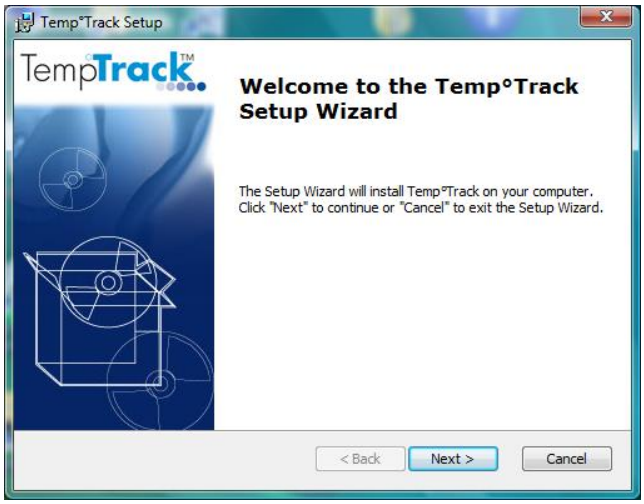
Quick Installation User Guide

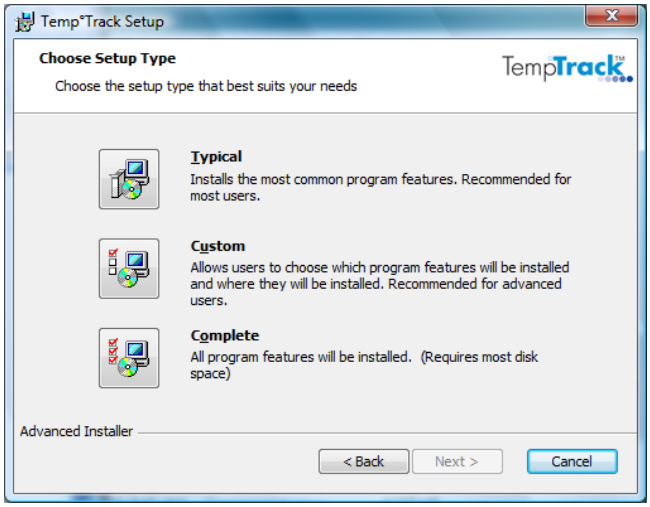
Contents

1 Installing the Temp°Track™ Software

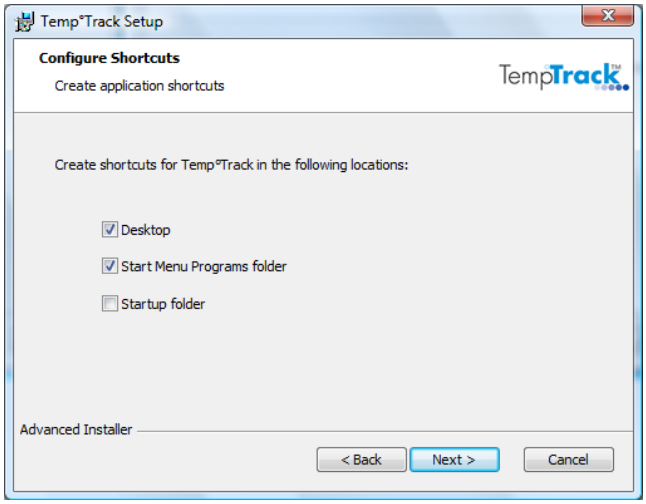
You will need to have Administration rights to install the Temp°Track™ software application. Download the latest software version from https://temptrack.com.au/updates/ as instructed. Double click on the TempTrack.exe installer.

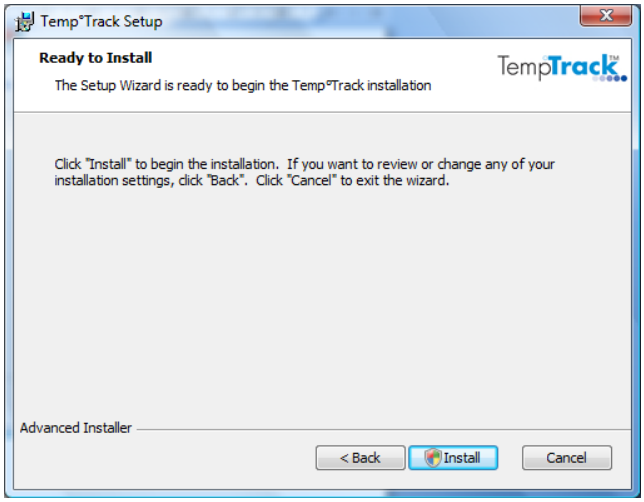
The following window will be launched. Click on Next to proceed with the installation. Select Typical to install the Server and Local Client software.



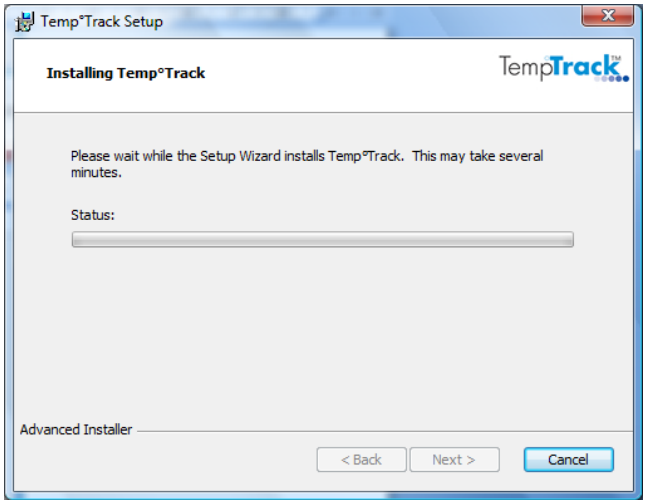


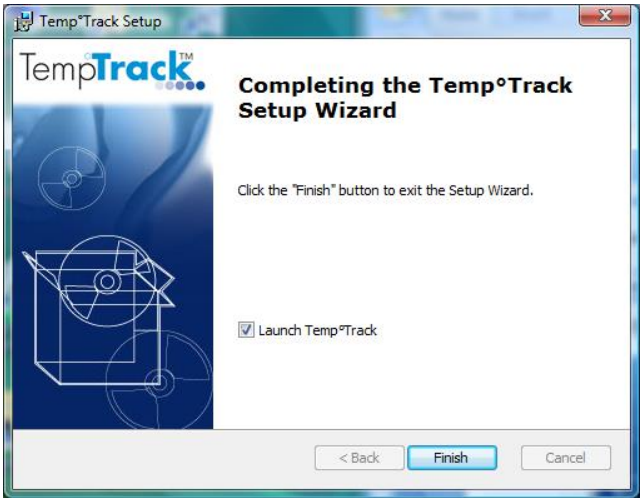
The default shortcuts for the Local Client and Server directory will be created. Select the Startup folder check box if you want the Local Client to start up when the PC is started. Select Next to continue. Click on Install to complete the installation.





The following screen appears. Windows may require confirmation to proceed. Click on Finish to complete installation.





2 Establishing Wireless Communication

Power up the wireless receiver and connect the wireless receiver to your IT network. The orange LED should stay lit if a network connection has been established. The green LED will flash once a second to indicate that the receiver is ready to be connected to the TempTrack software. Connect the antenna to the gold connector. The antenna should be at a vertical orientation when in position.

Power connection Ethernet port

Antenna connection

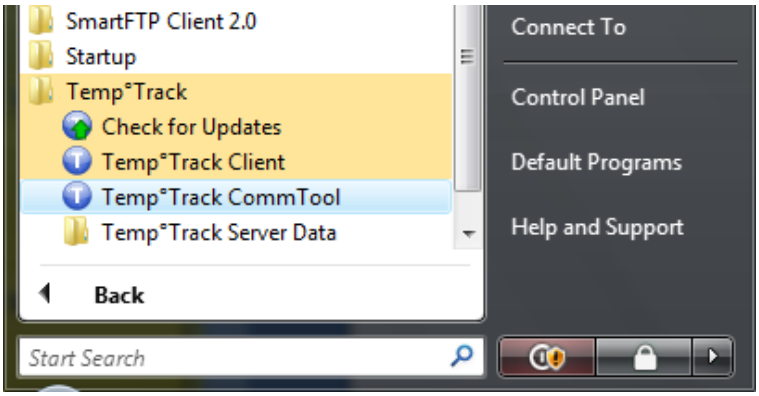
If your network uses a wireless repeater, power up the repeater. The LED on the repeater will turn on. Wait up to 30 seconds for the repeater to join the wireless network. The LED will now flash to indicate that it has joined the network. If the repeater fails to join the network, power it off and on again and repeat this cycle until it joins.

