

**NEW!**  
*Monitoring Panels, Power Supplies  
and Remote Alarms!*

**PREVENT DOWNTIME, DAMAGE  
AND BUSINESS DISRUPTION!**

*Dont wait till its too late!!*

**CEILING GUARD<sup>®</sup>**



**WATER ALERT<sup>®</sup>**

**WATER ALERT<sup>®</sup>  
SENSOR CABLE**

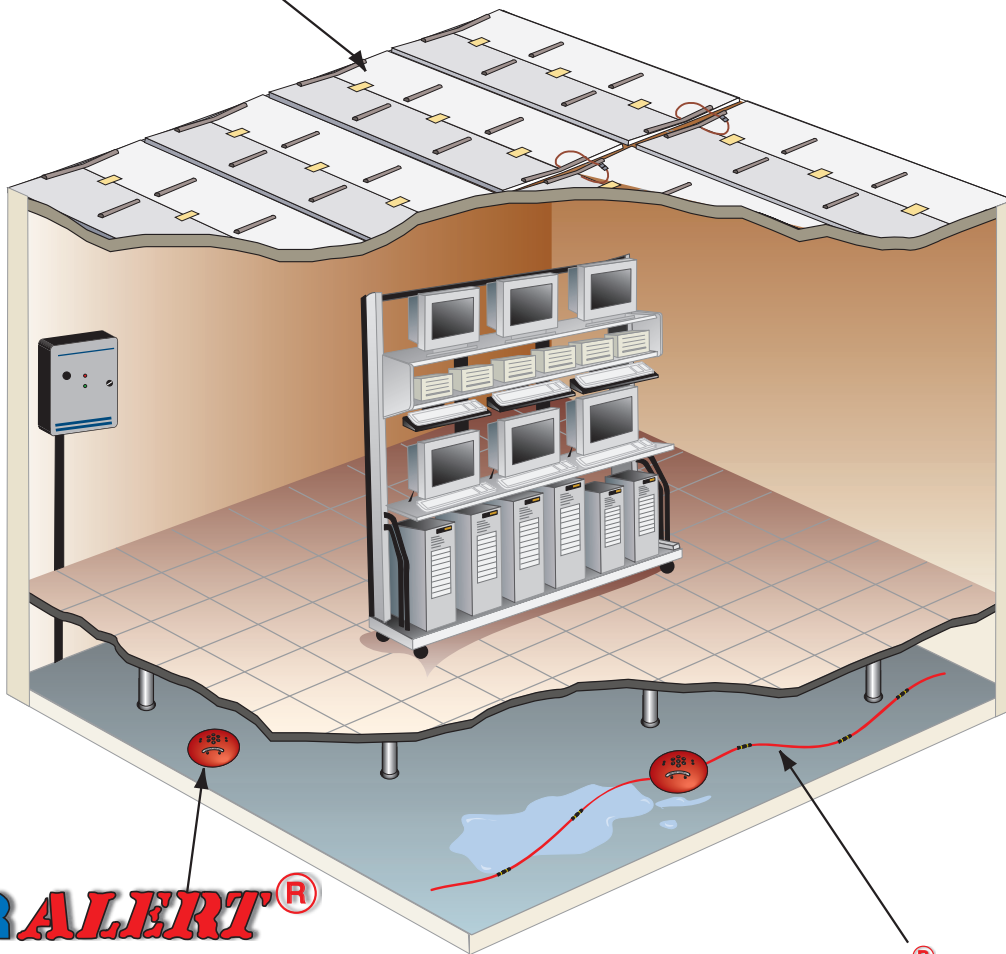
SYSTEMS INSTALLED IN OVER 25,000 SITES ACROSS THE U.S.!



**Detect small leaks ...** (condensate water overflow, chiller water leaks, plumbing line cracks, heating/cooling piping leaks, outside seepage, etc.)... **before damage and downtime occur!**

## **CEILING GUARD<sup>®</sup>**

- is a water leak detection system used in suspended ceilings. This system provides early warning of water drips and leaks before damage occurs to the area below.



## **WATER ALERT<sup>®</sup>**

- spot detectors are used in a wide range of applications to prevent damage and downtime from water leaks and spills. Six models available.

## **WATER ALERT<sup>®</sup> SENSOR CABLE**

- is a unique accessory that expands the capability of the WATER ALERT. Guards against undetected water leakage. Used in large areas or perimeter monitoring.

# NEW Series 2100 Monitor Panels-

See Page 11 for details!



All products in this catalog are available **DIRECT** from Dorlen Products Inc. This catalog is also available for download in pdf format at [www.wateralert.com](http://www.wateralert.com).

Engineering specifications are also available for download at our web site. For help in system design, layouts and quotations, please contact Dorlen's technical dept. at 1-414-282-4840 or [office@dorleninc.com](mailto:office@dorleninc.com) Thank you!

Dorlen's systems are extremely reliable, easy to install and have a **5 year limited warranty**. We are the leader in water leak detection and have been in business for over **45 years...**

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# **WATER ALERT**®

**WATER LEAK DETECTION SYSTEMS**  
**"SS" Models**

*-6 Models with optional accessories to meet your specific requirements.*

*-Used in a wide range of applications, from computer rooms to mechanical rooms... anywhere undetected leakage can occur.*

*-All units tested 4 times during manufacture, and come with a 5 Year Limited Warranty. Made in the USA.*

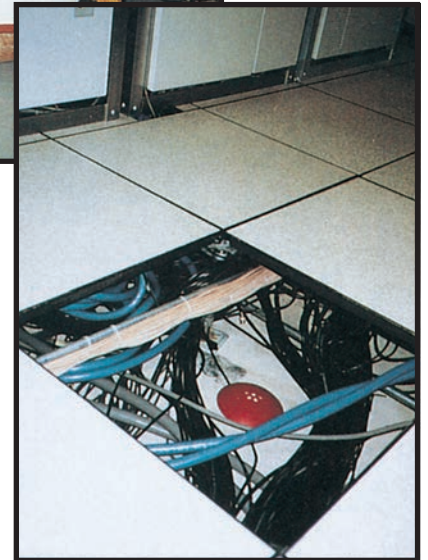
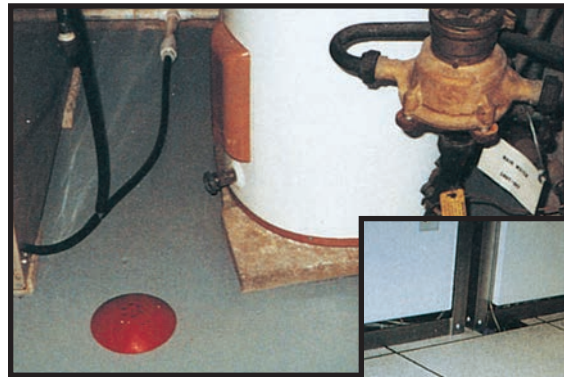
*-Simple installation using instructions furnished with all equipment, normally done by maintenance personnel. Typical spacing is one Water Alert for every 300-400 sq. ft.*

*-Water Alert will NOT activate due to high humidity and is not affected if submerged in water for short periods.*

*-Installed in over 25,000 sites across the U.S., Water Alert has proven to be the most rugged, simplest to install and longest lasting water detector available today.*



*From the boiler room...*



*to the computer room...*



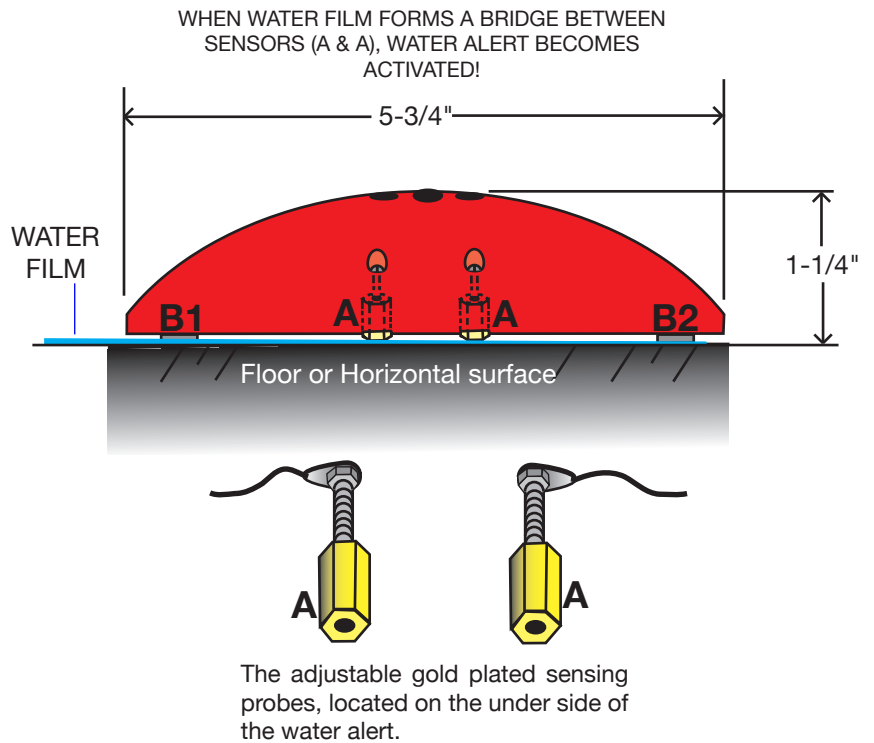
**AVOID THIS SCENE!**

**WATER ALERT will provide early warning of water leakage!**

## PRINCIPLE OF OPERATION AND CONSTRUCTION "SS" MODELS.

Water Alert® is activated by liquid\* bridging the adjustable sensors (A & A). The unit can detect water film from zero height, (sensors turned out to make contact with the floor), to 1/8" height, (sensors turned all the way in). The units are factory adjusted to activate with 1/32" water film height which is satisfactory for most applications. The pads B1 and B2 provide a gap between the case and the surface to admit water under the unit for detection. If desired, the self adhesive pad feature may be used by peeling off the thin protective layer from each pad. The self-adhesive pads along with the inherent low convex Water Alert profile minimizes the chance of the unit being inadvertently moved about after being located. Replacement pads are available (no charge) by request from Dorlen Products.

