

BENEFITS IN PRACTICE:

Compact multi-functional measuring instruments – digital precision without the disadvantageous measured value drift of analogue instruments

Developed, produced and quality-checked in Germany

Simple one-handed operation using a thumbwheel

Rugged, compact housing

Attractive price/performance ratio

MultiMeasure
PROFESSIONAL



Compact moisture measurement instruments



Which MultiMeasure Professional Thumbwheel Measuring Device for which measuring application?

A quick comparison of the measuring functions...

						
	T200	T250	T500	T600	T650	T2000 S
Humidity	●	●	●	●	●	●
Air humidity	●	●				●
Wood moisture			●		①	②
Building moisture			●	●	①	②
Equilibrium moisture						●
Material moisture			●	●	①	②
Surface measurement up to 4 cm					●	●
Depth measurement up to 30 cm				●		●
Dew point	●	●				●
Temperature	●	●				●
Air temperature	●	●				●
Surface temperature		●				●
Material temperature						●
High temperature measurement						●
Trace gas measurement						●
Hydrogen concentration						●
Velocity measurement						●
Airflow speed						●
Alarm function		●		●	●	●

① Moisture measurement according to the dielectric process

② All SDI- and Pt100 sensors from the MultiMeasure Series can be connected to the T2000 as well as compatible sensors from other manufacturers. Passive electrodes for material, wood and building moisture measurements using the resistance measuring method cannot be used with this device.

MultiMeasure Professional Measuring Tools with Thumbwheel

The MultiMeasure Professional Series is a series designed to provide users in industry, small firms and businesses and the building trade with a complete range of measuring tools for a variety of different maintenance, damage detection and diagnostics applications.

Each of the models in the series centres a on different application – from the compact T200 thermohygrometer to the multipurpose T2000 with matching system modules.

The measuring tools are easy to use and because they are all based on a standardised operating concept they are all easy to work with – **“If you’ve worked with one, you can work with them all!”**

This means that you do not have to waste precious time trying to work out how another model in the series works should you want to switch to another measuring instrument.

Go to the table next to the text to compare models and find out which of the MultiMeasure professional measuring instruments with built-in thumbwheel is the right tool for you and your own individual application.

Thermohygrometer T200



Air humidity



Air temperature

The T200 is a quality, German-made, professional hand-held measuring instrument and is optimally suited for checking the climate in homes, offices, production buildings and warehouses.

The precision sensor module of this thermohygrometer is protected from dirt and dust in the robust measuring head of the unit by means of a metal grid filter, and enables rapid and accurate determination of air temperature and relative humidity.

Both parameters are displayed simultaneously in real time on the easy-to-read display. In addition to relative humidity, further climate parameters such as dew point, or absolute water content of the air, can be analysed with this instrument. The air temperature display can be switched between °C and °F.

For an immediate evaluation of the measured data, minimum, maximum and average functions are available. In addition the current measured value can be retained by means of the hold function.

All the measuring devices in the Multi-Measure professional thumbwheel series – including the T200 – have been optimized to ensure that they meet the demands different professionals put on them: the right ergonomic features make life and measuring infinitely easier, which is why we lowered the weight and downsized our measuring tools to make them more compact and easier to handle. Now you only need one hand to carry out all the functions you need, leaving your other hand free to do other things.



Infrared thermohygrometer T250



Air humidity



Air temperature



Surface temperature



Dew point alarm

As a professional hand-held instrument in the MultiMeasure Series the T250 offers you the same precision, high quality and simplicity of operation as the T200. The fundamental difference is the particularly large range of functions provided, since **the T250 combines thermohygrometer, laser pyrometer and dew point alarm in just the one unit.**

Three operating modes and a large number of measuring functions, all selectable with one hand via the thumbwheel, make the entirely German-made T250 a mobile measuring station in pocket format:

In the **TH mode** the measuring instrument corresponds to the T200 and offers you all the functions of this thermohygrometer.

In the **IR mode** you can use the T250 as a laser pyrometer for surface temperature measurement with measurement location marking.

