

DBL60 Logging Band Dendrometer

Product Overview

The DBL60 is the scientific standard for dendrometer measurements on trees. It is a stand-alone instrument with an internal logger and battery. The logger has a memory capacity of 50,000 readings and the battery can last up to 5 years. Communications is via an infrared communications link with a dedicated, Windows based software interface. No programming is required. Simply install the DBL60 onto the tree and set a logging interval.

The DBL60 has a high resolution of $1\mu\text{m}$ (0.001mm). The DBL60 is non-invasive and attaches to the stem with an inextensible stainless steel band. The stainless steel band has a linear thermal co-efficient of 17.3×10^{-6} per $^{\circ}\text{C}$. Therefore thermal variations caused by daily or seasonal changes in temperature have no measurable impact on the operation of the DBL60.

The DBL60 is IP66 rated and is designed to be installed in the harshest field conditions for years at a time.



Features

- Rotary position sensor
- Step-less reading
- No upper limit in stem diameter
- Built-in datalogger
- IR data access
- Optional internal temperature logging
- Non-invasive fixing
- High resolution (1 μm)

Applications

- Trunk Growth Monitoring
- Irrigation Management



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DBL60 Specifications

Operating Conditions

Minimum Stem Diameter	80 mm
Maximum Stem Diameter	No limit
Increment Range	60 mm
Resolution	0.001 mm
Linearity	2% of full scale
Memory Capacity	50,000 readings or 4 years at hourly readings
Communications	Infrared

Temperature

Measurement Accuracy	± 2° C
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Power

Battery Capacity	Approx 5 yrs at hourly intervals
Type	Internal Lithium

Weight

Weight	450gm
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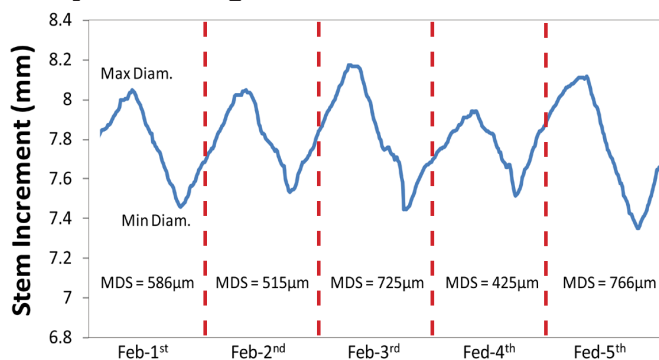
Strength

Tightening Strength	15 to 20 N
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Dimensions

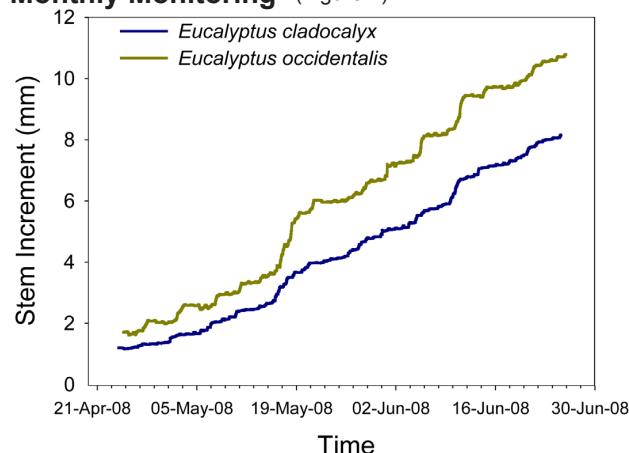
Tape Spool Length	15 m
Tape Spool Width	12 mm

Daily Monitoring (Figure 1)



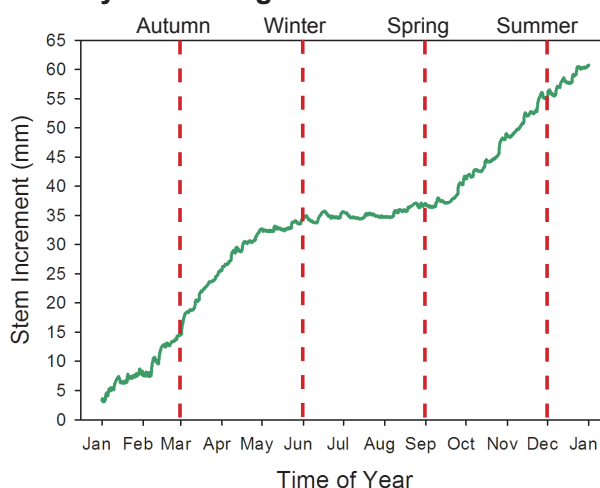
Maximum Daily Shrinkage = maximum daily stem diameter minus minimum daily stem diameter (see Figure 1),
Or monitoring the shrinking and swelling of a stem on a daily basis.

Monthly Monitoring (Figure 2)



Monitor stem growth over a single or multiple growing seasons. Ideally suited to experimental treatments such as fertilisation treatments, pruning, thinning or drought treatments. (Figure. 2)

Yearly Monitoring (Figure 3)



The DBL60 manufactured from UV resistant plastic for many years of data collection. (Figure 3) is an example of 12 months of data set from an *Acacia implexa* growing near Armidale, NSW, Australia.



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