

UniWatchman^{RX}

User Guide



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UniWatchman™ is a universal receiver for heating oil and waste oil level measurement. As a receiver it is compatible with the Sensor Watchman range including:

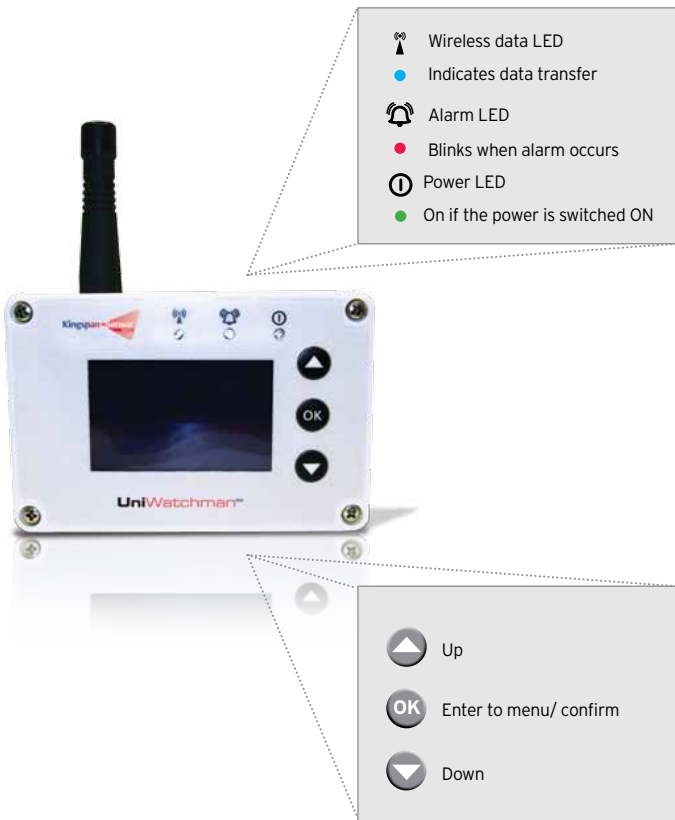
- ▼ **WatchmanSonic** - Part code 003963
- ▼ **WatchmanSonic Hard Wired** - Part code 004056
- ▼ **WatchmanAlarm** - Part code 004030
- ▼ **WatchmanSonic Plus** - Part code 002893
- ▼ **WatchmanSonic 4-20mA waveguide** - Part code 019052
- ▼ **4-20mA pressure sensor** - Part code 004035

It is also compatible with other industry standard sensors.

MAIN FEATURES

- ▼ Level measurement using ultrasonic or 4-20mA sensor
- ▼ Display level in 'cm' or '%'
- ▼ Compatible with wired and wireless Watchman transmitter range
- ▼ "Waste oil mode" option
- ▼ "Offset" setup for WatchmanSonic transmitter
- ▼ Easy to use screen menu with wizard setup
- ▼ Theft rate alarm indication + audible notification
- ▼ Leak alarm indication + audible notification
- ▼ 128x64 graphic display, blue backlight
- ▼ Two fully configurable relay outputs (up to 240V, 500mA)
- ▼ RS232/RS485 interface options (custom build)
- ▼ Buzzer (80db)
- ▼ Keypad membrane

INDICATOR AND BUTTON DESCRIPTIONS



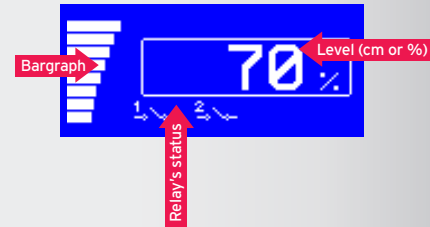
FIRMWARE REVISION

When powering up the unit, software version will be displayed for 3 seconds.



1. Main Screen

Level can be displayed in 'CM' or '%', see section 3.0.



MAIN SCREEN INDICATORS

Low level (only for normal mode)

When the level reaches the threshold, nozzle icon will appear on the screen and the buzzer will sound three times every 1 hour. Low level threshold can be set up using setup wizard.



