

## **Metriso<sup>®</sup> 3000 – TEST-KIT** (Part No.: 7100.3000.MK)

- Suitable for resistance to ground and point-to-point resistance measurements according to IEC 61340-4-1 Ed. 2.0 and IEC 61340-2-3
- Suitable for measuring the electrical resistance of footwear and flooring in combination with a person according to IEC 61340-4-5.
- Integrated data logger for 50.000 test values and USB communication port for data transmission
- Clip-on humidity and temperature sensors
- Report generating software "ETC" for data acquisition, recording and managing. A complete test report can be generated and archived.
- Menu driven measurement with ESD test point selection and automatic limit value allocation.
- A barcode scanner can be used to identify test points before testing
- Low ohmic measurement range 1Ω - 10kΩ to measure the resistance of grounded objects
- Built-in 10 MΩ test resistor to check the instrument before use
- Special guard socket reduces distortion at high value resistance measurements
- Includes two Probes Model 850 according to IEC 61340-4-1 Ed. 2.0 / IEC 61340-2-3 and a handheld probe according to IEC 61340-4-5



Clip-on humidity and temperature sensor



Probe Model 850



Probe Model 45

## Technical Information

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Part No.: 7100.3000.MK



◆ Untere Gießwiesen 21 ◆ 78247 Hilzingen ◆ Tel.: +49-7731-86880 ◆ Fax: +49-7731-868830

### Technical data:

Test voltage: DC 10V, 100V, 500V  
Test range  
Resistance: 1Ω to 1,2TΩ  
Temperature: -10°C to +70°C  
Humidity: 10% to 90%  
Operation: Battery operated or with rechargeable batteries  
Probes: 2 x Model 850  
1 x Handheld probe Model 45  
Size: 225 x 130 x 140 mm (WxHxD)  
Weight: 1,4 kg

### Supplied with:

- Digital high resistance tester Metriso 3000
- USB cable
- Software "ETC" on CD-ROM
- Humidity and temperature sensor
- 2 probes Model 850 acc. to IEC 61340-4-1 /2-3
- 1 handheld probe Model 45 acc. to IEC 61340-4-5
- Connecting cables
- Conductive carrying case
- User's manual in German / English / French

### Technical specifications

Meas. Qty.	$U_M^2$	Range	Measuring Range	Resolution	Intrinsic Error <sup>1</sup>	Measuring Uncertainty	Overload Capacity
$R_{ESD}$	10 V <sup>3</sup> 100 V 500 V 3 3	10 kΩ	1.0 kΩ ... 9.99 kΩ	0.01 k	±(5% rdg. + 10 d)	±(7% rdg. + 10 d)	500 V AC/DC TRMS
		100 kΩ	10.0 kΩ ... 99.9 kΩ	0.1 k	±(5% rdg. + 3 d) <sup>5</sup>	±(7% rdg. + 3 d)	
		1 MΩ <sup>4</sup>	100 kΩ ... 999 kΩ	1 k	±(5% rdg. + 3 d)	±(7% rdg. + 3 d)	
		10 MΩ	1.00 MΩ ... 9.99 MΩ	10 k	±(5% rdg. + 3 d)	±(7% rdg. + 3 d)	
		100 MΩ	10.0 MΩ ... 99.9 MΩ	100 k	±(5% rdg. + 3 d)	±(7% rdg. + 3 d)	
		1 GΩ	100 MΩ ... 999 MΩ	1 M	±(5% rdg. + 3 d)	±(7% rdg. + 3 d)	
		10 GΩ	1.00 GΩ ... 9.99 GΩ	10 M	±(5% rdg. + 3 d)	±(10% rdg. + 3 d)	
		100 GΩ	10.0 GΩ ... 99.9 GΩ	100 M	±(8% rdg. + 3 d)	±(10% rdg. + 3 d)	
		1 TΩ	100 GΩ ... 999 GΩ	1 G	±(25% rdg. + 5 d)	±(50% rdg. + 20 d)	
$U_{AC/DC}$		100 V	10.0 V ... 99.9 V	0.1 V	±(2.5% rdg. + 3 d)	±(5% rdg. + 3 d)	500 V AC/DC TRMS
		500 V	100 V ... 499 V	1 V			
$R$	Display range as of 01.0 Ω	100 Ω	1.0 ... 99.9 Ω	0.1 Ω	±(2.5% rdg. + 3 d)	±(5% rdg. + 3 d)	500 V AC/DC TRMS
		1 kΩ	100 ... 999 Ω	1 Ω			
		10 kΩ	1.00 ... 9.99 kΩ	10 Ω			

