Koi Watch

Users Manual

"The revolutionary pond monitoring text message alert system – peace of mind for you and your Koi"

Koi Watch Users Manual

Introduction

Koi Watch continually monitors your pond and if an alarm condition is detected a text message is sent to your mobile phone. In addition your mobile phone is also rung which leaves a 'virtual' message on the missed-calls list.

Designed by Koi Keepers for Koi Keepers. Koi Watch has had 15 years worth of Koi Keeping experience poured into its development. It has been rigorously tested for over a year on Koi Ponds within the UK.

We've all been there and bought the T-Shirt when it comes to Koi Keeping disasters! Now Koi Watch is available to prevent some of those costly disasters re-occurring.

The Benefits

Koi Watch will keep an eye on your Koi 24 hours a day, every day. Koi Watch monitors water temperature, water level, and your mains power supply. Should the pond temperature fall outside of your pre-set min and max thresholds, a change in water level, or mains power failure occur an SMS text message will be sent instantly to YOUR mobile phone. In addition your mobile phone will be rung leaving a 'virtual' message on the missed-calls list.

Have a think about what this means. By monitoring these three key elements (temperature, water level, and mains power supply), it is possible to spot a large number of potential problems as shown in the table below:

Problem	What are the consequences?	How will Koi Watch alert me so I can make plans to fix the problem?
Leak in pond or pipework	Water will be lost from the pond. Eventually the filter will stop working as it gets starved of water. If the bottom drain pipework starts leaking you could end up with no water left for the Koi.	Any leak in the pond or filter system will result in the Koi Watch float switch dropping. Koi Watch will detect this alarm condition and send a text message and/or call your mobile phone leaving a 'virtual' message.
Bottom drain blocked	We've all been there! The filter system will be starved of water, and the flow rate will decrease. Water quality will suffer from less filtration and a drain blocked full of waste! Eventually the pump will burn out and the Koi will begin to suffer.	The Koi Watch float switch installed in the filter system e.g primary vortex will drop due to the filter system being starved of water. Koi Watch will detect this alarm condition and send a text message and/or call your mobile phone leaving a 'virtual' message.
Mechanical filter blocked	The biological stages will become starved of water. Water quality will suffer from less filtration. Eventually the pump will burn out and the Koi	A second Koi Watch float switch installed in the filter system after the mechnical filter e.g in the last biological stage will drop due to the

Problem	What are the consequences?	How will Koi Watch alert me so I can make plans to fix the problem?
	will begin to suffer.	biological stages of the filter system being starved of water. Koi Watch will detect this alarm condition and send a text message and/or call your mobile phone leaving a 'virtual' message.
Water pump blockage (pump fed syetem)	The filter system will be starved of water, and the flow rate will decrease. Water quality will suffer from less filtration and a pump blocked full of waste! Eventually the pump will burn out and the Koi will begin to suffer.	The Koi Watch float switch installed in the filter system will drop due to the filter system being starved of water NB on most but not all pump fed systems – please check or ask for advice. Koi Watch will detect this alarm condition and send a text message and/or call your mobile phone leaving a 'virtual' message.
Heating system failure - left permanently OFF e.g thermocouple failure on boiler, or electric heater blocked with blanketweed.	Water temperature could rapidly plummet stressing the Koi. If during Winter, water temperature could fall to dangerous levels possibly freezing your Koi.	If Koi Watch reads a temperature that falls outside of the preset min and max temperatures, it will send a text message and/or call your mobile phone leaving a 'virtual' message.
Heating system failure - left permanently ON e.g thermostat failure, probe failure, or probe detachment	Water temperature could rapidly increase stressing the Koi. If left for long enough and the heating system is 'big' enough, the water temperature could rise to dangerous levels possibly frying your Koi.	If Koi Watch reads a temperature that falls outside of the preset min and max temperatures, it will send a text message and/or call your mobile phone leaving a 'virtual' message.
Dangerously low Winter temperatures in unheated pond	Can be fatal if water temperature falls below 4 degrees Celsius.	If Koi Watch reads a temperature that falls outside of the preset min and max temperatures, it will send a text message and/or call your mobile phone leaving a 'virtual' message.
Water Pump failure	The water pump is the 'heart' of any filter system. If this stops, the water ceases to be filtered. Any auxiliary equipment you are pumping through will also cease to function e.g heating system. There's no need to explain the consequences of this any further!	1. Since the water is no longer being passed through the heating system, the water temperature will begin to drop. Obviously the rate at which it drops depends on environmental conditions and the difference between pond and air temperature. If Koi Watch reads a temperature that falls outside of the preset min and max temperatures, it will send a text message and/or call your mobile phone leaving a 'virtual' message. 2. On a gravity fed system, due to hydraulic loading, the water in the

