

## Specifications

	<b>R<sub>spec</sub></b>	<b>R<sub>sheet</sub></b>	<b>R<sub>c</sub></b>	<b>R<sub>line</sub></b>
Sample size, up to	210 x 210 mm <sup>2</sup>	210 x 210 mm	10 x 210 mm	11 .. 65 mm
Measurement Method	4PP	4PP	TLM	4PP
Number of pins in probe head	4	4	16	4
Probe head pitch (distance between pins) For R <sub>c</sub> measurement adjustable (3 probe heads 0.9 - 2.4, or custom defined)	1.55 mm	1.55 mm	0.9 - 1.2 1.2 - 1.8 1.8 - 2.4	7.5 - 60 mm
Measurement Range	0.2 – 20 [Ω·cm]	5 – 500 [Ω/sq]	1 – 100 [mΩ·cm <sup>2</sup> ]	0.01 – 20 [Ω/cm]
Repeatability (recontacting, same position) <sup>(1)</sup>	3 %	3 %	3 %	3 %
Absolute Accuracy <sup>(2)</sup>	5 % at 1 Ω·cm	5 % at 80 Ω/sq	0.5 mΩcm <sup>2</sup> or 3 %	5 % at 0.1 Ω/sq
Measurement Times <sup>(3)</sup>	Time to move probe head from/to park position approx. 5s			
• Single measurement	1 sec	1 sec	2 sec	1 sec
• Mapping, 5 x 5 points	60 sec	60 sec	-	-
• Mapping, 10 x10 points	240 sec	240 sec	-	-
• R <sub>c</sub> Mapping, per stripes with 100	--	--	< 60 sec	-
• Needle force	40 g ... 100 g	40 g ... 100 g	40 g ... 70 g	
	<b>Finger width (microscope camera) <sup>(4)</sup></b>			
Reproducibility	< 1 μm			
Absolute accuracy	< 2 μm			
Duration	< 2 s per image			
	<b>Finger height (surface profiler) <sup>(4)</sup></b>			
Reproducibility	1 μm			
Absolute accuracy	< 2 μm			
Duration	typ. 10s per finger			
Noise equivalent height	< 100 nm			
Stylus tip radius	250 μm			
Stylus force	0.6 g ... 1.2 g			
Noise equivalent height	< 100 nm			

(1) standard deviation of 25 measurements without moving the sample

(2) difference between mean value of 25 measurements and specified value on a certified sample

(3) excl. time needed for loading sample

(4) Only TLM-SCAN+