### Power supply, battery life expectancy:

The instrument is supplied including the batteries (8 x 1,5 V mignon cells)

Battery life is about 3000 measurements at  $R_{ESD}$  with one set of rechargeable batteries.

(With 5 sec. from one measurement until automatic shutdown of the measuring procedure)

Product video link:

[http://www.warmbier.com/en/metriso3000\\_mov1.htm](http://www.warmbier.com/en/metriso3000_mov1.htm)

Short version:

[http://www.warmbier.com/en/metriso3000\\_mov2.htm](http://www.warmbier.com/en/metriso3000_mov2.htm)



► 1 year limited warranty

► Recommended calibration interval: 2 years

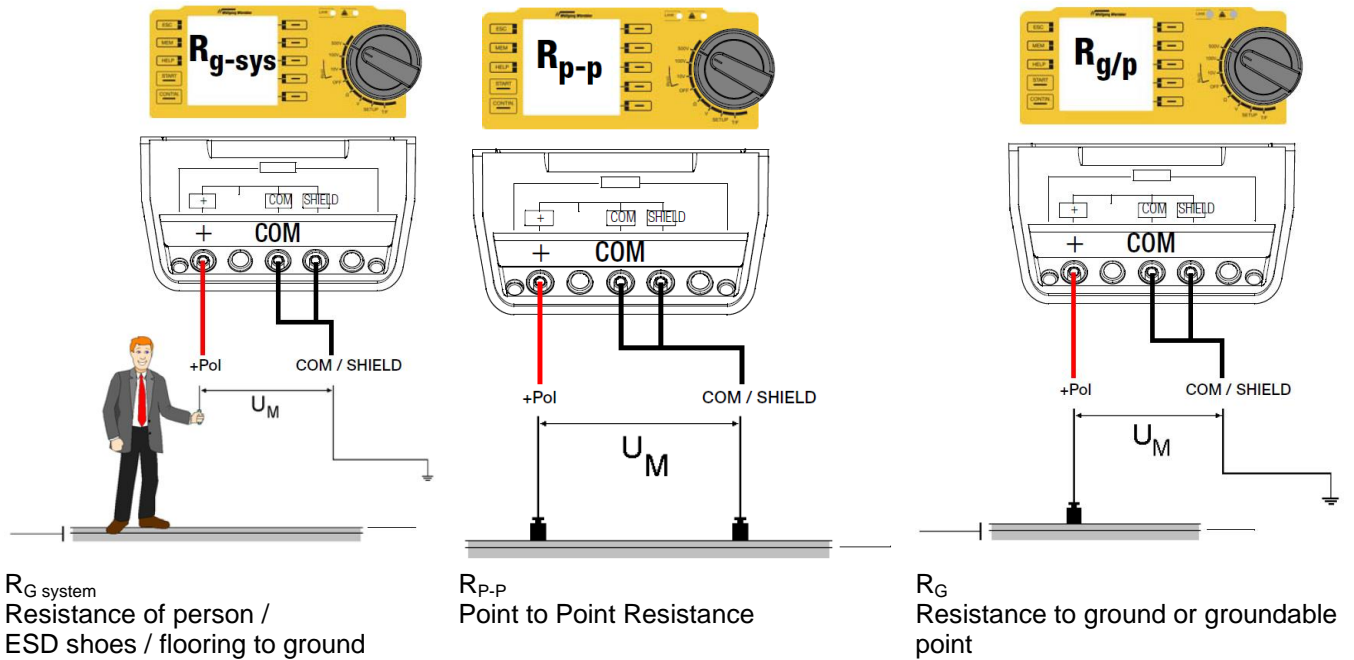
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### Possible measurements with the MetrISO 3000 Test-Kit