Problem	What are the consequences?	How will Koi Watch alert me so I can make plans to fix the problem?
		filter system will rise when the water pump is switched off/fails. It is possible to reverse the logic on a Koi Watch float switch. This will signal an alarm when the float switch rises rather than falls. This is a good utilisation of the second Koi Watch float switch. Koi Watch will detect this alarm condition and send a text message and/or call your mobile phone leaving a 'virtual' message.
Mains power failure	The entire filter system is powered by electricity. A power failure will result in water pump, air pump, and heating system failure. Not to mention all the other bits of 'kit' we install nowadays. In this situation, oxygen levels could plummet rapidly on a thundery summer day! Water quality will begin to suffer due to the lack of filtration. Pond temperatures could plummet due to heating system failure. In short loss of power is bad news and could easily result in dead Koi.	Koi Watch includes a battery back up facility. Should a power failure occur (no power to Koi Watch), Koi Watch will continue to run from its battery back up, send a text message and call your mobile phone leaving a 'virtual' message alerting you to the power failure.

Koi Watch Contents

The standard Koi Watch package consists of the following items:

- Microprocessor controlled Koi Watch unit
- Dedicated mobile phone including charger and phone cable (SIM not included)
- Mains time switch
- 12 meter temperature probe
- 12 meter drop float switch (Standard and/or Extended)
- 4x 1.5v Alkaline AA Batteries (Older Koi Watch only – see General FAQ's)
- Power supply adaptor

Optional extras such as flood detectors, additional float switches, etc are also available. Please contact us to discuss your specific monitoring requirements.

Koi Watch Location

Find a suitable location for Koi Watch ideally inside you home, garage, shed, or filter house. The temperature probe and float switches can be extended up to 30 meters if required. The main Koi Watch unit is not water or shower proof and must not be exposed to water or the elements at any time. Mobile phones are particularly sensitive to damp conditions. The golden rule when selecting an installation site – do not install Koi Watch where you would not be prepared to leave your mobile phone 24 hours a day!

Koi Watch Pond Installation

Temperature probe

The Carel Temperature Probe can be installed in either the Pond or filter system. The filter system is recommended just in case the Koi get hold of it!

Installation

Installation is simply a matter of dropping the probe into the water. The probe body is of 316 stainless steel construction so will sink rapidly (unlike the cheaper rubber type that can 'float around'). You may wish to drill a small hole in the side of your vortex/settlement chamber above the water line in order to pass the probe through. This avoids having to pass the probe cable over the top of the chamber and is particularly useful if you have a tight fitting lid to your chamber.

It is possible to extend the temperature probe cable by up to 30 meters. Please see FAQ's for information on how to do this.

Float Switch

The float switch can be installed in either the Pond or filter system. The filter system is recommended as in most cases it's the easiest option and as with the temperature probe – prevents the Koi getting hold of it!

Installation

There are many ways to install the float switch and your particular choice will likely depend on your type of vortex/settlement chamber and whether you have a pump or gravity fed system. The instructions given here cover installation for the 'average' gravity fed system and should be used as a guide only. If required, please contact us to discuss installation on your own system.

Koi Watch comes supplied with a special drop float switch designed to pivot above the water line eliminating problems with blanketweed etc building up around the pivot point - all so common with conventional float switches. The following instructions assume installation of the drop float switch (standard or extended). If you have obtained an alternative float switch, please contact us for installation advice.

The height at which the float switch is installed will determine the point at which it opens/closes and thus when an alarm is detected in the event of a drop in water level.

Standard Drop Float Switch

We recommend installing the standard drop float switch such that the pivot point is slightly above the water line. In this configuration, the standard drop float switch will trigger an alarm when the water level drops approximately 3 cm.

1. Ensure your system is running at its normal water level. Using a pencil, mark the water level on the side of your vortex/settlement chamber where you wish to install the float switch in.

2. Drain your vortex/settlement chamber. Drill a 16.5 mm hole in the side of your vortex/settlement chamber where you marked the water level above.

3. Pass the washer over the threaded section of the float switch. From the inside of the vortex/chamber, pass the threaded section of the float switch through the hole made above. Secure tightly to the chamber using the backing nut ensuring the float switch is the right way up i.e the float drops towards the bottom of the chamber.

Extended Drop Float Switch

We recommend installing the extended drop float switch such that the pivot point is 3.5 cm above the water line. In this configuration, the extended drop float switch will trigger an alarm when the water level drops 7.5 cm.

1. Ensure your system is running at its normal water level. Using a pencil, make a mark 3.5 cm above the water level on the side of your vortex/settlement chamber you wish to install the float switch(s) in.

2. Drain your vortex/settlement chamber. Drill a 16.5 mm hole in the side of your vortex/settlement chamber where you marked the water level above.

