

# TV2 with Wired Sensors



## Monitor, Log, Chart & Alarm Multiple Refrigerators and Freezers

- **Easy to install & use** (*installs in minutes*).
- **High – Low temperature & power out alarm**
- **Displays temperature history chart.**
- **Monitors 24 hours a day, 7 days a week.**
- **Stores 1.5 years of temperature history for each sensor.**
- **No monthly fees or ongoing expense**

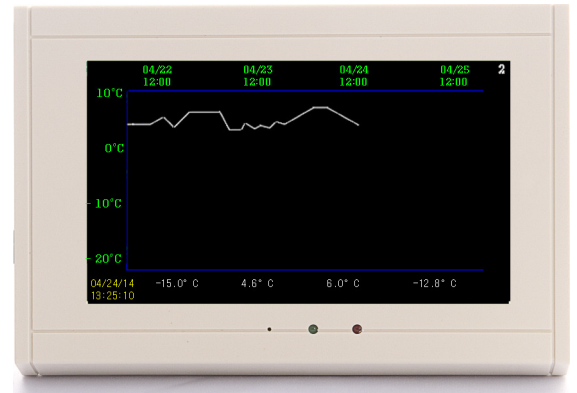


The TV2 monitor can be used with wired or wireless sensors placed inside each refrigerator or freezer. Temperature on the TV2 Easy Touch display is updated every few seconds and periodically recorded in non-volatile ram memory. If any temperature gets too warm or cold for too long an alarm is triggered and a text/email or phone call is made to the appropriate people



To see what the temperature for any refrigerator or freezer was over the weekend just touch the display. A temperature history chart will be shown.

One glance at the temperature history chart tells you what the temperature was over the last week, month or year. This is very useful for evaluating the health of the cooler and freezer; showing how well it is keeping temperature. And if you ever do have an alarm it can tell you how severe the incident was. For example, if the temperature has been going up over a long period of time you might have a real problem with the compressor whereas if the temperature shows a sudden spike someone probably left the door open.



Installing the TV2 is simple:

1. Place each sensor in a freezer or refrigerator
2. Position the display where you can see it and plug it into a wall socket
3. Attach the auto dialer to the display (if using).
4. Set the day and time
5. Plug in the sensors or link them to the TV2 hub if you are using wireless sensors.
6. Set the alarm high & low temperature alarm temperatures.



## History

2di has been protecting food products for over 12 years. Our customers in the food industry include; school systems, restaurants, manufacturers, warehouses, and even aircraft carrier kitchens.

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## Data logging

The TV2 logs temperature data in its non-volatile memory, storing over 1.5 years of temperature data for each sensor in its typical configuration. The temperature log for each sensor can be viewed on the TV2 by touching a temperature. The chart can be expanded so that each individual temperature can be seen, and compressed so that all 80,000 logged temperatures can be viewed on one chart. This makes it possible to see trend data in addition to each logged temperature. All temperature data can also be viewed on your computer by using the TView software.

## Backup and data safety

The TV2 has a rechargeable lithium ion battery capable of operating the TV2 for at least 72 hours if a power failure occurs. If the TV2 is operating on battery power all functions continue, including, logging, high-low alarms, responding to auto download requests from computers and all menu functions.

## Interfacing to computers

The TV2 is a completely stand-alone instrument, but it can be interfaced with computers for additional use to backup the data, print charts or view at other locations. It comes with free secure PC software so that temperature data can be downloaded to or queried from a computer. The TV2 can be plugged into any computer via its USB port. It can also be plugged into any wired Ethernet port to become part of your local area network. As long as the TV2 is communicating with a computer it can generate text or email alerts any time an alarm occurs. It can also automatically backup its data onto the hard drive of the PC. And, of course, it can be used to print charts reflecting the logged data or exported to Excel.