### Accessories (optional):

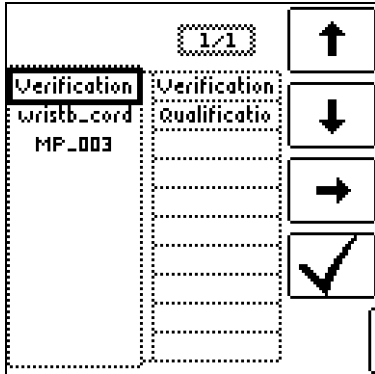


**Part No.**  
**7100.3000.SC.2D**  
1D/2D Barcode Scanner



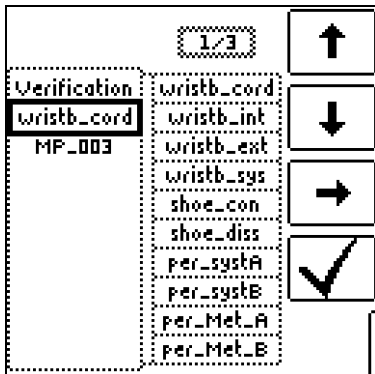
**Part No.**  
**7100.2000.TR50**  
50m Cable reel with unroll  
handle for floor  
measurement

**Menu driven Measurement**



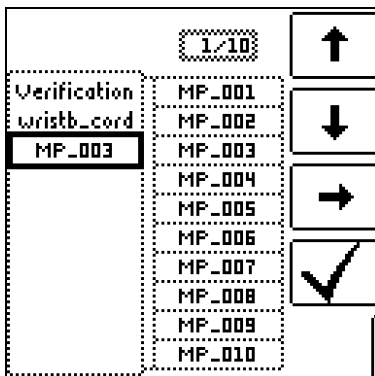
**1. Measurement type selection**

Select *Qualification* or *Verification* for the ESD control element



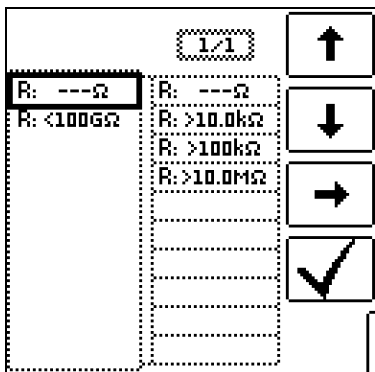
**2. ESD control element selection**

Example: Wrist strap.  
The upper limits are already predefined in the instrument.