3. Pass the washer over the threaded section of the float switch. From the inside of the vortex/chamber, pass the threaded section of the float switch through the hole made above. Secure tightly to the chamber using the backing nut ensuring the float switch is the right way up i.e the float drops towards the bottom of the chamber.

It is possible to extend the float switch cable by up to 30 meters. See FAQ's for information on how to do this.

Flood Sensor (if supplied)

The GRI 2800 flood sensor can be installed anywhere you'd like Koi Watch to detect a flood. Typical installation sites are a shed, garage, pump house, or conservatory.

<u>Installation</u>

Simply mount the flood sensor using the two screws provided. Alternatively the flood sensor can be glued into position.

It is possible to extend the flood sensor cable by up to 30 meters. Please see FAQ's for information on how to do this.

Koi Watch Assembly instructions

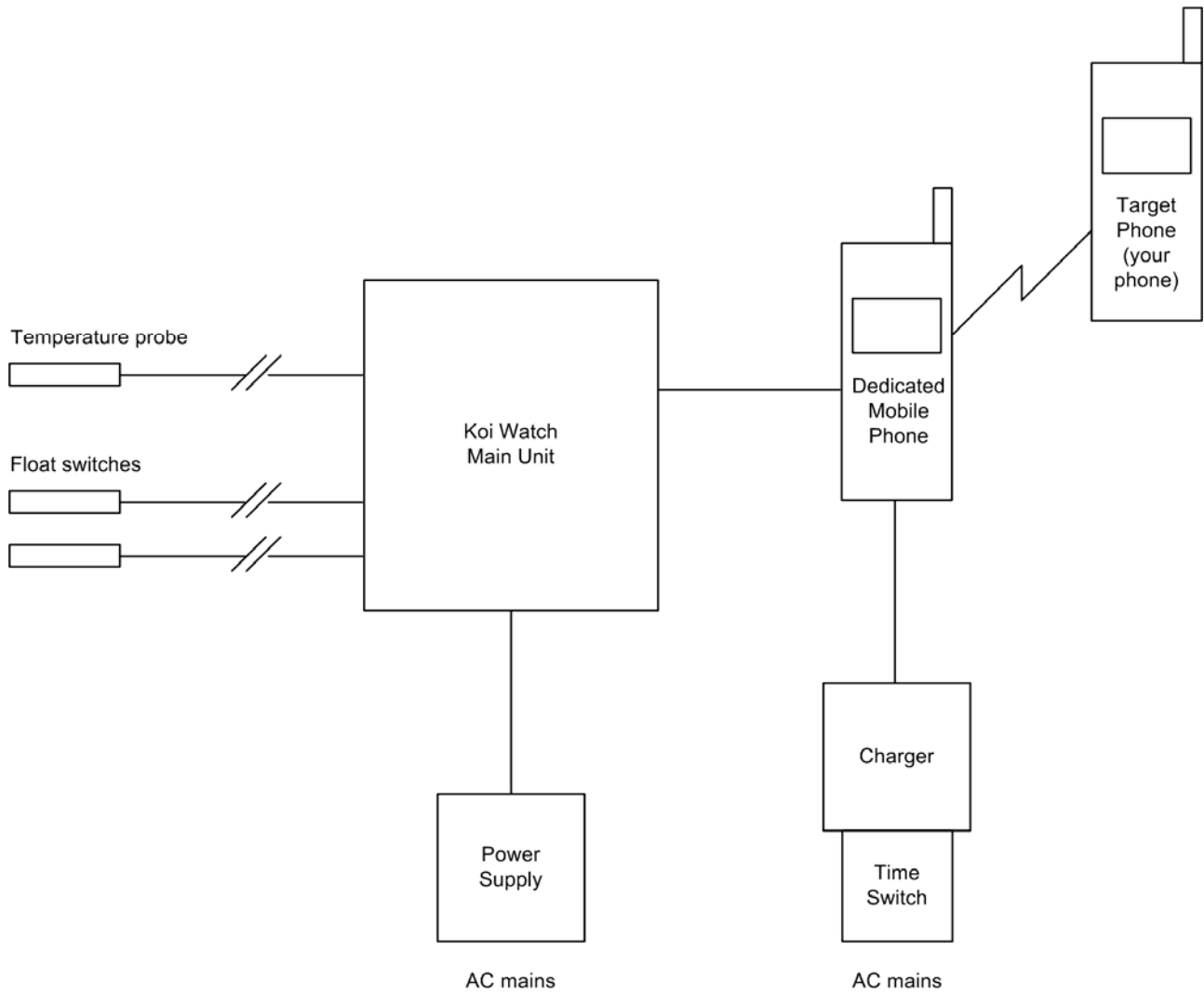**BEFORE STARTING THIS PROCEDURE ENSURE THE POWER SUPPLY ADAPTOR IS DISCONNECTED FROM THE MAINS.**

