



INTELLIGENT CLIMATE AND MOISTURE MEASUREMENT

## THE T4000 SERIES

HANDHELD MEASURING DEVICES FOR WATER DAMAGE RESTORATION EXPERTS, BUILDING INSPECTORS, ENGINEERS, AND WOOD SPECIALISTS.

## T4000 series

# Stand-alone tools or a one-for-all diagnostic tool

The T4000 series, comprising the multifunctional T4000 meter, the stand-alone T670 capacitive moisture meter and the T220 climate meter, offers robust solutions for professionals who need to make frequent and accurate non-invasive material moisture measurements (T670), temperature and humidity readings (T220), or a variety of climate and moisture measurements (T4000). These handheld measuring devices mark a significant advancement in building diagnostics.

Building on the capabilities of its predecessor, the T3000, the T4000 meter offers a comprehensive suite of measurement functions, making it a practical and cost-effective alternative to using multiple specialised instruments. Thanks to its innovative design, the universal base unit features an improved button-and-touchscreen control system and supports easily interchangeable sensors.

The T4000 meter is backward compatible with the T3000, allowing users to apply both old and new sensors to either device. This mutual compatibility makes the upgrade as well as the exchange of defective devices easy and protects your investment at the same time.



**T4000**  
Multifunctional meter



**T220**  
Climate meter



**T670**  
Capacitive moisture meter  
Material moisture

# T4000 series

## Applications

The T4000 series is especially valuable in scenarios such as:

### Moisture mapping in building materials, walls and floors

Various types of moisture sensors enable you to pinpoint moisture ingress, assess water damage, and make informed decisions regarding remediation.

### Monitoring drying processes

Long-term logging tracks drying progress over days, weeks or even years, essential for verifying remediation success.

### Monitoring air humidity

Accurately assessing air humidity is essential to prevent corrosion, material degradation, and mould.

### Screed readiness assessment

Determining whether screed layers are sufficiently dry for further construction helps save time and avoid moisture entrapment.

### Wood working, forestry, and timber trade

A built-in menu allows selection from hundreds of wood types, each with validated material profiles stored directly in the device.



# MultiMeasure Mobile app

## Analyse measurement data and build reports

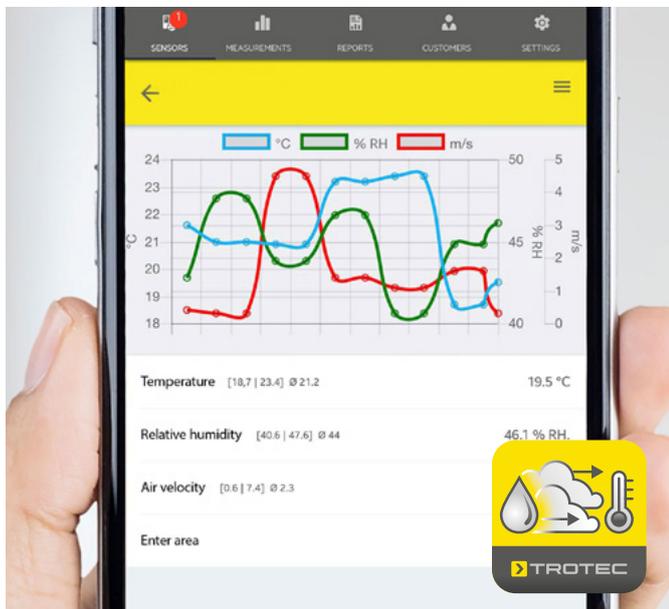
The MultiMeasure Mobile app handles all data analysis and operation from the T4000 series as well as other Trotec app sensors. Use it to calculate, display, and save climate parameters like:

- Dew point temperature
- Critical dew point
- Absolute humidity
- Specific humidity
- Air flow
- Air and material temperature
- Etc.

## Capabilities:

- Data logging and visualisation
- Link data from multiple connected sensors for advanced analysis
- Take photos and save the data with the photo
- Generate coloured matrix views to visualise moisture or heat distribution
- Assign measured data to specific projects and clients
- Share data with colleagues across different locations

**MultiMeasure Mobile is available free of charge for Android and iOS devices alike and can be used with all compatible Trotec devices.**



# T4000 multifunctional meter



T4000

### High accuracy, and interchangeable sensors for climate and moisture measurement

The T4000 meter is a practical and cost-effective alternative to using multiple specialised instruments. The innovative base unit features an improved button-and-touchscreen control system, and it is fully compatible with a wide range of interchangeable SDI sensors and electrodes. The device automatically recognises the sensor type upon connection.