Power up the wireless logger(s) by pressing the reset button next to the LED. The LED will blink once every second until it has joined the wireless network, after which it will blink once every 4 seconds. The LED stops blinking after 5 minutes to conserve battery power.
Note: The logger(s) should be at least 30 cm away from the wireless receiver.

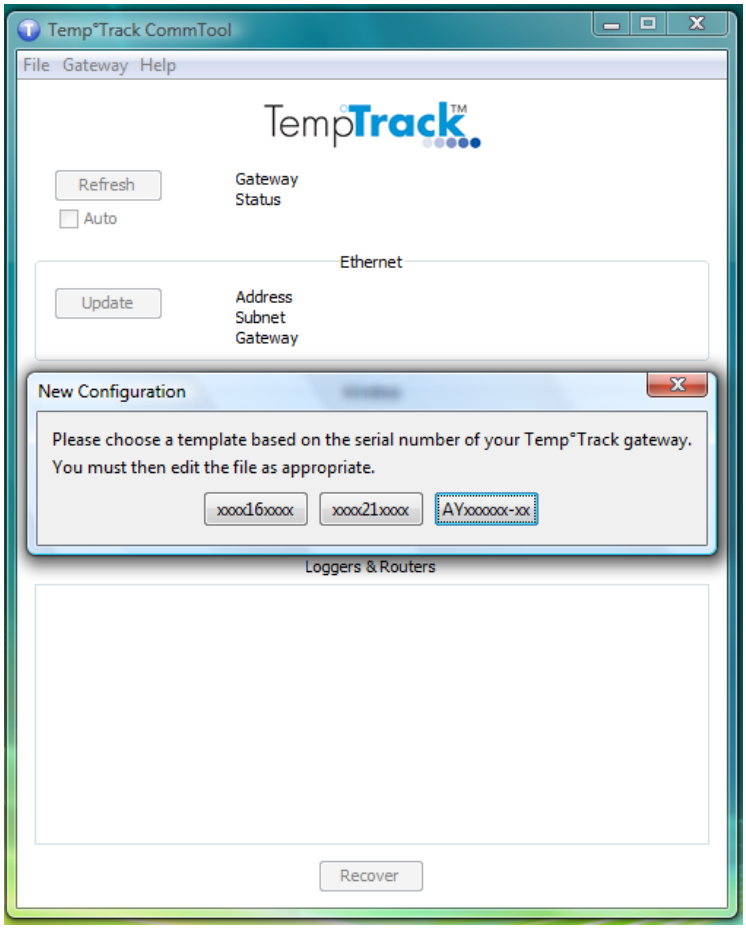
LED light Reset Port 2 Port 1

3 Configuring the Wireless Receiver

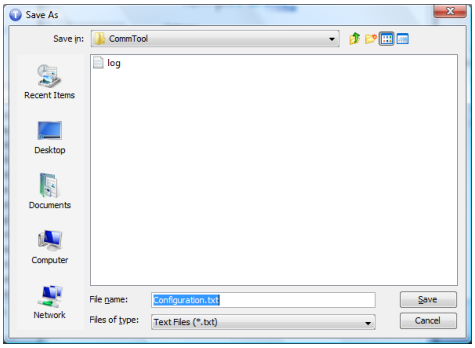
From the windows start menu, select All Programs, Temp°Track, and click on the shortcut to launch the Temp°Track CommTool.



The following screens will now appear. Select the serial number series that matches the wireless receiver, eg AYxxxxxx-xx from the New Configuration screen.



The following screen will appear. Select Save.



The following configuration.txt file template will be created.

Configuration 2 - Notepad

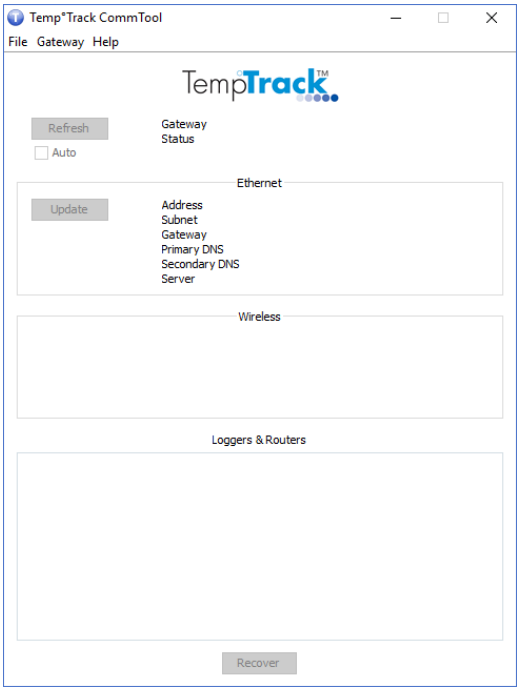
File Edit Format View Help

```
; Wireless Network Configuration (ZB)
;
; <receiver-serial-number>  DHCP            <yes-no>
;                           ADDRESS         <ip-address> (NOTE 1)
;                           SUBNET          <subnet-mask> (NOTE 1)
;                           GATEWAY         <gateway-address> (NOTE 1,2)
;                           PRIMARY_DNS     <primary-dns-address> (NOTE 1,3)
;                           SECONDARY_DNS   <secondary-dns-address> (NOTE 1,3)
;                           SERVER          <server-address-and-port> (OPTIONAL)
;                           PUBLIC_ADDR     <public-address-and-port> (OPTIONAL)
;                           PANID           <personal-area-network-id>
;                           CHANNELS        <channel-list> (OPTIONAL, NOTE 4)
;                           LOGGERS         [<logger-serial-number>, <logger-serial-number>, ...]
;                           ROUTERS         [<router-serial-number>, <router-serial-number>, ...]
;
; NOTE 1: Required when DHCP is not enabled, otherwise it is ignored.
; NOTE 2: GATEWAY is only required when SERVER is defined.
; NOTE 3: PRIMARY_DNS and/or SECONDARY_DNS are only required when SERVER is defined as a host name (i.e. not an IP address).
; NOTE 4: Valid channels range from 11 to 26 (default is all channels: 11-26).

; Ethernet Wireless Receiver 1  (AYxxxxxx-xx series wireless receivers, DHCP)
AY000004-NO     DHCP            YES
                PANID           E2EITSOL
                LOGGERS         [AU000008-XI, AU000009-AW, AU000013-CH]

; Ethernet Wireless Receiver 2  (AYxxxxxx-xx series wireless receivers, STATIC)
AY000005-KQ     DHCP            NO
                ADDRESS         192.168.1.100
                SUBNET          255.255.255.0
                GATEWAY         192.168.1.1
                PRIMARY_DNS     192.168.1.1
;                PUBLIC_ADDR     10.11.12.13:47770
                PANID           E2EITSOL
                CHANNELS        "12, 15-18"
                LOGGERS         [AU000021-FN, AU000022-CH, AU000023-WX]

; Ethernet Wireless Receiver 3  (xxxx21xxxx series wireless receivers, STATIC)
0806210020      DHCP            NO
                ADDRESS         192.168.1.100
                SUBNET          255.255.255.0
                GATEWAY         192.168.1.1
                PANID           14199
```

A semi colon indicates that the line of text is a comment line and will be ignored.