Figure 1 – Typical Koi Watch System Overview

Install Phone SIM and Configure Phone book

1. Install SIM (not included) into dedicated mobile phone.
2. Charge the dedicated mobile phone. When fully charged, disconnect charger from mains and phone. Ensure the phone is fully charged before proceeding.
3. Ensure the dedicated phones phone book is empty (SIM memory only).
4. Add the following items to the dedicated phones phone book (SIM memory only):

Name	Number
Targetphone	<your mobile phone number>
Templow	5 <or any low temp of your choice>
Temphigh	25 <or any high temp of your choice>
Texton	1

NB This provides a basic minimal configuration to 'get you going'. For more information on configuring the phone book see 'Koi Watch configuration'.

Connect Mobile Phone Charger and Configure Time Switch

5. Connect the dedicated mobile phone to its charger. Whilst Koi Watch is powered on, the dedicated mobile phone must remain on at all times. In order to ensure this, it is necessary to leave the dedicated mobile phone connected to its charger.
6. Connect the charger to the supplied time switch. Configure the time switch to switch on twice a day i.e every 12 hours for the time period specified in the table below according to charger type. The charger type can be found on the underside of the charger mains plug.

Nokia Charger Type	Charging Time Period
ACP-7	4 hours
ACP-8	2 hours 30 minutes
ACP-9	1 hour 40 minutes

7. Plug time switch into the mains.

Remove Koi Watch Lid

8. Remove Koi Watch from its packaging.
9. Turn Koi Watch upside down.
10. Remove the two screws.
11. Turn Koi Watch right side up.
12. Remove lid.

Figure 2 – Koi Watch Main Board Layout

Connect Phone cable to Main Board

13. From the inside, pass the phone connector end of the phone cable through the hole in the back plate of Koi Watch. **Do NOT connect the dedicated mobile phone yet.**
14. Push the other end of the phone cable into the 9 pin D-Type connector (see Figure 2, J5) on the Koi Watch main board. Screw the cable down using the two screws on either side of the connector.
15. Slide the rubber grommet along the phone cable and fit to the hole in the back plate of Koi Watch.

Connect Float Switches

16. From the outside pass the end of the float switch cable through the grommet in the back plate of Koi Watch.
17. Locate Float Switch 1 terminal block connector (see Figure 2, J3). Using a small flat head screwdriver, loosen each of the two screws on the terminal block connector. Push one of the two float switch wires into the rectangular hole directly beneath the screw. Tighten screw. Repeat with the other wire. NB It doesn't matter which way round the wires go.
18. Repeat the above steps for the second float switch. Connect the second float switch to the Float Switch 2 connector (see Figure 2, J4). NB second float switch not supplied as standard.

Connect Flood Sensor (if supplied)

19. From the outside pass the end of the flood sensor cable through the grommet in the back plate of Koi Watch.
20. Locate Float Switch 2 terminal block connector (see Figure 2, J4). Using a small flat head screwdriver, loosen each of the two screws on the terminal block connector. Push the black wire into the rectangular hole directly beneath the screw marked 'Negative' in Figure 2 above. Tighten screw. Push the red wire into the rectangular hole directly beneath the screw marked 'Positive' in Figure 2 above. Tighten screw. NB these instructions assume the Float Switch 2 terminal block is unused. If this is not the case, it is possible to connect more than one sensor to each terminal block. Please see FAQ's at the end of this manual or contact us for more information.

Connect Temperature Probe

21. From the outside pass the end of the Temperature Probe cable through the grommet in the back plate of Koi Watch.
22. Locate the Temperature Probe terminal block connector (see Figure 2, J2). Using a small flat head screwdriver, loosen each of the two screws on the terminal block connector. Push one of the two temperature probe wires into the rectangular hole directly beneath the screw. Tighten screw. Repeat with the other wire. NB It doesn't matter which way round the wires go.

Connect Power Supply Adaptor

23. From the outside pass the end of the Power supply connector through the grommet in the back plate of Koi Watch.
24. Push the power supply connector into the power connector socket on the main board (see Figure 2, J1). **Do NOT plug the power supply adaptor into the mains yet.**

Install Batteries (Older Koi Watch only – see General FAQ's)

25. Install the 4x 1.5v Alkaline AA batteries into the battery holder observing the polarity printed on the inside of the holder. NB Koi Watch also supports the use of any 'AA size' NiCd or NiMh 1.2v rechargeable batteries. These can be installed as an alternative to alkaline batteries.

Replace Koi Watch Lid

26. Carefully replace lid ensuring front and back plates side through groves on lid.
27. Whilst holding the lid in place, carefully turn Koi Watch upside down.
28. Replace the two screws securing lid to base.
29. Turn Koi Watch right side up.

