

# DEXLOG

## DEX Logger System



### Complete Plant Growth Monitoring Solution

- Comes complete, programmed and assembled
- Battery life (9 volt) – typically one year
- Works with Laptop PC's or PDA's
- Import data into Excel spreadsheets easily
- Options for adding soil moisture or weather sensors

### A Complete Logging Solution

The DEX Dendrometer Data Logging System is comprised of a GP1 data logger and (2) DEX electronic dendrometers and can be used to monitor plant growth rate or stress levels over long periods of time. The system can operate completely unattended. The GP1 data logger offers a self-contained solution for monitoring DEX electronic dendrometers, soil moisture and weather sensors. Data can be monitored and displayed in real-time or output to a PC using the supplied RS-232 serial data cable.

The DEX Electronic Dendrometers can be clamped on stems or fruits (citrus, apples, plums, etc.) and can measure very tiny changes in stem or fruit diameter (~0.004 mm). A trend upward represents the growth rate of the plant, whereas a leveling off or trend downward indicates plant stress. This way, growers know when, and how much stress the plants are under. This information can then be used to schedule irrigation or fertilizer applications, as well as keeping track of growth rates over time.

### Easy Installation

The DEX dendrometers are connected to the GP1 data logger using a twist-lock connector and extension cable. The dendrometers are then clamped onto a stem or fruit using a screw adjustment knob and suspended with a mono filament string to keep the weight of the dendrometer from pressing on the plant. Thereafter, the change in stem size influences the dendrometer output, which directly converts to mm or inches of expansion from the zero point. A calibration multiplier may be loaded into a logger command, as well as the zero offset, and readings are output directly in mm or inches of change. This data can be stored in the data logger memory or output to a PC or PDA device.



## Features

- **Nondestructive**
- **Real-Time measurements**
- **Long-term monitoring**
- **Adaptors for woody stemmed, herbaceous plants, and fruits**
- **Weatherproof and rugged for field study**
- **Ranges from 5 mm up to 200 mm diameters available**
- **Long extension cables available, up to 100 ft**



# Specifications

Units	DEX20	DEX70	DEX100	DEX200
<b>MECHANICAL</b>				
Measurement Range	5 - 25	10 - 70	25 - 100	95 - 200
Expansion Range	0 - 5	0 - 13	0 - 13	0 - 13
Dimensions				
Length	65	102	155	263
Width	19	25.4	25.4	38
Height	36	51	76	153
Weight	55 g	180 g	230 g	572 g
Standard Clamping Blocks				
Dimensions Set 1	19 x 19 x 6	25 x 25 x 9.5	25 x 25 x 9.5	25 x 25 x 905
Face Radius	5 mm	70 mm	106 mm	200 mm
Dimensions Set 2	19 x 19 x 6	25 x 25 x 13	25 x 25 x 13	
Face Radius	25 mm	5 mm / 50	25 mm / 75	
Optional Clamping Blocks				
Dimensions	19 x 19 x 6	25 x 25 x 9.5	25 x 25 x 13	38 x 38 x 7
Spherical Radius	25 mm	70 mm	105 mm	500 mm
<b>ENVIRONMENTAL</b>				
Operating Range	-10 to 50° C			
Temperature Stability	0.0025 mm/° C			
Accuracy over 20° C Range	0.050 mm			
<b>ELECTRICAL</b>				
Signal Output Range	±5 mV	±5 mV	±2.5 mV	±2.5 mV
Output Sensitivity <sup>NOTE1</sup>	.5 mV/mm	.22 mV/mm	.13 mV/mm	.05 mV/mm
Conversion Multi. <sup>NOTE1</sup>	2.0 mm/mV	4.5 mm/mV	7.7 mm/mV	20 mm/mV
Output Linearity	±.01 mV/mm	±.006 mV/mm	±.004 mV/mm	±.004 mV/mm
Electrical Noise Limit	±0.01 mV	±0.01 mV	±0.01 mV	±0.01 mV

**NOTE 1**

Output sensitivity and multiplier are determined by a 10 point calibration curve from 0 - 3 mm and 5 points from 3.5 to 13 mm. Each sensor is provided with a factory calibration certificate for precise figures.

<b>GP1 Logger Specifications</b>	
Input Connections	2 voltage channels 2 temperature inputs or 2 additional Soil Moisture Sensors 2 pulse counters (33kHz & 50Hz) 1 WET Sensor input Control Outputs 1 smart relay (1A)
Readings Stored	600,000
Recording Rate	1 second up to 24 hours
Configuration	DeltaLINK-PC or Pocket DeltaLINK (PDA option)
Communication Options	RS-232 or modem
Sensor Excitation	0 to >300 mm/hr
Power	One 9 V alkaline/lithium or external power supply 11-24 V
Battery Life	~ 1 year
Enclosure Rating	IP67
Temperature Range	-20 to +60° C (with lithium battery)
Size	5.5 x 4.1 x 1.7 inches (140 x 105 x 45 mm)
Typical Applications	<ul style="list-style-type: none"> <li>Monitoring soil moisture</li> <li>Logging weather sensors</li> <li>Controlling irrigation</li> </ul>

## Ordering Information

**DEXLOG**

GP1 Logger with two DEX stem and fruit growth electronic dendrometers (DEX70 or DEX100). Includes 10 ft. cables, and factory calibration.

**GP1-MP1**

Stainless steel mounting plate and fittings for mounting onto a 2" tube or flat surface.

**DEX20**

Dendrometer for stems or fruits 20 mm, 3 m cable length

**DEX70**

Dendrometer for stems or fruits 10 - 70 mm, 3 m cable length

**DEX100**

Dendrometer for stems or fruits 25 - 100 mm, 3 m cable length

**DEXCC**

Calibration kit for DEX70 or DEX100

**ECWD-25**

8 m cable for dendrometer, waterproof connector

**ECWD-Lxx**

Extra length, (XX) added to cable ECWD-25