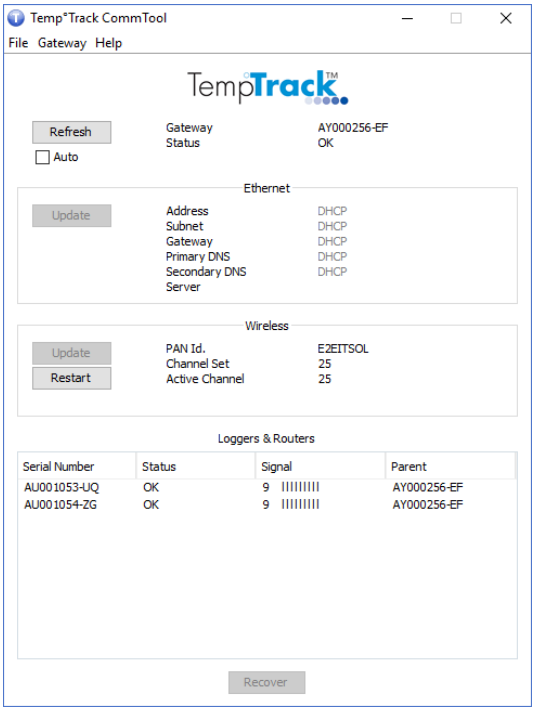
1. If using DHCP mode, select the template for Ethernet Wireless Receiver 1. Update the <receiver-serial-number> field and LOGGERS [logger-serial-number] field with the serial number of your wireless receiver and logger(s).
2. If using a Static IP address mode, select the template for Ethernet Wireless Receiver 2. Update the <receiver-serial-number> field and LOGGERS [logger-serial-number] field with the serial number of your wireless receiver and loggers.
3. ADDRESS, SUBNET, GATEWAY - The ADDRESS, SUBNET and GATEWAY define the Ethernet address for the receiver. Please consult your IT department if you are unsure of how to obtain this address.
4. PUBLIC_ADDR – The PUBLIC_ADDR is the public IP address and port of the wireless receiver. This field is only required if the wireless receiver has to be accessed through the public network. Type in the correct public IP address and delete the semicolon which denotes the line as a comment line.
5. PANID - The PANID is the *Personal Area Network Identity* used by the radio network to distinguish different 2.4 GHz networks to avoid interference with each other.
6. CHANNELS is the range of Zigbee channel(s) that the system can operate on. The channel(s) should be selected to avoid overlapping with WiFi channels to minimize interference. If CHANNELS is not specified, the system will assign a channel between 11 – 25.
7. LOGGERS – update the logger serial number within the brackets [ ] (separated by a comma) that are assigned to this receiver. At least one logger serial number should be entered.
8. To configure multiple wireless receivers, copy and paste the entire configuration block. Update the relevant fields for your wireless receiver(s) and logger(s).

Click on Save when all the fields have been entered. The fields can be changed if required by editing the configuration.txt file (from the Temp°Track CommTool, select File, Edit) The following Temp°Track CommTool screen will appear.

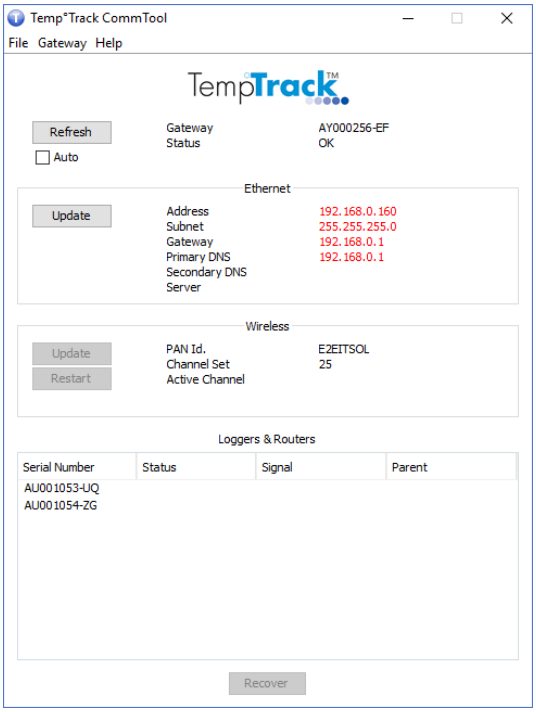


Select Gateway which will now contain a list of receiver(s) defined in the configuration file. Select the wireless receiver you want to configure.

If DHCP mode was selected, the signal strength of the loggers assigned to this receiver will be displayed.



DHCP mode

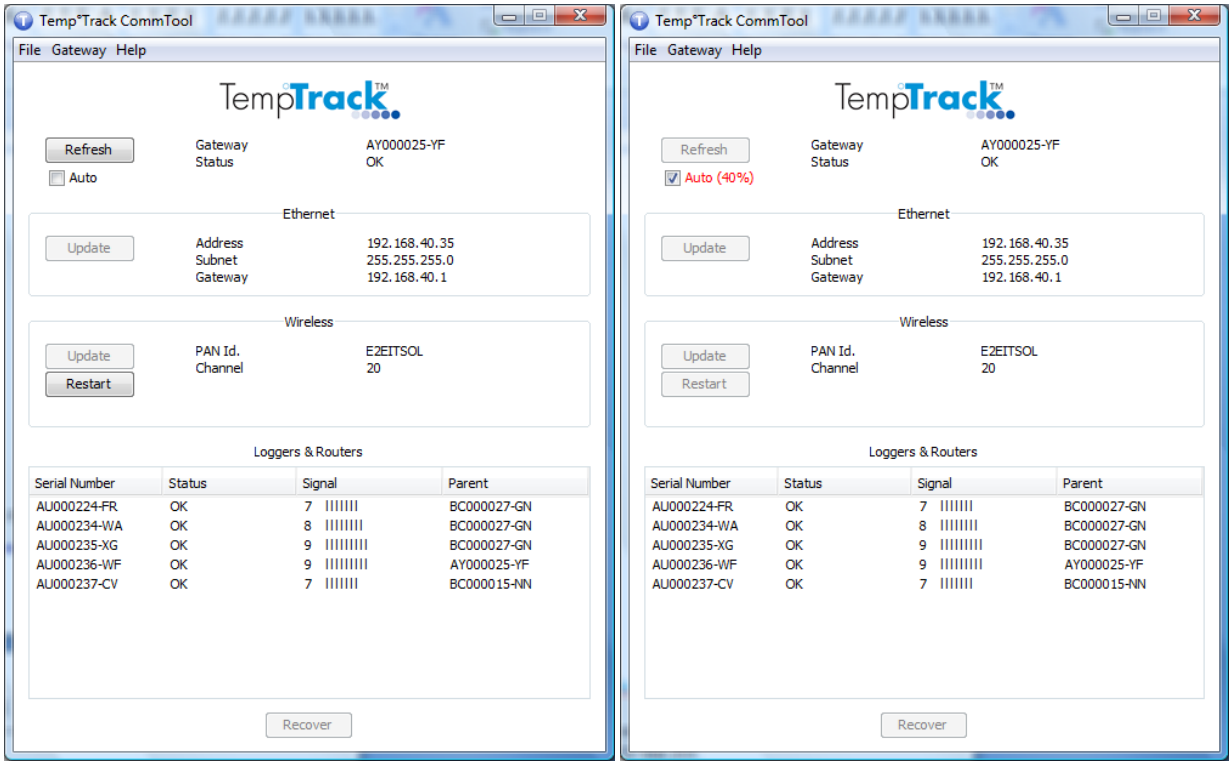


Static IP address mode

In Static IP address mode, the IP address, Subnet and Gateway fields will appear in red. The wireless parameters eg PANID and channel, as well as the serial number of the specified loggers will also appear. Click on Update to program the settings from the configuration file into the wireless receiver.

Note: You may need to configure your firewall to allow communication to and from the wireless receiver.

The Temp°Track CommTool will now program the IP address settings of the wireless receiver and will attempt to communicate with all loggers defined in the configuration file. When communication has been established, the signal strength and the parent (receiver or repeater) it is connected to will be displayed.



The wireless receiver is now configured. If the Auto refresh check box is selected, the signal strength reading will be refreshed periodically (Auto font turns red, % reading indicates % completion of signal strength test). A signal strength reading of 10 indicates maximum signal strength. Relocate any logger(s) and/or wireless receiver/repeater(s) to improve signal strength readings. Close the Temp°Track CommTool.

Note 1 : The Temp°Track PC server software and the Temp°Track CommTool cannot operate simultaneously as they will both attempt to seize the IP Port of the wireless receiver. Either software needs to be shut down prior to launching the other.

Note 2 : The Temp°Track system uses IEEE 802.15.4 Zigbee wireless communication protocol which uses the same 2.4 GHz frequency band as WiFi systems. Despite efforts made by International Standardization bodies to ensure smooth coexistence, these competing technologies may interfere with each other particularly when a high load is experienced on an overlapping WiFi band.