A particular practical advantage is the dew point alarm function:

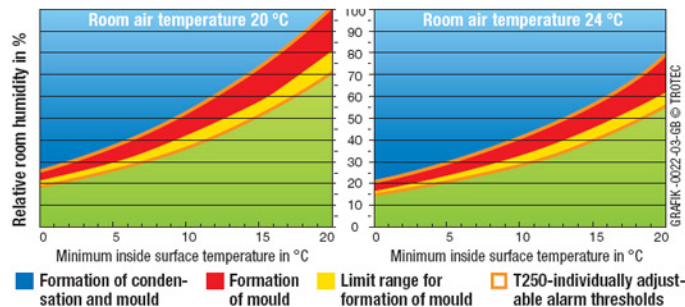
In the **DP mode** the dew point temperature and the surface temperature are displayed simultaneously in the well visible display.

Wall surfaces can be examined in no time and weakpoints detected quickly with the alarm function. The alarm thresholds are individually configurable.

The adjacent figure shows limit ranges of formation of condensation or mould in buildings depending on the minimum inside surface temperatures in the area of heat bridges.



Everyday working conditions often include dust and dirt which may falsify measuring results and shorten the sensor life. The **T200** and **T250** measuring devices are equipped with a metal grid filter as a standard!



The adjacent diagram shows the border areas with regard to condensate water and mould formation in buildings in connection with the minimum inside surface temperature near thermal bridges.

With the T250 all the necessary measuring variables – room temperature, humidity, surface temperature, dew point – can be determined with just one measuring instrument!

Moisture meter T500



Wood moisture



Building moisture

- Measurement of wood and material moisture with one device
- Temperature compensation function for wood moisture measurement
- Auto-calibration
- Integrated material characteristic curves for hundreds of different types of wood



Wood temperature compensation function



Integrated characteristic curves for hundreds of types of wood

- Very simple one-handed operation
- Includes comprehensive material characteristic curve compendium
- Expanded range of applications: all MultiMeasure electrodes can be connected to the T500 using the optional TS adaptor set

The T500 is a professional hand-held measuring instrument for the precise determination of the moisture content of wood and materials using the resistance method.

Besides detecting the moisture content of soft building materials such as gypsum or plaster, the T500 is better suited than any other instrument in its class for measurement checks in forestry operations, sawmills and all wood processing works.

This is because the T500 features a menu option that allows the selection of hundreds of different types of wood, especially for detecting the moisture content of wooden materials.

This is made possible by a large number of validated material curves, which are stored in the instrument software and can be selected from the T500 wood-type table using the corresponding material number.

The wood-type index, which is included in the supply package and runs to 170 pages, is probably the most comprehensive material curve compendium on the market!



As one would expect from a quality, German-made, professional wood moisture measuring instrument, the T500 features a special function to compensate for the temperature of the material being measured.

The real-time measured wood moisture content and the predefined wood temperature are shown simultaneously on the easily readable display during measurement. The current measured value can be frozen with a hold function if required.

Combine the practical advantages of the T500 with the expanded possibilities of a flexible choice of electrodes:

Using the TS adaptor set and the corresponding connecting cable you can connect all MultiMeasure electrodes for measuring wood and building moisture to the T500 and benefit from a wide range of applications that no other compact moisture measuring instrument in this class can offer.

Thanks to the long cable connection, moisture measurements can be performed conveniently and simply even in poorly accessible places. In addition you can enlarge the range of applications of your T500 in a unique way:

Would you like to perform moisture measurements on concealed building components?

In hard building materials such as concrete?

On wooden beam ceilings? In the damp course above the edge joints?

On multi-skinned wall or ceiling structures?

On the widest variety of wood types of different hardnesses?

No problem with the TS adaptor set:

Whether ram electrodes, layer-depth, round or flat electrodes, in all available lengths and diameters, with insulated or non-insulated electrode tips – the complete range of MultiMeasure electrodes can be connected easily to the T500!

