**User Manual** 

# Product Name: Outdoor Probe

## Model:ZGW11

# Brand:Wireless Sensor Tags

Manufacture: Cao Gadgets, LLC

## Step 1: Activate Your Ethernet Tag Manager

For Android devices, install our Android app from Google Play by searching "MyTagList". For web access on PC/Mac, go to http://www.mytaglist.com/eth/. Use the 12 digit serial numbers on your Ethernet Tag Manager to create a login. Keep the serial number in a safe place.

Login	O Create an Account	<ul> <li>Activate an Internet Tag Manager</li> </ul>	<ul> <li>Activate an Internet Tag Manager</li> </ul>
Email:		Create an account for accessing your Tag Manager	Create an account for accessing your Tag Manager
		Tag Manager Serial Number:	Tag Manager Serial Number:
Password:			C55BFB04A300
		Create a User Account for this Tag Manager	Create a User Account for this Tag Manager
Cancel			wirelesstag@gmail.com
		Choose a Password:	Choose a Password:
			•
		Retype the Password:	Retype the Password:
		Allow creating more accounts to access this Tag Manager     Create     Create     Cancel	Allow creating more accounts to access this Tag Manager     Create     Cancel

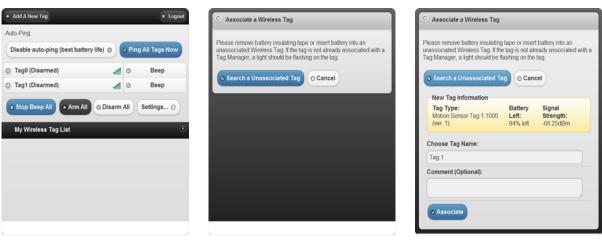
In the login screen, click "Create an Account" button.

Fill in the serial number (case insensitive), login email (used to recover password), and choose a password.

Click "Create" button to create an account. Uncheck "Allow creating more accounts..." unless you plan to create multiple logins to access the same Tag Manager.

## Step 2: Associate New Wireless Sensor Tags (If Necessary)

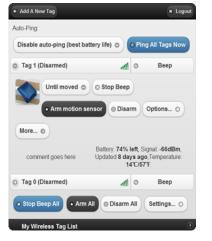
Follow this step to associate each new Tags with the Tag Manager.



In the tag list screen, click "+ Add a New Tag" button at the upper left corner. An unassociated tag periodically broadcasts information about itself when powered on. Click the "Search" button to receive this information. When a new tag is found, its information is displayed. Assign a name and comment (optional) to the tag, then click "Associate".

## Step 3: Assign Tag Names As Needed

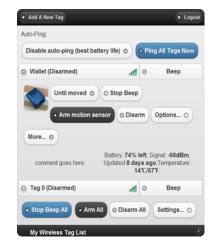
You can edit tag names and comments of each Wireless Sensor Tag. Pictures can be associated by using the iPhone/iPad app.



Ping Tag	O Ping All Tags Nov
Change Tag name	<u>_nti</u> ⊙ Beep
Edit Tag comment	Beep
Unassociate	Disarm Options O
Use old wireless setting	
Door Statistics	
Temperature Statistics	: 74% left, Signal: -66dBm, d 8 days ago, Temperature:
Reset States	14°C/57°F.
Ligth On	I O Beep
Light Off	isarm All Settings O

In the tag list screen, click on the tag you want to edit to open the detail pane.

Click "More>" and click "Change Tag name". Enter new tag name and click "OK".



The new name is now assigned to the tag, and is automatically propagated to all other devices accessing the same tag list.

# **Step 4:** Arm/Disarm Motion Sensor, Temperature Monitor, and Enable/Disable Out-of-Range Notification

Motion sensor, temperature monitoring, and out-of-range notification are turned off until they are needed to conserve battery. Follow the steps below to turn them on/off as needed.

#### **Motion Sensor**

+ Add A New Tag X Logost	+ Add A New Tag K Logout	+ Add A New Tag 🗴 Logout
Auto-Ping: Disable auto-ping (best battery life) © (Ping All Tags Now Wallet (Disarmed) @ Beep Until moved © © Stop Beep	Auto-Ping: Disable auto-ping (best battery life)  Ping All Tags Now Wallet (Armed) Until moved  Stop Beep Until moved  Stop Beep	Auto-Ping: Disable auto-ping (best battery life) © Ping All Tags Now + Wallet (Armed) dill © Beep + Garage (Armed) dill © Beep
Comment goes here Battery: 74% left, Signal - 66dBm, Updated 8 days ago Temperature: 147/0577:	Contraction in the contraction of the contraction	X Stop Beep All Arm All Disarm All Settings O My Wireless Tag List
© Garage (Disarmed)	C Garage (Disarmed) d Beep	
My Wireless Tag List	My Wireless Tag List	

Click the tag of interest on the list screen to open the detail pane, and click the "Arm motion senosr" button. Instead of arming/disarming motion sensor for each tag individually, you can also click "Arm All" or "Disarm All" to arm/diarm all motion sensor tags.