\*Water leakage . . . including solutions of water and ethylene glycol (used in many computer room air conditioning systems).



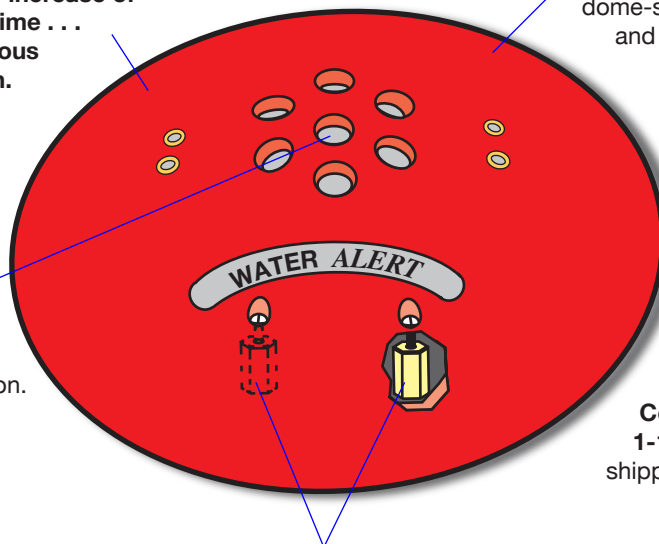
## CONSTRUCTION

Epoxy encapsulated sensing/control circuit avoids problems of dirt, fungus or humidity affecting circuit operation or increase of battery drain with time . . . Circuitry is impervious to water immersion.

1/8" thick, high-impact polystyrene dome-shaped housing for strength and ruggedness.

85db **SS-2100**, 100db all other models (at 3 feet) Piezo electric buzzer protected against short term immersion. Buzzer simply replaceable if damaged by long term submersion.

9vdc operating voltage for a safe and simple installation. (no conduit required)



Compact Design: 5-3/4" diameter, 1-1/4" high, approximately 1 lb. shipping weight.

Nickel-gold plated adjustable (1/64" to 1/8") sensing probes corrosion resistant. Nylon pellet assures positive connection from probes to sensing circuit.

**Note:** All "SS" Water Alert models are the same physical size. The difference between models is the result of internal circuitry differences.

Specifications for all products are available for download at [www.wateralert.com](http://www.wateralert.com)

## MODEL SS -

(Model XSS when using optional Sensor Cable)

Standard Water Alert detector provides audible alarm when activated.



- Used in applications where only a local audible alarm is desired.

### Powering options -

- 9v Alkaline Battery (Qty.1)
- **PSW-3** Power Supply (Pg. 23)
- **VM-1** Voltage Module (Pg. 24)

### Audible alarm -

- 100db @ 3 feet
- 3 day alarm duration (Battery Operation)

### Power draw -

- 25ma @ 9vdc (activated)

## MODEL SS-1 -

(Model XSS-1 when using optional Sensor Cable)

Water Alert detector provides local and remote alarms when activated.



- Used in applications requiring a single detector and remote alarm. Often used in noisy or unattended areas.

### Powering options -

- 9v Alkaline Battery (Qty.2)
- **PSW-3** Power Supply (Pg. 23)
- **VM-1** Voltage Module (Pg. 24)

### Audible alarm -

- 85db @ 3 feet
- 2 day alarm duration (Battery Operation)

### Remote alarm -

- 85db @3 feet w/ silence switch
- 9/16" Red lamp
- Wall Mounted 6"x3"x2" enclosure
- 50' Cable included

### Power draw -

- 40ma @ 9vdc (activated)

## MODEL SS-2 -

(Model XSS-2 when using optional Sensor Cable)

Water Alert detector provides audible alarm when activated.



- Used in applications where only a local audible alarm is desired and an extended alarm duration is required. (Battery operation- 10 day).

### Powering options -

- 9v Alkaline Battery (Qty.2)
- **PSW-3** Power Supply (Pg. 23)
- **VM-1** Voltage Module (Pg. 24)

### Audible alarm -

- 100db @ 3 feet
- 10 day alarm duration (Battery Operation)

### Power draw -

- 25ma @ 9vdc (activated)

## MODEL SS-4 -

(Model XSS-4 when using optional Sensor Cable)

Water Alert detector - No audible alarm...Provides isolated dry relay contacts (DPDT) which transfer and hold when activated. Self-resets.



- Used in applications where tie-in to an existing alarm panel is desired (Building Management System, etc.) and no audible alarm is necessary. Also ideal for extremely harsh environments and can control valves, pumps and other electrical equipment.

### Powering options -

- 9v Alkaline Battery (Qty.2)
- **PSW-3** Power Supply (Pg. 23)
- **VM-1** Voltage Module (Pg. 24)

Audible alarm -  
- None

Relay contacts -  
- DPDT ( 2- Form C)  
- 28 VDC @ 1 amp. MAX.  
(For high power applications see p.24 model **PR-WM**)

Power draw -  
- 1ma @ 9vdc (activated)

## MODEL SS-5 -

(Model XSS-5 when using optional Sensor Cable)

Water Alert detector provides audible alarm and isolated dry relay contacts (DPDT) which transfer and hold when activated. Self-resets.



- Used in applications where tie-in to an existing alarm panel is desired (Building Management System, etc.). Can also be used to control valves, pumps and other electrical equipment.

### Powering options -

- 9v Alkaline Battery (Qty.2)
- **PSW-3** Power Supply (Pg. 23)
- **VM-1** Voltage Module (Pg. 24)

Audible alarm -  
- 100db @ 3 feet  
- 10 day alarm duration  
(Battery operation)

Relay contacts -  
- DPDT ( 2- Form C)  
- 28 VDC @1 amp. MAX.  
(For high power applications see p.24 model **PR-WM**)

Power draw -  
- 25ma @ 9vdc (activated)

## MODEL SS-2100 -

(Model XSS-2100 when using optional Sensor Cable)

Water Alert detector used to tie-into all Dorlen' Series 2100 Monitors



- Used in applications where a Dorlen Series 2100 Monitor / Power Supply is desired.

### Powering options -

- Powered from Monitor (Pg. 11)

Audible alarm -  
- 85db @ 3 feet

Relay contacts -  
-None

Power draw -  
- 20ma @ 9vdc (activated)

# "VR" SERIES- Vandal Resistant with "Wash Down" Mode.

## **WATER ALERT**®

WATER LEAK DETECTION SYSTEMS

"VR" Models

-2 Models with optional accessories to meet your specific requirements.

- Specifically designed for use in public and employee restrooms. (or any other areas such as laboratories and clean rooms that require frequent cleaning).

- Vandal and corrosion resistant design.

- "WashDown" mode enables the area to be cleaned, without activating the Water Alert.

-All units tested 3 times during manufacture, and come with a **5 Year Limited Warranty**. Made in the USA.

-Simple installation using instructions furnished with all equipment, normally done by maintenance personnel.

- In wall or surface conduit wire entry.



### **MODEL VR-4 -**

Water Alert detector provides isolated dry relay contacts (DPDT) which transfer and hold when activated. Self-resets.

Powering options -

- 12 to 24 Volts AC or DC  
(Power Supply available -  
Model **PSW-4** see Pg. 23)

Audible alarm -

- None

Relay contacts -

- DPDT ( 2- Form C-Low Voltage )  
- 28 VDC@ 1 amp. MAX.

(For high power applications  
see Pg. 24 model **PR-WM**)

Power draw -

- 25mA @ 24VAC.

### **MODEL VR-2100 -**

Water Alert detector used to tie-into all Dorlen Series 2100 Monitors

Powering options -

- Powered from Series 2100 monitor. (Pg. 11)

Audible alarm -

- None

Relay contacts -

- None

Test feature-

- Yes

Power draw -

- 20mA @ 9vdc.