Power on Dedicated Mobile Phone and Connect Phone Cable

30. Power on the dedicated mobile phone if you have not already done so.
31. Wait until the dedicated mobile phone is in standby mode i.e able to make and receive calls before proceeding to next step.
32. Connect the phone connector end of the phone cable to the base of the dedicated mobile phone.

Power on Koi Watch

33. Plug the Koi Watch power supply adaptor into a suitable mains socket.
34. Move the switch located on the right hand side of the back panel to the 'On' position.

Congratulations! Koi Watch is now ready for use. Please see 'Koi Watch Operation' section below for instructions on using Koi Watch and the 'Koi Watch Configuration' section to learn how to get the most out of Koi Watch.

Koi Watch Operation

Following power-up, Koi Watch will begin to read the configuration parameters (phone book entries) from the dedicated mobile phone. Once read and validated, Koi Watch will begin to monitor and display on the LCD the state of the temperature probe and float switches.

Koi Watch LCD

The LCD (Liquid Crystal Display) consists of two lines:

System State - Line 1

This line displays the current system state, which, in order of precedence, can be:

- Phone off-line
- Phone connecting
- Alarm triggered
- Deactivated
- Monitoring*

*During the monitoring state ie where the dedicated phone is on-line and an alarm condition has not been triggered, the LCD display is static. This line contains the title heading for the status values shown below.

During any non-monitoring state e.g where the dedicated phone is off-line or an alarm condition has been triggered, the LCD display is flashing. This line alternates between the title heading and the associated warning message.

Current Status Values – Line 2

This line displays the current, real-time values of the:

- Water temperature – Degrees Celsius or Fahrenheit
- Float-switch 1 - OK or triggered
- Float-switch 2 - OK or triggered

Alarm Condition Detection

An alarm will be triggered if:

- A float-switch changes state i.e drops due to lowering of water level
- The temperature read from the temperature probe either falls or rises outside of the temperature thresholds set in the dedicated phone
- A mains power failure occurs i.e Koi Watch no longer receives power from the Koi Watch mains adaptor

Upon detection of an alarm condition Koi Watch will stop monitoring the temperature probe and float switches for 2 hours (see the 'Holdtime' configuration parameter under 'Koi Watch Configuration' for information on altering this). The LCD will be 'held' for this time period displaying the values read when the alarm condition occurred. This is necessary to prevent very

frequent calls to the target phone should the temperature or water level go in and out of the alarm state.

Two modes of operation are possible when an alarm is triggered:

<u>Text and Ringing Alert</u>

On detection of an alarm condition, a text message is sent to your mobile phone (target phone) containing the current status. Clearly, for each text sent, there is a cost associated with this.
In addition, the target mobile phone is also rung for a short period of time. By storing the phone number of the dedicated phone, as for example 'Koi Watch', this text will appear on your phone while it is being rung leaving a 'virtual' message. This will also appear in your missed call list with the date and time of the alarm.

<u>Ringing only Alert</u>

On detection of an alarm condition, your mobile phone (target phone) is simply rung for a short period of time. By storing the phone number of the dedicated phone, as for example 'Koi Watch', this text will appear on your phone while it is being rung leaving a 'virtual' message. This will also appear in your missed call list with the date and time of the alarm.
This enables the system to be operated free of charge. This is possible because call charging starts when the destination phone is answered or after the mobile operator answer machine tone is heard.

NB If a mains power failure alarm is triggered, the system will always revert to the 'Text and Ringing Alert' mode. This is required, as shortly after your mobile phone has been alerted, Koi Watch will go into power save mode to preserve battery life. Whilst in power save mode, a status request will not be serviced. See 'Status Request' for more information.

See the 'Texton' configuration parameter under 'Koi Watch Configuration' for information on selecting either of these modes.

Status Request

At any time, a current status can be requested remotely by calling the dedicated phone from your phone (target phone) and hanging up upon hearing a ring. Koi Watch will then send a status text message to your phone (target phone).

The status text message will consist of the following actual real-time readings:

- Overall status – OK or alarmed
- Current water temperature including low and high thresholds set
- Float-switch 1 - OK or triggered
- Float-switch 2 - OK or triggered

During a mains power failure alarm Koi Watch is running in power save mode to preserve battery life and is unable to process status requests.

Koi Watch Configuration

Koi Watch reads entries from the dedicated phones' phone book in order to configure itself. In this context, we refer to phone book entries as configuration parameters.

Configuration parameters consist of a name and number. These are entered into the phone book in the same way as you would enter a contact name and number into your own mobile phone. e.g you may have a phone book entry for Fred Bloggs with a phone number of 0878 999999 in your own mobile phone.