Figure 1 shows the spectrum utilization of Zigbee and WiFi channels. WiFi channels are spread spectrum signals and overlaps with 4 Zigbee channels, eg WiFi channel 1 overlaps with channels 11 – 14 on the Zigbee Band. To minimize Zigbee - WiFi interference, care should be taken to select Zigbee and WiFi channels that do not overlap where possible.

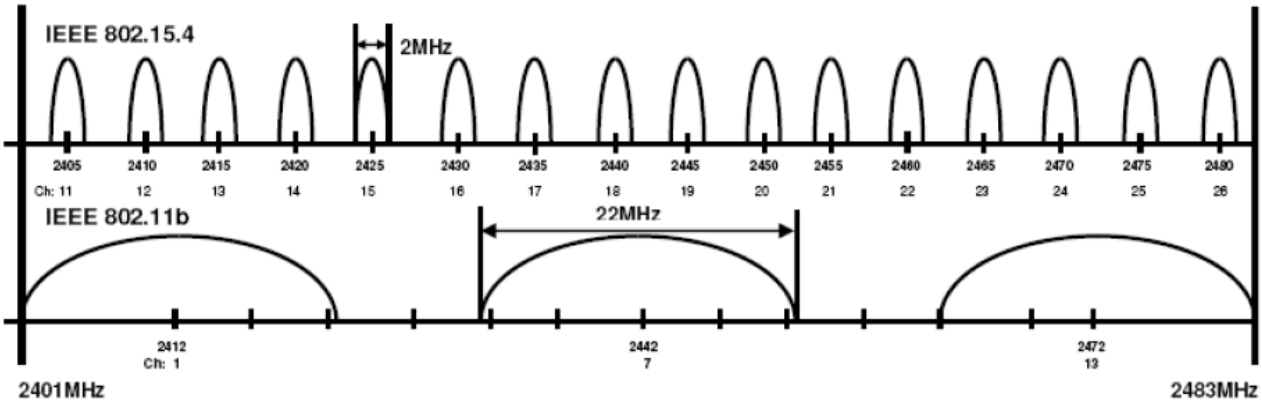


Figure 1 : Spectrum utilisation of Zigbee (IEEE 802.15.4) and WiFi (IEEE 802.11b) channels.

Actual WiFi channel utilization on site can be determined by using a spectrum analyser to perform a spectrum scan or using smart phone apps for iPhone and Android phones such as WiFi Analyser, WiFi Manager, etc.

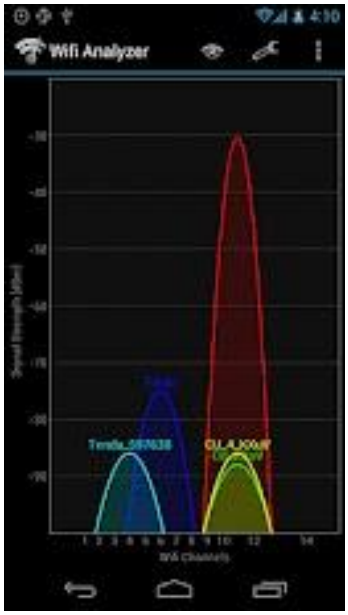


Figure 2 : Example WiFi Analyser screen showing WiFi channels detected and their channel settings.

3.1 Changing PANID of a Logger

It may be necessary to change the PANID of a logger when the equipment being monitored is relocated. If the new location is serviced by a Wireless receiver with a different PANID, the logger PANID will need to be updated to allow the logger to join the new wireless network.

The current PANID of the logger MUST be known. If the PANID is not known, a hardware dongle will need to be purchased to reset the PANID to the default PANID.

The following procedure outlines the steps required to change the PANID of a logger.

1. Start the CommTool and select the wireless receiver the logger is currently connected to.
2. Check that the logger is communicating with the wireless receiver (signal strength reading should be displayed).
3. Note the existing PANID and change the PANID in the configuration file to the new PANID for the logger. Enter the serial number of the logger that needs to be changed into the LOGGERS field. The configuration changes will now be applied to the wireless receiver and any loggers listed. Tip: Duplicate the PANID and LOGGERS lines in the configuration file. Inserting a ";" at the start of a line changes the line into a comment line so existing settings can be easily restored later.
4. Run the CommTool. The PANID will now appear in red. Select update to program the wireless receiver to this new PANID. The wireless network will be restarted and the logger will now operate on this new PANID. Proceed to step 9.
5. If the logger status indicates "No communication", press the restart button on the logger and check that it has joined the wireless network (LED will flash once every second until logger joins, after which the LED will flash once every 4 seconds).
6. If the logger fails to join, change the PANID of the wireless receiver back to the original setting, establish communication with the logger, then repeat step 4.
7. Click on Refresh and check that the logger and wireless receiver are communicating, eg signal strength reading will be displayed (you may need to restart the CommTool).
8. The PANID of the logger has now been changed.
9. Edit the configuration file and change the PANID of the wireless receiver and the list of loggers in the LOGGERS field back to the original values. Remove the logger that has been changed from this list.
10. Verify that all the loggers have re-established communications with the wireless receiver (repeat step 6 as required. You may need to restart the loggers)

3.2 Resetting PANID of a Logger

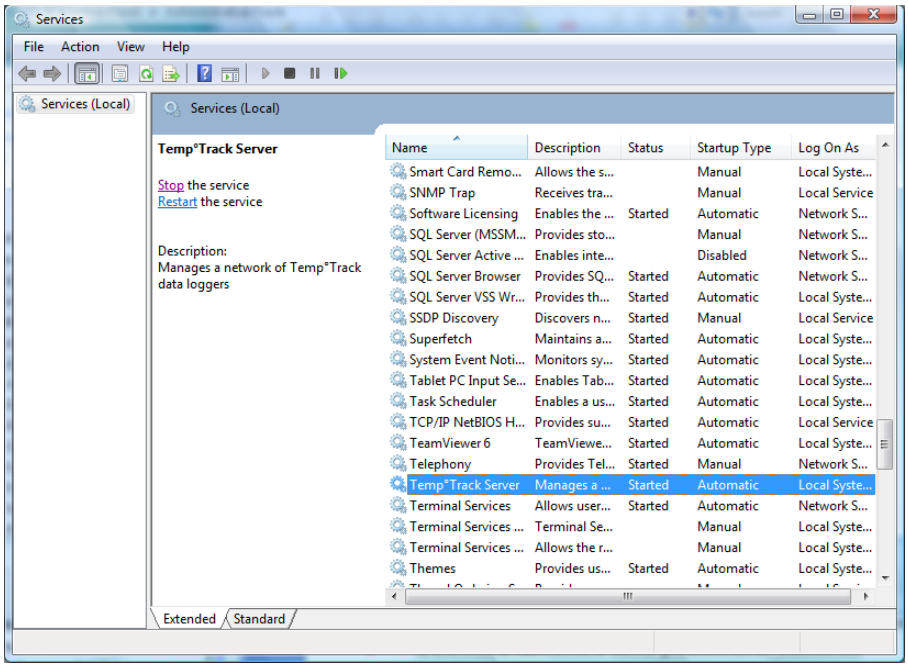
It may be necessary to reset the PANID of a logger if the PANID of the logger has been changed previously from it's default setting and the current PANID is unknown. A hardware dongle is required to reset the PANID.

To reset the PANID insert the dongle into port 2. Press the reset button and wait for three blinks on the LED, then remove the dongle. Press the reset button again and the logger will now be reset to the default PANID.

4 Temp°Track Server Software

The Temp°Track software has a split server – client architecture which supports a local client on the same PC as the server and/or remote clients on remote PC's on the same IT network.

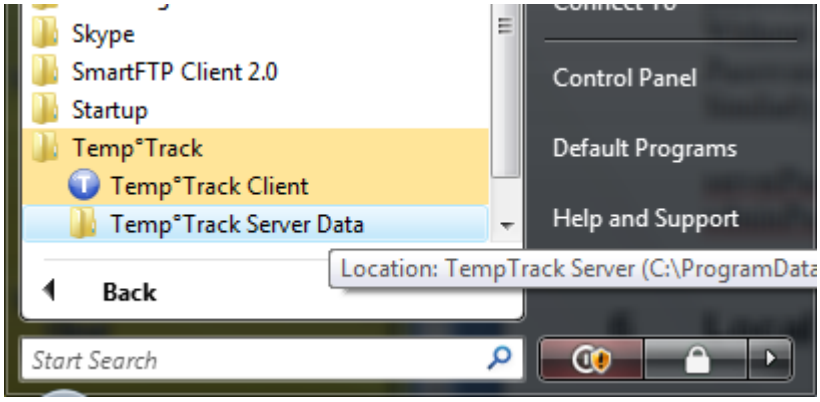
The Temp°Track Server should have been launched as a service when the software was installed. Check that the Temp°Track Server software has started (Click on Start, Control Panel, Administrative Tools, Services).

