



# VAHLKAMP

## Wet-Watcher v1.2

### User's Manual



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Date:	20 January 2018	
Modified:	29 January 2018	
Version	1.2 (hardware) / 1.2 (software)	
Status:	<b>Public</b>	

# 1 General

The Wet-Watcher product is intended as a stand-alone wireless nurse alarm featuring three sensor inputs. These sensor inputs support moisture detection (the main function of Wet-Watcher) as well as absence detection, functionally identical to Vahlkamp's existing Bed Alarm product.

Moisture detection results in an immediate nurse alarm.

The Bed Alarm offers a delayed alert function with 4 different delay times. This delay prevents an immediate nurse alarm when the client leaves the bed for a short time span, e.g. for a bathroom visit.

The detector channels are each equipped with LEDs, indicating the triggered channel.

The Wet-Watcher wireless nurse alarm is fully compatible with Vahlkamp's existing TeleCall system. Additionally, a potential-free relay output is provided for wired alarm systems. This output is activated for the duration of one second in case of alarm.

A single nurse alarm call is sent after triggering. Renewed alarm is only possible after a reset, by switching the Wet-Watcher off and on again.

Wet-Watcher is powered by on 9V battery. A low battery is signalled by both the battery LED and a wireless alarm signal that differs from the usual signal.

## 2 General usage advice and precautions

- Wet-Watcher is an electronic device, intended for indoor use exclusively.
- Wet-Watcher is equipped with a radio transmitter, compliant with EU-standards for unlicensed operation. The Wet-Watcher system is therefore approved for use within the EU only. Please contact Vahlkamp for information about use outside the EU.
- Do not expose the Wet-Watcher device to temperatures below 0°C or over 50°C.
- Do not operate the Wet-Watcher device in moist conditions.
- Prevent falling and impact damage to the Wet-Watcher device.
- Prevent contact with solvents such as acetone, alcohol, and aggressive cleaning agents.
- Cleaning the Wet-Watcher device is best done using a soft cloth, slightly moistened with a mild detergent solution. When cleaning, prevent water from entering the device through the openings for the timer knob and the power switch.
- Do not unscrew the Wet-Watcher housing. The Wet-Watcher device does not contain user-serviceable parts, apart from the battery.

Failing observe these precautions voids any warranty with regard to the Wet-Watcher product.

### 3 First use and test

Before first use of a Wet-Watcher device, please check if all materials and accessories are present (this may vary, depending on the application):

#### Base set:

- 1 x Wet-Watcher v1.2 device
- 1 x 9V alkaline battery (ANSI: 6LR61)
- 1 x moisture detection bed sheet
- 1 x cable for moisture detection bed sheet

#### Optional:

- 1 x bed alarm detector mat (when using the Bed Alarm function)
- 1 x cable for bed alarm detector mat (when using the Bed Alarm function)
- 1 x cable for wired alarm (when using a wired nurse alarm system)
- 1 x Buddy Button (when using a Buddy Button)

### 3.1 Battery

Insert a 9V alkaline battery in the battery compartment at the bottom of the Wet-Watcher device.

The use of a high-quality alkaline battery is recommended. With one or two alarms per day, this will provide on average 2 years of continuous use.

A low battery level is signalled by blinking of the battery LED '**Batt**' above the power switch. When this happens, replace the battery within one or two days.

### 3.2 Final check and testing

When using the wireless TeleCall system, please check if a matching receiver unit is present and switched on. In particular, check whether the Wet-Watcher ID code matches the codes preset in the TeleCall receiver.

#### 3.2.1 General

- Up to 3 different alarm sources can be connected to one Wet-Watcher device simultaneously.
- Upon triggering of an alarm source, a single nurse alarm signal is issued. When, for instance, the moisture sensor alarm was already triggered, pressing a connected Buddy Button will not result in a second nurse alarm signal. A subsequent nurse alarm signal is only possible after a reset.
- Always connect the desired alarm source(s) before switching on the Wet-Watcher device, otherwise an unwanted nurse alarm may result.

#### 3.2.2 Testing moisture detection

Moisture detection functionality is tested as follows:

- Make certain that the Wet-Watcher device is switched off, i.e. that the slide switch at

the top is in the '0' position.

- Connect the cable of the moisture detection sheet to any one of the three input jacks at the front of the device. The inputs are identical, so it does not matter which one is chosen. Make certain to insert the jack plug firmly. Also make certain that the two snap button contacts on the other end of the cable do not touch each other or any metal objects.
- Switch on the Wet-Watcher device by moving the power switch from the '0' position in the 'I' position.

The battery LED should light up green for two seconds, signalling that the device is switched on. When the green LED switches off, the Wet-Watcher device enters the stand-by mode, and the input jacks are monitored for an alarm condition.

- Wait for several seconds. All LEDs should remain off, and no nurse alarm should be given.
- Press the two snap button contacts simultaneously on a wet cloth or wet scrap of paper.

This should result in an almost instantaneous nurse alarm. Also, the LED for this particular input jack should start blinking red, with 1-second intervals. This LED will blink until the Wet-Watcher device is reset.

After testing, dry both snap button contacts to prevent oxidation.

### **3.2.3 Testing the Bed Alarm**

The Bed Alarm is tested in the following manner:

- Make certain that the Wet-Watcher device is switched off.
- Connect the detector mat to one of the three input jacks, using the cable supplied. The inputs are identical, so it does not matter which one is chosen. Make certain to insert the jack plug firmly.
- Turn the knob fully counter-clockwise to select the lowest delay time (10 seconds).
- Sit or lie down on the detector mat, and switch on the Wet-Watcher device.