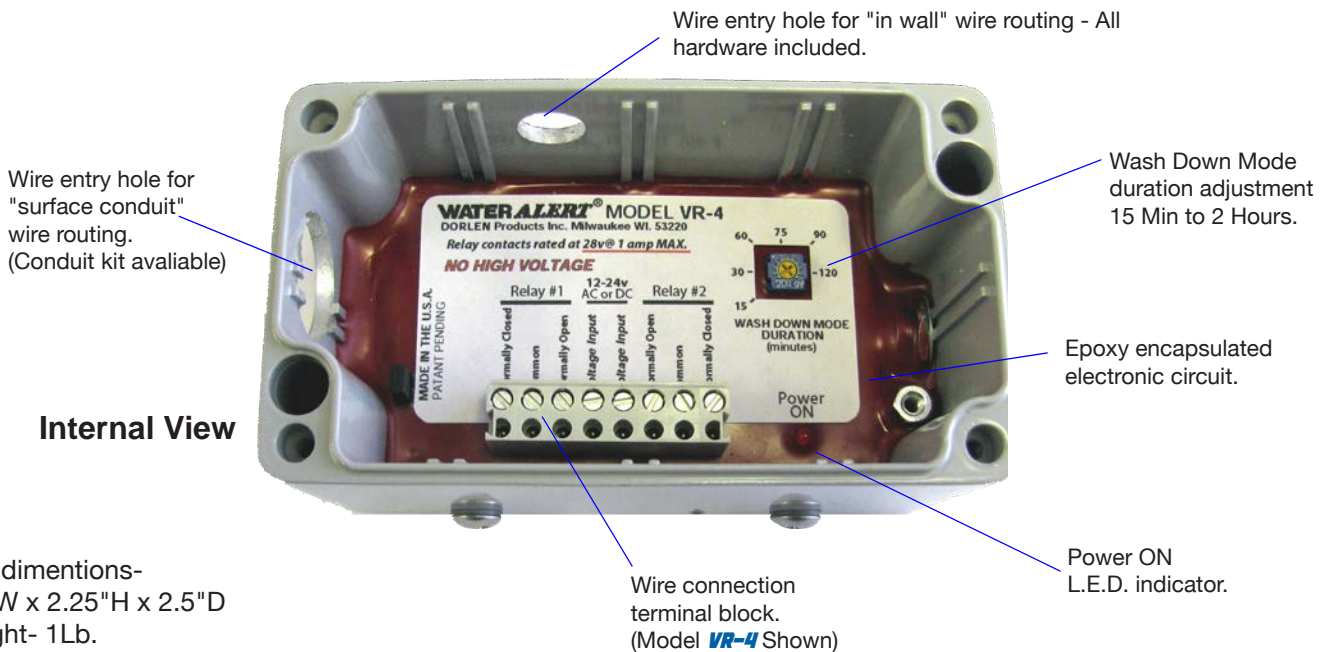
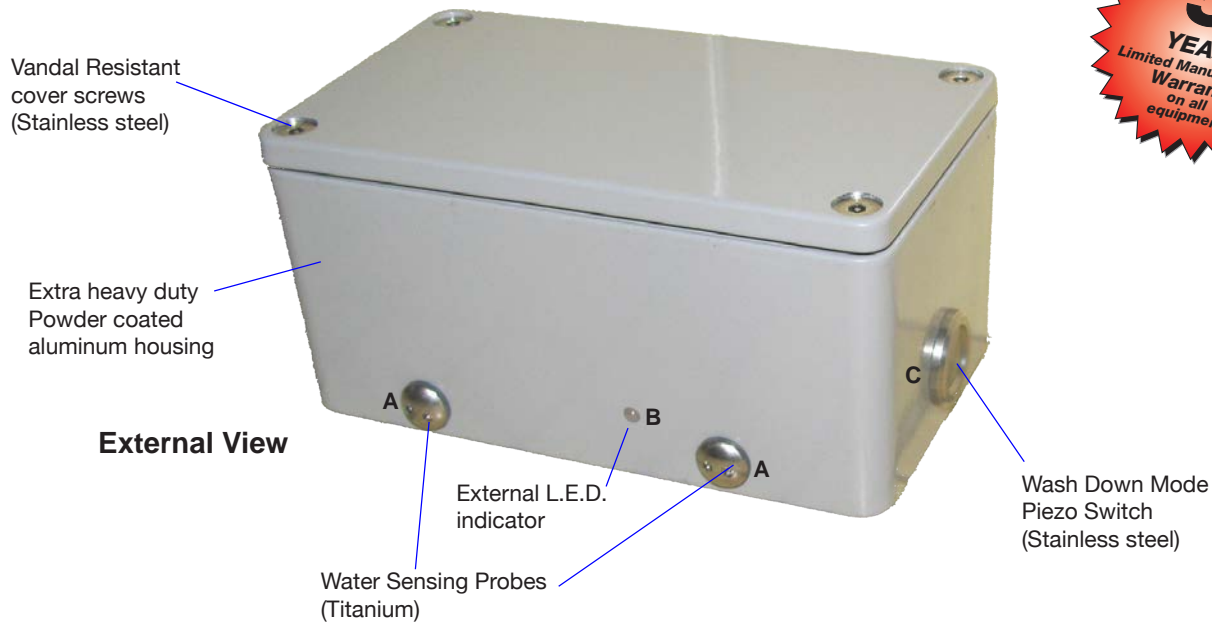


# WATER ALERT®

WATER LEAK DETECTION SYSTEMS "VR" Models

## PRINCIPLE OF OPERATION AND CONSTRUCTION "VR" MODELS.

The VR Series is activated by water or any conductive fluid bridging the titanium sensors (A & A). Upon activation the external L.E.D. indicator (B) will light RED. Once the liquid is removed, the VR Water Alert will self re-set. The VR Series is also equipped with a "Wash Down Mode". This feature allows the area to be cleaned with water without activating the Water Alert. The Wash Down Mode can be adjusted from 15 minutes to 2 hours. During this time the sensing circuit in the VR Water Alert is disabled. Once the Wash Down Mode times-out, the VR Water Alert will automatically resume sensing liquid. To activate the Wash Down Mode, the cleaning personnel simply pushes the external piezo switch (C). This switch has no moving parts and is touch sensitive. The external L.E.D. (B) will light Green, indication the VR Water Alert is now in Wash Down Mode.



Unit dimensions-  
4.5"W x 2.25"H x 2.5"D  
Weight- 1Lb.

# **WATER ALERT<sup>®</sup>** **SENSOR CABLE**

**A UNIQUE ACCESSORY  
EXPANDS THE CAPABILITY OF  
"SS" SERIES WATER ALERT...**

*For large areas or perimeter monitoring the Water Alert / Sensor Cable system is your best defense against downtime due to water leaks and floods!*

*By using Water Alerts in combination with Sensor Cable the user can purchase a system specific to their needs, from a simple local audible alarm to a large monitoring system.*



**Water Alert /  
Sensor Cable  
in mechanical  
Room**

## **FEATURES:**

- Sensors every 3 feet for practical and effective coverage
- 3 Standard lengths to match your requirements
- Local audible alarm - eliminates need for maps
- Adaptable to any "SS" SERIES Water Alert Detector (add "X" prefix to model #)
- Gold plated sensors for max. corrosion resistance
- Cable quickly dries providing no-fuss repeated use
- Up to 72 ft. of Sensor Cable per Water Alert
- Ultra-flexible, low memory cable
- No sensitivity adjustment
- No false activations
- Simple installation
- 5 year warranty



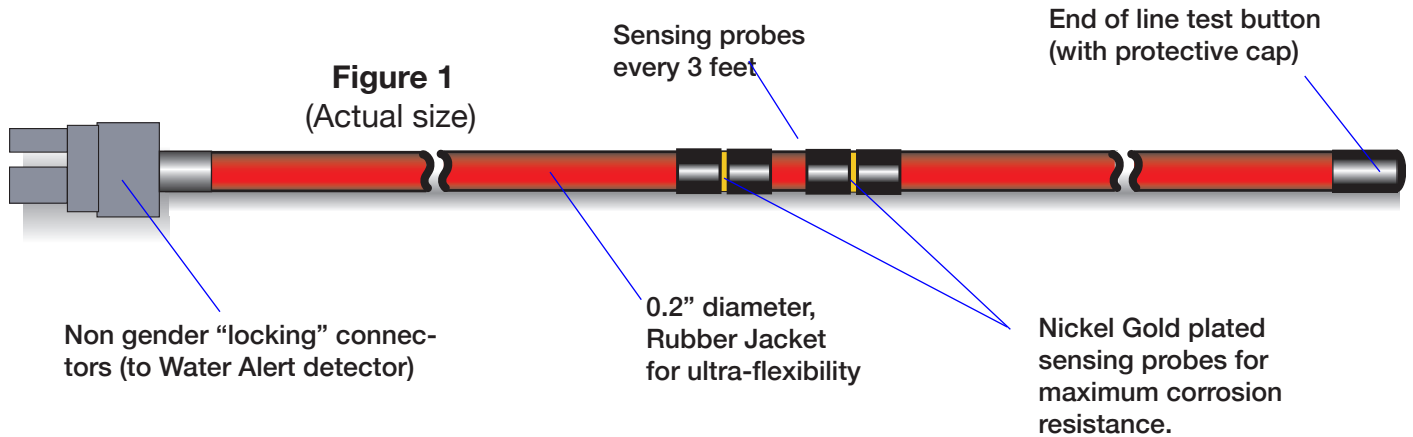
# WATER *ALERT*<sup>®</sup> SENSOR CABLE

## APPLICATION AREAS

- BELOW ACCESS FLOORING  
(Computer rooms, Data centers)
- BELOW GRATED FLOORING  
(Clean rooms, Semiconductor Mfg.)
- DATA CABLE RACEWAYS/TRAYS
- RECORDS STORAGE, ARCHIVE AREAS
- VALUABLE MATERIAL STORAGE AREAS
- MECHANICAL / ELECTRICAL ROOMS
- UNATTENDED & DIFFICULT ACCESS AREAS

## PRINCIPLE OF OPERATION AND CONSTRUCTION -

The Sensor Cable is a multi-conductor wire with embedded gold plated sensors every 3 feet. These sensors act as extensions of the sensing probes contained within the Water Alert detector. Should any of the sensors come in contact with water the Water Alert will activate. Only 1/16" of water is necessary for detection. The Sensor Cable comes in three standard lengths **12, 24 and 36 feet**. One or Two Sensor Cables can be connected to any Water Alert. These connections are made with a non-gender, locking connector for a fast and durable installation. If desired, the cable may be kept in place along the floor with adhesive clips (included). **Figure 1** below shows the construction of WATER ALERT SENSOR CABLE.