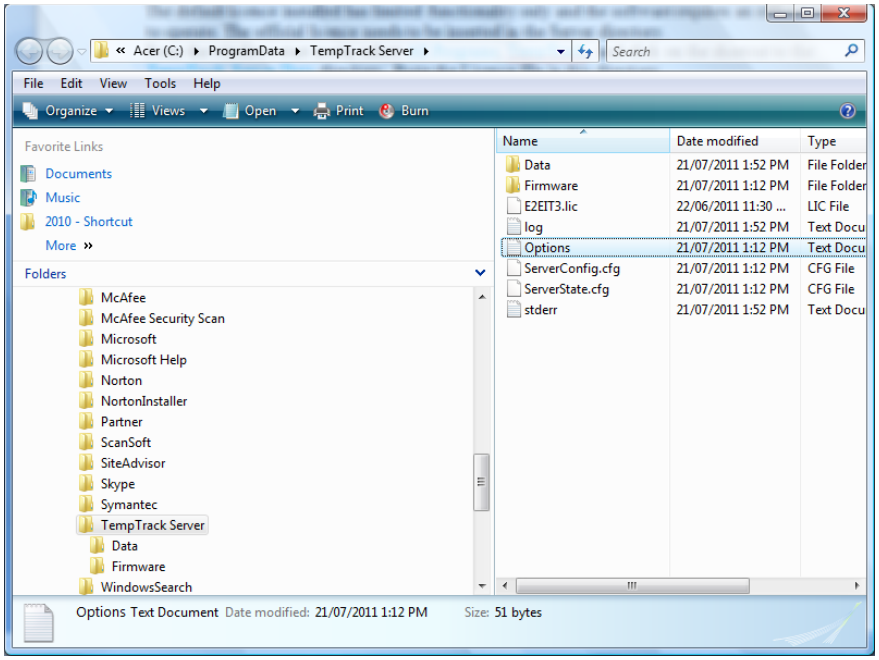


The Temp°Track Server software can be stopped or restarted from this Services console.

5 Software Licence, Password Control and Backup Time

The default licence installed has limited functionality only and the software requires an official licence to operate. The official licence needs to be inserted in the Server directory.
From the windows start menu, select All Programs, TempTrack, and click on the shortcut to the TempTrack Server Data directory. Paste the Licence file in this directory.





If you require password protection for the server and administration rights for remote clients, edit the Options file. By default the Options file is a Read-Only file to prevent changes from unauthorised users. The properties of this file can be edited to provide write access temporarily (Right click on the file, select Properties, select Security Tab, select User, click Edit and enable write access).
Alternatively, locate the Notepad shortcut on your PC, right click and select Run as administrator, Select File, Select Open, click on Options.txt, click on Open to edit the file.

The default Options file will contain the following;

serverPort=47770
serverPassword=
adminPassword=
backupTime=

If the serverPassword field is set, the client software can only connect to the PC server if the correct password is entered. Without a serverPassword defined, any remote client can connect to the server. The use of a serverPassword is recommended.

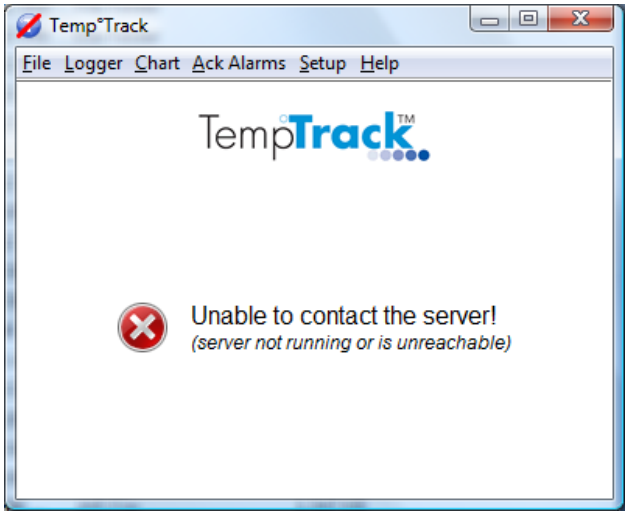
If the adminPassword field is set, the client software will have read only capability and will not be able to change any configuration settings. The adminPassword needs to be entered to change any logger or system configuration. Without an adminPassword defined, any user can change configuration settings.

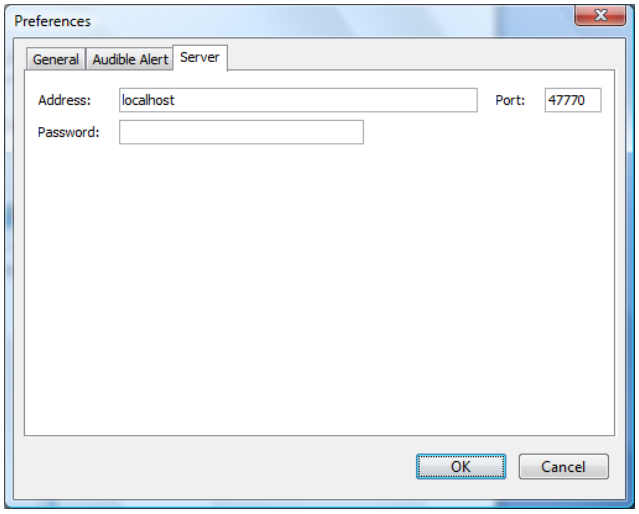
A system backup is generated every 24 hours. The backup time can be specified by setting the appropriate time in hh:mm (24 hour clock format).

The server will automatically restart within 30 seconds and the licence settings together with the server password and admin password will be implemented. If the Client software was launched after installation, connection to the server will be interrupted and needs to be reconnected.

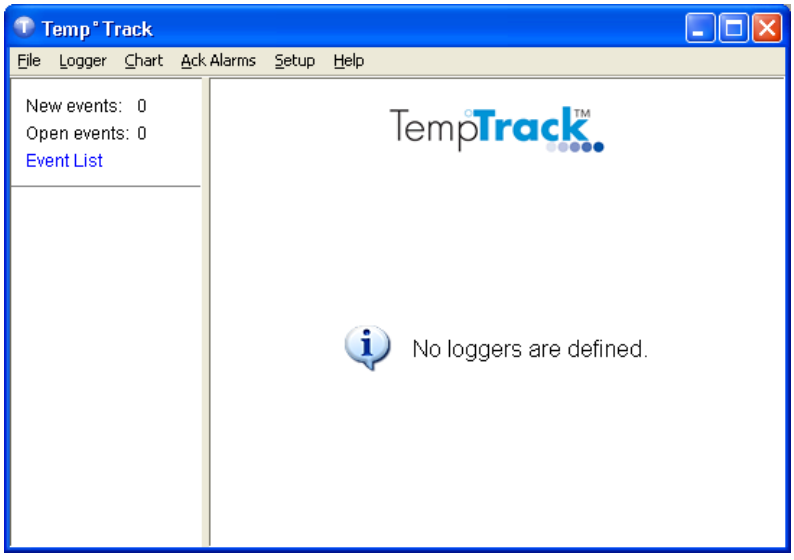
6 Local Client Software

To launch the PC client software, click on the Temp°Track Client icon on the desktop. The screen below will be displayed.





Click on File, Preferences and select the Server Tab. Type in the password for the server to connect to the server. When the connection is successful, the "View Logger" screen will be displayed.