Theft rate alarm
(only for WatchmanAlarm)

When the level drop is detected (more than 3cm/2 hours) the 'tank' icon is displayed on the screen, alarm led flashes and the buzzer sounds continuously.

To **switch OFF** the audible alarm press any key. Alarm will reset at the next good reading, up to 30 minutes.



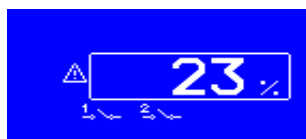
Leak alarm
(only for WatchmanSonic Plus)

When a leak is detected the 'drop' icon is displayed on the screen, alarm led flashes and buzzer sounds three times every one hour.



No signal from the transmitter heard in last 12 hours
(Only for WatchmanSonic products)

When the unit detects a transmission not heard for a long time the triangle icon is displayed on the screen.



No echo (wireless unit) or no connection (wired unit)
(only for normal mode)

When the No Echo is detected the triangle icon and middle bars are displayed and level is not available.



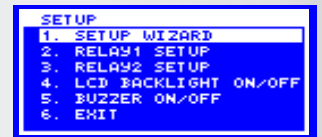
Low Battery
(only for WatchmanSonic products)

When the Low Battery has been detected on the transmitter unit, the battery and triangle icons are displayed on the screen.



2. Setup Screen

To enter the Setup Screen press the **OK** button on Main Screen

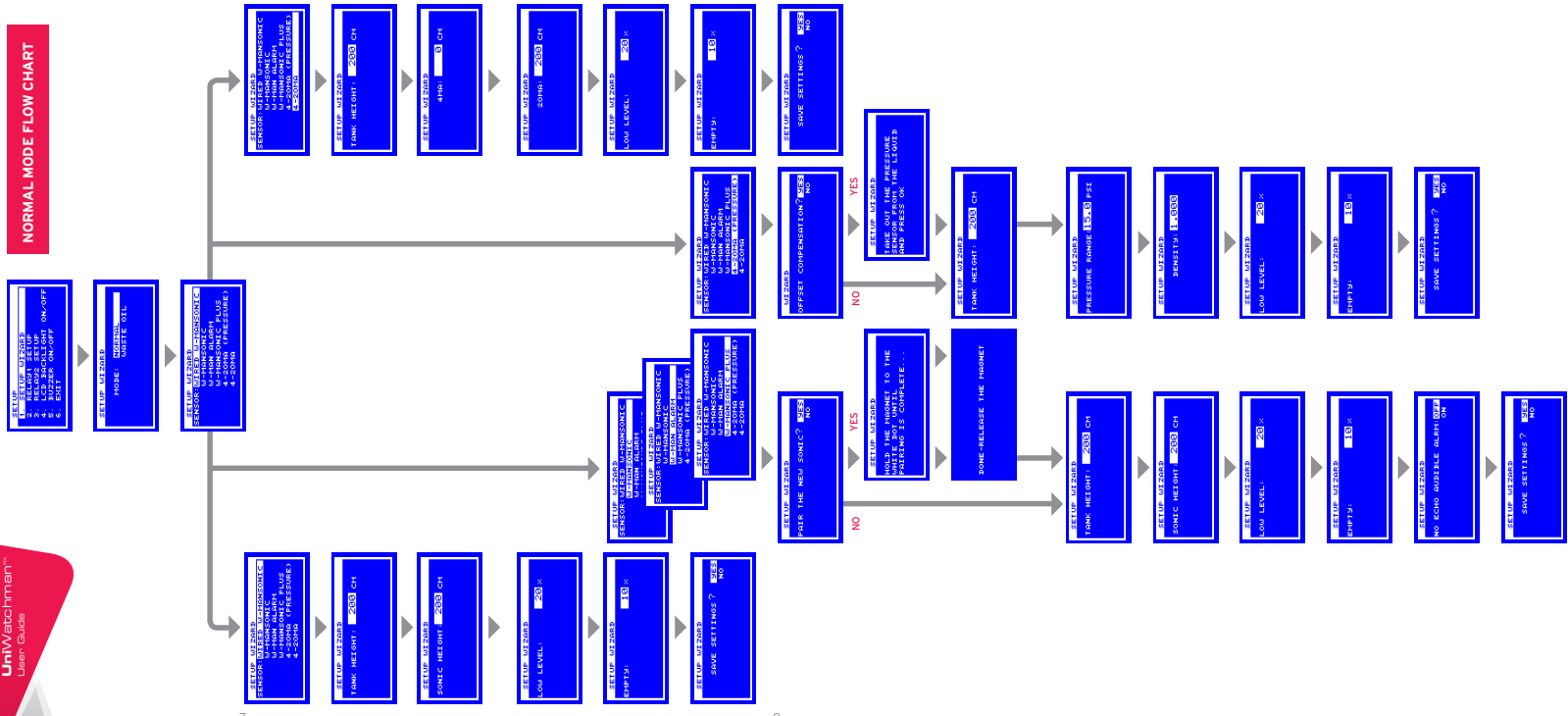


2.1 Setup Wizard

Using the Setup Wizard, set the sensor type, tank details and thresholds. To start, select your sensor type and follow the instructions on the screen.