**3. Number of measurements**

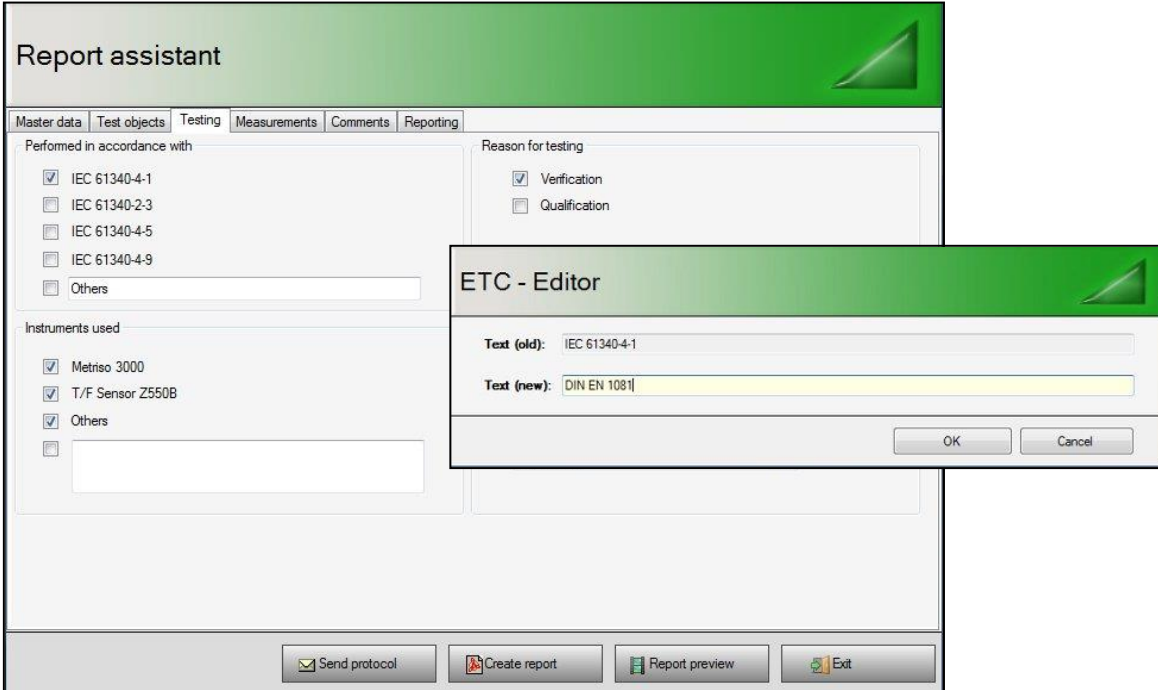
Enter the amount of measurements.



**4. Lower Limit**

If required, a *lower* limit value can be entered.

**ETC - Report Assistant**



The screenshot shows the 'Report assistant' window with several tabs: Master data, Test objects, Testing, Measurements, Comments, and Reporting. The 'Testing' tab is active, showing 'Performed in accordance with' (IEC 61340-4-1, IEC 61340-2-3, IEC 61340-4-5, IEC 61340-4-9, Others) and 'Reason for testing' (Verification, Qualification). An 'ETC - Editor' dialog box is open, showing 'Text (old): IEC 61340-4-1' and 'Text (new): DIN EN 1081'. At the bottom, there are buttons for 'Send protocol', 'Create report', 'Report preview', and 'Exit'.

Wolfgang Warmbier® Systeme gegen Elektrostatik		Report no. 20130925074550	Test report		
<b>Master data</b>					
Customer no.	55733	Date of measurement	25.09.2013		
Customer	Fa. Mustermann Elektronik AG Untere Giesswiesen 21 78247 Hilzingen	Order no.	20130925074550		
Representative	Herr Max Meier	Contractor	Wolfgang Warmbier GmbH und Co. Kg		
		Tester	Rainer Pfeifle		
<b>Test objects</b>					
Test object/-location	ESD Equipment	Object description	New ESD-Test-Area- Hall AB13 installed since 20.07.2014		
<b>Testing</b>					
Beginning of testing	07.				
Performed in accordance with	IEC				
Instruments used	Me				
<b>E0000173 backrest upholster</b>					
Control item	MP	Measured value	Limit values	Passed	Comment
chair Rgp	MP_001	34,1 MOhm 100 V	< 10 GOhm	Yes	measure to the metal plate
<b>E0000175 backrest shell</b>					
Control item	MP	Measured value	Limit values	Passed	Comment
chair Rgp	MP_001	42,3 MOhm 100 V	< 10 GOhm	Yes	measure to the metal plate
<b>E0000176 seat upholstery</b>					
Control item	MP	Measured value	Limit values	Passed	Comment
chair Rgp	MP_001	40,3 MOhm 100 V	< 10 GOhm	Yes	measure to the metal plate
chair Rgp	MP_002	41,6 MOhm 100 V	< 10 GOhm	Yes	see above
chair Rgp	MP_003	221 kOhm 9,62 V	< 10 GOhm	Yes	see above
chair Rgp	MP_004	348 kOhm 9,67 V	< 10 GOhm	Yes	see above
chair Rgp	MP_005	38,1 MOhm 100 V	< 10 GOhm	Yes	see above