

CLAMP DENDROMETER PDS40P WITH DATALOGGER MINIKIN PTI

GENERAL DESCRIPTION

Clamp dendrometers are designed for the precise measurement of diameter changes in stems and branches. Their compact design enables easy and fast, non-invasive attachment to the measurement object. With a measurement range of 5 to 40 mm, they are suitable for measuring small stems and branches. The sensor is attached to the measurement object using three pressure levers, with the central measuring arm moving the rotary position sensor proportionally to the diameter of the measurement object. The contact pressure is designed to ensure stable positioning while minimizing the impact on plant tissue. The position sensor bearing is designed to minimize the effects of temperature and axial forces. The sensors are suitable for precise long-term measurements in the field and feature IP67 protection and an operating temperature range of -40 to 60 °C. The sensor requires minimal maintenance and energy.

MAIN FEATURES

- Sensing pivot concept
- Contact force up to 2 N
- Output signal: ratiometric
- Stepless reading
- Operating range 5 to 40 mm
- Accuracy: $\pm 2\%$ full scale
- Temperature dependence better than $\pm 3 \mu\text{m/K}$
- Easy and fast non-invasive fixing

COMPATIBLE WITH THE MINIKIN DATA LOGGER

- Measurement intervals ranging from 1 minute to 4 hours
- Internal temperature measurement by the data logger
- Storage capacity of approximately 50,000 data points
- Battery life of four years with one-hour measurements
- Data access via an IrDA/USB connection cable
- IP68 protection rating



INSTALLATION NOTES

The sensor should be mounted on a stem (or branch) that is as straight and evenly shaped as possible, making sure that the cable gland does not touch the object being measured. The cable must be firmly attached to the trunk so as not to affect the position of the sensor. In addition, the label on the black tag on the central lever must be clearly visible and facing away from the stem.

TECHNICAL DATA

PARAMETER	SPECIFICATIONS
Measuring range	5 ... 40 mm
Accuracy	±2 % of full range
Resolution	1.24 µm
Measuring intervals	1 min to 4 hrs
Contact pressure	1.5 to 2 N lateral levers, 2 to 3 N central level
Memory size	128 kByte
Memory capacity	ca. 50,000 values
Datalogger internal temperature accuracy	±0.3 °C
Battery capacity	4 years at a measurement interval of 1 hour
Power supply	Li-ion Battery
Weight of sensor / datalogger	160 g / 40 g
Size of datalogger	Ø21 x 100 mm length
Protection class	IP 68
Operating temperature	-40 ... 60 °C
Operating humidity	0 ... 100 %

TECHNICAL DATA DATALOGGER MINIKIN PTI

PARAMETERS	SPECIFICATIONS
Channels	1
Input / Resistance range	Resistor divider / 3.5 to 6 kOhm; 5 kOhm is recommended
Measurement intervals / Resolution	1 minute to 4 hours / 16 bits
Memory size / Storage capacity	128 kByte / approx. 50,000 values
Data access	via an IrDA/USB connection cable
Accuracy of the internal temperature	±0,3 °C
Clock accuracy (-10 to 40 °C)	better than ±15 seconds per month
Battery capacity	~4 years with a 1-hour measurement interval
Size / Weight	Ø22 x ~100 mm length, excluding cable / 40 g, including battery
Protection class	IP68