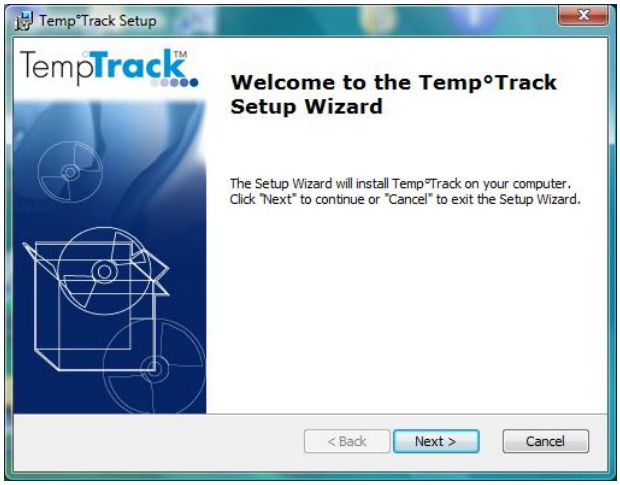


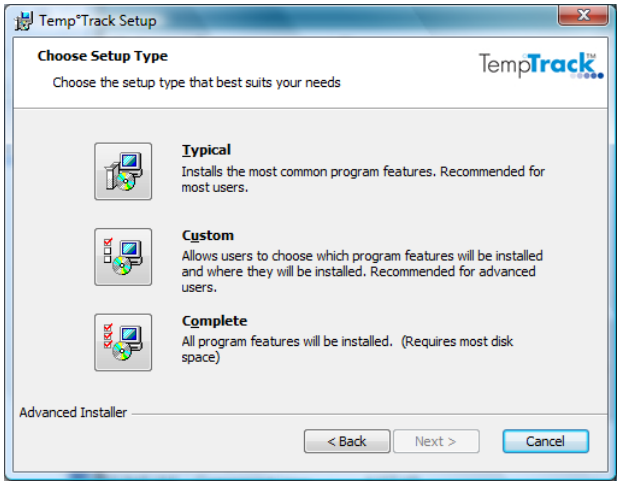
Loggers can now be added and alerting systems set up for monitoring alarms.

7 Remote Client Software

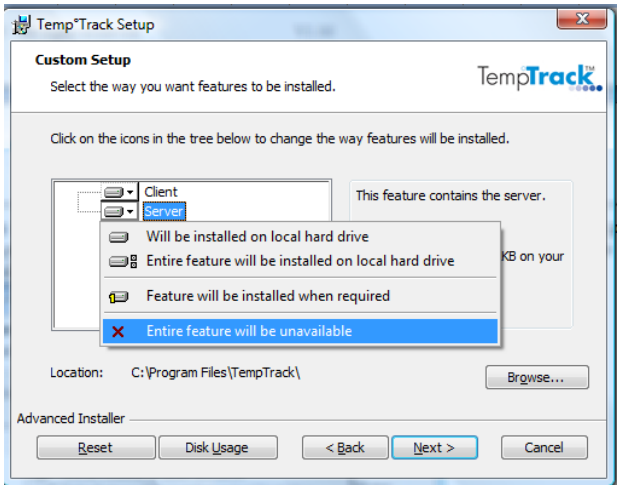
You will need to have Administration rights to install the Temp°Track™ software application. From the CD, double click on the TempTrack.exe installer.

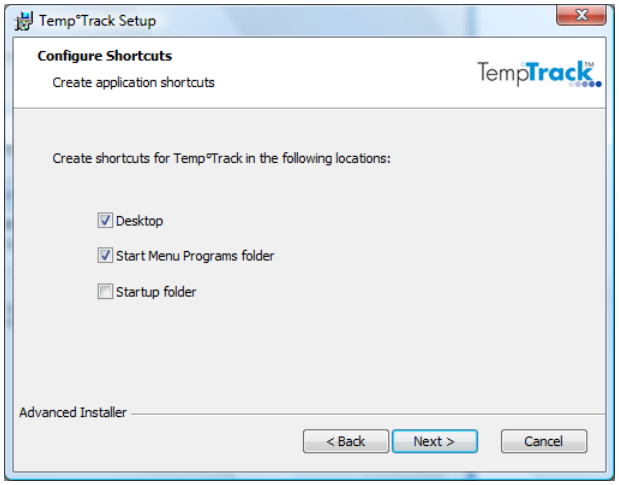
The following window will be launched. Click on Next to proceed with the installation. Select Custom to install the Remote Client software.



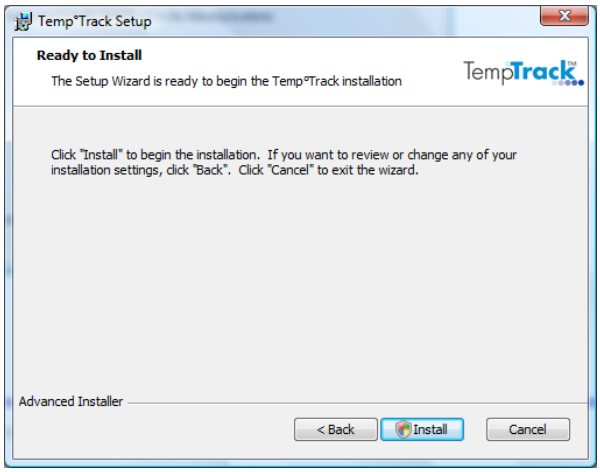


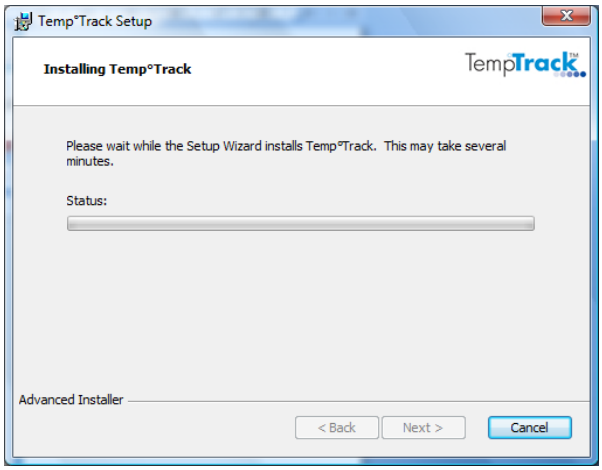
Click on the Server drop box and select "Entire feature will be unavailable". This will install the client software only on this PC. Click on Next to install the software. The default shortcuts for the Remote Client will be created. Select the Startup folder check box if you want the Remote Client to start up when the PC is started. Select Next to continue.



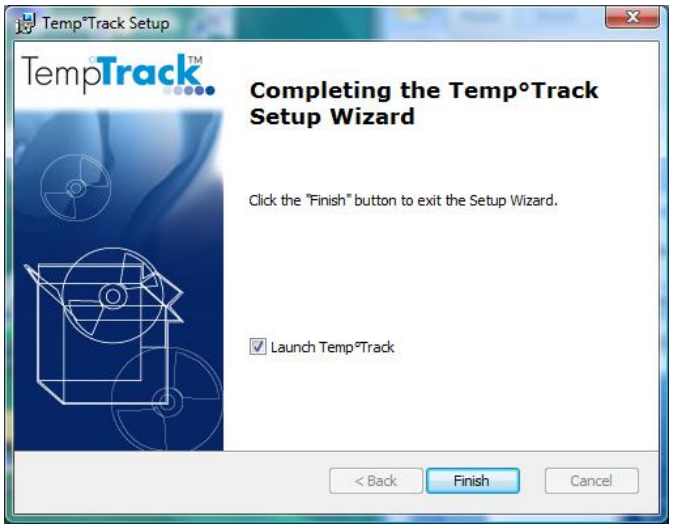


The following screen appears. Click on Install to complete the installation. Windows may require confirmation to proceed.

