WTLS2FL

User Manual

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***WTMC* management software**
for *FridgeLog*

Software Version 1.3.1.0

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Introduction

The *WTLS2FL* software is a module that works together with the Tecnosoft *FridgeLog* software. The *WTLS2FL* is the management software for the *WTMC* Ethernet radio receiver and collects all the data coming from them and saves them in the *FridgeLog* archive.
The *WTLS2FL* allows to set up the *WTMC* and assign each wireless sensor to a monitoring point in the *FridgeLog* (please, refer to *FridgeLog* manual for this part).
The software is automatically installed with the *FridgeLog*.

N.B.: in order to receive data from the *WTMCs* the software must be always running.

System Requirements

Hardware

Description	***Minimum***	***Recommended***
Processor	Pentium 1 GHz	Pentium 2 GHz
Memory	128 MB	256 MB
Display Resolution	800x600 at 256 colours	1024x768 at 16 million colours
Ethernet Connection (Wireless System Only)		

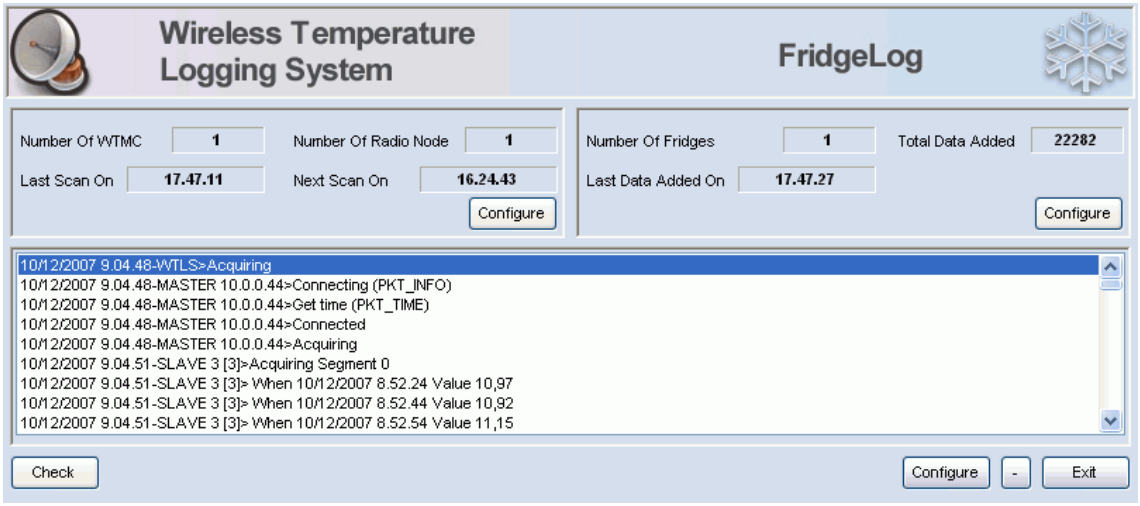
Software

Description	***Supported***
Operating System	Windows 2000 / XP / Vista / 7

Main Functions

Launching the Program

To launch the program navigate to **Start – Programs (**or **All programs** in Win XP**) – Tecnosoft – FridgeLog – WTLS2FL**. You can also start the software automatically by checking the specific option in the *FridgeLog* configuration window. The program is opened in the tray icon of Windows; to work properly it doesn't need that neither the *FridgeLog* or *TAS* are running. To open it, right click on the icon in the tray and select **Show WTLS2FL**; the main window will open.