**Temperature Monitoring** 

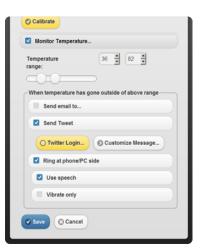
When motion sensor is armed, the tag on the list will have a black background.

+ Add A New Tag	× Logout
Auto-Ping:	
Disable auto-ping (best battery life)	C Ping All Tags Now
Wallet (Armed)	📶 🗿 Beep
Motion Sensor	6
Temperature	Im
Out of Range	
Customize Message	anal: -66dBm, Updated
Phones	erature: 14°C/57°F.
+ oarage (Armed)	Beep
🗙 Stop Beep All 🔹 Arm All 🔘 Dis	arm All
Settings_ O	
My Wireless Tag List	•

Open the temperature sensor options for each tag individually by clicking "Options..." and choosing "Temperature...".



The temperature sensor often needs calibration to remove an offset. In the "Calibrate current temperature" section, set the correct current temperature, and click the "Calibrate" button.



Turn on "Monitor Temperature", define normal temperature range, choose notification settings you want, and click "Save". The tag will notify you when the temperature exceeds upper or lower limits, or returned to normal range.

#### Out-of-Range Notification



Every 2 minutes O O Ping	All Tags Now
Wallet (Armed)	aff 🛈 Beep
Motion Sensor	- K
Temperature	Im
Out of Range	
Customize Message	mal: -66dBm, Update
Phones	perature: 14°C/57°F.
oarage (vinien)	dini O Beep
* Stop Beep All * Arm All	Disarm All

Click the "Options..." button and choose "Out of Range..." for a specific tag.



Set the notification methods you want and click "Save". Check "Apply to All Tags" to enable outof-range notification for all tags.

At the top of tag list screen, choose any of the Auto-Ping: "Every ..." options. Longer interval results in longer battery life but longer the out-of-range notification delay, and vice versa.

## Motion Sensor Options: Sensitivity, Responsiveness, Notification Settings and Scheduling

Tune the sensitivity and responsiveness of the motion sensor to suit your application. In motion detection mode, choose to remember moved state indefinitely or reset to armed state after a while. In door/gate mode, choose the threshold angle (23 degree is recommended for automatic garage doors, 2~5 degree for regular doors), or choose to get notified only when door is opened for too long.

Choose to get notified by emails, tweets, speech, or whether to make tag beep upon motion. Set the schedule to automatically arm or disarm the motion sensor at certain time of the day, and days of the week.

Motion Sensor Options for Wallet	Save
Apply to All Tags	
Sensitivity: 59	
Responsiveness:	
Fast (worst battery life)	۲
Schedule sensor arming/disarming	
Mode:	
Motion Detection Mode	0
When Tag Movement is Detected	
Manually reset to armed state	0
Send email to	
Send Tweet	
O Twitter Login O Customize Message	

Click the "Options..." button to open Motion Sensor Optinos screen for an individual tag.

#### Sensitivity/Responsiveness

Motion Sensor Options for Wallet	Save
Apply to All Tags	
Sensitivity: 59	
Responsiveness:	
Medium	0
Fast (worst battery life) Medium fast Medium	
Medium slow Slow (best battery life)	
Motion Detection Mode	0
When Tag Movement is Detected	
Manually reset to armed state	0
Send email to	
Send Tweet	
O Twitter Login O Customize Message	

You can choose sensitivity (0 to 100, 50 is recommended to eliminate false alarms in most environment), and responsiveness ("Slow" is 12x the delay and battery life of "Fast") that best suit your application.

Motion Sensor Options for Wallet	Save
Apply to All Tags	
Sensitivity: 37	
Responsiveness:	
Fast (worst battery life)	0
Schedule sensor arming/disarming	
Mode:	
Door/Gate Monitoring Mode	0
Threshold Angle:	
22.5 degrees	0
5 degrees 10 degrees 15 degrees	
22.5 degrees	
30 degrees	
30 degrees 45 degrees	

When door/gate mode is enabled, you can choose the threshold angle, when tag orientation changes more than this, the door is deemed open, when tag orientation returns within this threshold, it is deemed closed.

