Temperature Controller Manual – Version 31

* See appendix B' - Wiring diagrams at the end of this manual.

Controller web interface

You can get to the controller interface by typing its IP address in the web browser, we recommend using a Google Chrome web browser. You can also get to the interface using your mobile phone as long as it is connected to the same network.

The default IP address of the controller is 10.0.0.200
In order to change the IP address of the controller use DS Manager (see appendix A' **Connecting to the controller through the LAN**)

The default password in the Login page is blank.

Main Page
Menu> Main Page

In this quick access page you can see the main shortcuts, buttons and indicators.
Here are some of the icons and buttons you may find here:
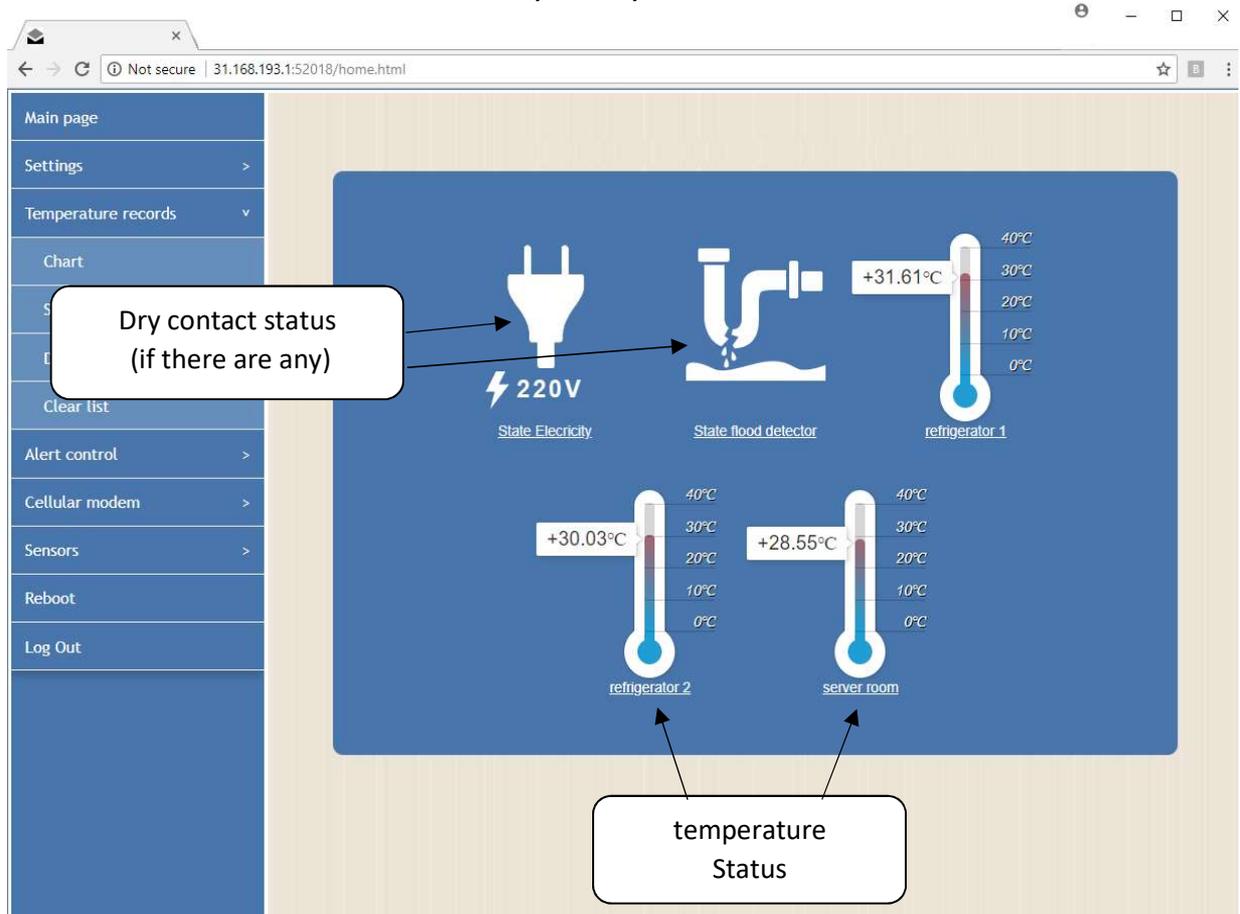
General Settings

Menu> Alert Control> General Setting

The minimal and maximal values of the thermostat is only for display in the main page of the controller.