Even your existing electrodes made by other manufacturers can be used on the T500 with the TS adaptor set, if connection is possible.



The standard scope of supply includes, besides the T500 measuring instrument, two cap nuts, ten measuring spikes (length 20 mm, $\varnothing$ 1.5 mm), protective cap for the electrodes, battery, operating manual and a comprehensive 170-page index of wood types.

Using the optionally available TS adaptor set (1) and the TC 25 connecting cable (2) you can widen the T500's range of applications considerably by connecting any electrodes from the MultiMeasure range to the T500.



The installation is child's play:

The TS adaptor set consists of two special adaptor heads that can be screwed quickly and easily to the top of the T500 in place of the standard cap nuts and serve as plug connectors for the optionally available TC 25 connecting cable. Using this connecting cable you can then connect the desired electrodes to the T500.



Moisture meter T600



The T600 is a professional hand-held instrument for rapid non-destructive measurement of sub-surface moisture content.

By means of microwave technology it is possible to detect distributions of moisture content at a depth of up to 300 mm.

Another advantage of the method, in addition to the great measuring depth, is its independence from the level of salt content present in the material. It therefore makes no difference to the microwave technique whether an older or a new building is being measured.



Sub-surface moisture



Material moisture
Sub-surface moisture



Moisture alarm

Both the T600 and the T650 are equipped with a minimum and a maximum function which provides the user with an immediate analysis of the relevant measuring data. There's also an equally valuable "Hold" function which "freezes" the reading you have just taken thereby taking your mind off the

The T600 and T650 moisture meter alarm – another added advantage

And here's another added benefit: you can configure your own individual thresholds, which allows you to measure the precise moisture content in the walls and floors you are inspecting both quickly and effectively.

Thanks to the meter's acoustic alarm, there's also no need for you to monitor the display constantly: the meter's alarm warns you automatically as soon as the measured value exceeds the threshold you have set leaving you are

Moisture meter T650



Surface moisture



Material moisture
near to surface



Moisture alarm

arduous task of having to concentrate on remembering the different measuring values. It's as if we had thought of everything: there's enough room on the large, easy-to-read, crisp and clear display, so now you can see not one but two measuring results – the current reading and the second value you need.

free to focus entirely on the object or surface you wish to examine! The exquisitely simple yet wonderfully effective thumbwheel on both the T600 and the T650 is another innovative feature which also allows you to concentrate on the job at hand.

The thumbwheel enables you to carry out all the functions with only one hand leaving your other hand free for other things!

The T650 is a professional hand-held instrument for fast, non-destructive determination of moisture content distributions in areas up to a depth of 4 cm from the surface. The T650 is yet another in our long line of products which carries the seal of quality "made in Germany". It can be used to perform measurements with digital precision – but without the measuring drift which you often get when you carry out measurements analogue measuring devices.



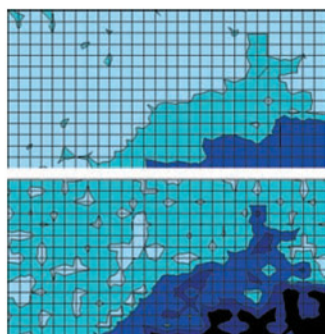
Damp and dry wall and floor areas can be detected by permanent real time display of the measured values. In addition, the device is suitable for preliminary inspection of the maturity of building materials in CM measurements.

Non-destructive, construction diagnostic combined measurements in practice

The T600 and T650 moisture meters are not only excellently suited for non-destructive measuring of building materials, walls, ceilings and floors, when combined they also enable the user to perform a variety of additional applications.

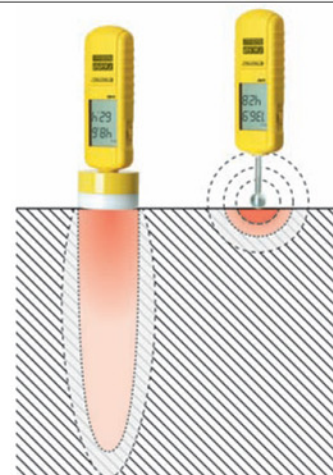
This combination of surface and depth measurements allows you to characterize, narrow down and classify complex connections, for example hygroscopic moisture distributions due to salinization or the detection of leaks. The T650 can

measure the moisture in the first 2-4 cm of the building material whereas the T600 can measure moisture volumes up to a depth of 30cm.