The low voltage system is simple to install and is normally carried out by maintenance personnel with instructions furnished. Once installed, the system will provide years of maintenance free operation, guarding 24 hrs. a day against damaging water leakage.

\* Not for use with "**VR**" Series Water Alert detectors.

*Water Alert Sensor Cable **does not absorb, trap, or wick moisture** into the cable for detection unlike coaxial or helical type detection cables. This leads to excessive dry-out periods, contamination by dissolved particles, and mold and mildew forming, requiring the cable to be uninstalled and cleaned or replaced. This is one reason why our cable has the lowest maintenance and longest warranty available.*

MODEL #	LENGTH	SENSORS PER CABLE
<b>SC-12</b>	12'	4
<b>SC-24</b>	24'	8
<b>SC-36</b>	36'	12



**WM-6(T), WM-12(T) (open), WM-20(T) and WM-40(T)**

## General Description -

The Series 2100 is an early warning leak detection system utilizing the latest line of Dorlen Products remote monitors and compatible **SS-2100 / VR-2100** Water Alert detectors. All Series 2100 Monitors monitor, power and test the connected Water Alerts. The easily installed system is made up of only 3 separate components- 1 Monitor ( 4 models available) , up to 40 Water Alert detectors, and Dorlen type "D" interconnect cable. Each system is characterized by the monitor used. When one or more Water Alert detects water leakage it will activate and signal the monitor. The monitor will then activate providing an audible alarm, red flashing lamp, LED indication of activated Water Alert(s) and transfer a dual set of isolated relay contacts. The Water Alerts may be located up to 2500 feet from the monitor.

## Features common to all SERIES 2100 Monitors -

- Monitors will **monitor and power** the connected Water Alerts (Water Alert Model **SS-2100** or **VR-2100**).
- Upon Water Alert activation, monitors sound **audible alarm, flashing red lamp** and **LED indication** of which Water Alert has activated.
- Monitors are equipped with automatic **internal battery back-up** in case of line power failure, system will remain monitoring for up to 2 days without AC power... Battery self recharges upon AC return.
- **Test Capability.** This feature enables the user to test the attached detectors while at the Monitor location. By simply pressing the TEST push button, that pair of detectors will activate, activating the monitor. This test verifies all wiring is intact, Water Alert circuitry is operating properly and the Monitor has received the Water Alert signals. This test simulates a water leak and serves as a way to "exercise" the system...thereby insuring that the system is operating properly.
- Monitors are equipped with **2-SPDT isolated relay contacts** which will transfer upon any Water Alert activation for customer use in signaling existing security panels or other equipment. (Relays rated at 1 amp, 28VDC).
- **Extremely simple installation...** Normally carried out by company maintenance personnel with instructions furnished. ALL hardware included.
- **Ultra-reliable performance;** All products come with a **5 year Warranty...**prices shown on attached price list.

*For help in system design, layouts or quotations, please contact Dorlen's technical dept. at 1-414-282-4840 or office@dorleninc.com*

# WATER ALERT<sup>®</sup> SERIES 2100 - Monitored Systems

**5**  
YEAR  
Limited Manufactures  
Warranty  
on all  
equipment

Series 2100 Wall Mounted monitor.

Screw type terminal connections on all monitors to terminate "D" CABLE.

Dorlen type "D" CABLE (see p.26). 3 conductor #22 AWG, Stranded w/vinyl jacket. (Also available in Plenum) 2500' max. distance between each Water Alert and the Series 2100 monitor. (9vdc)

**SS-2100** or **VR-2100**  
Water Alert detector  
(**SS-2100** shown)

Optional Sensor Cable, an accessory to any "SS" Series Water Alert detector. See p.5-6.

This table summarizes the Series 2100 product line.

Series 2100 Monitor Model#	CHANNELS Max. # of Water Alerts	MAX. COVERAGE AREA		PHOTO AND SPECIFICATIONS	DETECTOR MODEL#
		Water Alerts	Water Alerts w/ Sensor Cable		
<b>WM-6(T)</b>	6	2400 Sq. Ft.	3300 Sq. Ft.	P.13	<b>SS-2100</b> or <b>VR-2100</b>
<b>WM-12(T)</b>	12	4800 Sq. Ft.	6600 Sq. Ft.	P.13	
<b>WM-20(T)</b>	20	8000 Sq. Ft.	11,000 Sq. Ft.	P.14	
<b>WM-40(T)</b>	40	16,000 Sq. Ft.	22,000 Sq. Ft.	P.14	

## **MODELS WM-6(T) and WM-12(T)**

Monitors, powers and tests 6 / 12 **SS-2100** or **VR-2100** Water Alert detectors.



The **WM-6(T)** and **WM-12(T)** are used to monitor areas 2400 to 6600 Sq. Ft.. The monitors are surface wall mounted for simple installation. All hardware, including a 5 ft. length of wire duct, installation/maintenance manuals and warranty are included with the monitor.

*See pages 11 and 12 for a general description and detailed features of all Series 2100 Monitors.*

### **WM-6(T) AND WM-12(T) SPECIFICATIONS**

Monitor Input Voltage/Current: 115VAC 10%, 60Hz, .1Amp max.  
Monitor Output Voltage: 9VDC (To detectors)  
Monitor Audible Alarm: 85db at 3 feet

Input: UL listed input transformer, Terminal strip hard wired.

Dimensions: 14.75"W x 4.75"D x 16"H  
Weight: 22 lbs.

Construction: Door-Brushed Stainless, Body Steel with Black powder coat finish.

Surface wall mount - no need for wall cut-out. Surface wire duct included.

Screw type terminal strip wire connection.

Warranty: 5 Year Limited

- Wall mounted
- Test feature
- Visual and audible alarms
- DPDT Relay contact outputs
- Battery back-up
- 5 Year Limited Warranty
- Made in the USA

## **MODELS WM-20(T) and WM-40(T)**

Monitors, powers and tests 20 / 40 **SS-2100** or **VR-2100** Water Alert detectors.



The **WM-20(T)** and **WM-40(T)** are used to monitor areas 8000 to 22,000 Sq. Ft.. The monitors are surface wall mounted for simple installation. All hardware, including a 5 ft. length of wire duct, installation/maintenance manuals and warranty are included with the monitor.

*See pages 11 and 12 for a general description and detailed features of all Series 2100 Monitors.*

### **WM-20(T) AND WM-40(T) SPECIFICATIONS**

Monitor Input Voltage/Current: 115VAC 10%, 60Hz, .2Amp max.  
Monitor Output Voltage: 9VDC (To detectors)  
Monitor Audible Alarm: 85db at 3 feet

Input: UL listed input transformer, Terminal strip hard wired.

Dimensions / Wt. WM-20(T): 20"Wx4.75"Dx15.5"H / 35 lbs.  
Dimensions / Wt. WM-40(T): 20"Wx4.75"Dx24H / 50 lbs.

Construction: Door-Brushed Stainless, Body Steel with Off White powder coat finish.

Surface wall mount - no need for wall cut-out. Surface wire duct included.

Screw type terminal strip wire connection.

Warranty: 5 Year Limited

- Wall mounted
- Test feature
- Visual and audible alarms
- DPDT Relay contact outputs
- Battery back-up
- 5 Year limited Warranty
- Made in the USA

# CEILING GUARD<sup>®</sup>

## WATER LEAKAGE SENSING SYSTEM

*Dorlen Products' Ceiling Guard system is your best defence to guard against water leakage coming from above your ceiling. Whether its a leaky roof, pipe leaks or above floor flooding, Ceiling Guard will provide early warning of the potential disaster, aiding in rapid response!*



### INTRODUCTION

The Dorlen Products' Ceiling Guard Water Leakage Sensing System is used to sense small amounts of water/liquid leakage above 2'x4' or 2'x2' suspended acoustical ceiling tiles. The system is made up of low profile (1/2" ht.) "troughed" sensing trays which contain small sensing contacts. These trays are fastened to the top side of the conventional drop-in ceiling tiles and are interconnected to form zones of protection...The zones, in turn, are terminated in a Dorlen **WATER ALERT<sup>®</sup>** detector.

The system is designed to detect and provide indication of small amounts of leakage *before* the leakage accumulates to the point of leaking through, or along the edges of the tiles to the area below. Installing Ceiling Guard provides a very high degree of protection against leakage from concealed piping and the roof or floors above the suspended ceiling.

