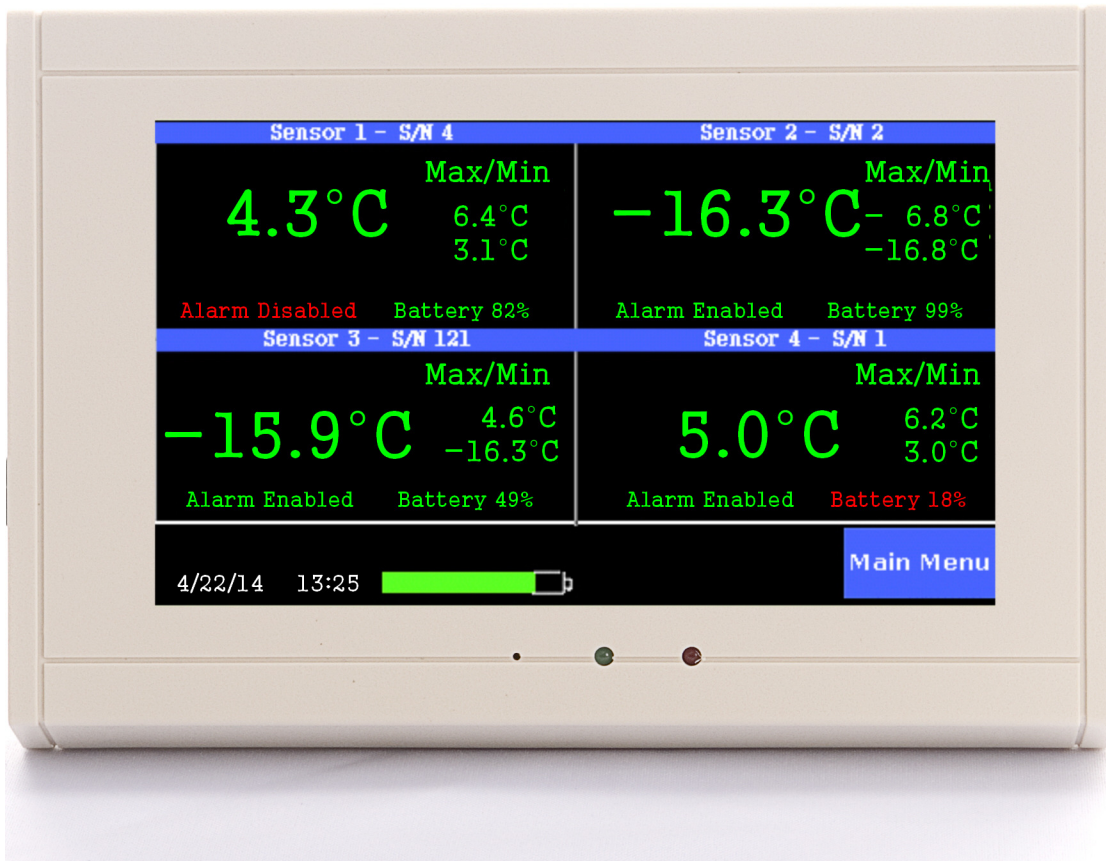


Description:

The TV2 is a highly engineered monitor/alarm/logger with a simple user interface. It is the only device which monitors, alarms, logs and charts temperature data. It uses up to four remote wire or wireless sensors to collect temperature and/or humidity data. It is a master thermometer, which shows current conditions and days, weeks, months or even years of temperature history on its Easy Touch display.

The monitor continually shows current and maximum /minimum temperatures as well as temperature history charts for each of its remote sensors. It also logs and stores the temperature history, which can be copied to a computer with the free [TView program](#) for archiving or printing. All archived data is encrypted to comply with 21 CRF 11 requirements and can be seen in graphic or tabular form.



Stored data:

The TV2 stores **over 80,000 temperatures** for each sensor, which means that it will store over 1.5 year of temperature history if you are sampling temperature once every 10 minutes. If you are logging temperature **and** humidity it will store nine months of history for each of the four sensors. Although the TV2 can store and display temperature from absolute zero to thousands of degrees, the actual temperatures collected depends on the type of sensors being used (see below).

In addition to showing the current conditions, the TV2 can display the temperature history. Touching one of the temperatures causes the temperature history to be shown in an easy-to-read chart format. The chart can be scrolled backwards and forward. It can also be zoomed into or out of to show more or less data.



