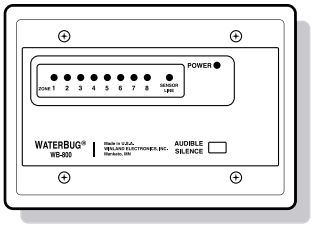
WINLAND
ELECTRONICS, INC.

WATERBUG®

Electronic Water Detection Device



WB-800

CONTENTS

This package contains:

- 1 WB-800
- 4 Surface Probes - Supervised (W-S-S)
- 1 Standard 3-Gang Metal Mounting Box
- 4 Phillips screws for mounting
- 1 Installation/Operating Instruction Guide

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MADE IN USA

D-011-0008 Rev F (08/2012)

SPECIFICATIONS

Power Requirement	12/24 VDC 100 mA 12/24 VAC 200 mA
Probe Sensitivity	Will not alarm due to high humidity or condensation.
Operating Temp	32˚ to 130˚F (0˚ to 54˚C); non-condensing environment Indoor use only.
Output	1 Form C Relay (SPDT) 1 Amp @ 24 VDC, resistive
Buzzer	85dBA @ 10 cm @ 12 VDC, 2.4kHz pulsed (with silence feature)
Probe Options	Includes 4 Standard Supervised Surface Probe (W-S-S) Accepts up to 8 Supervised (W-S-S or W-UC-S) or up to 16 Unsupervised Probes (W-S-U or W-UC-U) Probes may be either Surface or Under Carpet
Max Cable Length	500' (152.4 m) max
Probe Cable	Probes include 15" (4.6 m) cable. Extend using 22-18 AWG twisted pair.
Console Weight	1 lb (0.45 kg)
Console Dimensions	6.55 x 4.70 x 1" (16.6 x 11.9 x 2.5 cm)
Probe Dimensions	Surface: 2 x 3 x 0.88" (5.1 x 7.6 x 2.2 cm) Under Carpet: 2 x 3 x 0.18" (5.1 x 7.6 x 0.5 cm)
Mounting	Included standard 3-gang box
Case Material	ABS
Warranty	1 Year Limited

ADDITIONAL PROBES AND ACCESSORIES

W-S-S	WB Surface Probe Supervised (Up to 8 per WB-800 console)
W-UC-S	WB Undercarpet Probe Supervised (Up to 8 per WB-800 console)
W-S-U	WB Probe Unsupervised (Up to 16 per console)
W-UC-U	WB Probe Undercarpet Unsupervised (Up to 16 per console)
12VDCT	12VDC Transformer Wall Mount Power Supply
BZ-1	Remote Annunciator

Note: Supervised probes are recommended for new WB-800 installations.

MONITORING THE ABSENCE OF WATER:

The WB-800 is not recommended to be used to detect absence of water. The WB-200 is recommended for this type of application.

ONE YEAR LIMITED WARRANTY

Winland Electronics, Inc. ("Winland") warrants to the end user/purchaser that each product of its manufacture shall be free from defects in material and factory workmanship for a period of one year from the date of purchase, when properly installed and operated under normal conditions according to Winland's instruction.

Winland's obligation under this warranty is limited to correcting, without charge, at its factory any part or parts thereof which shall be returned to the factory, by the original purchaser, transportation charges prepaid, within one year of the date of purchase and which upon examination, shall disclose to Winland's satisfaction to have been originally defective. Correction of such defects by repair to, or supplying replacements for, defective parts shall constitute fulfillment of all Winland's obligations to purchaser under this limited warranty. Repair service performed by Winland after one year from date of purchase will be for a reasonable service charge.

This limited warranty shall not apply to any of Winland's products which have been subject to misuse, negligence or accident or which have been repaired or altered outside of Winland's factory. The warranty is void if the Product's housing or cover is removed.

Winland shall not be liable for loss, damage or expense resulting, directly or indirectly, from the use of its products or any other cause.

This warranty shall be null and void in its entirety if: (i) the product is altered or modified in any way that is not consistent with the manufacturer's instructions, or (ii) the product is used with or connected to a device: (a) that such product is not intended to be used with or connected to, (b) is not otherwise consistent with the manufacturer's instructions, or (c) is not otherwise approved by the manufacturer.