	Motion Detection Mode
he	n Tag Movement is Detected
	Automatically reset after 10 seconds
	ually reset to armed state
kuto	matically reset after 10 seconds
	matically reset after 20 seconds
	matically reset after 30 seconds
	matically reset after 45 seconds
	matically reset after 1 minute
	matically reset after 2 minutes
	matically reset after 5 minutes
	matically reset after 10 minutes
suto	matically reset after half hour
~	Also notify when door/gate is closed
•	Ring at phone/PC side
E	Use speech
	Keep ringing until reset or door/gate is closed
	Vibrate only
	Make Tag beep

When not in door/gate mode, after movement is detected, by default the system remembers the tag has been moved

#### **Notification Settings**



When in door/gate mode, you can choose to be notified only when it is been open for longer than a certain time period.

~	Send email to
Ema	ail addresses (separate by ;):
win	elesstag@gmail.com
•	Send Tweet
(	Twitter Login O Customize Message
•	Also notify when door/gate is closed
•	Ring at phone/PC side
۲	Use speech
E	Keep ringing until reset or door/gate is closed
	Vibrate only
	Make Tag beep

You can choose to be notified by email, have the system post a tweet on your Twitter account, beep or speak on your phones, indefinitely. Instead you can choose to have the tag automatically reset to armed state after a while.

C Motion Sensor Options for Wallet	Motion Sensor Options for Wallet	7:30AM
Apply to All Tags	Apply to All Tags	Apply a fram 3 00AM 3 00AM
Sensitivity: 59 🛓	Sensitivity. 59	Sensitivity:
Responsiveness:	Responsiveness:	9-30AM Responsiven 9-45AM
Medium	Medium	10:05AM 10:15AM 10:35AM 10:35AM
Schedule sensor arming/disarming _	Schedule sensor arming/disarming	Sched 11:05AM ing/disarming
Disarm at: 7:00AM ③ Arm at: 4:00PM ③	Disarm at 8:00AM O Arm at 4:00PM O	11:45AM ▼ Disarm at: 8:45AM ◇ Arm at: 4:00PM ◇
Enable for	Enable for	Enable for
Sun Mon Tue Wed Thu Fri Sat	Sun Mon Tue Wed Thu Fri Sat	Sun Mon Tue Wed Thu Fri Sat
Mode:	Mode:	Mode:
Door/Gate Monitoring Mode	Door/Gate Monitoring Mode	Door/Gate Monitoring Mode
Threshold Angle:	Threshold Angle:	Threshold Angle:
22.5 degrees	22.5 degrees	22.5 degrees

#### Arm/Disarm Scheduling

By setting an auto-arming/disarming schedule, you can specify time of day to disarm (for example, in the morning), and arm (for example, after dark), for each of the checked days of the week. To make motion sensor armed over the weekend, simply setting an "Arm at" time later than "Disarm at" time, and uncheck Saturday and Sunday.

## Beeping a Tag, Stopping the Beep, and Beep Options

Every wireless sensor tag has a beep function to help you find missing tags. Attach the tag to key chains, put inside your wallet, or strap to TV remote controls, and never waste time looking for these items again.

Disable auto-ping (best battery life)

Until moved 🔘

More... O

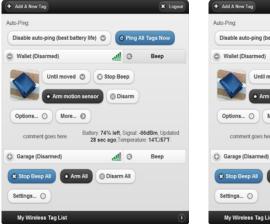
Bal

Options... O

Settings... ⊙

My Wireless Tag List

comment does here



to beep.



When tag responds and starts to beep, the "Beep" button turns into a blue "Stop Beep" button.



C Ping All Tags Now

+ Add A New Ta

Disable auto-ping (best battery life)

Auto-Ping

X Logout

C Ping All Tags No

.all 😣

Disarm

ttery: 74% left, Signal: -66dBm, Upda 14 sec ago, Temperature: 14°C/57°F.

Beep

.11 0

Disarm All

O Beep

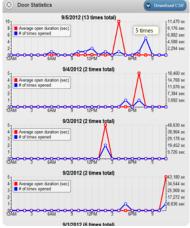
You can choose beep until moved, for 5,10,15,20,30 seconds, or indefinitely beep until stopped by the stop beep button.

## **Door Stats and Temperature Stats**

Each tag automatically logs temperature and each time it is moved, opened or closed, so you can always check what happened while you were away.



In the tag detail pane, click "More..." button and choose "Door Statistics".



For every day in the past 2 months (when there is data available), number of times door is opened and average duration vs. time of the day are displayed.