Some of the configuration parameters are 'key' parameters. All key parameters must exist in the phonebook otherwise Koi Watch will be deactivated. The remaining non-key parameters are optional. Where these do not exist in the phone book default values will be used instead.

All of the parameter names are case-sensitive and must be entered exactly as stated i.e 'Targetphone' should be entered with an uppercase 'T' with all other letters entered in lowercase.

All of the configuration parameters must be entered in the SIM card memory.

IMPORTANT - After changing configuration parameters, Koi Watch must be turned off and on (via switch on back of unit) in order for the changes to take effect.

Configuration Parameters

The required, key parameters are:

Name	Number	Min Number	Max Number	Default Number
Targetphone	The phone number of the target phone to call upon detection of an alarm condition i.e your mobile phone.	Not applicable	Not applicable	Not applicable
Templow	The low temperature threshold. The temperature entered must be lower than the temperature entered for Temphigh. Temperature may be entered in either degrees Celsius or Fahrenheit. Whichever scale is selected, the same should be used for Temphigh.	0 (for degrees Celsius) or 41 (for degrees Fahrenheit). NB - use * for decimal point e.g for 20.5 enter 20*5. NOTE – * can only be used with Koi Watch v008 and later software.	40 (for degrees Celsius) or 99 (for degrees Fahrenheit). NB - use * for decimal point e.g for 20.5 enter 20*5. NOTE – * can only be used with Koi Watch v008 and later software.	5 degrees Celsius

| Temphigh | The high temperature threshold. The temperature entered must be higher than the temperature entered for Templow. Temperature may be entered in either degrees Celsius or Fahrenheit. Whichever scale is selected, the same should be used for Templow. | 0 (for degrees Celsius) or 41 (for degrees Fahrenheit).

NB - use * for decimal point e.g for 20.5 enter 20*5. NOTE – * can only be used with Koi Watch v008 and later software. | 40 (for degrees Celsius) or 99 (for degrees Fahrenheit).

NB - use * for decimal point e.g for 20.5 enter 20*5. NOTE – * can only be used with Koi Watch v008 and later software. | 35 degrees Celsius |

The optional parameters are:

Name	Number	Min Number	Max Number	Default Number
Targetphone2	The phone number of the second target phone to call upon detection of an alarm condition i.e your second mobile phone. (NOTE – this feature is only available with Koi Watch v008 and later software)	Not applicable	Not applicable	Not applicable
Dialtime	The dialling hold time for dialling the target phone. The dialling time is network-operator dependent. It is important that this time is set sufficiently long in order that the call is placed but not too long so that if your mobile (target phone) is switched off, the call is terminated before the network-operator answer-phone recording is activated.	0 (seconds)	30 (seconds)	11 (seconds)
Fswitchtrig	Float switch polarity. Select from N/O (Normally Open) and N/C (Normally Closed). N/O means that in normal use i.e no Alarm triggered, the float switch is open. If the float switch is closed, an alarm is triggered. N/C means that in normal use i.e no Alarm triggered, the float switch is closed. If the float switch is open, an alarm is triggered.	0 (Norm. Open)	1 (Norm. Closed)	0 (Norm. Open)
Pbattlow	Phone battery low threshold.	0 (%)	100 (%)	5 (%)
Tempcal	The temperature probe calibration offset – specific to each unit. The temperature measurement uses a commercially available probe that, being an analog component, is accurate to within +- 1%. If desired, a temperature calibration offset may be applied to compensate for any probe error.	0 (-1.0 degrees Celsius)	20 (+1.0 degrees Celsius)	10 (0.0 degrees Celsius)
Texton	Enables or disables texting. If enabled, a text message will be sent to your mobile (target phone) upon an alarm condition. If disabled, a text message will NOT be sent to your mobile (target phone). NB Whether	0 (Disable)	1 (Enable)	0 (Disable)

	enabled or disabled, your mobile (target phone) will always be rung, leaving a 'virtual' message on the missed calls list.			
Holdtime	Upon detection of an alarm condition this is the time period that Koi Watch will stop monitoring the temperature probe and float switches for. The LCD will be 'held' for this time period displaying the values read when the alarm condition occurred. This is necessary to prevent very frequent calls to the target phone should the temperature or water level go in and out of the alarm state.	1 (Hours)	12 (Hours)	2 (Hours)
Realerttime	Upon detection of an alarm condition this is the time period Koi Watch will wait before sending a second alert (assuming Koi Watch is still alarmed). Setting this to a time greater than Holdtime will result in a re-alert should Koi Watch still be alarmed after Holdtime has passed. (NOTE – this feature is only available with Koi Watch v009 and later software).	0 (Hours) i.e Disabled.	12 (Hours)	0 (Hours) i.e Disabled.