THIS WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING, WITHOUT LIMITATION, ANY WARRANTIES OF MERCHANTABILITY, FITNESS FOR PARTICULAR PURPOSES, NON-INFRINGEMENT AND TITLE, AND ANY WARRANTIES ARISING FROM COURSE OF DEALING, USAGE OF TRADE OR OTHERWISE. ALL OTHER REPRESENTATIONS MADE TO THE END USER/PURCHASER BY ANY OTHER PARTY ARE ALSO EXCLUDED.

WINLAND SHALL NOT BE LIABLE TO ANY PERSON FOR INDIRECT, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES OF ANY DESCRIPTION, WHETHER ARISING OUT OF WARRANTY OR OTHER CONTRACT, NEGLIGENCE OR OTHER TORT, OR OTHERWISE. Under no circumstances shall Winland's liability under this limited warranty exceed the purchase price paid by the end user/purchaser for the product.

No person, agent or dealer is authorized to give warranties on behalf of Winland nor to assume for Winland any other liability in connection with any of its products.

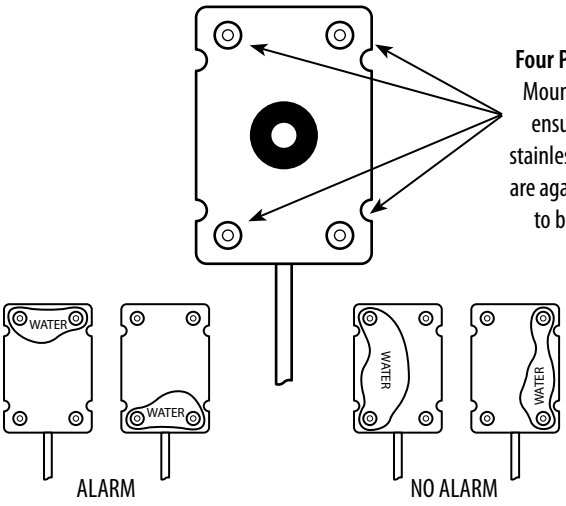
System Overview

The WB-800 is a completely electronic water detector which is designed to detect only nonflammable conductive liquids (distilled and deionized water cannot be detected). The WB-800 is designed with the control console mounted on the wall and the remote probes placed in locations where water seepage is most probable.

The unit includes four (4) supervised surface probes (W-S-S). In addition to detecting water with this probe, the unit will alarm when the supervised probe line becomes disconnected.

A film of moisture forming a bridge between the two metallic contacts on any remote probe is all that is needed for the unit to signal an alarm condition (Figure 1). The relay output is non-latching, but will remain closed until the moisture bridge between the two contacts is broken. As sensitive as the WB-800 is, it will not alarm due to high humidity or condensation. The WB-800 is ideal for use around homes, office buildings, computer rooms, boats, etc. Additional features include:

- Accepts 12V, 24V AC/DC power input
- Eight alarm LED indicators to identify the probe zone in alarm.
- Supervised probe line option. Unit will alarm on open probe condition and an indicator will light. Up to 8 supervised probes per console (W-S-S or W-UC-S). Probe lines up to 500ft.
- One "Form C" SPDT Relay for alarm output.
- Built in audible alarm and remote buzzer output with silence feature (adjustable 3 seconds to 150 minutes)



Four Probe Contacts
Mount the probe to ensure these four stainless steel contacts are against the surface to be monitored.

Figure 1

Console Mounting Considerations

Select A Site For The Console

Probe cable lengths and power source locations should be considered. Maximum cable length for the water probes is 500 ft.

Option #1 Surface Mounting Without Mounting Box

It is possible to install the console on a soft wall (sheet rock, panel, etc.) without the use of a mounting box. This is the fastest mounting method and it gives the control console a nice looking low profile. In selecting a site to mount the console, keep in mind that it must be placed in a secure, dry location with an ambient temperature of 32˚ to 130˚F (0˚ to 54˚C). For this option, drill a ½" diameter hole(s) in the wall which will be opposite the wiring terminal strip on the console. This hole will provide access for all wiring. Next, carefully mark the location of the four corner screw holes on the console. Then drive four wall anchors into the proper locations and complete by attaching the console to the wall.

Option # 2 Surface Mounting with Mounting Box

In areas where no hollow interior walls are available, the included standard 3-gang surface mounting box can be secured to any wall. The installed profile of the WB-800 with this option is about 2½" out from the wall.