Installation is very simple, while individual panel removability and overall ceiling appearance is retained. Ceiling Guard can be used with new or existing suspended ceilings. Ceiling Guard is an extension of, and works in conjunction with Dorlen's Water Alert<sup>®</sup> detectors.



*Top view of 2x4 Ceiling Guard Sensing Tray. Come in packs of Qty.8 - Model # **CG24***



*Top view of 2x2 Ceiling Guard Sensing Tray. Come in packs of Qty. 16- Model # **CG22***





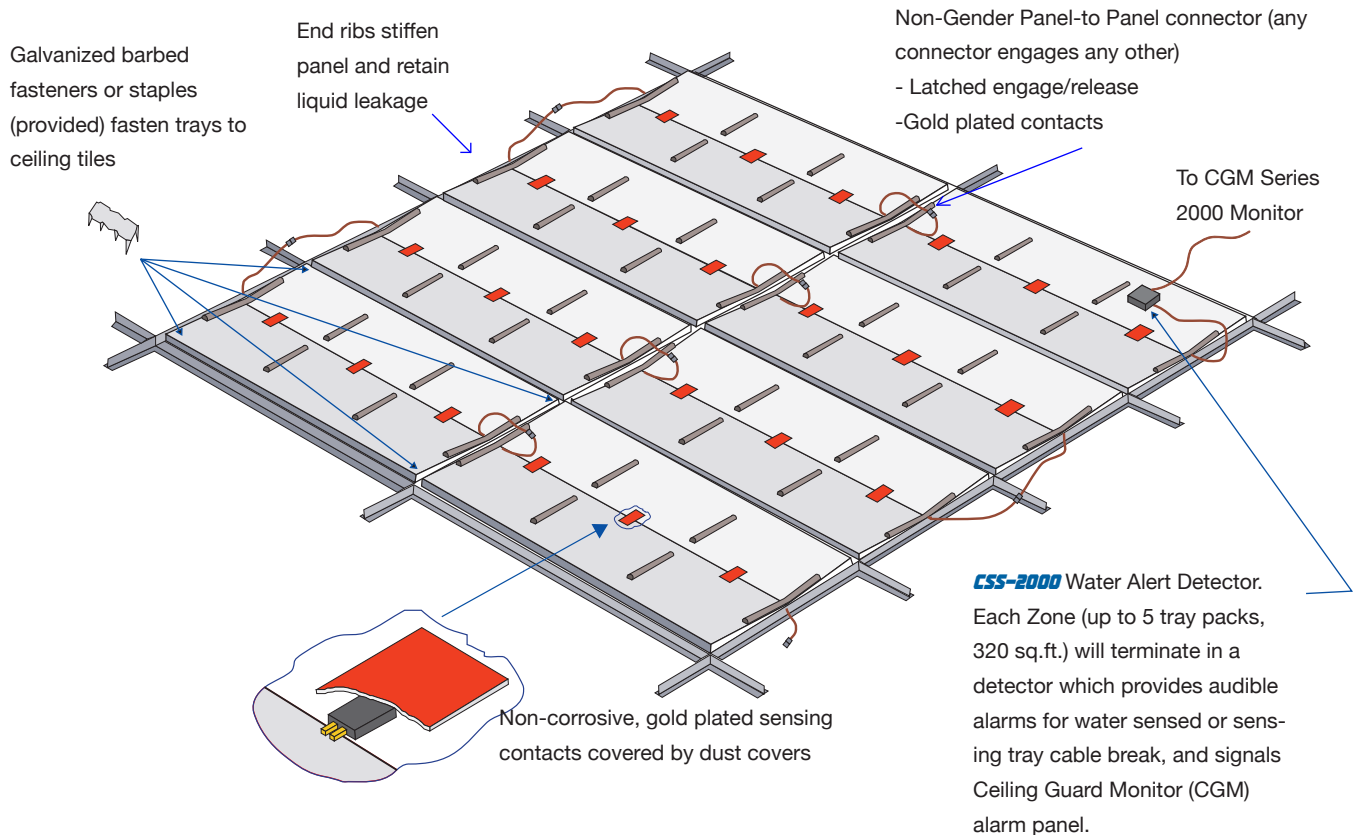
# CEILING GUARD<sup>®</sup>

## SERIES 2000 - Ceiling and Ceiling/Floor - Monitored Systems

### PRINCIPLE OF OPERATION

Each Ceiling Guard sensing tray contains small sensing contacts. The sensing contacts are parallel connected together on the underside of the sensing tray. The ends of the tray have panel-to-panel connectors which are engaged to adjacent trays during installation. If all trays in an array or zone are dry, a very high electrical resistance exists across the sensing contacts. Should any tray come in contact with water, the electrical resistance changes abruptly. This resistance change is detected at the end of the connection by a Dorlen Water Alert Detector. In most cases the Water Alert is Dorlen's Model **CSS-2000**.

The flame retardant plastic sensing trays making up Ceiling Guard are sized to cover either the conventional 2'x4' or 2'x2' ceiling tiles. The smallest amount of water leakage into any sensing tray quickly finds its way to a sensing contact located in the trough of the tray thereby activating the associated detector.



### TYPICAL ABOVE CEILING VIEW

# CEILING GUARD<sup>®</sup>

## SERIES 2000 - Ceiling and Ceiling/Floor - Monitored Systems

### General Description

The Series 2000 is an early warning leak detection system utilizing the latest line of Dorlen Products "CGM" monitors and compatible **CSS-2000 / SS-2000** Water Alert detectors. All Series 2000 Monitors monitor, power and test the connected Water Alerts. The easily installed system is made up of only 4 separate components- 1 Monitor (4 models available), up to 40 Water Alert detectors, Ceiling Guard Sensing Trays and Dorlen type "E" interconnect cable. When one or more Water Alert detects water leakage, it will activate and signal the monitor. The monitor will then activate providing an audible alarm, red flashing lamp, LED indication of activated Water Alert(s) and transfer a set of isolated relay contacts (SPDT). The Water Alerts may be located up to 2500 feet from the CGM monitor.

### Features common to all SERIES 2000 "CGM" Monitors -

- A single low voltage cable (.15" OD) from each **CSS-2000** ceiling detector (or **SS-2000** floor detector) to a Ceiling Guard Monitor panel simplifies wiring.
- Both the **CSS-2000** and **SS-2000** detectors are powered from the CGM' monitor thereby eliminating need for batteries within the detectors.
- The detectors are testable from the CGM' location. Simple push button test verifies that: A.) leakage detection circuitry is working properly and B.) zone supervision circuitry is working properly. This test also verifies proper operation during initial installation and at any later date to "exercise the system."
- The CGM' monitor provides isolated dry relay contact output (SPDT) if leak is detected...2nd relay output if zone wiring is disrupted (supervision). Relays are rated 28VDC. Max. at 1 amp.
- A momentary or intermittent water leak is latched into the CGM' monitor until manually reset.
- CGM' monitor provides visual and audible alarms with LED indication of activating detectors. ( water leak sensed or tray system wiring disrupted)
- Rechargeable battery back-up...2 day monitoring without AC power...Battery recharges upon AC line return.

*For help in system design, layouts or quotations, please contact Dorlen's technical dept. at 1-414-282-4840 or office@dorleninc.com*

**NOTE:** For small areas (less than 1000 sq. ft., typical) a monitor may not be desired. Contact Dorlen for a data sheet on non-monitored Ceiling Guard systems.



**CSS-2000** Ceiling Water Alert Detector

**CSS-2000**-For use with Ceiling Guard sensing trays, in terminating zone. Provides audible alarm for water leak sensed and zone wiring break (supervised). Requires Dorlen Type "E" cable (5 conductor #24 w/shield) for tie into CGM.

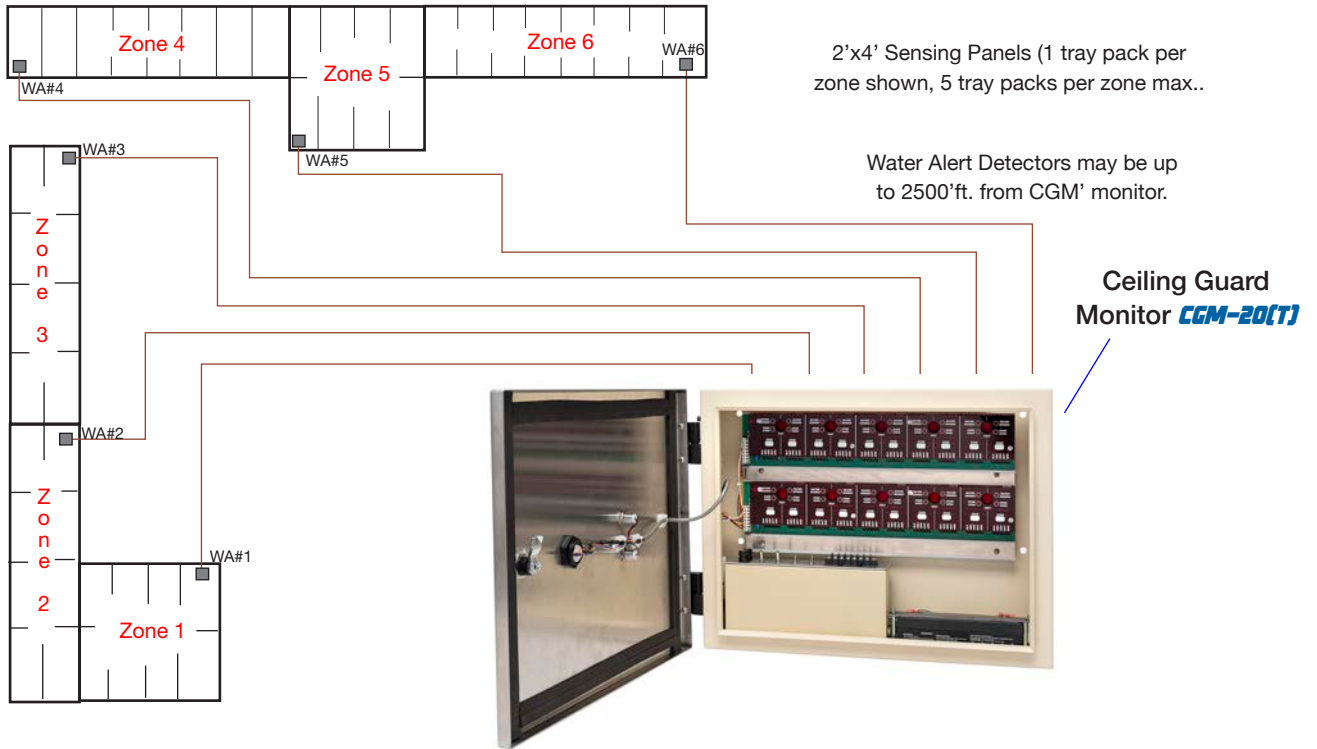
**SS-2000**-For use on floors, provides audible alarm. Requires Dorlen type "D" cable, (3 cond. #22) for tie into CGM Monitor.