Koi Watch Maintenance

Koi Watch requires very little maintenance. However, from time to time, we recommend a status is requested from Koi Watch to ensure it is functioning correctly. See 'Status Request' within the 'Koi Watch Operation' section for information on how to do this.

Depending on use, the Koi Watch AA batteries should be replaced approximately every 6 months (older Koi Watch only – see General FAQ's).

Support/FAQ's and Troubleshooting guide

Support

Please take a few moments to browse through the various FAQ's and troubleshooting guide. If you are still unable to resolve your problem, please do not hesitate to contact us.

Email: support@koiwatch.com
Technical support line: +44 (0)1582 727363

General FAQs

Q1. How does the 30 day money back guarantee work?

A1. We have great confidence in Koi Watch and as such we are able to offer a 30 day no quibble money back guarantee so you can try before you buy! If after installing Koi Watch on your pond system you find that within 30 days of purchase it does not deliver everything that you expected, simply return Koi Watch with all components in its original packaging for a full refund (excluding P & P).

Q2. How long is Koi Watch guaranteed for?

A2. Koi Watch is guaranteed from manufacturing defects for 2 years from the date of purchase.

Q3. Which SIM should I purchase for the dedicated mobile phone?

A3. 'Pay as you go' SIMs offer the best solution over a monthly contract. Text messaging is very cheap and 'text bundles' can be purchased from most network operators making the cost per text message even cheaper. It is best to purchase a SIM from the same operator as your personal mobile (target phone) phone. This ensures your phone will receive a good signal (providing your personal mobile phone gives a good signal) and text messages often arrive quicker when sent to the same network.

Some (not all) network operators on pay as you go will disconnect the SIM if a chargeable call has not been made within say 6 or 12 months. Please check with the operator before purchase. O2 will disconnect the SIM after 6 months if a chargeable call has not been made. O2 do NOT class sending a text message as a chargeable call! We recommend avoiding O2 pay as you go unless they change their policy. At the time of writing, with the exception of O2, all other operators class sending a text message as a chargeable call.

Q4. Is the Koi Watch software running in the main unit upgradeable?

A4. Yes. The Koi Watch software is fully upgradeable. Future software enhancements based on Customer feedback etc will be made available to existing Koi Watch owners.

Q5. Can I install Koi Watch outside?

A5. Yes. However, the main Koi Watch unit is not water or shower proof and must not be exposed to water or the elements at any time. Mobile phones are particularly sensitive to damp conditions. The golden rule when selecting an installation site – do not install Koi Watch where you would not be prepared to leave your mobile phone 24 hours a day!

Q6. Can I extend the temperature probe and float switch cables?

A6. Yes. The temperature probe and float switch cables can be extended up to a maximum of 30 meters using good quality speaker cable. Please ensure the joints are sound. Please contact us for more information – we would be happy to extend the cables for you!

Q7. Can I use any mobile phone as a dedicated mobile phone?

A7. No. Only the 7110, 6210, and 6310 Nokia mobile phones are supported.

Q8. How do I connect the power supply, temperature probe, float switch, and dedicated phone to the main Koi Watch unit?

A8. Please refer to the section 'Koi Watch Assembly Instructions' within this manual.

Q9. Is the supplied dedicated mobile phone locked to a specific network operator?

A9. No. The dedicated mobile phone is supplied unlocked so any SIM can be used with the phone. See FAQ Q3 for more information on selecting a SIM.

Q10. I live outside the UK. Can I still install Koi Watch on my pond?

A10. Koi Watch has been fully tested in both the UK and France. There are Koi hobbyists and dealers all over the world and it is impossible for us to test Koi Watch in every country and indeed this should not be necessary. When installing Koi Watch outside the UK, the dedicated mobile phone, mobile phone charger, mains time switch, and power supply adapter are the only components likely to give problems.

The dedicated mobile phone is a dual band phone. If your country supports the use of a dual band phone then the dedicated mobile phone will work. In general all countries outside the US/Canada support dual band phones. For the US/Canada, a tri-band phone is required. Please contact us as we are able to supply the tri-band Nokia 6310.

The charger, time switch, and power supply adaptor supplied need to be connected to a 220/240V 50Hz mains supply. These come with a moulded UK style 3 pin plug. If your local supply is 220/240V 50Hz they can be used however you may need another (travel type) adapter to convert the UK style 3 pin plug to be physically compatible with your socket style. Alternatively please contact us as we can usually supply alternative components designed for use in your country. If your local supply is not 220/240V 50Hz e.g US/Canada, please contact us as we can supply alternative components. If you are in any doubt at all, please contact us before connecting Koi Watch to the mains supply!

Q11. How do I know which version of Koi Watch I have?