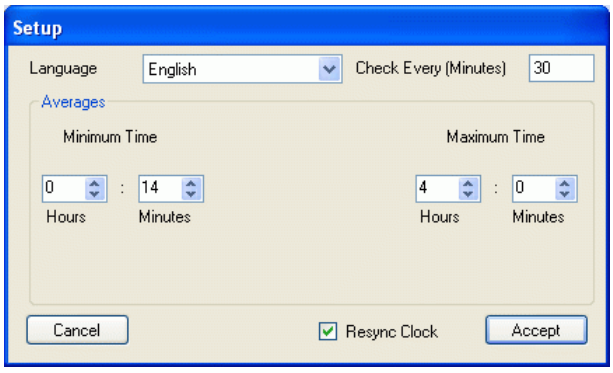


The Main Window

The main window will appear subdivided into a three areas; in the upper left there is the configuration section for the *WTMC*, on the right the pairing section with the *FridgeLog* and on the bottom all messages coming from the *WTMC*. Double clicking on the title will result in maximizing the window.
In the *Averages* box, you can set the parameters for the calculation of the average fridge (refer to the *Fridgelog* manual for this). *Minimum Time* is the minimum period to be elapsed to calculate the average of the values in the *WTMC*; if there are two values for a fridge, only the last one will be considered. *Maximum Time* is the time range within which the average must be calculated: for example, the last 4 hours.
If the window is open but covered by some other windows, just click on the icon in the bottom right corner of the windows bar and it will be brought to front.

Configuration

Click **Configure**, bottom right, to open the window.



Select the language (close and open again for changes to take effect) and the step for checking and

downloading data from the *WTMC*.

Average

In the *Averages* box you can set parameters for average calculation for a Center. As *Minimum Time*, expressed in hours and minutes, it is intended the minimum time that must pass in order to calculate the average for the data saved in the WTMC; if there is more than one value for a fridge, only the last one will be considered. The *Maximum Time* is the time range that must be considered to calculate the average: for example, the last 4 hours.
In order to calculate the average it is necessary that in the *FridgeLog* exists a *Fridge* that has the same name of a *Center*. Do no associate any sensor to this *Fridge*.

Resync clock

In order to have the *WTMC* always updated, enable this option: each time the device communicates with the PC, the clock will be resynchrnoized.

Start communication

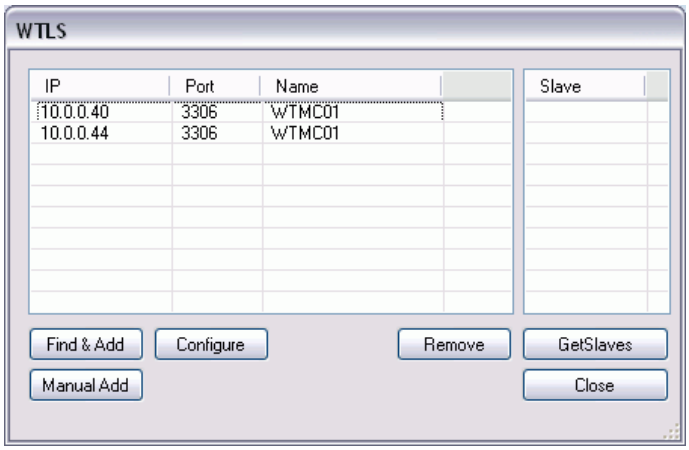
If the software is already configured, click on **Check** in the Main Window to start retrieving data from the connected *WTMCs*.

Closing the program

To close the program click on the **Exit** button in the bottom right corner. Click on **–** to minimize the window

WTMC Configuration

To configure the *WTMCs* connected to the Ethernet (directly to the PC or to a LAN) click on **Configure** in the upper left corner.



Adding a WTMC

Click on **Find & Add** to look for all the *WTMCs* currently connected: IP address, Port and name are listed here. To remove a *WTMC*, select and click on **Remove**.
In *Windows Vista* the **Fin&Add** function doesn't work; use the **Manual Add** function to type in the IP address to connect to.