**SS-2000** Floor Water Alert Detector

# CEILING GUARD<sup>®</sup>

## SERIES 2000 - Ceiling and Ceiling/Floor - Monitored Systems



Top view of typical ceiling plan, 6 Zone. ( 1 tray pack per Zone shown, 5 tray packs per Zone maximum.)



Ceiling Guard Monitors - Models **CGM-6X**, **CGM-12X**(open), **CGM-20(T)** and **CGM-40(T)**

# CEILING GUARD<sup>®</sup>

**SERIES 2000** - Ceiling and Ceiling/Floor - Monitored Systems

## MODELS **CGM-6X** and **CGM-12X**

Monitors, powers and tests 6 / 12 **CSS-2000** or **SS-2000** Water Alert detectors.



See pages 17 and 18 for a general description and detailed features of all Series 2000 Monitors.

**NOTE:** For small areas (less than 1000 sq. ft., typical) a monitor may not be desired.

Contact Dorlen for a data sheet on non-monitored Ceiling Guard systems.

### **CGM-6X AND CGM-12X SPECIFICATIONS**

Monitor Input Voltage/Current: 115VAC 10%, 60Hz, .1Amp max.  
Monitor Output Voltage: 9VDC (To detectors)  
Monitor Audible Alarm: 85db at 3 feet

Input: UL listed input transformer, Terminal strip hard wired.

Dimensions: 14.75"W x 4.75"D x 16"H  
Weight: 22 lbs.

Construction: Door-Brushed Stainless, Body Steel with Black powder coat finish.

Surface wall mount - no need for wall cut-out. Surface wire duct included.

Screw type terminal strip wire connection.

Warranty: 5 Year Limited

- Wall mounted
- Test feature
- Visual and audible alarms
- SPDT Relay -Water Sensed
- SPDT Relay - Zone Open
- Battery back-up
- 5 Year Limited Warranty

# CEILING GUARD®

**SERIES 2000** - Ceiling and Ceiling/Floor - Monitored Systems

## MODELS **CGM-20(T)** and **CGM-40(T)**

Monitors, powers and tests 20 / 40 **CSS-2000** or **SS-2000** Water Alert detectors.



### **CGM-20(T) AND CGM-40(T) SPECIFICATIONS**

Monitor Input Voltage/Current: 115VAC 10%, 60Hz, .2Amp max.  
Monitor Output Voltage: 9VDC (To detectors)  
Monitor Audible Alarm: 85db at 3 feet

Input: UL listed input transformer, Terminal strip hard wired.

Dimensions / Wt. WM-20(T): 20"Wx4.75"Dx15.5"H / 35 lbs.  
Dimensions / Wt. WM-40(T): 20"Wx4.75"Dx24H / 50 lbs.

Construction: Door-Brushed Stainless, Body Steel with Off White powder coat finish.

Surface wall mount - no need for wall cut-out. Surface wire duct included.

Screw type terminal strip wire connection.

Warranty: 5 Year Limited

See pages 17 and 18 for a general description and detailed features of all Series 2000 Monitors.

- Wall mounted
- Test feature
- Visual and audible alarms
- SPDT Relay - Water Sensed
- SPDT Relay - Zone Open
- Battery back-up
- 5 Year Limited Warranty

# CEILING GUARD®

## SERIES 2000 - Ceiling and Ceiling/Floor - Monitored Systems

### HOW CEILING GUARD IS INSTALLED:

#### GENERAL

Installation Instructions are furnished with the particular type of equipment that is ordered. An overview of the general installation procedure follows.

Each Ceiling Guard Tray Pack is comprised of eight 2' x 4' trays (**CG24**) or sixteen 2' x 2' trays (**CG22**). The trays come with prewired sensing contacts and panel-to-panel connectors. Galvanized barbed fasteners for affixing the trays to the users ceiling tiles are furnished.

Upon receipt of Ceiling Guard Tray Packs and the associated detectors and monitor(s), the user removes the ceiling tiles from the suspended grid, (assuming an existing ceiling), fastens the individual trays to the ceiling tiles, re-installs the panels and interconnects panels according to the Installation Instructions furnished. **Up to five tray packs may be interconnected to form a zone.** One end of the zone will terminate in a **CSS-2000** Water Alert. All **CSS-2000** and **SS-2000** Water Alerts will tie into the CGM Monitor.

There are a few special considerations to be observed relative to installation as described in the following paragraphs.

#### SPECIAL CONSIDERATIONS

A drop-in ceiling does not consist of strictly 2' x 4' or 2' x 2' tiles but rather there normally are "trimmed down" tiles along one or more sides of the room. Also, there are "lay-in" lamp fixtures, Heating/AC diffuser outlets, and sometimes sprinkler heads, halon heads and/or smoke detectors.

In the case of lay-in lamp fixtures, the installer fastens strips of plastic sheet (provided) to the sloping edge(s) of the lamp fixture by means of duct tape. This is done prior to installing the adjacent sensing panel. The sensing panel is installed under the plastic sheet. This arrangement has the effect of diverting leaking water from above the lamp fixture to the adjacent sensing tray. (See Pictorials p.22). Heating/AC diffuser outlets may be handled similarly.

Trimmed down ceiling tiles are handled in two ways. If the dimensions of the trimmed tile are significant (greater than 13"), the sensing tray is trimmed to fit the reduced size ceiling tile. The trimmed tray is then fastened to the trimmed ceiling tile.

If the ceiling tile is trimmed to a narrow strip (less than 13"), duct tape is used to affix a strip of plastic sheet to the wall so as to divert leakage into an adjacent tray.

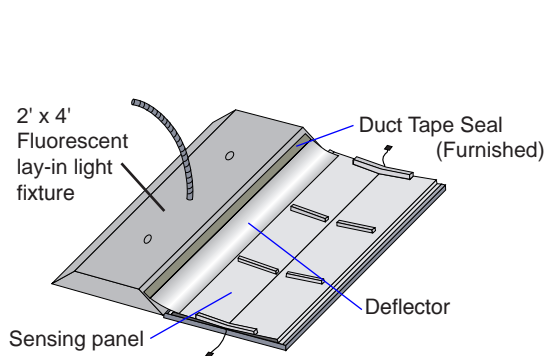
Where sprinkler-heads or smoke detectors exist; piping, conduit, junction boxes, etc. may pass through the existing ceiling tile. In these situations, the installer makes appropriate cut-outs in the sensing tray to allow the obstruction to pass thru the sensing tray. From the adjacent panel opening, rubber sealer (furnished) is used to seal the obstruction to the sensing tray. (Page 22.)



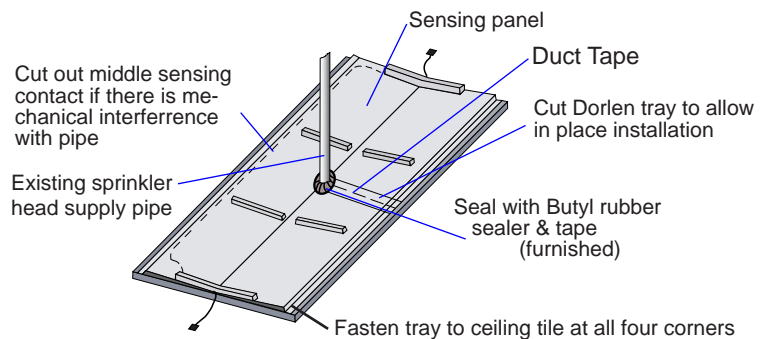
View of 1500 sq. ft. computer room after Ceiling Guard installed.

