

Dendrometer MIJ-02 Rotary Type3



Absolute Circumferential Rotary Dendrometer MIJ-02 Type3

Introduction

Dendrometer is a sensor that measures the growth rate of plants, and has been measuring vertical growth and horizontal growth (trunk circumference growth) for a long time. Although primitive, a typical method is to wrap a belt-shaped tape measure around the trunk of a tree and visually read the seasonal changes. This method has the advantage of being able to measure a large number of trees because it is low cost, but it requires regular confirmation by humans, and even more labor is required as the number increases. On the other hand, MIJ-02 type3 is a mechanism to read this displacement electrically. Combined with a data logger, it enables both diurnal and seasonal changes in hypertrophic growth, that is, automatic reading over a long period of time at short intervals. In addition, stable measurement in μm units, which is not possible with the visual type, is possible.

Feature

- Non-destructive measurement can be selected (Nondestructive kit is required for non-destructive measurement)
- Using wire so it is possible to measure immediately after mounting
- The entire potentiometer and pulley can be rotated 30 degrees
- Wide measurement range of 30 mm
- The output is ratiometric. Avoid the temperature characteristics of the potentiometer itself
- Measurement Range: $\Phi 40\sim$

Optional: Nondestructive-KIT



Specification

Standard Product Model	MIJ-02 Type3 /W1.0(Wire 1m)
Measurement Range	30000 μm ($\Phi 38198\mu\text{m} \times \pi \times 90\text{DEG}/360\text{DEG}$)
Output	Ratiometric (eg: When preheat set 5V then full scale of output will be 5V)
Resolution	Depend on data logger (6 $\mu\text{m}/\text{mV}$, Using MIJ-01 0.06 μm , MIJ-12 less than 6 μm)
Regression equation (output)	$dL = 30000 \times V_{\text{out}} / V_{\text{pre}}$ (dL: displacement (μm), V_{out} : voltage output, V_{pre} : preheat voltage) (Please input the following equation to PVS if you use MIJ-01 $dL = 30000 \times X001 / 5000$)
Power (Preheat)	5VDC (5mA at 5VDC)
Withstand Voltage	<18VDC
Sensor Wiring	Red: Power (preheat), White: output voltage, Black: common (Power and output voltage GND are shared)
Sliding resistance	0.03-0.15Nm (Measured value range 0-30mm)
Wire thermal characteristic	Thermal expansion coefficient $17.3 \times 10^{-6} / \text{DEG}$ (SUS304)
Waterproof	IP65 (Potentiometer part)
Operating Temperature	-40~100 DEG (it may frozen but will not destroyed)
Size	W:56mm H:90mm D:53mm (Exclude cable)
Weight	116g (Exclude cable, screws)
Pulley rotation angle	90 Degree (90DEG for mechanically and electrically)
Screw holes	$\phi 4-2$ positions
Waterproof Connector Standard	CL07D03M(plug)
Standard Accessories	<ul style="list-style-type: none"> • Wire 1m • 2 screws SUS410 • Wire cover tube 1m • Hex wrench 3.0mm
Option	<ul style="list-style-type: none"> • Wire (Please inform length before order) • Wire cover tube will be extended as it is. • Nondestructive KIT

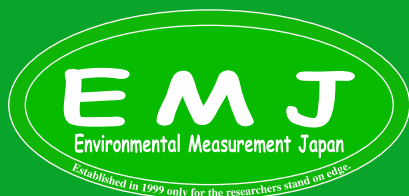
Compatible logger



MIJ-12 waterproof (1ch)



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



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