Temperature Registration Time: you can define the time periods that in which the controller will save the temperature values in its memory. The controller have a memory storage of 61,000 records (for all the sensors). Once the memory will be filled, the controller will run over old records.

Setting a Temperature Threshold for Alert

Menu> Alert Control> Sensors > Temperature config

In the upper field you should choose the name of the sensor. Note that for each sensor you can define 2 temperature thresholds with a different alert for each one of them.

Check Threshold: The temperature threshold in which an alert will be sent.

Check Direction: You should choose "above" or "under". If you choose "above" and the Check Threshold is 25, the controller will send an alert when the temperature will arrive 25 degrees and above.

Stop Alert Range: (also called Delta) this parameter defines the range of degrees that the temperature should be from the Check Threshold in order to stop the alert.

For example: if the Check Threshold is defined as 25 degrees, the Check Direction in "above" and the Delta is -2 (minus 2), the alert will stop only when the temperature reach 23 degrees.

This parameter was established in order to prevent a situation in which the temperature is around the Check Threshold and therefore cause for new alerts every few seconds or minutes.

Alert Suspension: If you are using this option, the controller will not send an alert once the temperature reaches the Check Threshold unless it was above (or under) the threshold more than the time period that was defined in this field.

Note: the controller reads the sensor each 10 seconds (which means there are 6 reads in every minute). If you want to have a suspension of 2 minutes, you need to enter the value 12 in this field.

Open Relay: This option enables an activation of one of the relays. The relay will stay open as long as the alert is active.

Note: this option is available only if there are relays in the controller.

Fixed Beep: If this field is marked as ON, the controller will beep as long as the alert is active.

Start Alert: Here you should choose the type of alert you wish to get – SMS Message or a Phone Call.

Start Message: In this field you should write the text that will be sent in the SMS Message in case of alert. You can integrate in the message the values of the temperature by using the code $C01.

Example: if you write in this field the following text: "Unusual temperature in the meat refrigerator $C01", when the controller will send an alert, instead of the code $C01, it will put the temperature that was received from sensor 1.

End Alert: Here you should choose the type of message you wish to get when the temperature will return to its normal range – SMS Message or a Phone Call.

End Message: In this field you should write the text that will be in the SMS Message that will be sent once the alert will turn off. You can integrate in the message the values of the temperature by using the code $C01.

Example: if you write in this field the following text: "Normal temperature in the meat refrigerator $C01", when the controller will send an alert, instead of the code $C01, it will put the temperature that was received from sensor 1.

Snooze: The controller will send an alert message every 10 minutes as long as the temperature is above (or under) the Check Threshold. This option can be cancelled by entering the value 0 in this field. It is not recommended to define a Snooze time which is less than 10 minutes.

The user that gets the alert can send to the controller SMS Message with the code IDPSTN in order to stop the Snooze.

Save:　　　　　　You should press this button in order to save the settings.

Setting an Input Alert

(Alert on Power Failure)

Menu> Alert Control> Inputs> Inputs config

In the upper field you should choose the input number. In controllers that have a Power Supply/Charger that alert using a dry contact in any case of power failure, the first input will use for indication on power failure.

Input Status:　　　This field contain 2 options (Normally Open & Normally Closed). The status of the input should be determined based on the application. Contact IDP Support for further help.

Home Page Icon: You can choose the icon that will appear in the Home Page of the controller.

Alert Delay: In this filed you can define the number of seconds that the controller will delay before sending an alert.

Open Relay: This option enables an activation of one of the relays. The relay will stay open as long as the alert is active.

Note: this option is available only if there are relays in the controller.

Fixed Beep: If this field is marked as ON, the controller will beep as long as the alert is active.

Start Alert: Here you should choose the type of alert you wish to get – SMS Message or a Phone Call.

Start Message: In this field you should write the text that will be sent in the SMS Message in case of alert. For example: "Power failure".

End Alert: Here you should choose the type of message you wish to get when the alert will turn off – SMS Message or a Phone Call.

End Message: In this field you should write the text that will be in the SMS Message that will be sent once the alert will turn off. For example: "The power tuned on".

Snooze: The controller will send an alert message every 10 minutes as long as the power failure continues. This option can be cancelled by entering the value 0 in this field. It is not recommended to define a Snooze time which is less than 10 minutes.

The user that gets the alert can send to the controller SMS Message with the code IDPSTN in order to stop the Snooze.

Save: You should press this button in order to save the settings.