# CEILING GUARD<sup>®</sup>

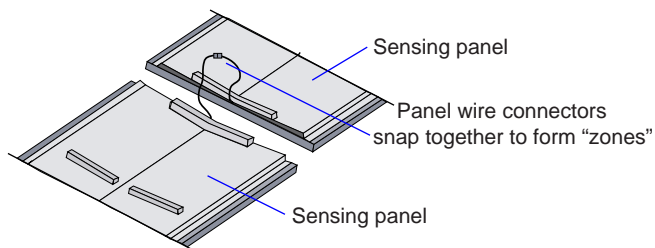
## SERIES 2000 - Ceiling and Ceiling/Floor - Monitored Systems



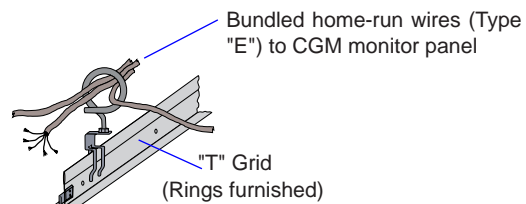
**FLUORESCENT LIGHT CG INSTALLATION**



**SPRINKLER HEAD CG INSTALLATION**



**PANEL-TO-PANEL INTERCONNECT**



**BRIDAL RING WIRING**

### Required materials:

If you have 2'x 4' tiles, Model **CG24** is the proper Tray Pack to order. If you have 2'x 2' tiles, Model **CG22** is the proper Tray Pack to order. Prior to ordering, verify that your ceiling is or will be (new construction) made up of either 2'x 4' or 2' x 2' removable ceiling tiles, i.e.....the tiles are supported in a suspended grid system and can be removed by lifting and dropping out of the suspended grid.

#### COMPLETE COVERAGE-

By count, or using a ceiling plan, (sketch one up if necessary), determine how many tiles require sensing trays to protect the room below.

#### PARTIAL COVERAGE-

By count, or using a ceiling plan/equipment location diagram (sketch up if necessary), determine how many tiles require sensing trays to protect the equipment below.

In taking the count in either of the two above situations, the existing tiles along the border of the room may be narrower than the standard size. Count these as full tiles. If the tiles contain sprinkler heads or smoke detectors, include these in your tile count. Do not count lay-in 2'x 4' (2'x 2') lamp fixtures or A/C Heating diffusers.

#### TRAY PACK COUNT-

In the case of 2' x 4' tiles, divide the panel count taken above by 8 to determine how many **CG24** Tray Packs are required.

In the case of 2' x 2' tiles, divide the panel count taken above by 16 to determine how many **CG22** Tray Packs are required.

#### DETECTORS-

Each ceiling guard "zone" will terminate in a **CSS-2000** detector, zone size may vary, but a maximum of 5 tray packs must be followed. If **SS-2000** floor detectors are required, a good rule of thumb is 1 detector for 300sq. ft..

#### CGM' MONITOR-

The CGM' Monitor selected should have a zone capacity (channels) equal to or exceeding the detector count taken above (CSS-2000 and SS-2000) .

**Only a single detector only can be connected to a given zone (channel) input.**

# ACCESSORIES / OPTIONS

## WATER ALERT POWER SUPPLY, MODEL **PSW-3** AND **PSW-4**

DC power supply eliminates batteries in Water Alert detectors - ideal for large installations where accessibility to Water Alert is inconvenient or battery operation is not acceptable.

**PSW-3** output- 9VDC  
Powers models SS, SS-1, SS-4, SS-5

**PSW-4** output- 12VDC  
Powers Model VR-4



### FEATURES

- Operates up to 24 Water Alert detectors, wiring instructions furnished.
- Internal self-recharging battery provides back up power to system in event of line failure.
- **UL Listed** input transformer.
- Flashing LED indicating power to Water Alerts.
- Large screw-type terminal blocks inside enclosure for convenient wiring. Connection to Water Alerts is made by means of wire nuts.
- Plug-in or Hardwired to 110-120VAC (Cord set included)
- Short circuit, overload and over voltage protected.
- Rugged, attractive Wall mounted enclosure 12.25"H x 8.5"W x 5.25"D.
- All Installation instructions, hardware and 5' of surface wire raceway included.

## REMOTE INDOOR / OUTDOOR SIREN WITH STROBE ALARM MODEL **RA-00**

Unit can be mounted indoor or outdoor for remote notification of an alarm condition. Operates on 12VDC, plug in transformer included.

### FEATURES

- Loud 120db low tone siren draws only 700mA .
  - Blue color strobe. (Other colors available upon request, contact Doreln for details)
  - **UL Listed** plug in transformer. (2Amp)
  - Activates via relay contact closure.
  - Can be activated by Water Alert models **SS-4, SS-5** and **VR-4**.
  - Can also be activated by all Series 2000 and 2100 Monitors.
- Dimensions- 7"H x 5.75"W x 4.5"D





# ACCESSORIES / OPTIONS

## VOLTAGE MODULE MODEL **VM-1**

Rather than battery power it may be desirable to power "SS" Series Water Alerts with your 12 or 24V AC or DC (or any voltage in between). A Voltage Module will be required for each detector in this

The Voltage Module accepts 12-24v AC or DC to power "SS" Series Water Alert Detectors

application. The Voltage Module snaps into the Water Alert and will convert your voltage to 9VDC as required.



## POWER RELAY / POWER SUPPLY MODEL **PR-WM**

### FEATURES

- Unit is surface wall mounted in an ABS Plastic enclosure. Dimensions- 8" H x 4.5" W x 2.75" D
- Unit will power up to 2 Water Alert detectors Model **SS-4**, **SS-5** and **VR-4**.
- **UL Listed** input transformer.
- Input: Normally Open Contact

Used to control high powered equipment such as pumps, motors and solenoids from a **SS-4**, **SS-5** and **VR-4** Water Alert Detectors.

- Output: SPDT Relay Contact ( Form C)  
Rated - 120VAC @ 20 Amps.
- Large screw-type terminal blocks inside enclosure for convenient wiring. Connection to Water Alerts is made by means of wire nuts.
- Power ON LED, Relay Activated LED.

*Hardwired version available, contact Dorlen for details.*



## REMOTE ALARM MODEL **RA-WM**

Used for additional indication of water leakage. Compatible with all Series 2100 monitors and **SS-4**, **SS-5** and **VR-4** Water Alert Detectors.

### FEATURES

- Unit is surface wall mounted. dimensions- 6"H x 3"W x 2"D
- **UL Listed** input transformer.
- Input: Normally Open Contact
- 10mm LED indicator
- 85db Audible Alarm w/silence switch



## AUTO-DIALER MODEL AD-6

**Provides Off-Premise Indication of Water/Liquid Leakage and other Emergency Conditions.**

The **AD-6** is a new state-of-the-art automatic telephone dialer and annunciator that is designed for use with various alarm devices. The **AD-6** automatically dials a sequence of user programmed phone numbers (maximum of eight) and provides a custom voice message indicating the emergency condition which exists at the dialer location (building, small business, office, computer room, etc.)

Applications include private, commercial, institutional and industrial situations - providing a warning, especially at night, that an emergency situation exists, and allowing the called party to take immediate action to prevent or minimize damage or financial loss.

The **AD-6** Auto-Dialer is compatible with a number of Water Alert combinations and also standard alarm devices which provide contact opening or closure. The remote devices are connected to the **AD-6** by means of low voltage pairs of wire. Three individual inputs are available to monitor groups of contact operating devices. As example, the #1 input may be used to monitor a group of Water Alerts or Dorlen Remote Monitor, #2 input standard intrusion devices (normally closed contacts open) and #3 fire-detecting devices (normally open contacts close). Alternatively, three different zones of Water Alert groups may be used to activate the three inputs for dialer operation dedicated exclusively to water leakage detection. High and low temperature limits can also be programmed into the **AD-6** (single temperature sensor included).

Upon activation of any of the three monitored inputs, the **AD-6** will locally announce the Alert Condition for 30 seconds. If the "Alarm Cancel" switch is not pressed (i.e.; personnel are not present) the **AD-6** will commence the dial-out, calling each of eight numbers sequentially. The first party answering the dial-out acknowledges receipt of the Alert Condition message by entering an acknowledgment code. This terminates the dial-out for this condition. The **AD-6** will call continuously in the above fashion waiting one minute between each number dialed until acknowledged.



**AD-6** Auto-Dialer

- Simple Installation

Connect alarm devices to marked **AD-6** internal terminal strip.

Plug **AD-6** UL Listed adaptor into 120VAC wall outlet.

Open door and program the phone numbers to be called via the small internal key pad.

Close door and plug **AD-6** miniature plug into existing RJ-11 telephone jack and verify operation per instructions.

- May be used directly with Dorlen Water Alert models **SS-4**, **SS-5**, **VR-4** or any Dorlen remote monitor, Series 2100 or Series 2000.
- Dialer announces both locally and over the telephone line which "Alert Condition" is activated, i.e. #1, #2 or #3 ...Will also dial out if a temperature limit is reached, AC power is lost (after 5 minutes delay) or if battery is low. Works with rotary or touch tone service.