Conclusive results can be obtained by carrying out grid measurements and using the surface and depth measurement values to achieve a multidimensional representation of the moisture distribution.

Past experience has shown that the best way to process the readings is to enter them into a table. The values can then be converted into a diagram which incorporates surface and depth measurement data and transforms it into a graphic representation which allows you to visualize the extent of the moisture distribution.



Technical data

Compact measurement instrument

Article no.		ZB9110004	ZB9110007	3.510.207.500	ZB9110012	ZB9110014
Sensor display 1	Measured value	Air temperature	Air temperature, Surface temperature ¹⁾	Wood moisture, Material moisture	Material moisture, Sub-surface moisture	Material moisture, Surface moisture
	Units	°C, °F		%, digit	digit	
Sensor display 2	Measured value	Relative humidity, absolute humidity, dew point ²⁾		Compensation value for wood temperature ³⁾		
	Units	% r.H., dp °C, dp °F, g/m³		°C, °F		
Air and dew point temperature	Measuring principle	NTC				
	Measuring range	-20 °C...+50 °C				
	Resolution / Accuracy	0.1 °C / ± 0.4 °C *				
Air humidity	Measuring principle	Capacitive				
	Measuring range	5...95 % r.H.				
	Resolution / Accuracy	0.1 % r.H. / ± 3 % r.H.				
Surface temperature	Measuring principle		Thermopile			
	Measuring range		-20 °C...+60 °C			
	Optical resolution		8:1			
	Resolution / Accuracy		0.1 °C / ± 2 °C			
Material moisture	Measuring principle			Resistance method	Microwave	Dielectric
	Measuring range			15...100 digit	0...200 digit	
	Resolution / Accuracy			0.1 digit / 0.1 digit		
	Depth of penetration			Approx. 10 mm ⁴⁾ (connection)	Max. 300 mm (non-destructive)	Max. 40 mm (non-destructive)
Wood moisture	Measuring principle			Resistance method		
	Measuring range			5 %...50 %		
	Resolution / Accuracy			0.1 % / 1 % **		
	Temperature compensation			0 °C...50 °C		
	Electrodes length / ø			20 mm / 1.5 mm		
	Max. depth of penetration			Approx. 10 mm ⁴⁾		
Ultrasound	Measuring range					
	Resolution					
	Leak indication					
	Transmitter/receiver frequency					
Functions	Alarm signal	Audible / optical			Audible	
	Menu functions	Max., Min., Hold, Avg., Unit 1, Unit 2, Cal 1, Cal 2	Max., Min., Hold, Avg., TH, IR, DP, CFG, Unit 1, Unit 2, Cal 1, Cal 2	Hold, Sens, Mat., Temp., Unit 2	Max., Min., Hold, Alarm	
General tech. data	Dimensions approx.	175 x 48 x 25 mm	178 x 48 x 39 mm	168 x 48 x 25 mm	180 x 65 x 65 mm	190 x 48 x 25 mm
	Weight approx.	200 g	250 g	220 g	320 g	250 g
	Operation conditions***	0...50 °C, < 95 % r.H.		0...50 °C, < 90 % r.H.	0...50 °C, < 95 % r.H.	
	Storage conditions***	-30...60 °C, < 95 % r.H.		-10...60 °C, < 95 % r.H.	-30...60 °C, < 95 % r.H.	

¹⁾ in IR-mode; ²⁾ T250: not in IR-mode; ³⁾ only in the wood moisture measuring mode; ⁴⁾ with standard electrodes
* at 0...40 °C, otherwise ± 0.7 °C; ** in the range of 6 %...30 % wood moisture; *** not condensing