The battery LED should once again light up green for two seconds. After this, the Wet-Watcher device enters the stand-by mode, and the input jacks are monitored for an alarm condition.

- Leave the bed for a couple of seconds; the red LED for the input jack used should start blinking with 1-second intervals. However, no immediate nurse alarm should occur.
- Return to the bed within 10 seconds. The red input LED should stop blinking, and the Wet-Watcher device returns to the stand-by mode without nurse alarm.
- Leave the bed for more than 10 seconds.

The nurse alarm is activated after 10 seconds. After this, the LED for the triggered input will blink to indicate the alarm source.

If so desired, this test can be repeated with the delay time setting at a higher value.

### **3.2.4 Bed Alarm – delay time**

The delay time for the Bed Alarm has four distinct values: 10 seconds, 1 minute, 5 minutes, and 15 minutes. The delay time is selected via the rotary knob on the Wet-Watcher device.

**IMPORTANT:** Avoid setting the rotary knob halfway between two settings, as this is the switch-over point between the two adjacent discrete time settings.

### **3.2.5 Testing a Buddy Button**

Wet-Watcher supports several other alarm sources and sensors, most notably Vahlkamp's Buddy Button. This alarm source can be connected to any free input jack on the Wet-Watcher device.

- Make certain that the Wet-Watcher device is switched off.
- Connect the Buddy Button to a free input jack.
- Switch on the Wet-Watcher device.
- Press the Buddy Button.

This should result in an almost instantaneous nurse alarm. Also, the LED for this particular input jack should start blinking red, with 1-second intervals. This LED will blink until the Wet-Watcher device is reset.

### **3.2.6 Compatibility with other alarm sources**

Contact Vahlkamp for information on the use of other alarm sources with a Wet-Watcher device. Not all alarm sources and sensors are Wet-Watcher compatible; the use of an incompatible product may result in false alarms or alarm failure.

### **3.2.7 Reset**

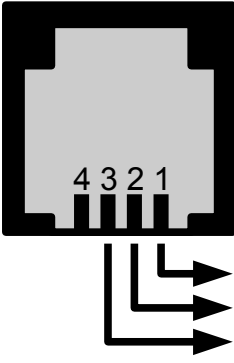
The Wet-Watcher device is reset by simply switching the device off, so by sliding the power switch in the '0' position. Then take care to resolve the alarm condition, e.g. by changing a wet sensor bed sheet, or making certain that the client has returned to bed when using the Bed Alarm option. After this, the Wet-Watcher device can be switched on again.

## **3.3 Wired alarms**

The Wet-Watcher system also supports the use of a potential-free relay contact, suitable for both normal-open (NO) and normal-closed (NC) operation. Upon alarm, this relay is activated for one second. This wired alarm output provides a solution for situations where the distance to the nurse station or the alarm room exceeds the wireless range, or when TeleCall-receivers aren't used for any other reason.

The wired output connector is an RJ11-connector. Please refer to the hardware specifications for the correct connections.

## 4 Specifications

<b>sensor input jacks</b>		
Type	<b>NO Contact</b>	Mini-jack 3,5 mm mono, ground and tip
Voltage (maximum)	3 V	0 V (voltage-free) after alarm
Current (maximum)	25 $\mu$ A	0 $\mu$ A (current-free) after alarm
Trip current	< 15 $\mu$ A	
Trip resistance	< 100 k $\Omega$	
Type	<b>NC Contact</b>	Mini-jack 3,5 mm stereo, ring and tip
Voltage (maximum)	3 V	Pulsed 10 ms / 1 second, voltage-free after alarm
Current (maximum)	300 $\mu$ A	Pulsed 10 ms / 1 second, current-free after alarm
Trip current	< 200 $\mu$ A	
Trip resistance	> 5 k $\Omega$	
<b>Transmitter</b>		
Type	Band H/I, FSK	
Frequency	868,200 MHz	
Modulation Depth	30 kHz	
Modulation	50/58 bits	50 bits + 8-bits battery low message, non-recurrent
<b>Relay Output</b>		
Type	COM + NO + NC	Potential-free
Configuration	4-pin RJ11, rear view:  1: C 2: NO 3: NC 4: [unused]	 <p>C (common) NO (normally open) NC (normally closed)</p>
Contact voltage (max.)	220 VDC / 250 VAC	
Contact current (max.)	2 A	
Contact power (max.)	60 W	
Activation duration	1 second	Non-recurrent
<b>Power Supply</b>		
Type	1 x 9V (6LR61)	
Voltage (nominal)	9 V	
Voltage (maximum)	10 V	
Current consumption	10 $\mu$ A / 20 $\mu$ A	Stand-by / activated

## 4.1 EMC Conformity by parameter

**Note:** All measurements valid in temperature range between 0°C – 50°C

Parameter	Requirement	Measured	Status
Primary frequency	Band H/I, 869.2 MHz	869.200 MHz ±10 kHz	<b>PASS</b>
Output Power	< 10 mW (Band I)	5 mW (7 dBm) maximum	<b>PASS</b>
Tertiary Harmonic	< -50 dBm	-55 dBm maximum	<b>PASS</b>
FSK Modulation Depth	100 kHz	30 kHz +/-5 kHz above primary	<b>PASS</b>
Duty Cycle	< 0.1%	< 10 ms per 60 s	<b>PASS</b>

On request, a separate manufacturer declaration of CE/EMC conformity will be provided.