Set up the WTMC for your network

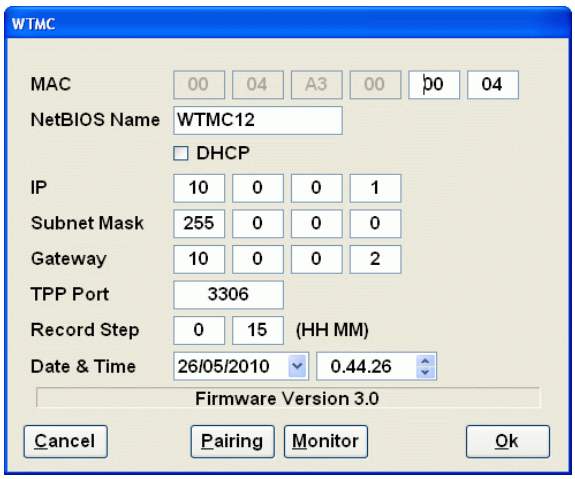
The different parameters of the *WTMC* can be configured while this is connected to the Ethernet. The *WTMC* and the PC must be configured to work on the same network to communicate. The *WTMC* can be set on a default configuration that can be chosen among 4 different ones, the most common. If your network is different from those, you'll need to change the PC configuration to match the one on the *WTMc*, then connect the two devices by means of a crossed cable, configure the *WTMC* for your own network and lastly set the PC back to its previous settings.
To select one of the following set up, remove the cover from the *WTMC*, and keep pressed the button below the display, whole power is off. Plug in the adapter and soon you'll see the configurations cycle on the display: release the button when you find your configuration. These are the options:

- *no change*: current set up is kept, useful if you press the button not on purpose and don't want to change parameters;
- *RS-232*: for serial setting, only for advanced users, the serial cable is needed;
- *DHCP*: network settings automatically configured by the LAN. DHCP option must be enabled on the LAN itself;
- *192.168.0.1*: network configuration with following parameters:
  IP: 192.168.0.1
  Subnet Mask: 255.255.0.0
  Gateway: 192.168.0.2
- *10.0.0.1*:
  IP: 10.0.0.1
  Subnet Mask: 255.0.0.0
  Gateway: 10.0.0.2
- *172.16.0.1*:
  IP: 172.16.0.1
  Subnet Mask: 255.240.0.0
  Gateway: 172.16.0.2

Select your configuration and connect to the *WTMC* with the software. Then, use the *WTLS2FL* to change the needed parameters on the *WTMC*.

Configure the WTMC parameters

Select the *WTMC* from the list and click on **Configure** in order to change its parameters to match your network.



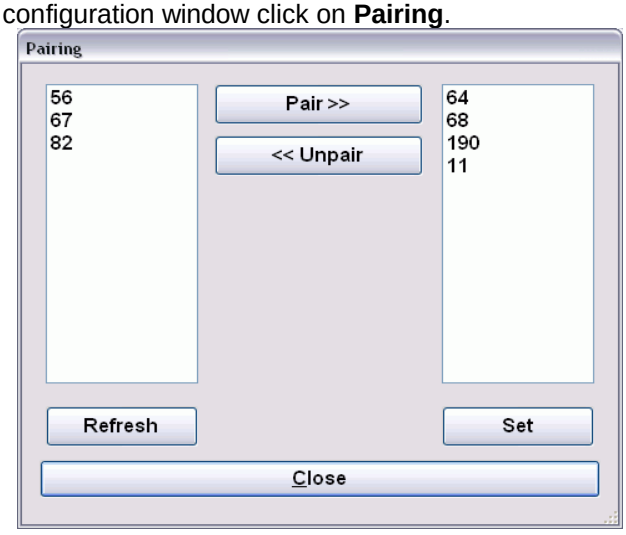
- *MAC*: the *MAC address* of the *WTMC*. Each *WTMC* must have a different *MAC address* in a KLAN. *WTMCs* are provided with different *MAC addresses*.;
- *NetBIOS Name*: the name of the *WTMC*;
- *DHCP*: select it to use the *DHCP* option of the network *WTMC*;
- *IP*: the *IP address* of the *WTMC*. Each *WTMC* must have a different *IP* in the same network. Each *WTMC* is provided with a different *IP*;
- *Subnet Mask*: *Subnet Mask* value for your network;
- *Gateway*: *Gateway* value for your network;
- *TPP Port*: the communication port within the network;
- *Record Step*: acquisition step for the data received from the sensors, in hours and minutes;.
- *Date & Time*: date and time of the *WTMC* (automatically updated each time the *WTMC* communicates with the PC).