Installation - Power and Probe Connections

Step 1 - Power Connections

The WB-800 will operate on 12V, 24V AC/DC. Refer to Figure 3 for proper connections.

Note: Before making wire connections, set jumper "JP3" to either 12V or 24V depending on your power supply output.

Connect your power input to two of the three positions on the terminal block. Regardless of your voltage input, connect the negative side to "V-". If your supply is 12V AC/DC or 24VAC, connect the positive side to the position marked "12VAC/DC, 24VDC". If using 24VAC input, connect to the 24VAC input.

When the power is applied, the green ON power indicator should be on.

Note: If the built-in buzzer sounds, it can be disabled by moving jumper "JP2" to the OFF position. If desired, toward the end of installation, it can be reactivated.

Important: If you are not using Winland's 12VDCT power supply accessory with this product, ensure that your power supply does not have a connection to earth ground. If the WB-800's power is connected to earth ground, it's possible that the sensor will fail to alarm when wet due to the possibility of a ground loop that may exist from the sensor terminals through the earth back to the power supply. This will change the system's voltage reference, which will, in turn, change its trip point. In all cases, test the system to ensure it will trip as expected when water is encountered.

Step 2 - Probe Connections

Option 1 - Supervised Probe Mode

The unit includes four supervised surface probes (W-S-S). Additional probes (surface [W-S-S] or under carpet [W-UC-S]) may be purchased separately.

With no probes attached to unit and with the 8 position DIP switch settings (SW1) in the down position, zone alarm indicators 1-8 and the probe line alarm indicator should be on. When the probe line alarm indicator is on, it shows there is an open probe line. When the zone alarm indicator is on, it shows that a specific zone is in alarm (either water detected or open probe line).

For zones that are not planned to be used, the supervised mode can be disabled (i.e. open probe line alarm turned off) by pushing the DIP switches up for the corresponding zones.

The WB-800 has two terminal blocks (TB1 and TB2) that are the locations for connecting the probe inputs. There is no polarity to the probes. The probes are included with 15' (4.5 m) of cable. The probe cables can be increased to 500' (152.4 m) with additional cable (22-18 AWG twisted pair, is recommended). Be sure that all splices are moisture proof.

Note: For probe placement and mounting, see Figures 1 and 2.

Caution: If a supervised probe is used, and the zone DIP switch is inadvertently left in the "up" position (supervised mode disabled) the probe will still be operational to detect water, however, the open probe line alarm will not be operational. Verify the DIP switch is in the "down" position for zones being used.

Important: Upon completion of a supervised probe installation, disconnect the probe line from the terminal block to verify the probe line and zone indicators light (alarm). The unit should go into alarm within approximately 3 seconds.

Option 2 - Unsupervised Probe Mode

The WB-800 can also be used with the unsupervised surface probes (W-S-U) and the unsupervised under carpet probes (W-UC-U). These probes are used with Winland models WB-200 and WB-350. With unsupervised probes, up to two probes can be connected per zone. However the probe lines are not supervised (i.e. break in probe lines will not cause an alarm). To use this type of probe the DIP switch zones must be pushed to the "up" position to disable the supervised probe mode.

Caution: Unsupervised probe mode is only advised if the WB-800 is used to replace an existing model such as the WB-200 when existing probes are planned to be used. Unsupervised probe mode may also be used when more than eight probes are required for the application. To take maximum advantage of the WB-800, supervised probes are recommended.

Step 3 - Alarm Relay Connections

The WB-800 includes one Form C (SPDT) Relay. This relay is activated when power is applied and the unit is not in water detect or open probe mode. This feature provides power-on supervision in case of power loss.

Note: When power is applied and unit is not in alarm, a short exists between "NC" and "C", and an open exists between "NO" and "C".

Step 4 - Installation- Audible Alarm and Silence Features

The WB-800 has a built-in audible alarm which will sound on an alarm condition. An audible silence feature is included that will disable the buzzer for a time period that can be set from 3 seconds to 150 minutes. This feature is important in installations where a constantly sounding alarm might disrupt business. It allows the audible alarm to be suspended while you wait for the water to be cleared from the affected probe.

Note: During this time, the alarm indicators and the relay outputs will remain in alarm condition as long as unit is still in an alarm condition.

Note: Jumper "JP2" can be set to enable or disable the built-in buzzer.