## Data security

- All collected data is stored in non-volatile RAM memory
- Stored data can not be changed or edited - only viewed
- Data downloaded to computer is encrypted and can only be viewed with TView software
- Data viewed by TView can not be edited or changed in any way
- TView software is 21CFR11 compliant
- Data imported to a computer is stored in 256 bit encrypted files

### Suggested settings for -20°F Freezer and a 40°F Refrigerator:

#### Freezer Probe

Sample temperature every 00:10:00 HHMMSS  
Type of averaging: Med

Maximum Display Temperature 50°F  
Minimum Display Temperature -30°F

#### Refrigerator Probe

Sample temperature every 00:10:00 HHMMSS  
Type of averaging: Med\*

Maximum Display Temperature 50°F  
Minimum Display Temperature 20°F

### Alarm Settings:

#### Sensor 1 - Freezer

Trigger relay for 10:00 MMSS  
If temperature > -5° for more than 00:15:00 HHMMSS  
If temperature < -30° for more than 00:20:00 HHMMSS

#### Sensor 2 - Refrigerator

Trigger relay for 10:00 MMSS  
If temperature > 48° for more than 00:20:00 HHMMSS  
If temperature < 35° for more than 00:30:00 HHMMSS

**The alarm:** In addition to the temperature alarm the power failure alarm will also sound (if enabled) and close the relay if the unit is operating on battery power.



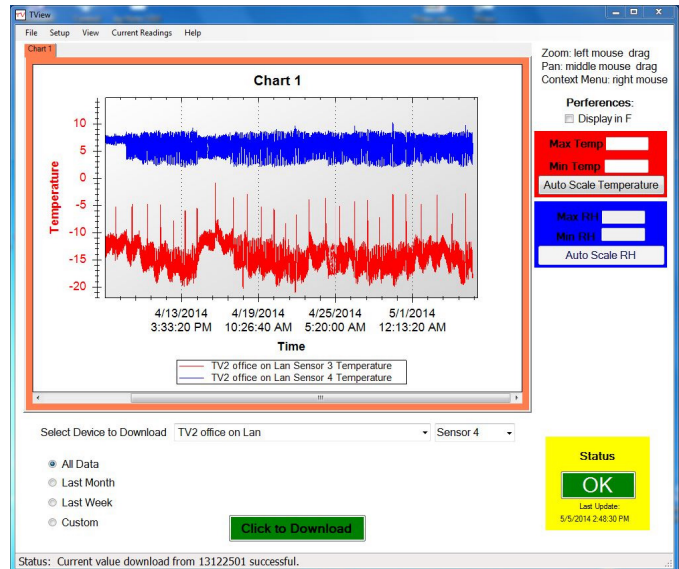
**Downloading data:**

The TV2 data is copied to your computer with the TView software. The TView software, which comes with the TV2 can automatically download the temperature history from the TV2, so that the resultant chart can be printed out or archived.

