

## **µSmart Series**

# **Rainfall Sentry Pump Controller/Alarm**

**RS2** Rainfall Sentry with 0.2 mm tip

**RS5** Rainfall Sentry with 0.5 mm tip

**RS1** Rainfall Sentry with 1.0 mm tip

The Monitor Sensors Sentry Rain Alarm and controller series provides an alarm relay control when the rainfall intensity or volume exceeds the preset alarm thresholds. These parameters are set by using the menu button on the controller in conjunction with the up/down keys on the controller keypad.

In the Rainfall Sentry Pump Controller unit, the user has control over:

- The number of tips or volume of rainfall to initiate the alarm,
- The period of time in which the rainfall must occur,
- Duration of the alarm,
- The amount of additional rain to extend the alarm, and
- The period of time before the alarm deactivates.



The heart of the Rainfall Sentry Pump Controller alarm unit is the µSmart reader board which takes the input from the tipping bucket rain gauge to monitor rainfall events. In normal operation the illuminated screen displays the rainfall recorded in the preset rainfall period. This screen will remain unchanged until rain is recorded. The amount of rainfall displayed will increase as rain falls, but will also decrease as time passes. New rainfall will add to the total, but rain, which fell prior to the critical period, will be subtracted.

Whenever the total reaches the programmed amount, the alarm thresholds are exceeded. This will activate the relay until the rainfall drops below the preset alarm threshold for the required period. This then resets the alarm until the alarm conditions are again met. The Controller is also available with Audible and Visual alarm signals which operate in conjunction with the Alarm relay. The unit is provided with a locking key to prevent alteration of the thresholds after setting the alarm and time period.

The Event Timer in the rainfall sentry has two methods of operation. The factory default setting is to have the timer operate as a rolling counter where the oldest part of the input data taken over a set period of time (e.g. a 10 minute period) is dropped off and the latest 10 minute period is added. This means that if the system is set to look at rainfall in a 1 hour period the system will always be looking at the hour prior to the current time. Using the timer in this way captures heavy rainfall events which may occur at a time when the event falls across a time boundary. The absolute time mode of operation is available for applications where this method of timing is required and is set in the factory prior to delivery.

### **Features**

Embedded menu system  
Pushbutton control of all parameters  
Highly accurate rain gauge  
Highly visible and audible alarms (if optional)  
Key lock to prevent unauthorised changing of parameters.  
Heavy Duty contacts on control relay.

### **Applications**

Irrigation control  
Dust control/Dust monitoring  
First Flush systems  
Machinery shutdown  
Water Diversion systems

## Specifications

### Raingauge

<b>Range:</b>	0 to 720 mm rainfall per hour
<b>Switch Closure:</b>	Two Reed Switches potted with contact cleaning circuitry
<b>Resolution:</b>	Model RG (X) - 0.2 mm, 0.5 mm or 1 mm
<b>Accuracy:</b>	>127 mm/hr $\pm 2\%$ >254 mm/hr $\pm 3\%$ >381 mm/hr $\pm 4\%$
<b>Temperature Range:</b>	+1°C to +60°C (operating, non heated) Heated version available for applications below 0°C.
<b>Measurement Units:</b>	Millimetres
<b>Sensor Type:</b>	Tipping Bucket mechanism
<b>Weight (unpacked):</b>	2.3 Kg + controller
<b>Dimensions:</b>	Overall height 325 mm Collector diameter 200 mm
<b>Mounting:</b>	Three pre-drilled mounting brackets are incorporated in the base of the rain gauge. These accommodate 9 mm diameter bolts. A level bubble is provided to allow the gauge to be levelled accurately.
<b>Cable Lengths:</b>	Standard product has 8 mtrs of cable. Longer cable lengths may be ordered - allow \$3.50/m for additional cable.
<b>Related Products:</b>	SL1                      SSmart Logger AWS1                  Automatic Weather Station EP2                     Electronic Pluviometer SI1                      SSmart interface board for conversion to smart rain gauge.

### Controller Module WA1:

<b>Power:</b>	12-28 volts DC
<b>Relay:</b>	240 v 10 Amp Isolated double-pole relay contacts.
<b>Optional Alarms:</b>	Audible and visual alarms are available as optional extras.
<b>Security:</b>	Key lockout of menu controller