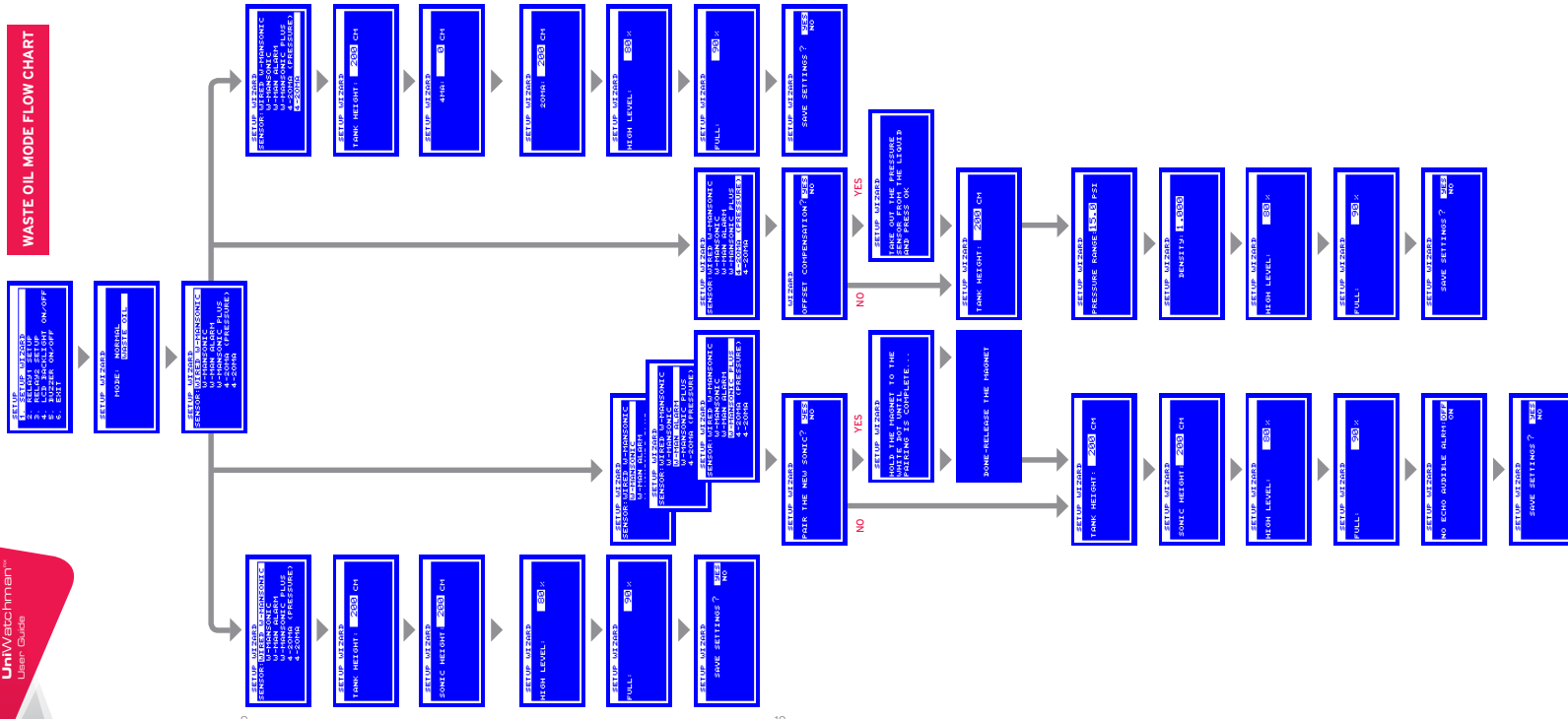
NORMAL MODE FLOW CHART



7

8

WASTE OIL MODE FLOW CHART



2.2 Relay1 Setup

This option enables configuration of Relay1.

```

SETUP
1. SETUP WIZARD
2. RELAY1 SETUP
3. RELAY2 SETUP
4. LCD BACKLIGHT ON/OFF
5. BUZZER ON/OFF
6. EXIT
    
```

2.3 Relay2 Setup

This option enables configuration of Relay2.

```

SETUP
1. SETUP WIZARD
2. RELAY1 SETUP
3. RELAY2 SETUP
4. LCD BACKLIGHT ON/OFF
5. BUZZER ON/OFF
6. EXIT
    
```

2.4 LCD Backlight ON/OFF

This option enables switching ON/OFF the backlight.

AUTO OFF- backlight will be switched off after approx. 2 minutes ON - backlight will remain ON all the time.

```

SETUP
1. SETUP WIZARD
2. RELAY1 SETUP
3. RELAY2 SETUP
4. LCD BACKLIGHT ON/OFF
5. BUZZER ON/OFF
6. EXIT
    
```

2.5 Buzzer ON/OFF