Setting Phone Numbers

Menu> Cellular Modem> Phone Numbers

In the following fields you should log all the phone numbers that will get the alerts. You can log up to 10 phone numbers.

Temperature Log

Menu> Temperature records> Search

In case that the controller was configured to save a temperature log, in this page you will be able to see it.

You can filter the log per the sensor's name and also to choose dates and times. By pressing Download List, the chosen records will be downloaded to your computer as a CSV File (which can be opened using Excel).

Setting Names to Sensors
Menu> Alert Control> Sensors> Sensors names
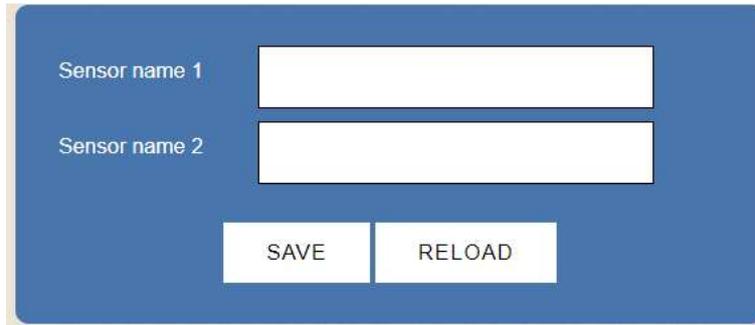
You can define a name to each sensor. The name will be presented in the Home Page and also in the Temperature Log page.

Additional Settings
Menu> Settings> General Settings

When a user which is defined in the phone list of the controller (**Menu> Cellular Modem> Phone Numbers**) calls to the controller, it will disconnect the call and rather will send SMS Message with the status of the controller and sensors.

In the field General Controller Message you can type the text of the message that will be sent. For example: Meat refrigerator temperature $C01, Dairy refrigerator temperature $C02.

In this case, the controller will replace the code $C01 with the current temperature of sensor No. 1 and the code $C02 will be replaced with the current temperature of sensor No. 2.

In the field Daily SMS Time you can log the time in which the controller will send a status message on a daily basis. If you leave the filed with 00:00, the controller won't send a daily status message.

Setting Date & Time
Menu> Settings> Date & Time
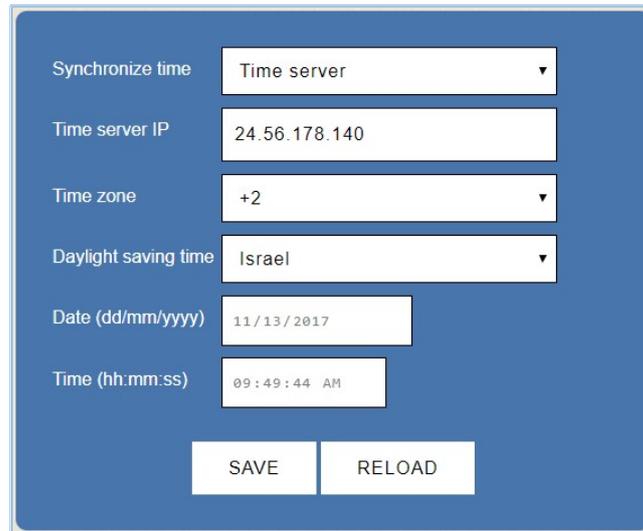
Synchronizing Time:
Setting the date and time automatically can be done by synchronizing through the cellular network or by an internet time server.

Time Server:
The controller can be connected to a timer server in the internet network. This option is recommended when there is an access to the internet.

Cellular Network:
If the controller have a cellular modem of IDP, it can be defined that the synchronization of the date and time will be done automatically using the cellular network. In order to make this happen, the controller has to be connected to a cellular network.

Off:
When this option is used, the date & time will be defined manually by the user.

Time Server IP:
If the controller has an access to the internet, it is recommended to synchronize the date & time against the IP address 77.235.14.49

Time Zone:
For Israel choose +2
For other areas in the world use time zone map to find the relevant time zone.

Daylight Saving Time:
Select if a DST is on or off, and also choose if the time will be adjusted to Israel, Europe or USA.

Note!
If the controller has no connection to the internet there might be a deviation of up to 60 minutes per 1 year.

Setting Up a Password

Menu> Settings> Set Password
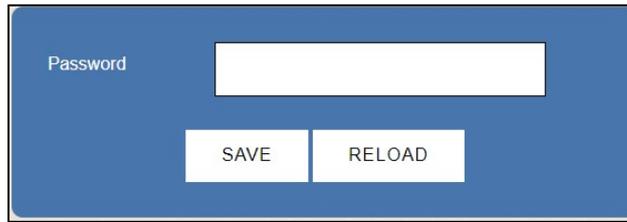
You might want to change the password for the management interface of the controller.