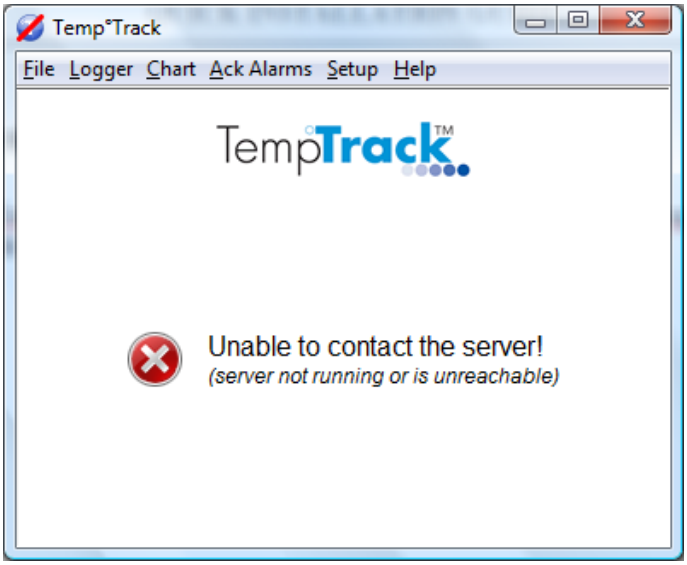




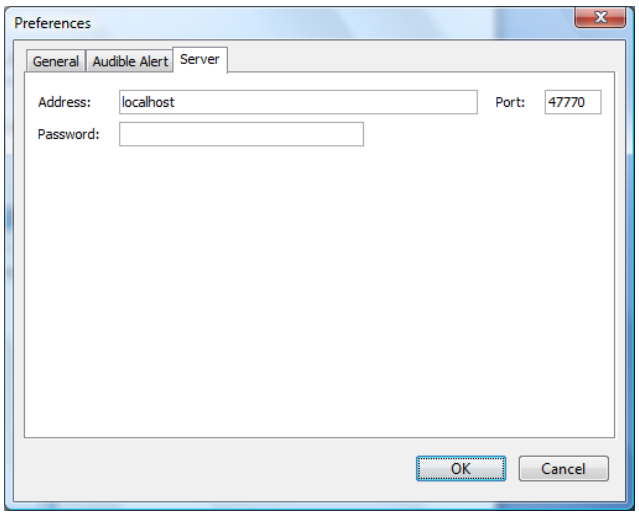
When installation is complete, the following screen appears. Click on Finish to complete installation.

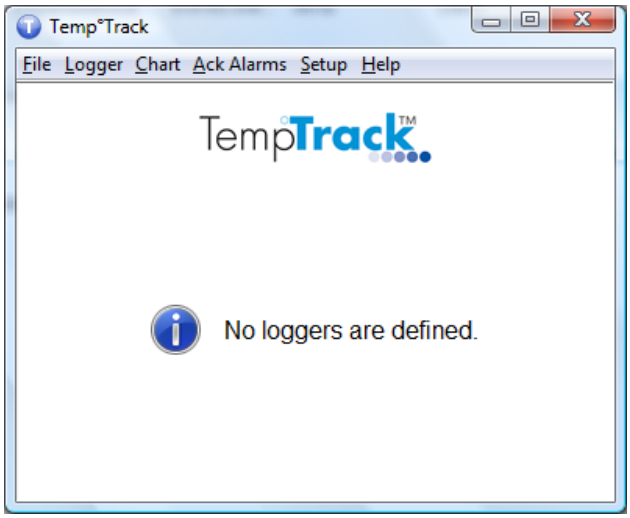


The client software will be launched and the following screen appears.



Click on File, Preferences and select the Server Tab. Type in the IP address, Port and password for the server to connect to the server. When the connection is successful, the "View Logger" screen will be displayed.



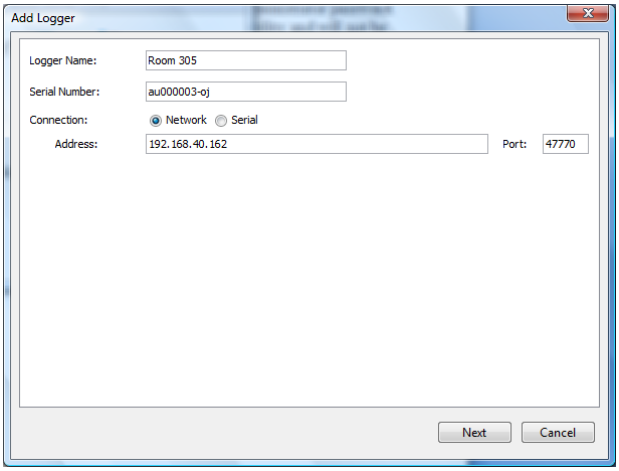


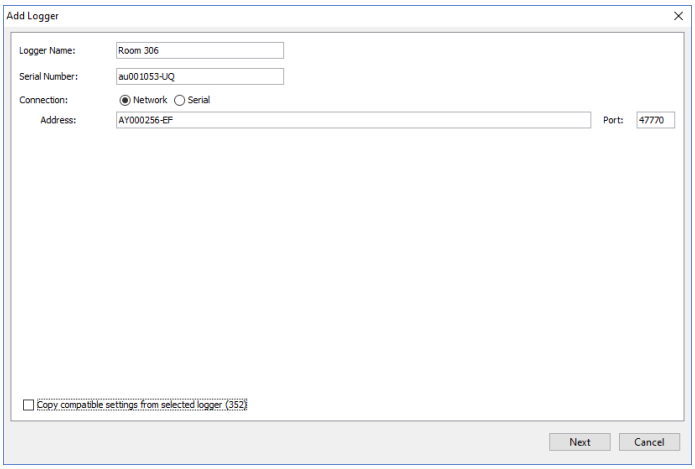
Loggers can now be added and alerting systems set up for monitoring alarms.

8 Configuring a Logger

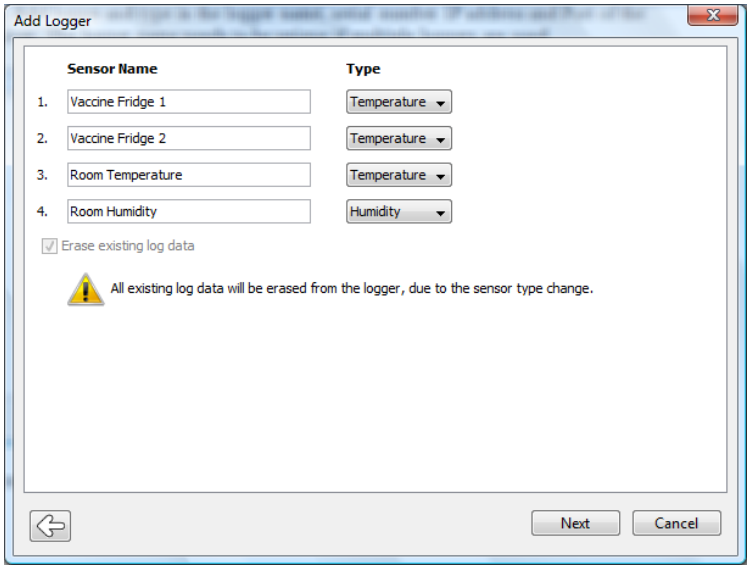
From the "View Logger" screen, select Setup, Administrator and type in the administrator password. Without administration rights, the client software will have " Read Only" capability and will not be able to change any system/logger configuration settings.

Select Setup, Add logger and type in the logger name, serial number, IP address (or Receiver serial number) and Port of the wireless receiver. The logger name needs to be unique if multiple loggers are used.

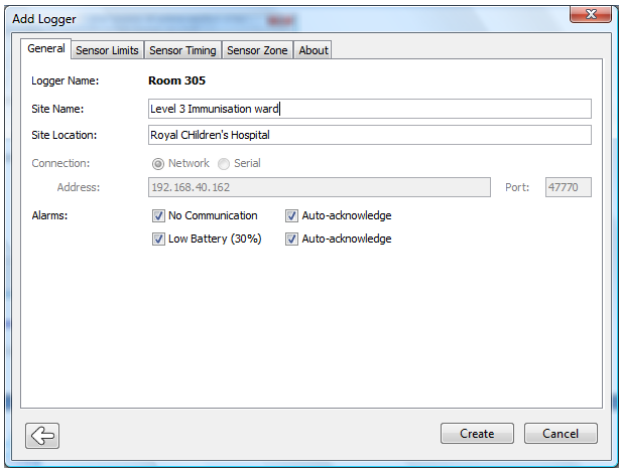


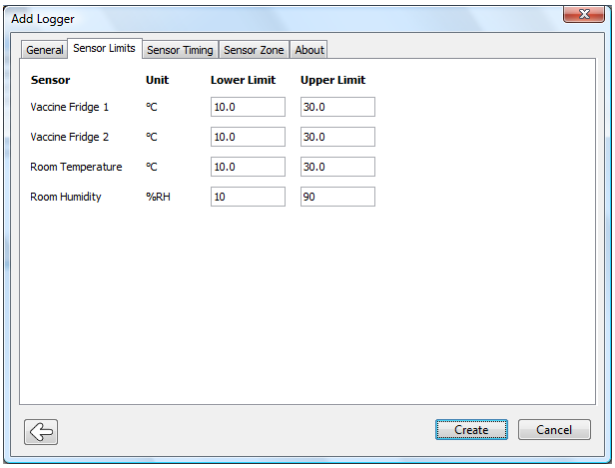


The sensor configuration screen will be displayed. Type in the sensor names and click on Erase existing log data to clear the logger of any old/test data.