Click on **Ok** to save changes.

Note: each time you click on Ok the *WTMC* is reset and all acquisitions in it are lost. If you open this window just to make some checks, click on Cancel to close it.

Sensors pairing

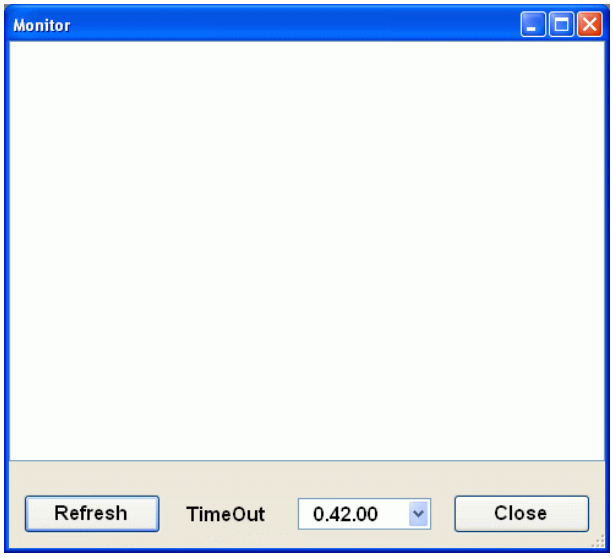
It is possible to pair the sensors that are transmitting data with the chosen *WTMC*. Each *WTMC* can accept up to 32 sensors. From the configuration window click on **Pairing**.



In the left column there are the sensors currently received by *WTMC*, in the right there are the paired ones. Select the sensors you want to pair from the left column and click on **Pair>>** to put them in the right one and vice versa, select the sensors paired and click on **<<Unpair**, to remove them from the *WTMC*. Click on **Set** to save changes and on **Close** to exit. Clicking on **Refresh** will update the left column.
To know which sensors paired are currently transmitting and are received by the *WTMC*, click on **Get slaves** after having selected the *WTMC* from the list in the configuration window. In the right column there are the Radio IDs received and paired with that *WTMC*.

Check which sensors are transmitting

To know which sensors are received, click on **Monitor** and scroll the list of sensors. Click on **Refresh** to see if other sensors are received. With the *TimeOut* option you can set the period in which last data was received (for example, show all sensors received in the last 5 minutes). Click on **Close** to exit.

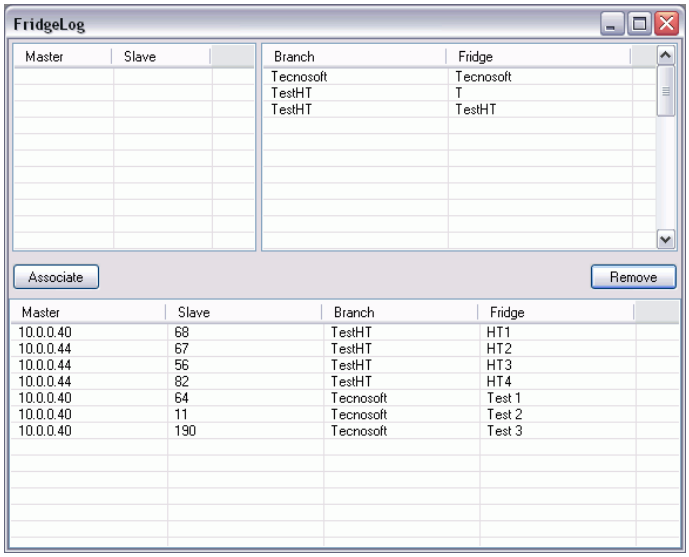


Data on WTMC

Closing the configuration window of the *WTMC* and returning to the main window of the *WTLS2FL*, you can see now that are indicated the number of connected *WTMC* and the number of received radio (*Number of WTMC* and *Number of Radio Node*). It is indicated also the last time a check has been done and when the next one will occur (*Last Scan On* and *Next Scan On*).