- Dialer may be called from any off-premise location. The dialer will answer and state status of the three Alert Conditions, temperature existing at dialer, AC power (on or off) and battery condition (OK or low).
- Easily programmed using internal keyboard. Tamper resistant ... cannot change dial-out phone numbers with password protection if desired.
- Rechargeable back-up battery included. Backs up dialer for 15 hours should AC line fail. Upon AC power return, battery automatically recharges.
- Protected against high electrical noise ambient (heavy electrical machinery, etc.)
- Rugged, attractive "Wall Mount" enclosure, 7.25" W x 4.5" D x 11.25" H. Weight: 8 lbs. **UL Listed line cord adaptor - FCC approved.**
- Complete instructions furnished. The **AD-6** comes with a **5 Year Limited Warranty.**

# ACCESSORIES / OPTIONS

## IP AUTO DIALER

### Text / Email - MODEL **IP-1**

Provides texts or email alerts upon contact closure. For use with Model **SS-4, SS-5, VR-4** or any Series 2000 / 2100 monitor.

- NO MONTHLY FEES for Voice Call and SMS Messaging when IP Alarm Dialer sends you notification.
- SMS texts and emails are FREE and can be sent to cell phones or landlines over your existing internet connection.
- NO CONFIGURATION REQUIRED, JUST PLUG INTO INTERNET connection and it will automatically configure connectivity settings.
- ADD UP TO 10 PHONE NUMBERS, easily programmed over your network using your local computer.
- 12vdc power supply included.

Manufactured by Alarm Lab - 1 year warranty



## ELECTRIC ACTUATED VALVES

Used to shut off water supply once water leakage has been detected. For use with Model **SS-4, SS-5, VR-4** or any Series 2100 monitor. **PR-WM** Power Relay also required (see page 24).

- Normally open or Normally closed
- 400 PSI Max.
- 1/2" to 2" sizes available
- 110 to 120VAC operation
- Full port design
- Triple stem seal design
- NTP Threaded Ends to ANSI B2.1
- Permanently Lubricated
- Thermal overload protection
- 35 F to 135 F operation
- ISO 5211 Mounting

Valves are manufactured by DuraValve Inc.. Dorlen Products Is an authorized re-seller. Valves are covered by a 1 year warranty from DuraValve Inc.

Size	Model#
1/2"	<b>EAV-1/2</b>
3/4"	<b>EAV-3/4</b>
1"	<b>EAV-1</b>
1 1/4"	<b>EAV-1-1/4</b>
1-1/2"	<b>EAV-1-1/2</b>
2"	<b>EAV -2</b>



## CABLE AND WIRE

<b>TYPE "B" CABLE</b>	Signal/Power wire - 2 conductor twisted pair, stranded #22 AWG. with vinyl jacket. 0.165" O.D. For use in Water Alert to <b>AD-6</b> signal, <b>PSW-3</b> and <b>PSW-4</b> power runs less than 500'.
<b>TYPE "D" CABLE</b>	Signal/Power wire - 3 conductor, color coded, stranded #22 AWG. with vinyl jacket. 0.164" O.D. For use with all Series 2100 systems. ( <b>SS-2100</b> or <b>VR-2100</b> Water Alert to Series 2100 Monitor.)
<b>TYPE "E" CABLE</b>	Signal/Power wire - 5 conductor, color coded, stranded #24 AWG. with vinyl jacket. 0.150" O.D. For use with all Series 2000 Ceiling Gurad systems. ( <b>CSS-2000</b> to CGM)
<b>TYPE "G" CABLE</b>	Signal/Power wire - 6 conductor, color coded, stranded #24 AWG. with vinyl jacket. 0.150" O.D. For use with <b>VR-4</b> Water Alerts.
<b>POWER WIRE #18</b>	Power wire - 2 conductor twisted pair, stranded #18AWG. with vinyl jacket. 0.226" O.D. For <b>PSW-3</b> and <b>PSW-4</b> power runs between 500' and 2500'.
NOTE: Plenum rated cable and wire available; see price list.	

**DORLEN PRODUCTS, INC. FIVE YEAR LIMITED WARRANTY  
AND TERMS AND CONDITIONS OF PRODUCT SALE**

**Limited Warranty**

Dorlen Products, Inc. ("Seller") warrants its products to be free from defects in materials and workmanship under normal use and service for five (5) years from the date of original purchase. Seller agrees to repair or replace, at its option without charge to the original purchaser, any Dorlen Products that does not conform to this Limited Warranty. Seller shall not have any obligations under this Limited Warranty, or otherwise, if the Dorlen Product has been altered, or has been improperly installed, maintained or used, or has been repaired by persons other than Seller. Improper use or modifications of any Dorlen Product voids this warranty. 9 Volt alkaline and internal 12volt batteries and any other batteries are not covered by this warranty. DuraValves are not covered by this warranty. For warranty service, return your Dorlen Product, shipped pre-paid to Seller. Please include all company information and return address.

**THIS IS SELLER'S SOLE WARRANTY. THERE ARE NO OTHER WARRANTIES, EXPRESS OR IMPLIED, OF MERCHANTABILITY, OR FITNESS FOR A PARTICULAR PURPOSE, OR OTHERWISE, WHICH EXTEND BEYOND THIS LIMITED WARRANTY. IN NO EVENT WILL DORLEN PRODUCTS, INC. BE LIABLE TO PURCHASER OR ANYONE ELSE FOR CONSEQUENTIAL DAMAGES, INCIDENTAL DAMAGES, PROPERTY DAMAGES, WATER DAMAGES, LOSS OR DAMAGE OF ELECTRONIC DATA OR COMPUTER STORED MEDIA, LABOR OR REPAIR COSTS, LOST PROFITS, BUSINESS INTERRUPTION DAMAGES, COMPENSATORY DAMAGES, PUNITIVE DAMAGES, OR OTHER LOSSES OR DAMAGES OF ANY KIND OR DESCRIPTION RESULTING FROM PURCHASE, INSTALLATION, USE, OR FAILURE OF ANY DORLEN PRODUCT. THIS EXCLUSION OF ANY OTHER WARRANTY AND EXCLUSION OF LIABILITY FOR DAMAGES APPLIES TO ALL EVENTS AND OCCURRENCES, EVEN IF THE LOSS OR DAMAGE IS CAUSED BY SELLER'S OWN NEGLIGENCE, FAULT OR BREACH OF PRODUCT WARRANTY.**

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**INDEMNIFICATION:** Purchaser agrees to this Limited Warranty, and the exclusions of liability and limitations of damages stated herein and acknowledges that the price paid for Seller's product includes these Terms and Conditions of Product Sale. In the event that a lawsuit is filed or any claim is made against Dorlen Products, Inc. or its officers and employees demanding payment for damages, injuries, losses, or cost rising out of Purchaser's installation or use of a Dorlen Product, Purchaser agrees to fully indemnify, defend and hold harmless Seller upon such lawsuit or claim, including Seller's attorney fees and legal costs, regardless of whether the claimed damages are caused by Seller's own negligence or fault, or otherwise.

**RETURN POLICY:** All returns are subject to a 10% restocking fee. No returns after 60 days of shipment date.

**PURCHASER'S ACCEPTANCE OF TERMS AND CONDITIONS:** By ordering and using Sellers product(s), the Purchaser irrevocably accepts Seller's Limited Warranty and these Terms and Conditions, without modification. Any contrary, inconsistent, or competing Terms and Conditions stated in customer's Purchase Order and/or purchasing documents are expressly rejected and not accepted by Dorlen Products, Inc. By keeping your purchased Dorlen Product(s) for ten (10) days or longer after product delivery, the Purchaser acknowledges, agrees to, and fully accepts this Limited Warranty and all stated Terms and Conditions of product sale including the Product Performance and Indemnification provisions.

**Previously Manufactured Products** - This catalog describes the latest line of Dorlen Water Alert detectors and monitors. It is recommended these products be used for new installations. However, if you are expanding an existing installation and require any previously manufactured product these may be available... Please request pricing on the specific product(s).

Dorlen's systems are extremely reliable, easy to install and have a 5 year limited warranty. We are the leader in water leak detection and have been in business for over 45 years...

**Over 25,000 sites in the U.S. have Water Alert systems installed!**

*For help in system design, layouts or quotations, please contact Dorlen's technical dept. at 1-414-282-4840 or email - office@dorleninc.com .*



**PREVENT DOWNTIME AND DAMAGE!!**

### **HOW TO ORDER**

Orders may be placed by phone, fax, or mail (to address below) on your company order form.

#### **ALL PRICES:**

FOB MILWAUKEE, WI  
(Shipping prepaid and added to invoice)  
Orders normally shipped UPS

**TERMS:** Net 30, subject to credit approval.  
WE ALSO ACCEPT CREDIT CARD ORDERS!



**NOTE:** Instructions, Wiring Diagrams (if applicable) and Warranty included with all equipment shipped.

**DORLEN** Products Inc.

6615 West Layton Avenue, Milwaukee, WI. 53220

Phone: 414-282-4840 Fax: 414-282-5670 E-Mail: Office@dorleninc.com

**[www.wateralert.com](http://www.wateralert.com)**

## A small sampling of **WATERALERT**<sup>®</sup> users:

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US Customs  
USS Mississippi  
Westinghouse  
Vaco Products Co.  
Quadgraphics  
Youngstown Sheet & Tube

## A small sampling of **CEILING GUARD**<sup>®</sup> users:

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Campbell County Hospital  
Central Blood Bank of Pittsburgh  
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**MADE IN THE USA!**

## **DORLEN** Products Inc.

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WA-22

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