A11. If your Koi Watch has an AA battery holder fitted then you have the older Koi Watch. The newer version of Koi Watch has a rechargeable battery fitted to the main board instead. The Koi Watch unit charges the rechargeable battery automatically. Apart from this, there is no functional difference between the two units.

Koi Watch Operation FAQs

Q1. If I trigger an alarm by, for example, closing a float switch, Koi Watch calls my mobile and sends me a text message to alert me as expected. If shortly after the alert, I open the float switch again, the Koi Watch LCD still displays 'Alarm Triggered' with the float switch shown as triggered. Why has the LCD not been updated?

A1. Upon detection of an alarm condition Koi Watch will stop monitoring the temperature probe and float switches for a default time of 2 hours (see 'Holdtime' configuration parameter for information on changing this time). The LCD will be 'held' for this time period displaying the values read when the alarm condition occurred. This is necessary to prevent very frequent calls to the target phone should the temperature or water level go in and out of the alarm state.

Q2. I have the older Koi Watch unit fitted with AA batteries. How long should the AA batteries last?

A2. The batteries should last about 6 months assuming Koi Watch has not been run from the batteries during this time i.e a power cut has not occurred.

Q3. I have the older Koi Watch unit fitted with AA batteries. Can I use rechargeable AA batteries instead?

A3. Yes. Koi Watch can accept any 'AA size' NiCd or NiMh 1.2v rechargeable batteries.

Q4. Can I attach anything other than float switches to the float switch terminal blocks? If so, can I connect more than one sensor to each float switch terminal block?

A4. Yes. Any passive actuator can be connected e.g flood sensor. Please contact us for more details.

Q5. Can I connect more than one sensor to each float switch terminal block?

A5. Yes. By wiring the sensors (e.g float switches, flood sensors) in parallel, it is possible to connect more than one sensor to a terminal block. NOTE - the sensors should be wired in series if the Configuration Parameter 'Fswitchtrig' has been is set to 1 - normally closed. We can also supply the sensors connected together to your specification, please contact us for more details.

Troubleshooting

In case of the product not working, there are various diagnostic features to help in determining the cause of the problem.

This diagnostic procedure should be followed in this order:

1. Is nothing shown on the LCD display?

Ensure the power supply is plugged into the mains and connected to the Koi Watch unit. Ensure the Koi Watch unit is switched on.

2. Does the LCD show an incorrect temperature?

Ensure the temperature probe is connected. NB If the temperature probe is not connected to the terminal block connector (J2) the temperature reading should be 0.0.

3. Does the LCD show '??' for all the associated float switches?

Until the dedicated phone has been detected as on-line and the configuration has been acquired, the polarity of the float switch triggered state is unknown.

Ensure the phone cable is connected to Koi Watch and the dedicated mobile phone.

4. Does the LCD show 'Phone off-line' after 5 minutes even when the phone is plugged in?

At the phone end, disconnect the phone cable from the phone. Turn off the phone. Turn off Koi Watch (via switch on back of unit). Remove the Koi Watch adaptor from the mains socket. Remove the phone battery, re-connect battery after 2 minutes. Turn on the phone. Wait until the phone is in standby i.e ready to make and receive calls. Re-connect the phone cable. Plug the Koi Watch adaptor into the mains socket. Turn on Koi Watch (via switch on back of unit).

5. Does the LCD show 'Deactivated' after 5 minutes?

At least one of the key configuration parameters has failed to read.

Ensure all of the key parameters, as described in this manual under 'Koi Watch Configuration', are present in the phone book. The names are case-sensitive and the name must be entered exactly as shown.

Ensure all of the key parameters have been added to the SIM phone book and NOT the dedicated phones' internal phone book.

Ensure only the configuration parameters described in this manual are present in the phone book. i.e delete the contents of the phone book before adding configuration parameters.

Ensure the dedicated phone is switched on BEFORE Koi Watch. Do not turn on Koi Watch until the dedicated phone is in standby mode i.e ready to make and receive calls.

6. If the float switch(es) is triggered, the state shown on LCD does not change to 'Trig' for the associated float-switch?

Ensure the float-switch(es) is connected.

Ensure the float-switch is operational – physically short together the float switch terminals J3 and/or J4.

Ensure Koi Watch was not already in an alarm-triggered state. Upon detection of an alarm condition Koi Watch will stop monitoring the temperature probe and float switches for 2 hours (see the 'Holdtime' configuration parameter for information on changing this). The LCD will be 'held' for this time period displaying the values read when the alarm condition occurred.

Koi Watch Guarantee

Koi Watch is guaranteed from manufacturing defects for 2 years from the date of purchase.

Liability is not accepted for damage due to accident, improper installation or use. Liability is limited to replacement of the defective parts. Liability is not accepted for any losses incurred

arising from the proper or improper use of this product. This guarantee is not transferable. It does not affect your statuary rights.