

## **PiCUS** TreeTronic

Electrical resistance tomograph  
for precise analysis of wood defects



ERT in 3 measuring levels

- High resistance
- Rising resistance
- Low resistance



## Electrical resistance measurement

With the aid of the PiCUS TreeTronic, the trained user can make predictions of incipient rot and its future development.

### Detect rot early

The PiCUS TreeTronic measures the electrical resistances in the wood, which depend on the water content, the cell structure and the chemical composition. Since rot usually has a high moisture content and thus a low resistance, it can be detected early with the TreeTronic.

Using PC software, the measurement results of the electrical resistance tomograph (ERT) can be displayed in 2D and 3D graphics. This shows the extent of the suspected defect in shades. The 3D view also shows a possible vertical course of the damage. This data can be used to make a forecast of how the tree's resistance to fracture might develop over the next few years.



## What is the type of defect?

The PiCUS TreeTronic Resistance Tomograph specifies the type of defect. The combination with the PiCUS Sonic Tomograph provides even more precise results.

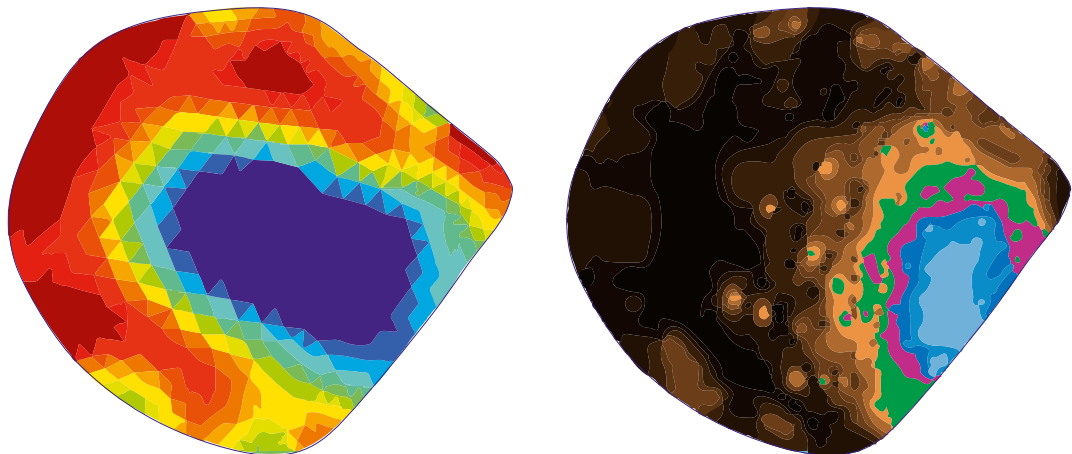
### Rot, cavity or crack?

The electrical resistance tomograph provides a complete image of the electrical conductivity of the measuring plane. This makes it possible to estimate what kind of damage is present and to what extent. In addition to rot, areas with altered cell structure are also visible. To identify the type of defect even more precisely, the TreeTronic can be perfectly combined with the PiCUS Sonic Tomograph. Both devices use the same measuring points and the same software. Thus, the measurements can be taken directly one after the other with little effort.

### The perfect combination

The sonic tomograph measures the transit time of the sound in the wood, which is longer in the case of a defect than in intact wood. The combined observation of the measurement results of both devices allows statements to be made about what type of defect it could be.

In this way, the TreeTronic also helps to interpret sound tomograms that are blurred due to cracks. With the help of electrical resistance tomography, a prognosis about the spread of the damage is possible.



Electrical resistance tomogram (left) and sonic tomogram (right) of a lime tree with cavity and rot





## Just know more about the wood defect

The electrical resistance reveals a lot about the type and characteristics of a damaged area, which is graphically illustrated by the tomogram.



### Compact design

One device, two cable harnesses with 12 measuring lines each and all the tools required for a measurement in a handy case always ready for use.



### Fast measurement

The PiCUS TreeTronic performs a measurement with up to 24 measuring points in less than 30 seconds.



### Vertical gradient

The tomography planes can be merged into a 3D graphic that shows the possible vertical gradient of the damage in the tree.



### Compatibility

Compatible with PiCUS Calliper and PiCUS Sonic Tomograph for easy geometry measurement and measuring point transfer.

## PiCUS TreeTronic function range:

- Measuring points:** Up to 24 measuring points per measurement possible (even number required)
- Tree circum.:** Up to about 6.5 metres
- Operation:** Possible with or without PC, the integrated control computer stores over 100 measurements
- Connection:** PC connection via Bluetooth for analysing the measurement results and GPS to determine the position of the tree

More information  
via QR code!



# The PiCUS Calliper - Capture geometry quickly

The triangulation method is an accurate and at the same time fast method to determine the geometry of the measuring plane for resistance tomography.

Before the measurement of the resistance tomograph can be carried out, the geometry of the tree in the measurement plane must be determined. The PiCUS Calliper enables easy handling and precise implementation of the triangulation method, even for complicated shapes of the tree cross-section.

The more precisely the geometry was determined, the more accurate the tomogram is. The PiCUS TreeTronic 3 and the PiCUS Sonic Tomograph 3 are both compatible with the PiCUS Calliper. Optionally, the PiCUS Calliper can be integrated directly into the transport case of the tomograph. This way you have everything you need for the measurement compactly at hand.

## The features of the PiCUS Calliper:

- Mountable in 2 sizes: the arms can be extended if required
- Large working range: up to 1600 mm or up to 2150 mm
- Automatic, fast and precise detection of all measuring point positions
- High ease of use: good readability of the displays, handy buttons and easy handling
- Light weight: Tubes made of carbon
- Bluetooth for PC connection



Do you have any questions?  
We are happy to  
assist you personally

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