After setting the password make sure to press **Save** - to save the password. In order to cancel the password leave the field empty and press Save button.

Resetting the Password

In order to reset the password to its default value (blank field) you can press the physical button marked with the letter **M** for 30 seconds. When you hear the Beep sound, it means that the reset is done.

The **M** button is on the front of the controller on its right side - the lower button of the two as you can see in this picture:
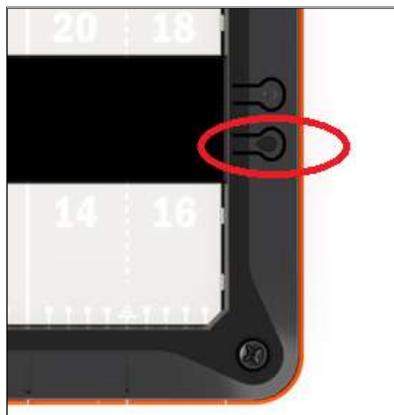
Network Settings

Menu> Settings> Network settings
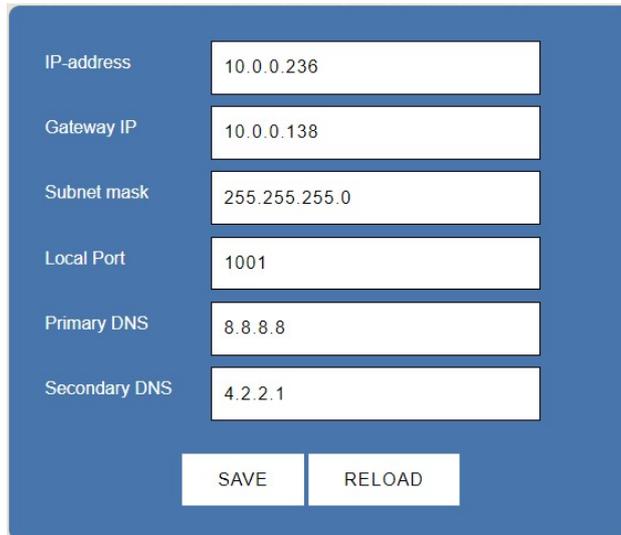
This page is for the Network Settings.

If the controller IP address is not in the same address range of the LAN, the controller will not be found. In such case one has to match the IP address of the controller to the network range. Use DS Manager for this.

See appendix A **Connecting to the Controller through the LAN**.

Press **Save** in order to save the new settings.

Remotely Reboot the Controller

Menu> Reboot

Press Reboot> OK
The controller will reboot.

Logout

Menu> Logout

Press the Log Out button in order to exit the user interface.

Trouble Shooter

Note- after solving the problem, if the controller is still not working well go over the trouble shooter again from the beginning. If after that there is still a fault contact IDP support for finding the solution to it.

Trouble: you can't find the controller in an HTML page.
1. Green and Red LEDs flashing and there was one beep sound when the controller was turning On?
       Yes- go to step 2
       No- go to step 4
2. An orange LED is On?
       Yes- go to step 3
       No- go to step 5
3. The IP address of the controller is at the same addresses range of the LAN it is connected   to?
In order to check and change the IP of the controller see appendix **A' Connecting to the controller through the LAN**
4. The controller is connected to a working 12VDC power supply?
       Yes- contact IDP support
       No- please connect a correct and working power supply.
5. The controller connected to a working network cable that on the other end is connected to the LAN?
       Yes- go to step 6
       No- please connect a working network cable and make sure it is connected well
       on both sides, also make sure the other network peripherals are working, i.e.
       switch etc.
6. firewall or antivirus might be blocking your controller.
This step has to be done by a professional PC technician or IT personnel.
Steps to take:
Are there any routers (bridges, firewalls, proxies) between your PC and the Device Server?
The DS Manager can work in two different network modes as defined by the selection in the Access Mode drop-down:
Auto-discovery mode that finds all the Device Servers in the local network segment automatically
Address books mode that is not limited to a local network segment but you have to specify each IP-address manually
Notice, that auto-discovery only works for a local network segment. If there are any routers or bridges between your PC and the Device Server in question then the DS Manager won't be able to find this Device Server automatically. This is because so-called broadcast packets used to find the Device Servers cannot penetrate routers and bridges. In this case you need to specify the address of the Device Server manually:
First, make sure that the IP-address of the Device Server is set correctly
Next, select Device Servers from the Address Book in the Access Mode drop-down box
Press the *Add* button, input the IP-address of your Device Server (input a comment if you wish) and press OK
The DS Manager will refresh the data in the list and you will see the IP-address you've just entered
The icon next to the Device Server should appear in solid blue. If the icon is gray then the Device Server at specified IP-address could not be found!