In addition, the T4000 meter is backward compatible with the T3000. Users can operate both existing sensors and new sensors with either device. This compatibility simplifies system upgrades and the replacement of defective units. At the same time, it helps protect your investment.



The T4000 is a future-proof measuring platform designed to accommodate new extensions.



### Application examples

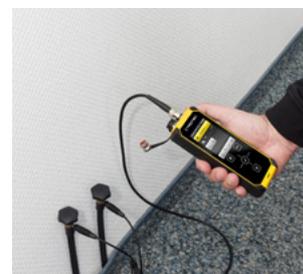
- Building diagnostics
- Water damage restoration
- Wood trade and processing

### Climate measurements

- Air temperature, humidity, dew point, critical dew point(s), absolute humidity, specific moisture, airflow – essential for assessing indoor climate and condensation risk.

### Moisture measurements

- Resistance method (material moisture): Uses pins to measure electrical resistance within materials. Ideal for wood, plaster, and masonry.
- Capacitive method (surface moisture): A non-destructive, indicative method that detects changes in a material's dielectric properties.
- Microwave method (depth moisture): A non-destructive method that measures subsurface moisture using microwave frequencies.



## Key features

### Tool consolidation

With its modular design and quick-coupling SDI sensor system, the T4000 eliminates the need for multiple devices, reducing equipment costs and simplifying logistics.

Different measuring modes for wood moisture, building moisture, air humidity, airflow, temperature, and tracer gas (leak detection).

### Non-destructive testing

Capacitive and microwave sensors enable thorough diagnostics without damaging building materials.

Grid measurements with a maximum resolution of 50 x 40 can be configured to generate a colour-coded matrix illustrating humidification patterns.

### Heatable sensor element

Climate sensors include a heatable element for cleaning the sensor to prevent drift due to humidity saturation or chemical deposits.

### Cross-sector adaptability

From insulation checks in new builds to diagnosing moisture in ageing structures, the T4000 suits a wide range of use cases:

- Water damage restoration
- Professional leak detection
- Real estate management
- Construction sites
- Industrial and manufacturing environments
- Workshops and garages

### Zoom and screenshot function for photographic documentation

For usability purposes, an integrated screenshot feature directly and easily highlights what the user actually sees in the LCD. A temporary large-digit display ensures measurement values are clearly visible in handheld snapshots – ideal for photographic records.

### Data integration and reporting

The built-in Bluetooth interface enables fast data transfer to the MultiMeasure Mobile app for analysis and report generation. Ideal for streamlining communication with clients and colleagues.

### Comprehensive database

Integrated material characteristics for hundreds of types of wood for wood moisture measurement, incl. temperature compensation for higher precision

### Extensive memory

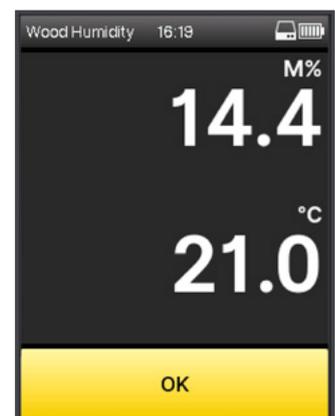
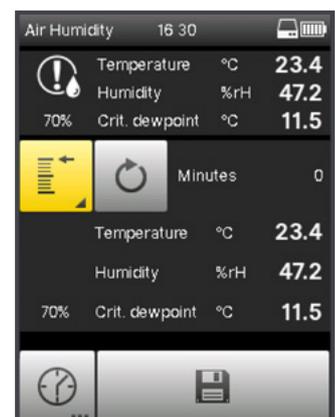
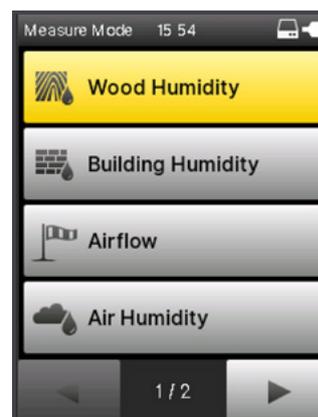
The meter supports structured management and archiving of customer and measurement data. Internal memory and a removable microSD card provide virtually unlimited storage capacity for measurement data. The meter can log values continuously for years.



### Backward compatibility

Adapter cables ensure compatibility between old and new SDI sensors across the T4000 and T3000 units, protecting previous investments, simplifying exchanges of defective units, and ensuring seamless integration.