FridgeLog Synchronisation

Click on **Configure** on the top right corner. In the new window you can associate the sensors paired with the monitoring points created in the *FridgeLog*.



Associate wireless sensors and fridges

On the left there are the connected *WTMC* with their paired sensors (*Master* and *Slave*), while on the right there are all monitoring points not assigned yet in the *FridgeLog* database, listed per store (*Branch*) and fridges.
To associate them, select a sensor from the left and a point from the right and click on **Associate**.

Remove an association

To remove an association between sensor and fridge select it from the bottom list and click on **Remove**. **Removing an association will not delete data already downloaded!**

WTMCs and Wireless Sensors

WTMC

WTMCs are Ethernet concentrators that receive data from wireless sensors such as the *TempStick Radio* or the *Radio Node* with *Intelligent Sensors*. For a better communication, the radio device is outside the *WTMC*, connected by a cable. Place the antenna on this external receiver.

Size	13 X 13 X 3,5 cm
Display	Internal, for operator configuration
Acquisition step	From 1 every minute up, steps of 1 minute
Power supply	Power adapter AC 9-12 V.
Connection	- radio for wireless sensors communication - Ethernet (RJ45) for PC communication
Sensors number	Receive up to 32 sensors
Radio transmission	433 MHz
Radio transmission range	250 meters without obstacles; in closed environment depends on obstacles
Accessories	Power supply included

TempStick Radio

TempSticks Radio are wireless sensors that are programmed with a transmission rate and communicate with the WTMC receiver.
They have two serial numbers: one for the sensor itself, that is displayed in the *FridgeLog* and other software, and one for the radio, for communication software such as the *WTLS2FL*.

Size	6,5 X 5 X 4,5 cm
Electronics Temperature Range	-20 °C ÷ +60 °C
Sensor Temperature Range	-40 °C ÷ +200 °C depends on sensor type
Resolution	0,03 °C
Accuracy	±0,25 °C with calibration certificate
Transmission interval	From 1 reading every 3 seconds up
Autonomy	More than 500.000 acquisitions/transmissions - more than 10 years with standard use (24 acquisitions per day)
Protection degree	IP68 probe; IP67 case; IP40 connectors

Intelligent Sensors + Radio Node

The *Intelligent Sensors* are sensors with the analog/digital conversion electronics and calibration data within their cable for a fast, efficient and accurate recalibration of the whole system. They can be used both direct connected to a *WTMC* or to a *Radio Node*, a wireless module that can be received by several Tecnosoft devices.
The combination *Intelligent Sensors* + *Radio Node* has two serial numbers: one for the sensor itself, that is displayed in the *FridgeLog* and other software, and one for the radio, for communication software such as the *WTLS2FL*.
The *Radio Node* accepts sensor of temperature or temperature and humidity

Size	6,5 X 5 X 4,5 cm
Electronic Temperature Range	-20 °C ÷ +60 °C
Sensor Temperature Range	-40 °C ÷ +200 °C depends on probe type
Resolution	0,03 °C
Accuracy	±0,25 °C with calibration certificate
Transmission interval	From 1 reading every 3 seconds up
Autonomy	More than 500.000 acquisitions/transmissions - more than 10 years with standard use (24 acquisitions per day)
Protection degree	IP68 probe; IP67 case; IP40 connectors

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