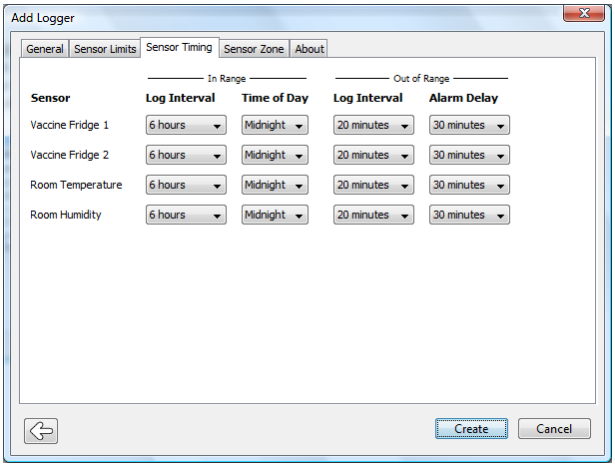


Type in the site name and location (optional). The alarm default setting for No communications and low battery is set and the alarm will be acknowledged automatically if the alarm condition clears. Modify these settings as required. The Sensor Limits Tab enables the user to set the upper and lower alarm threshold limits.





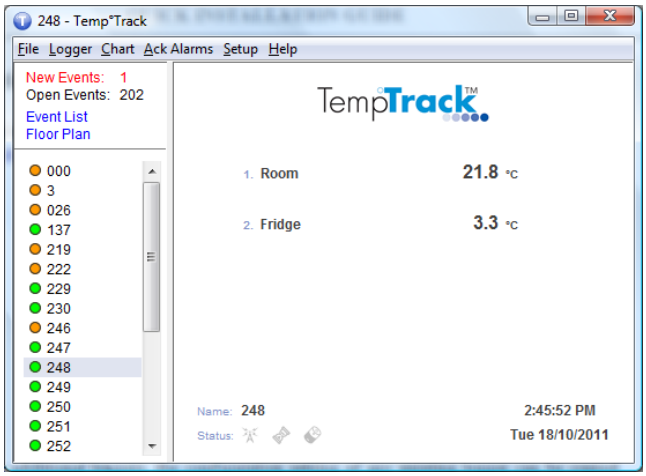
The Sensor Timing Tab enables the user to set the logging interval for both in range and out of range conditions. This allows the user to log at a higher frequency during alarm conditions. The alarm delay can be used to prevent temporary excursions outside the alarm limits such as temporary opening of the fridge door from triggering an alarm. An alarm will only be raised when sensor readings remain outside the alarm limits and the alarm delay duration is exceeded.



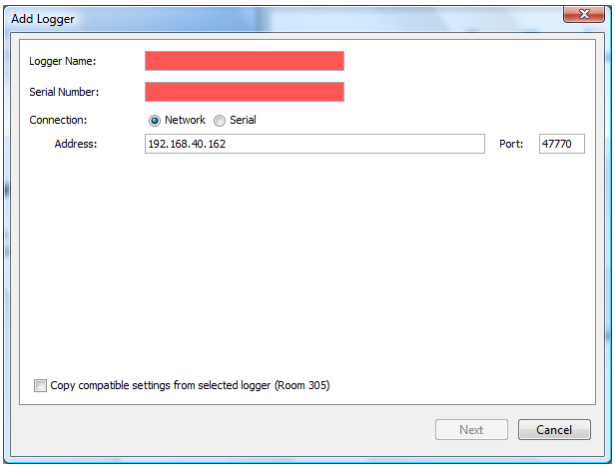
When the new configuration has been accepted by the logger the main screen will then display the sensor readings.

9 Configuring Multiple Loggers

When multiple loggers are used, the list of loggers can be displayed in the main window by selecting Logger, Show List.

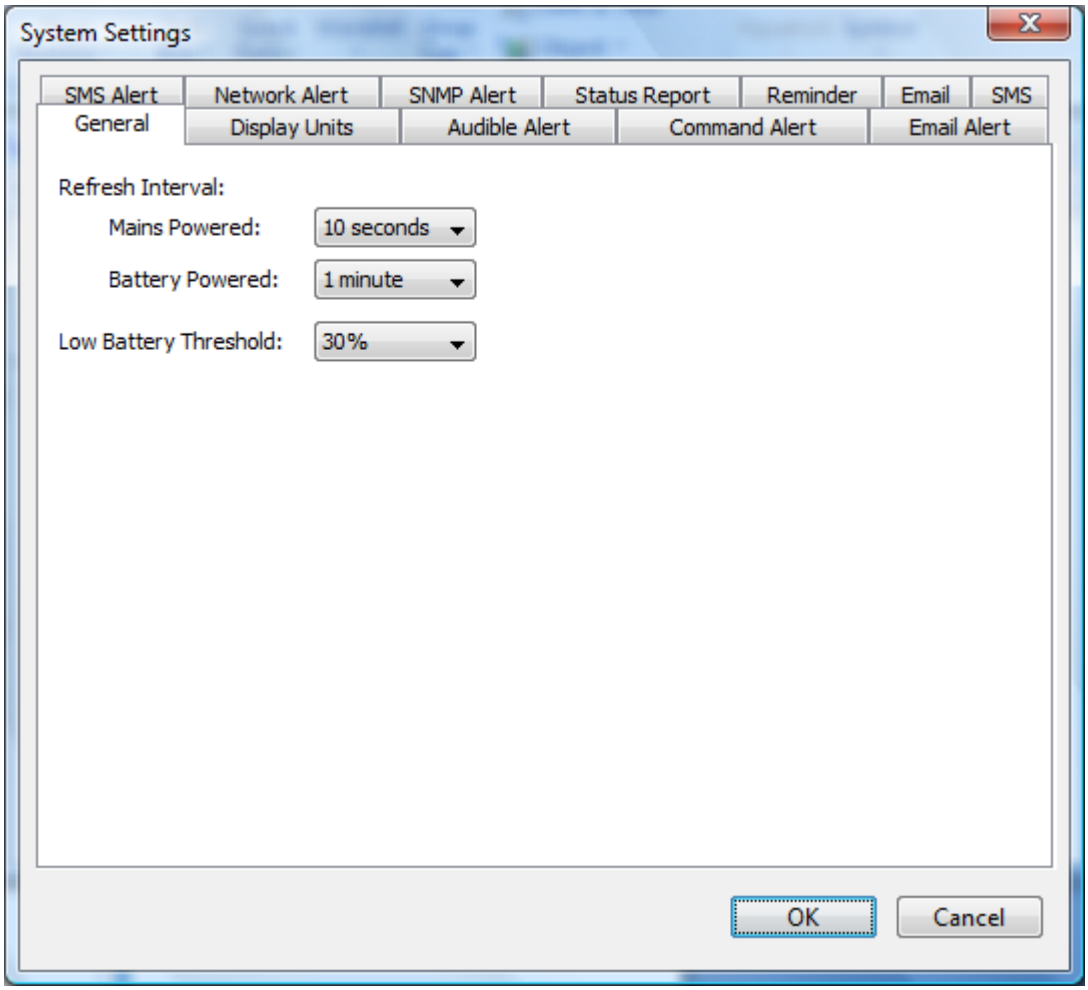


To configure additional loggers, the configuration setting of any existing logger can be copied and assigned to the new logger. Select the logger from which the configuration is to be copied. The sensor readings from this logger will be displayed in the main screen. Select Setup, Add logger and type in the logger name and serial number. The IP address and Port used previously will be selected by default and can be changed as required. Click on the Copy compatible settings from selected logger to copy the logger configuration and proceed to add the logger and modify any configuration settings as required.



10 System Setup

Select Setup, System Setup to access the system features, eg Email alert, Network Alert, SNMP alert, SMS alert, Status Report, Audible alert, etc. The detailed description for each feature can be found in the User Guide. Configure the system as required.



When the system configuration is completed, administrator rights can be turned off by clicking on Setup, Administrator .