### Practice-optimised, protected German industrial design. Ready to use.



# T4000 multifunctional meter

## Specifications

Communication	Bluetooth
Memory	Internal flash and microSD card
Operation	Touchscreen and touch keys
Interfaces	<ul style="list-style-type: none"> <li>• LP12 special quick-lock connector for SDI sensors</li> <li>• BNC connector for electrodes</li> <li>• USB port for permanent power supply</li> </ul>
Display/front glass	<ul style="list-style-type: none"> <li>• 2.7-inch colour TFT, 240 x 320 pixels</li> <li>• Highly scratch- and impact-resistant 1.1mm Panda Glass 7H</li> </ul>
Power supply	<ul style="list-style-type: none"> <li>• 4 x Alkaline LR6 AA batteries, 1.5 V</li> <li>• Optional power supply 5 V USB</li> </ul>
Product size (h x w x d)	179 x 65 x 34 mm
Weight	345 g

## Functions

Data logger	<input checked="" type="checkbox"/>
Alarm	<input checked="" type="checkbox"/>
Material selection for anhydrite and cementitious screed. Useful preliminary test for CM measurements.	<input checked="" type="checkbox"/>
Data archiving and archive display	<input checked="" type="checkbox"/>
Sensor offset correction	<input checked="" type="checkbox"/>
Multi-language and unit system selection (metric/imperial)	<input checked="" type="checkbox"/>
Real-time clock with date	<input checked="" type="checkbox"/>
Backlit display with brightness control	<input checked="" type="checkbox"/>
Minimum value, maximum value and hold-function	<input checked="" type="checkbox"/>
Automatic function and battery test	<input checked="" type="checkbox"/>
Auto-calibration (depending on connected sensor)	<input checked="" type="checkbox"/>
XY-graph visualisation	<input checked="" type="checkbox"/>
Table-visualisation of saved values	<input checked="" type="checkbox"/>
Automatic switch-off	<input checked="" type="checkbox"/>

# T4000 – compatible sensors

## Climate sensors

Temperature and humidity readings are displayed in real time on the display of the multifunctional meter.



**TS220SDI**



**TS240SDI**

All sensors are fully compatible with the T4000 and T3000 multi-function meters.

Specifications	TS220SDI	TS240SDI
<b>Sensor 1 display: temperature</b>		
Measuring range	-40 °C ... 110 °C	-40 °C ... 125 °C
Resolution	0.01 °C	0.01 °C
Accuracy	±0.2 °C (-40°C ... -20 °C) ±0.1 °C (0 °C ... 60 °C) ±0.2 °C (60 °C ... 110 °C)	±0.2 °C (-40°C ... -20 °C) ±0.1 °C (0 °C ... 60 °C) ±0.2 °C (60 °C ... 125 °C)
Units for sensor 1	°C, °F	°C, °F
Long term drift	<0.03 °C/y	<0.03 °C/y
<b>Sensor 2 display: humidity</b>		
	Relative humidity, absolute humidity, mixing ratio, dew point, specific humidity	Relative humidity, absolute humidity, mixing ratio, dew point, specific humidity
Measuring range	0 ... 100% RH	0 ... 100% RH
Resolution	0.1% RH	0.1% RH
Accuracy	± 2% (0 ... 90% RH) ± 3 % (90 ... 100% RH)	± 2%
Units for sensor 2	% RH, dp °C, dp °F, g /m <sup>3</sup> , g/kg	% RH, dp °C, dp °F, g /m <sup>3</sup>
Sensor material, rod / filter cap	Stainless steel / PP	Stainless steel / sintered
Sensor length / Ø	106 mm / 12 mm	246 mm / 12 mm
Sensor handle ambient conditions (measuring electronics in handle)	-25 °C ... 65 °C / 0% ... 95% RH (non-condensing)	-25 °C ... 65 °C / 0% ... 95% RH (non-condensing)
Operating specifications (sensor head)	-40 °C ... 110 °C / 0% ... 100% RH	-40 °C ... 125 °C / 0% ... 100% RH

## T4000 – compatible sensors

### Material moisture sensors

Capacitive electronic moisture indicator for non-destructive measurement in building materials. No interference by the level of salt content present in the material.



**TS670SDI**



**TS610SDI**

All sensors are fully compatible with the T4000 and T3000 multifunctional meters.