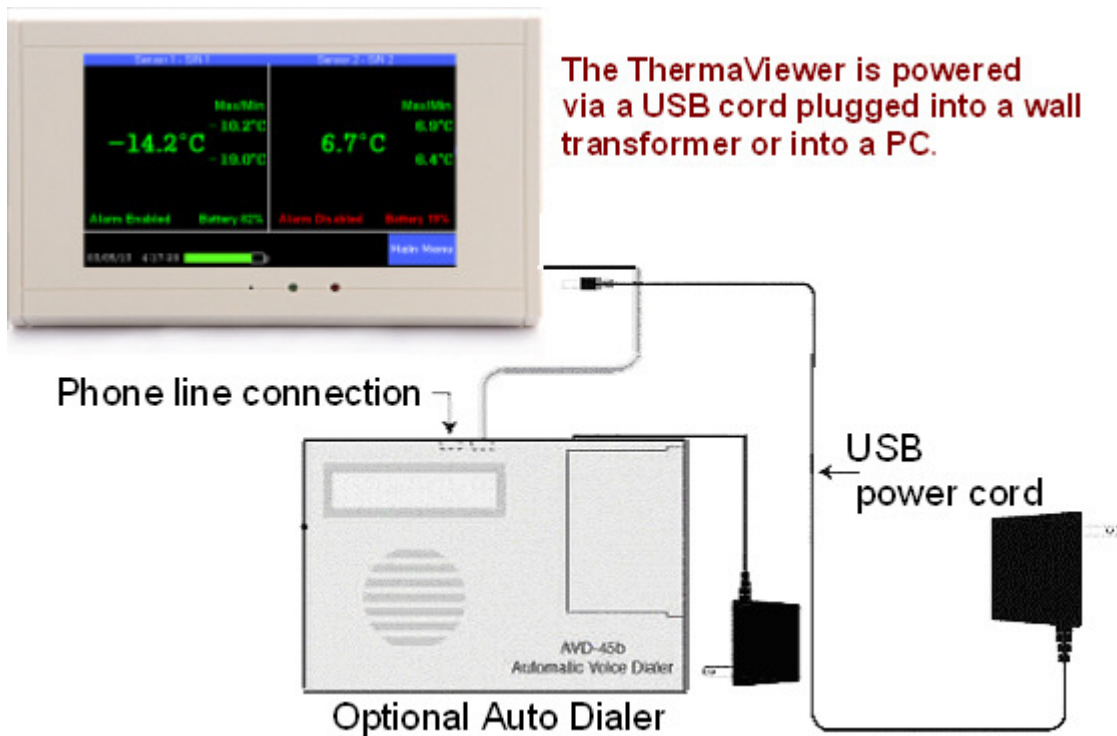
The TView software will also send a text or email alert in the event of an alarm.

**The Optional Auto Dialer:**

The TV2 has a relay to trigger an external alarm and/or auto dialer. The TV2 relay will be closed when temperature moves outside your set points for a certain amount of time. Once the relay has been triggered, the alarm is reset. In the above example, if the temperature drifts outside the set points for the freezer (-5°C and -30°C) or the refrigerator (48°C and 33°C) for more than the dwell time the relay will be closed for 10 seconds.



The auto dialer will call up to four phone numbers (i.e. phones, pagers, answering machines, etc...) and leave a 16 second message. It will keep calling the four numbers until someone answers at each one and the message is delivered.





## Pricing list for selected configurations

<b>TV2 Master Thermometer</b>			
<b>Features</b>	<b>TV2 alarm</b>	<b>TV2 alarm &amp; logging</b>	<b>TV2 alarm, logging &amp; paperless Chart</b>
Temperature Sensor Sockets	2	4	4
Easy Touch Color Display	√	√	√
Phone Call Alert (Auto Dialer required)	√	√	√
72-Hour battery backup	√	√	√
High/Lo temperature alarm	√	√	√
Power out alarm	√	√	√
On-board setup menu	√	√	√
Password protected	√	√	√
Automatic sensor detection	√	√	√
Temperature logging		√	√
Text/SMS alerts		**	**
PC Interface Software		√	√
Paperless chart		√	√
Networkable		*	*
21 CFR 11 compliant		√	√
Alarm Logs		√	√
Automatic backs		√	√
Max/Min temperature		√	√
Temperature Chart on Monitor			√
Sensor missing alert			√
Alarm log on Monitor			√
	<b>ATV2PV-2</b>	<b>ATV2-2022</b>	<b>ATV2-202C2</b>
<b>TV2 Alarm w 2 sensors ±0.3°C (-40°C to 80°C)</b>	<b>\$597.00</b>	<b>\$697.00</b>	<b>\$797.00</b>
		<b>ATV2-2024</b>	<b>ATV2-202C4</b>
<b>TV2 Alarm w 4 sensors ±0.3°C (-40°C to +80°C)</b>	<b>N/A</b>	<b>\$895.00</b>	<b>\$995.00</b>
Care & Use Guide	<a href="#">Download</a>	<a href="#">Download</a>	<a href="#">Download</a>

Please contact us for a customized quote