

Dendrometer MIJ-02 LMS / LMM



Dendrometer Nondestructive Absolute Linear MIJ-02LMS / LMM

Introduction

Photosynthetic rate and water potential, these biological data are hard to measure by using automatic measurement. However, these difficulties can be solved by Dendrometer. Measuring daily changes of trunk or stem caused by construction factors such as photosynthesis, transpiration, and sapflow; and also by hypertrophy factor which occur by the water storage during night time from root to trunk. Measuring annual changes is same as measuring speed of secondary growth and carbon fixation. Also it helps to analyze the data of the mid-term phenomenon that will change weekly from excess water stress.

Feature

- Non-destructive
- High temporal resolution, High resolution, unattended measurement
- **LMS**: measurement range $\phi 1.5\sim 23\text{mm}$ **LMM**: measurement range $\phi 18\sim 50\text{mm}$
- Avoid the thermal characteristic of potentiometer by Using ratiometric output
- Minimum friction help to setting low spring constant
- IP67

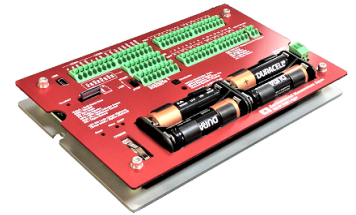
Specification

Standard Product Model	MIJ-02LMS Type2 (Sensor only) / MIJ-02LMM Type2 (sensor only)
Measurement Range	LMS: $\phi 1.5\text{mm}\sim 23\text{mm}$ / LMM: $\phi 18\text{mm}\sim 50\text{mm}$
Output	Ratiometric (eg: When preheat 5V then output full scale is also 5V)
Resolution	0.911 $\mu\text{m}/\text{mV}$
Regression equation (output)	$dr = 11000 \cdot (V_{out} / V_{pre}) / (1 + \text{SQR}2)$ dr: Radius displacement, Vout: Output mV, Vpre: Preheat Voltage mV, SQR: Square root
Power (Preheat)	5VDC (<1mA at 5VDC)
Withstand Voltage	<18VDC
Sensor Wiring	Brown: preheat Blue: Output voltage Black: common (Preheat GND and output voltage GND are shared)
Sliding resistance	<0.3N
Spring Constant	Standard (for wood) 0.3N/mm
Linearity	$\pm 1\%$
Thermal Characteristic	<-0.126 $\mu\text{m}/\text{DEG}$
Waterproof	IP67
Size	LMS / LMM Length : 133mm / 160 mm (measuring max diameter 23mm / 50mm)
Weight	LMS 42 g LMM 48g (Including stay; Not including Cable)
Supplied	MIJ-02 LMS / LMM NITTO EPTSEALER (Used for Mounting Hummer head to plant stem) Cable Tie Cable need to purchase separately

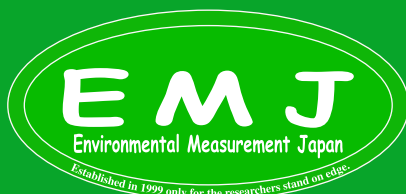
Compatible logger



MIJ-12 waterproof (1ch)



MIJ-01 Multichannel
(DIFF 8ch SE 16ch)



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