

- ▶ Shelf-life studies using real-time data.
- ▶ Package performance analysis in storage.
- ▶ Isotherm generation using resealable jars.
- ▶ Temperature change influence on product water activity.
- ▶ Shipping container monitoring for safe conditions.
- ▶ Grain bin monitoring for safe storage conditions.
- ▶ Humidity monitoring in conditioned rooms with specific humidity requirements.
- ▶ Smokehouse humidity monitoring.



■ 5-channel data logger for long-term, unattended water activity monitoring.

## SAFE STORAGE MONITOR allows you to sample unattended water activity and temperature.



■ Measure  $a_w$  with any sensor instantly using SafeStorage Quick Check.

DECAGON DEVICE'S AquaLab water activity instrument is the industry standard for measuring water activity. But what is happening to products during storage and shipping? A system is needed that can log

water activity (relative humidity) and temperature over time making it possible to know exactly when conditions become unsafe. Decagon Devices, Inc. introduces the 5-channel data logging SafeStorage Monitor which records water activity and temperature data from up to 5

SafeStorage probes. The data is downloaded to a computer and monitored using Decagon's DataTrac software. The probes can be used in-package, in-silo, in-container, in-warehouse, in-museum, or anywhere monitoring of water activity (relative humidity) is needed. ■

Shelf-life/  
In-package  
Monitoring



Isotherm  
Generation



Grain  
Storage  
Application



Shipping  
Application



Relative  
Humidity  
Monitoring  
Application



# Specifications

## SafeStorage Water Activity Probe



### Description

SafeStorage Water Activity Probes are remote water activity monitoring sensors for in-package, in-silo, in-container, or other sensing needs.

### Probe Range

0 to 1.0  $a_w$  (0 to 100% RH).

### Accuracy

- $\pm 0.02 a_w$  (2% RH) for the range 0.10 to 0.90  $a_w$  (10 to 90% RH).
- $\pm 0.03 a_w$  (3% RH) for the range 0.0 to 0.10  $a_w$  (0 to 10% RH) and 0.90 to 1.00  $a_w$  (90 to 100% RH).

### Resolution

$\pm 0.01 a_w$  (1.0% RH).

### Operating Temperature

-38.4 to 60°C.

### Temperature Accuracy

$\pm 0.5^\circ$  (5 to 40°C), better than  $\pm 1.0^\circ\text{C}$  (40 to 60°C and -20 to 5°C),  $\pm 1.0^\circ\text{C}$  (-40 to -20°C).

### Dimensions

4.44 L x 1.68 L x 0.74 H cm.

### Cable Length

3.28m (10ft) standard, 10ft cable extensions available. (100ft max).

### Connector Type

3.5mm stereo plug.

## SafeStorage Monitor



### Description

The SafeStorage Monitor is a 5-channel data collection station designed to record Decagon's SafeStorage Water Activity Probes over an extended period of time.

### Data Storage

1 MB (scan rates of 1 minute to once per day), >36800 data scans.

### Memory Storage

Non-volatile Flash Data.

### Software Interface

SafeStorage DataTrac.

### Power Requirements

5 AA alkaline batteries.

### Enclosure

Weatherproof, impact-resistant.

### Operational Environment

-40°C to 60°C, up to 100% RH.

### Dimensions

20.2 L x 13.3 W x 5.5 H cm.

### Communication

Standard dedicated RS232 Port  
Optional 900 MHz or 2.4 GHz spread spectrum RF (EM50R only)  
data radio communication with > 100 loggers to one base station (requires an RM1 or DataStation accessory)

### Input Channels

5 sensor channels with 3.5mm "stereo-plug" style connectors for easy connection

## SafeStorage Quick Check



### Description

Quick Check provides an instantaneous water activity reading of any SafeStorage Water Activity Probe with the simple push of a button.

### Measurement Speed

Less than 1 second.

### Power

3.6V lithium battery (5-7 year life).

### Case

Stainless steel with silicone elastomer.

**Weight** 115g (4oz).

### Operating Environment

0 to 40°C.

### Carrying Case

Black 400 denier holster with belt clip and Velcro closure.

### Connector Type

3.5mm stereo plug.

## DataTrac Software



### Description

DataTrac is visualization software for data collected with Decagon's SafeStorage Monitor and Water

Activity Probes. Decagon designed DataTrac from the ground up to be easy to use and flexible.

### Computer Requirements

- Intel Pentium Pro or equivalent CPU.
- Monitor set to display 1024x768
- Hard disk with 100 MB of free space.
- Windows 98 or Windows ME with 64 MB of physical RAM.
- Windows NT (SP5), 2000, or XP with 128 MB of physical RAM.



950 NE Nelson Court  
Pullman, Washington 99163  
**800-755-2751**  
fax 509/332-5158  
safestorage@decagon.com  
www.decagon.com/safestorage