**Temperature Stats** 

+ Add A New Tae

1	6/6/2012			
	Time	Туре	How Long	
	10:25 AM	Opened	2 minutes 16 seconds	
	10:29 AM	Opened	24 seconds	
	10:30 AM	Opened	25 seconds	
	10:32 AM	Opened	1 minutes 16 seconds	
	1:12 PM	Opened	18 minutes 10 seconds	
	1:31 PM	Opened	22 seconds	
	1:34 PM	Opened	17 seconds	
	1:35 PM	Opened	30 seconds	
	1:37 PM	Opened	15 seconds	
	1:37 PM	Opened	25 seconds	
	1:38 PM	Opened	20 seconds	
	1:42 PM	Opened	5 minutes 41 seconds	
	1:49 PM	Opened	26 seconds	
	1:58 PM	Opened	40 seconds	
	1:59 PM	Opened	18 seconds	
	1:60 PM	Opened	25 seconds	
	2:03 PM	Opened	15 seconds	
	2:04 PM	Opened	26 seconds	
	2:35 PM	Opened	23 seconds	
	2:35 PM	Opened	20 seconds	
	2.36 PM	Opened	1 minutes 7 seconds	
	2:43 PM	Opened	31 seconds	
		÷ .	÷• •	

When you click on anywhere on the graph for a particular date, a detail history for that date is displayed. You can sort by time of the day, how long the door has been open, or event type (opened or moved).



Temperature is transmitted

periodically from each Tag to Tag

manager at the interval specified

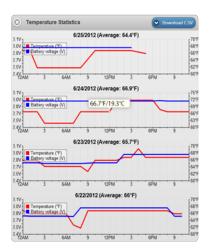
at "Auto-Ping". Make sure it is

not disabled.

Auto-Ping: Disable auto-ping (best battery life) C Ping All Tags Not 0 Beep Beep 0 Change Tag name Edit Tag comment Unassociate Options... () Use old wireless setting Door Statistics -72dBm, Updated 40 ture: 19°C/66°F. Temperature Statistics Reset States Settings... 🕥 Ligth On Light Off

× Logout

After there is enough data captured, in the tag detail pane, click "More..." button and choose "Temperature Statistics".



For every day in the past 2 months (when there is data available), temperature at that tag and battery voltage vs. time of the day are displayed. You can also download all available raw data in one CSV file.

#### Door Stats

## **Custom URL Calling on Event**

You can define a custom URL (such as REST endpoint of home automation systems) to be called on each type of event for each tag individually or all tags. Each URL may include placeholders such as "{0}" or "{1}" to be replaced with specific information from each event. Configuring the URL and calling the URL through the Web is secured by SSL (https).



Click on a tag to open its detail pane, click "Options..." then choose "URL Calling...".



Click on the event(s) you want to enable URL calling, and enter the URL of your REST Web service.



Together with Web service enabled home automation systems such as Insteon/ISY by Universal Devices, you can turn on the light when door is opened, or motion is detected, for example.

## **Customize Notification Messages**

You can customize each type of notification messages for each tag individually or all tags by defining a custom template. Each template may include placeholders such as "{0}" or "{1}" which will be replaced with different information for each type of message. See a full list of customizable notification messages.

Customize Notification Messages for Wallet

When lost link to a tag - {0}: Tag name, {1}: Time

When re-established link to a tag - {0}: Tag name {1}: Time since last update (lost link duration)

This tag was able to respond to the Tag manager. The link has been lost for {1}.

When motion is detected - {0}: Tag name, {1}: Orientation change

Re-estabilished Link to Tag "{0}"

Apply to All Tags

since last update Title:

Lost Link to "{0}"

Detail: Wallet is gone {1} ago!

Title:

Detail:

Add A New Tag		× Logout
Every 30 minutes 💿 🧿	Ping All Tags No	ww
Wallet (Disarmed)	. <u></u>	Beep
Motion Sensor	Van n	P
Temperature		ırm
Out of Range		1
Customize Message		al: -66dBm,
Phones		mperature:
Garage (Disarmed)	. <u></u>	Beep
🛪 Stop Beep All 🔹 Arm A	II 🔘 Disarm	All
Settings 💿		

choose "Customize Messages...".

Settings 🔿	
nytagist.com/eth/index.html#_ist	
Click on a tag to open its detail pane, click "Options" then	

For example, let's change the message sent when this Tag (Wallet) is out of range to a simpler one. The Tweet sent when the tag "Wallet" is out-of-range now uses specified custom message. Notification message for other tags are not affected unless "Apply to All Tags" is checked.