If you have done all of the above correctly but you are still unable to "see" the Device Server in the DS Manager or Connection Wizard then the problem may be with your router (bridge, firewall, proxy):
You may have to specify the "IP forwarding" i.e. setup you router to pass the network traffic addressed to your Device Server to the network segment where your Device Server resides
If there are "port restrictions" set on your router then you need to make sure that TCP and UDP traffic is allowed for port 1001 (this is the default data port of your Device Server; it is programmable so if you've changed it then you need to open a matching port number on your router). In addition, you need to enable UDP traffic on port 65535 (this is a fixed command port that is used to program the Device Server). Both data and command ports must be accessible!
Finally, you must set the router to pass "pings" (ICMP protocol)
7. The PC that the controller is connected to has another network card or a VPN, like cellular or Wi-Fi dongle or internal card?
　　　　Yes- go to step 8
　　　　No- contact IDP support
8. Network prioritization- This step has to be done by a professional PC technician or IT personnel.
If your computer have multiple active network interfaces (Ethernet, WiFi, VPN, etc.), then sometimes windows will force the auto-discovery packet to only be sent out of the first interface in the list.

For DS Manager, you will reassign the "default" interface to the one that the Tibbo device is connected to, please follow the instructions below:
1. Open Command Prompt and type: route print - you will see a list of active routes, the last column displaying their "metric". Lower metric routes are preferred over higher ones.

2. Open the Network Adapter Properties (Control Panel > Network and Internet > Network Connections > right-click on adapter and choose Properties)
3. Open the properties of Internet Protocol Version 4 (TCP/IPv4).
4. Click on Advanced.
5. Un-tick "Automatic Metric" and set the interface metric to a number.
6. Hit OK until you close the Network Adapter properties.
7. Repeat steps 2-6 for your other network adapter(s) choosing different metrics. Remember lower metrics are preferred over higher ones.

Check the new metrics in Command Prompt by typing: route print

For Device Explorer, it is easier, click on "settings". Inside it you have the option to select which interface you wish to send the packet out of and also which protocol to use to communicate with the devices.

Appendix A'

Connecting to the controller through the LAN

1. Connect the controller to the LAN using a Networking cable and supply it with 12VDC.

2. In order to make sure the controller is in the correct address range download DS Manager Software from IDP site.

For 32bit PC: http://idp.co.il/vault/files/tdst-5-09-10-x86.zip

For 64bit PC: http://idp.co.il/vault/files/tdst-5-09-10-x64.zip

Start> All Programs> Tibbo <Tibbo Device Server Toolkit <DS Manager

After the DS Manager is up a list of all of IDP controllers will appear.

Make sure the address of the controller is in the addresses range of yout LAN.

Grayed icon - The address of the controller is out of the addresses range of the LAN

Blue icon - The address of the controller is inside the addresses range of the LAN

To put the controller IP address inside the LAN address range: mark the device by one click on the list in DS Manager and press Change IP button.
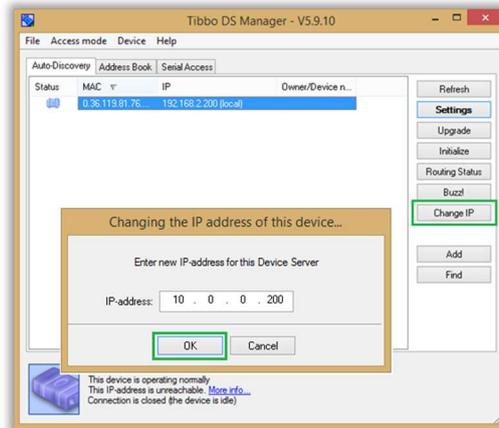
Controls and buttons on the controller
The controller has 2 buttons on its right side and 3 LEDs on its left side

Orange LED = good indicator
for network connection

Red/Green flash indicates that the controller
is connected to a power supply

Controller's reset button
(doesn't delete data)

Password reset button
(press for 30 seconds
until the beep)