Specifications	TS670SDI	TS610SDI (old T3000 sensor)
Measuring principle	dielectric, indicative	dielectric, indicative
Measuring range	0 to 200 digit	0 to 200 digit
Resolution	0.1 digit	0.1 digit
Accuracy	0.1 digit	0.1 digit
Penetration depth	up to 40 mm	up to 300 mm



**TC 10**

Cable connecting T3000 to new SDI sensors



**TC 35**

Cable connecting T4000 to old SDI sensors



**TC 40**

Cable connecting T4000 to new SDI sensors

## T4000 – compatible electrodes

### Resistive electrodes for moisture measurement

Electrodes	Specifications	Article number
 <p><b>TS 4/200 and TS 4/300 round electrodes</b></p>	<p>Very thin uninsulated insertion electrodes (ø 2 mm) for moisture measurement in building and insulation materials.</p> <p>TS 4/200 (length 200 mm) TS 4/300 (length 300 mm)</p>	<p>3.510.226.110 3.510.226.115</p>
 <p><b>TS 8/200 and TS 8/300 round electrodes</b></p>	<p>Uninsulated insertion electrodes (ø 4 mm) for moisture measurement on loose mounds such as wood wool or shavings.</p> <p>TS 8/200 (length 200 mm) TS 8/300 (length 300 mm)</p>	<p>3.510.226.120 3.510.226.125</p>
 <p><b>TS 12/200 and TS 12/300 round electrodes</b></p>	<p>Insulated electrodes (ø 4 mm) for targeted moisture measurement in concealed component layers where the electrode shaft needs to be insulated. The most frequent use is the determination of moisture distribution of multilayered wall or ceiling structures such as floating screeds, multilayered walls, wooden beam ceilings, warm roofs, etc.</p> <p>TS 12/200 (length 200 mm) TS 12/300 (length 300 mm)</p>	<p>3.510.226.130 3.510.226.135</p>
 <p><b>TS 12/600 round electrodes</b></p>	<p>Insulated electrodes with a length of 600 mm (ø 8 mm / ø 4 mm), ideally suited for use on flat roofs or for moisture measurements in very thick walls.</p>	<p>3.510.226.136</p>
 <p><b>TS 70 ram electrode</b></p>	<p>Electrode with hammer handle for precision zone and depth measurement especially in wood with different moisture distribution, e.g., liquid nests using Teflon-insulated electrode tips. These are available in lengths of 45 and 60 mm.</p>	<p>3.510.226.105</p>
 <p><b>TS 60 hand electrode</b></p>	<p>Unbreakable plastic handle with two hexagon union nuts into which electrode tips of the following lengths can be inserted:</p> <ul style="list-style-type: none"> <li>• 20 mm (max. penetration depth 14 mm)</li> <li>• 30 mm (max. penetration depth 24 mm)</li> <li>• 40 mm (max. penetration depth 34 mm)</li> <li>• 60 mm (max. penetration depth 54 mm)</li> </ul> <p>Useful for the measurement of moisture in cut timber or wooden board materials (e.g., chipboard or fibre boards) and the measurement of moisture in soft building materials such as roughcast or plaster mortar.</p>	<p>3.510.226.101</p>

# T4000 – compatible electrodes

Electrodes	Specifications	Article number
 <p><b>TS 16/200 and TS 16/300 flat electrodes</b></p>	<p>The use is the same as that for the insulated round electrodes TS 12/200 and TS 12/300. The advantage of flat electrodes (1 mm) is that they leave no penetration holes in the surface, and the electrodes can be inserted through the edging strip after removing the base.</p>	<p>TS 16/200 (length 200 mm) TS 16/300 (length 300 mm)</p> <p>3.510.226.140 3.510.226.145</p>
 <p><b>TS 20/110 brush electrodes</b></p>	<p>With 110 mm long brush head (ø 7 mm) and insulated shaft. These electrodes are used for targeted moisture measurement in homogeneous building materials without using contact mass. The brush head establishes the connection to the goods to measure.</p>	<p>3.510.226.150</p>



The T4000 is a future-proof measuring platform designed to accommodate new extensions.

# T4000 – electrode accessories

## Accessories for resistive electrodes

Accessories		Specifications		Article number
	<b>Teflon-coated electrode tips</b>	Available in lengths of 45 and 60 mm, ø 1.5 - 2 mm approx. Especially for the TS70 ram electrode (wood moisture).	TS 070/45 mm TS 070/60 mm	3.510.200.212 3.510.200.213
	<b>Spare electrode tips</b>	Uninsulated		3.510.200.214
	<b>TC 20 connection cable</b>	To connect MultiMeasure electrodes for building and wood moisture measurement as well as compatible sensors from other manufacturers to the BNC connector of the T3000.		3.510.200.02
	<b>Contact paste</b>	To ensure good electrical conductivity between the building material and the electrode.		3.510.200.217
	<b>Testblock V1</b>	For checking measurement deviations and accuracy when using resistance electrodes for measuring wood or building moisture with the T510/T520 or T3000/T4000 MultiMeasure measuring devices.		3.510.200.241
	<b>TS 60 adapter set</b>	The set consists of two special adapters with thread and clamping ring enabling a direct connection of all round and flat electrodes to the TS 60 hand electrode. Using this combination ensures that the electrodes are inserted into the measured material in parallel and at an optimal distance.		7.200.001.280