Temperature chart for one sensor



The menu system

A password-protected Easy Touch menu is used to set and display parameters such as high and low temperatures, sampling intervals, and alarm levels. Since the menu system is password protected the TV2 can be placed in high traffic areas so that each staff member can see it and be part of your quality control process.

The TV2 is powered through a USB cable and has a 40 hour battery backup. When it enters battery mode during a power failure the display 'sleeps' but the sensors continue to collect temperatures for over 40 hours depending on your settings. In the event that power is not restored before the batteries are depleted, the stored data will still be retained although the unit will not collect new data. Once power is restored, the display wakes up and normal operations continue.

The TV2 display:

The LCD is a full color Easy Touch graphic display, controlled by a microprocessor showing 220 columns of temperature data at all times. This means that three hours of data is displayed if it is recorded once a minute, or thirty hours of data is displayed if it is being recorded once every ten minutes.

However, it is possible to view much more than 30 hours of history with the zoom feature. Each time the display is '**zoomed out**' the number of temperatures displayed **doubles**. This unique feature makes it possible to display over 23,000 temperatures on one screen.

There is also a trace mode which shows individual temperatures highlighting the day and time it was collected.

To view previous temperatures, you can move the display backwards with the '**left arrow**', making it possible to see months of data in great detail a few days or hours at a time.

The bottom two rows of the display are used for system-data showing the chart scale, the current temperature of each sensor, the date, and time.



Technical Specifications:

Display

Channels

Temperature only - Four Channels

Temperature/humidity - Eight Channels (4 temp & 4 RH)

Shows:

1. Temperature of each sensor (4)
2. Low battery indicator
3. Max/Min temperature of each sensor
4. Alarm enabled/disabled
5. Sensor battery capacity,
6. Date and time

Current Conditions Display

Display Resolution

0.1° on LCD, 0.0001 on PC

Monitoring

Continuous with active display

Max/Min Display

Shows on active display. Resets with Easy Touch.

Sensor Accuracy

Sensor dependent. (*See sensor specs below*)

Size

8 3/8" x 5" x 1 3/8"

Sample Interval

User selectable: 1/min - 1/24hrs

Temperature Range:

Sensor dependent (*see below*)

Sensors

Digital Sensor

-30°C to 80°C ($\pm 1.0^\circ\text{C}$)

Thermistor sensor

-20°C to 75°C ($\pm 0.3^\circ\text{C}$), ($\pm 2^\circ\text{C}$ option) for glycol bottle

Thermistor/Humidity sensor

-20°C to 75°C ($\pm 0.3^\circ\text{C}$), RH 0% to 100% $\pm 3.0\%$ w 0.5% Repeatability

K Thermocouple sensors

-200°C to 1250°C. Accuracy $\sim \pm 2.2^\circ\text{C}$

E Thermocouple sensors

-200°C to 900°C. Accuracy $\sim \pm 1.7^\circ\text{C}$

J Thermocouple sensors

-0°C to 750°C. Accuracy $\sim \pm 2.2^\circ\text{C}$

T Thermocouple sensors

-250°C to 350°C. Accuracy $\sim \pm 1.0^\circ\text{C}$

Note: All thermistor and thermocouple sensors come with a 3-foot wire ending in a 2 inch stainless steel probe.

Technical Stuff

1. Out of temperature range for each sensor (high and low)
2. Low display battery
3. Low sensor battery
4. Power outage
5. Sensor out of range.
6. Alarm disabled

Alarms

Calibration:

Optional NIST traceable



Characterization:	One - three point calibration table
Data Storage Technique	Battery backed-up non-volatile memory
Non-volatile memory	80000 samples per channel
Power	Via USB cable or screw terminals 5-24vdc
Battery Backup	>40 hrs while in sleep mode. 3 AA batteries.
Output to PC	USB cable
Indicators	LCD & LED
Controls	Easy Touch display response to a finger touch
User Settings	On board password-protected menu
LCD Pixels	488 horizontal x 270 vertical
LCD Temperatures	Operating 0°C to 50°C, storage -20°C to 68°C
LCD size	2.5" x 4.5"
LED	Green indicates AC power present
Relay	Dry N/O with 2 terminal clamp<30v fused for .5 amp
Mounting	Wall mount - Velcro.
Display weight	1 lb