Step 5 - Optional Remote Buzzer Connection

The WB-800 is capable of driving an external 12VDC buzzer (BZ-1). The buzzer is connected to the terminal block as per Figure 3. As with the built-in buzzer, the remote buzzer can be temporarily disabled by the audible silence feature.

Caution: Use only the BZ-1 buzzer due to the units extremely low current draw. Using another buzzer may affect the performance of the WB-800.

Step 6 - Setting the Audible Silence Timer

The built-in audible silence timer provides an external means of silencing the audible alarm for a user selectable period (3 seconds to 150 minutes). Set jumper "JP1" to seconds or minutes. Adjust "Audible Delay" to the number of seconds or minutes desired.

Note: If a great amount of accuracy is required in setting the number of minutes, the jumper should first be placed in the seconds mode and then force the unit to alarm. The number of seconds the audible alarm was silenced corresponds to the number of minutes. When satisfied with setting, place JP1 back to minutes position.

To insure proper operation, test weekly.

Concrete can be semi-conductive. If experiencing false alarms, insulate all probes mounted on concrete.

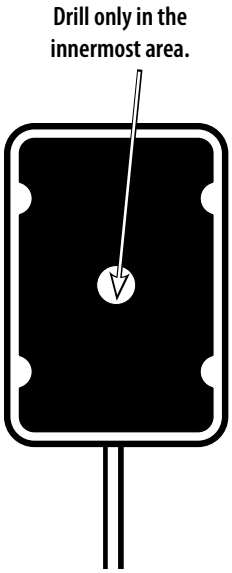


Figure 2

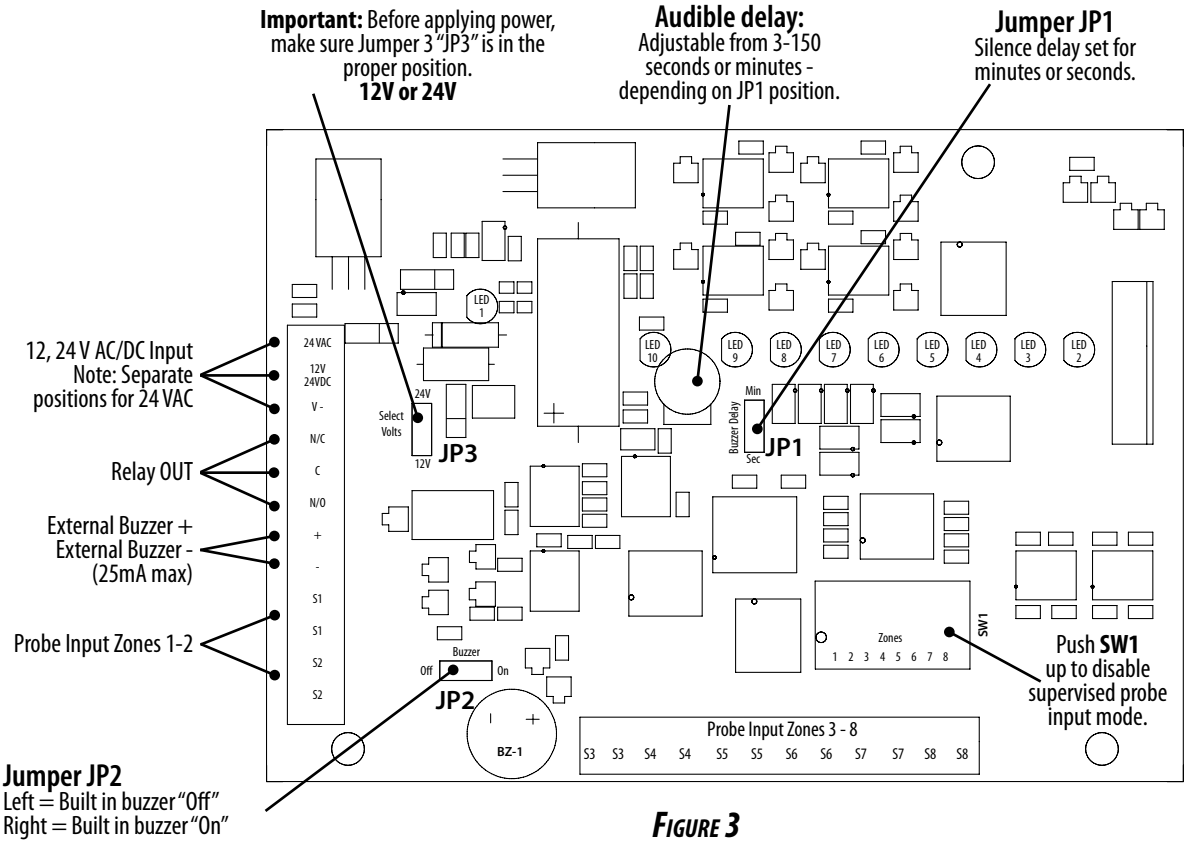
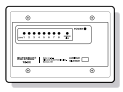