This option enables switching ON/OFF internal buzzer.

Note: If the option OFF is chosen, the internal buzzer will not sound in the event of any alarms.

```

SETUP
1. SETUP WIZARD
2. RELAY1 SETUP
3. RELAY2 SETUP
4. LCD BACKLIGHT ON/OFF
5. BUZZER ON/OFF
6. EXIT
    
```

3. Switching between cm and %

To switch the level displaying method between cm and % press the  or  key when on the Main Screen.

4. TERMINOLOGY

Tank height (single skin tank)

- height from the bottom of the tank to the top of the tank.

Sonic height

- height from the bottom of the tank to the top of the WatchmanSonic base.

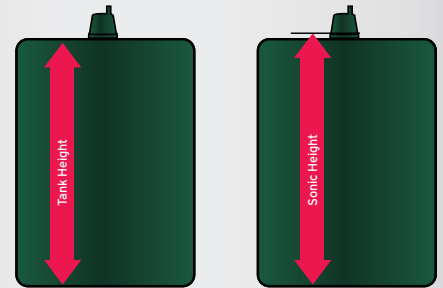
Tank height (bunded)

- inner tank and outer tank
- height from the bottom of the tank to the top of the inner tank.

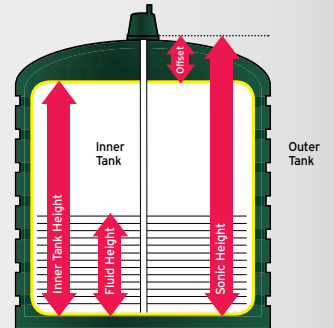
Offset

- calculated automatically.