🚯 Home

Tweets

Q

O

Wireless Tags

# •

Wireless Tags @WirelessTags1 Lost Link to "Wallet"(Wallet is gone 15 minutes ago!) Expand ← Reply ■ Delete ★ Favorite

Wreless Tags @WrelessTaps1 fotion Detected By Tag "Redtag "(This tag has been physically loved by 7.0 degree.)

Motion Detected By Tag "Redtag "(This tag has been physic moved by 35.4 degree.)

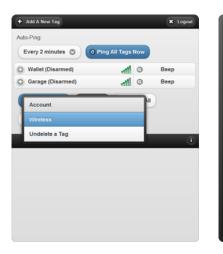
reless Tags @WirelessTaps1 tion Detected By Tag "Redtag "(This tag has been ph ved by 14.6 degree.)

Wreless Tags @WrelessTaps1 Jotion Detected By Tag "Redtag "(This tag has been physically moved by 27.6 degree.)

Wireless Tags @WirelessTaps1 Motion Detected By Tag "Redtag "(This tag has been physically moved by 11.5 degree.)

## Wireless Settings

Wireless Settings allows you to re-program the flash memory in each tag to use a different frequency to resolve interference problems, and to achieve a desired balance between range, battery life and response time.



Click the "Settings..." button at the bottom of screen and choose "Wireless".

	resolve interference problems, g range, battery life and respon
Old Setting	New Setting
Est. Range: 60m Est. Battery Life: 11.9 nonths	Est. Range: 60m Est. Battery Life: 14.8 months
	Frequency:
437.6MHz O	437.6MHz O
	Response Time:
within 2 sec 💿	within 2.5 sec 💿
	Data Rate:
19.2kbps 🔘	19.2kbps 💿

The system remembers the previous (Old) settings and use it for tags whose flash memory failed to update. When you modify any of the "New Setting", estimated range and battery life will be calculated.

#### Wireless Settings (Advanced) ess Settings Migratio bry in each tag to ou to re-program the flash use a different frequence fine tune the trade-off at ting Est. Range: 60m Est. Battery Life: 11.9 months Est. Range: 51m Est. Battery Life: 85.0 months Frequency: 437.6MHz 0 Res se Time within 9 sec O Data Rate: 38.4kbps 0 Cancel

The longer the response time, or the faster the data rate, the longer the battery life. But faster data rate reduces range. Click the "Migrate" button and Tag Manager will attempt to update the flash memory of all tags to use the new settings.

#### **Incomplete Migration**

+ Add A New Tag			× Logout	🛞 Wirele	ss Settings (Advanced)	_	_		_	
Auto-Ping: Every 2 minutes O O P	ing All Tags i	Now		1. use a	ttings Migration allows you	Ne interference	e problems	s, and		
Wallet (Disarmed)	ltr.	0	Beep	2. fine tu	ne the trade-off among rar	ige, battery life	e and respo	onse time.		
Garage (Disarmed)	lin.	0	Beep		Old Setting			New Setting		
damaged buzzer (Out of ran	damaged buzzer (Out of range) 🔐 💿 Migrate Setting				Est. Range: 60m Est. Battery Life: 11.9 months			Est. Range: 60m Est. Battery Life: 14.8 months		
		Frequenc			Freque	ncy:				
* Stop Beep All * Arm A		arm /	AII )		437.6MHz	0		437.6MHz	۲	
Settings 💿				Response			Respo	nse Time:		
My Wireless Tag List			<b>()</b>		within 2 sec	0		within 2.5 sec	0	
			0	Data Rati			Data R	ate:		
					19.2kbps	0		19.2kbps	0	
				♥ Migrat	Cannot migrate t	o a new confi pending mi		rre is still a tag		

When a tag failed to be updated, its "Beep" button becomes a "Migrate Setting" button. Click on it to retry updating its flash memory. Before update succeeds, Tag Manager communicates with that Tag using the old wireless setting. Since the Tag Manager has to remember the old wireless setting when there is still tag using it, you cannot introduce a third wireless setting until all tags on your tag list finishes migration to the new setting.

#### Wireless Settings

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference.

2. This device must accept any interference received, including interference that may cause undesired operation.

Modifications: Any modifications made to this device that are not approved by Cao Gadgets LLC may void the authority granted to the user by the FCC to operate this equipment.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures: – Reorient or relocate the receiving antenna. – Increase the separation between the equipment and receiver. – Connect the equipment into an outlet on a circuit different from that to which the receiver is connected. – Consult the dealer or an experienced radio/TV technician for help.