# T670 stand-alone moisture meter



T670

### Capacitive moisture meter – material moisture

The T670 is an electronic capacitive moisture meter providing indicative measurements. The meter quickly and easily detects near-surface moisture in various materials, saving time and effort. Moisture distribution can be identified, e.g., in walls, floors, and ceilings.

The meter is practice-optimised, protected German industrial design. Ready to use.



### Application examples

- Building diagnostics – construction and remediation
- Wood working and timber trade

### Moisture measurements

- Fast and non-destructive indication of moisture distributions in near-surface regions.
- Grid measurements with a maximum resolution of 50 x 40 can be configured to generate a colour-coded matrix illustrating humidification patterns.

Specifications	
Measuring principle	Dielectric, non-destructive
Measuring range	0 up to 200 digits
Resolution	0,1 digit
Penetration depth	up to 40 mm
Communication	Bluetooth
Memory	Internal flash and microSD card
Operation	Touchscreen and touch keys
Display/front glass	<ul style="list-style-type: none"> <li>• 2.7-inch colour TFT, 240 x 320 pixels</li> <li>• Highly scratch- and impact-resistant 1.1mm Panda Glass 7H</li> </ul>
Power supply	<ul style="list-style-type: none"> <li>• 4 x Alkaline LR6 AA batteries, 1.5 V</li> <li>• Optional power supply 5 V USB</li> </ul>
Product size (h x w x d)	210 x 64 x 35 mm
Weight	320 g

# T670 stand-alone moisture meter

Functions	
Data logger	✓
Alarm	✓
Material selection for anhydrite and cementitious screed. Useful preliminary test for CM measurements.	✓
Data archiving and archive display	✓
Sensor offset correction	✓
Multi-language and unit system selection (metric/imperial)	✓
Real-time clock with date	✓
Backlit display with brightness control	✓
Minimum value, maximum value and hold-function	✓
Zoom and screenshot function for photographic documentation	✓
Automatic function and battery test	✓
Auto-calibration	✓
XY-graph visualisation	✓
Table-visualisation of saved values	✓
Automatic switch-off	✓





**T220**

**Climate meter**

High-quality sensor with numerous measurement functions. The ideal climate meter for professional use, home, hobby or workshop.

**Application examples**

- Building diagnostics – construction and remediation

**Measuring and calculating critical climate parameters**

- Air temperature
- Relative humidity
- Dew point (100 %) / Critical dew point (70 %, 75 %, 80 %)
- Absolute humidity (g/m<sup>3</sup>)
- Specific moisture (g/kg)

**Specifications**

**Temperature**

Measuring range	-40.0 °C ... 125 °C
Resolution	0.01 °C
Long term drift	<0.03 °C/y
Accuracy	±0.2 °C at -40 °C to -20 °C ±0.1 °C at 0 °C to 60 °C ±0.2 °C at 60 °C to 125 °C

**Relative humidity, absolute humidity, mixing ratio, dew point**

Measuring range relative humidity	0 ... 100% RH
Resolution relative humidity	0.01% RH
Accuracy relative humidity (@25 °C)	± 1,5% at 0...20% and 70...100% RH; ± 1% at 20...70% RH

**General specifications**

Communication	Bluetooth
Memory	Internal flash and microSD card
Operation	Touchscreen and touch keys
Display/front glass	• 2.7-inch colour TFT, 240 x 320 pixels • Highly scratch- and impact-resistant 1.1mm Panda Glass 7H
Power supply	• 4 x Alkaline LR6 AA batteries, 1.5 V • Optional power supply 5 V USB
Product size (h x w x d)	205 x 64 x 35 mm
Weight	320 g

Functions	
Data logger	✓
Alarm	✓
Data archiving and archive display	✓
Sensor offset correction	✓
Multi-language and unit system selection (metric/imperial)	✓
Real-time clock with date	✓
Backlit display with brightness control	✓
Minimum value, maximum value and hold-function	✓
Zoom and screenshot function for photographic documentation	✓
Automatic function and battery test	✓
XY-graph visualisation	✓
Table-visualisation of saved values	✓
Automatic switch-off	✓





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