Single Skin Tank



Bunded Tank

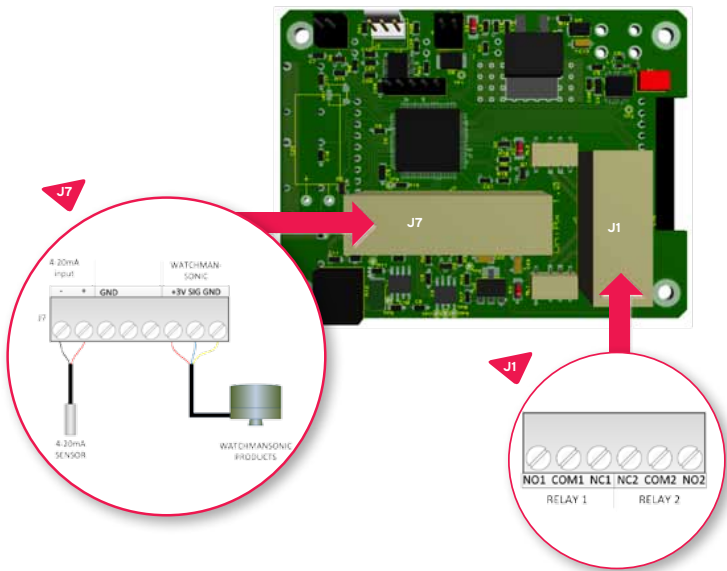


SPECIFICATIONS

1. Electrical and environmental specification

- ▼ Supply voltage: 9-12VDC (9V AC adapter included).
- ▼ Max current consumption: 100mA.
- ▼ Operating temperature: 0°C+40°C.
- ▼ Relay's max switching current: 500mA.

2. Connections



3. LEDs

Colour	Function	Action
Blue	Data received from the transmitter	"short blink" indicates radio frame received properly
Red	Alarm indication	Blinks if the alarm occurs
Green	Power ON indication	"ON" if the power is switched on and device is working properly

4. Relay Outputs

	Resistive load
Contact mechanism	DPCO
Max. switching voltage	250VAC, 220VDC
Max. switching current	500mA

5. Wireless WatchmanSonic Input

- ▼ 433MHz, FM transmission
- ▼ Max communication distance: 200m in normal "line of sight" conditions
- ▼ Compatible transmitters: WATCHMANSONIC, WATCHMANALARM, WATCHMANSONIC PLUS

7. 4-20mA INPUT

- ▼ Active type
- ▼ Sensor's supply: 9VDC
- ▼ Overcurrent protection: 150mA resettable fuse

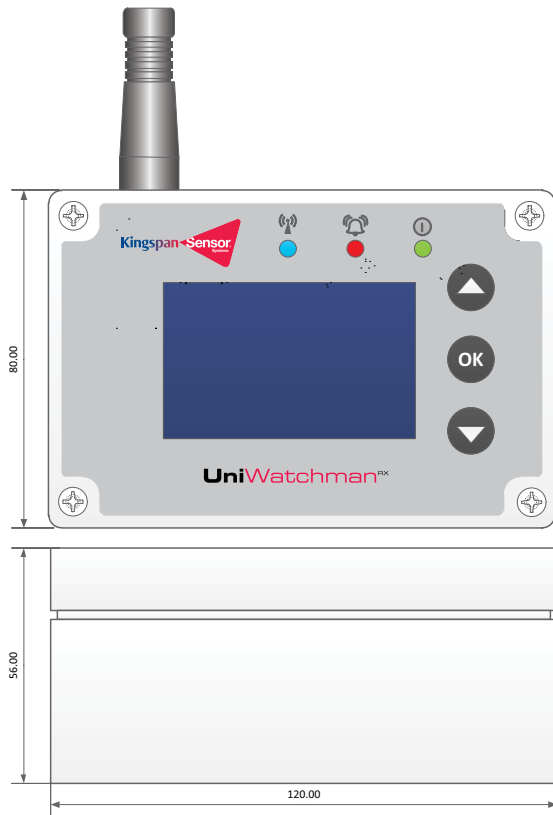
6. Wired WatchmanSonic Input

- ▼ 3V, digital
- ▼ Max communication distance: 15m

8. RS232 interface option

- ▼ 9600,8,N,1
- ▼ Communication cable required: No 003582

DIMENSIONS





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