Figure 3

Product and Accessory Guide

	 EA200-12 EA200-24	 EA400-12 EA400-24	 EA800 EA800-ip	 WB-200	 WB-350	 WB-800
	W-S-S	W-S-S	W-S-S			W-S-S
	W-UC-S	W-UC-S	W-UC-S			W-UC-S
				W-S-U	W-S-U	W-S-U
				W-UC-U	W-UC-U	W-UC-U

W-S-S (Water Probe, Surface, Supervised) and W-UC-S (Water Probe, Under Carpet, Supervised)

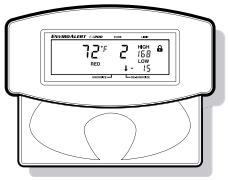
The supervised surface probe can be connected to the EnviroAlert products as well as the WB-800. The alarm will be activated if water is present as well as if the cable is cut.

W-S-U (Water Probe, Surface, Unsupervised) and W-UC-U (Water Probe, Under Carpet, Unsupervised)

The standard surface probe is unsupervised and can be connected to the full line of WaterBug products. No alarm will sound if the cable is cut.

ENVIROALERT

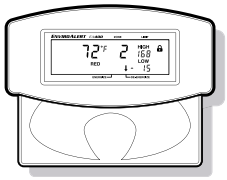
EnviroAlert® EA200



Dual Zone Wireless Electronic Monitor:
- Temperature, Humidity, Water Presence

EA200-12 (12VDC) and EA200-24 (24VDC)
Has one built-in ambient temperature probe
Connect up to 1 hard wired probe

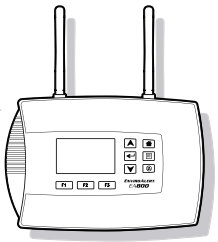
EnviroAlert® EA400



Four Zone Wireless Electronic Monitor:
- Temperature, Humidity, Water Presence

EA400-12 (12VDC) and EA400-24 (24VDC)
Connect up to 4 hard wired probes

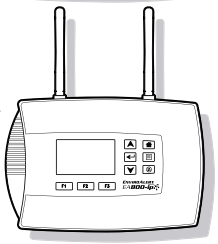
EnviroAlert® EA800



Eight Zone Wireless Electronic Monitor:
- Temperature, Humidity, Water, Closed Contact, 4-20mA

Connect up to 4 wireless and up to 4 wired probes
Automatic data logging transferable via USB stick
- Probe data
- Event and alarm history

EnviroAlert® EA800-ip



Eight Zone Wireless Electronic Monitor:
- Temperature, Humidity, Water, Closed Contact, 4-20mA

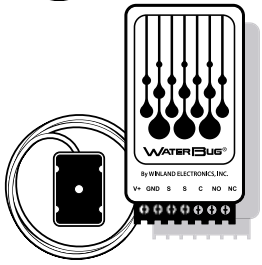
Connect up to 4 wireless and up to 4 wired probes
Remote access via wired IP connection to
- Programming and real-time data viewing
- Probe data as well as alarm and event logs

WATERBUG®

WaterBug® WB-200 (12 or 24 VAC/DC) 6 Zone Unsupervised Water Probe:

Includes 1 unsupervised surface probe (W-S-U)
Accommodates up to 6 probes in parallel
May purchase under carpet probe (W-UC-U)
Will not alarm due to condensation or humidity
Can be used to detect absence of water

WaterBug® WB-350 (9V battery) 6 Zone Unsupervised Water Probe:



Includes 1 unsupervised surface probe (W-S-U)
Accommodates up to 6 probes in parallel
May purchase under carpet probe (W-UC-U)
Will not alarm due to condensation or humidity
Built-in audible alarm with low battery notification