Operation Manual

For model CM705E

The CM705E is an environmental monitor with built in Ethernet and Cellular alarming and reporting capabilities. This unit can monitor up to eight temperature sensors, power, and four dry contact inputs as well in addition to its built in temperature and humidity sensor. Alarms are sent via the cellular modem as text messages. Our Data Capture Software running on a PC can also send text messages as well as email alerts. Data Capture also collects data and stores it on the computer. The unit also stores up to 6 months' worth of data in its internal memory, which can be retrieved using IE or Firefox or Data Capture.

Programming the CM705E is accomplished via Data Capture 2016 or later software.
http://www.temperatureguard.com/datacapture2016
Once the unit has been wired to all appropriate sensors, connected to the Ethernet network, and is registered on the cellular network, programming should be completed.

Testing the programmed numbers

Once the unit is programmed, the **TESTCELL** command will test all the programmed numbers. Simply send the word **TESTCELL** (one word, in capital letters) to the cell number of the unit. The CM705E will send a sms message to all programmed numbers. The phone sending TESTCELL will receive the message *"Please verify that a Status text msg is received at all programmed phone numbers."*

Sensors

At boot up, the unit will look for attached sensors. The unit will never alarm on a sensor it does not detect at boot up. If you need to add a sensor, turn off the CM705E, wire in the sensor, then turn the unit back on. If you need to remove a sensor, remove the wires from the unit, and reboot the unit. If you do not, the CM705E will alarm on the open sensor. It will also alarm if it detects a wiring short.

Checking Status

You can send a text message to the phone number of the CM705E to get the current status of all inputs. Send **Status?** to the unit's phone number.

Daily Status

The CM705E can be programmed to send a daily status text message. If all sensors are within limits, the daily stats will say all sensors are within limits. If one or more sensors are out of limits, it will report the out of limits sensors and the condition (temperature, humidity, open, closed, etc.).

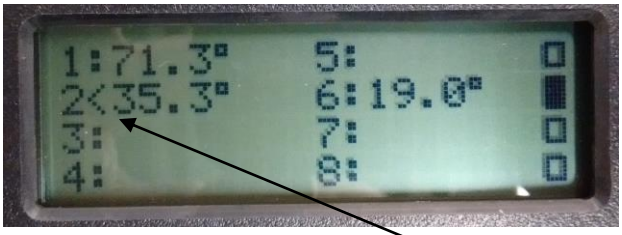
What is an alarm condition?

An alarm condition is anytime a sensor exceeds the upper or lower limit for longer than the programmed time delay. Once an alarm occurs, the buzzer will start beeping (three loud beeps every 30 seconds); alarm text messages will be sent from the CM705E immediately. Data Capture software will also send text and emails.

When the sensor is back in limits for 5 minutes, the CM705E will also send a “back within limits” text message. (The 5 minutes is not user adjustable)

Power outages alarms are treated in the same manner as temperature sensors. If the power out delay time is set to 10 minutes, the CM705E will send the alarm text after 10 minutes of continuous power loss. When power is restored for 5 minutes, the CM705E will send a “power is back on” text. The “power back on” text time delay is not user adjustable.

** If the unit is in alarm, text messages have been sent, and then the unit goes back in range it must be back in range for five continuous minutes. If it keeps going in and out of range, the buzzer will sound, depending on your “out of limits” time delay.

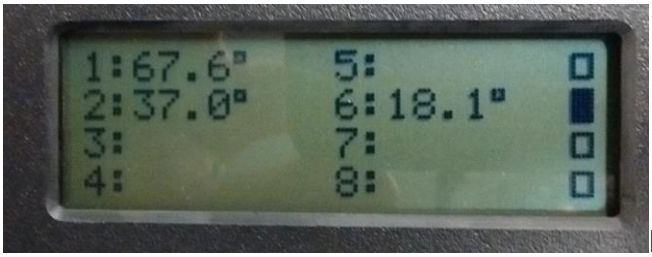


Sensor 2 is below the lower limit.

LCD Screen and Cancel Alarm Pushbutton

The Cancel Alarm pushbutton, located on the top of the unit, is used to silence the buzzer during alarms and scroll through inputs for information.
If one or more sensors are in alarm, the **in alarm** sensors will be shown after the second screen, then all others not in alarm in numerical order.

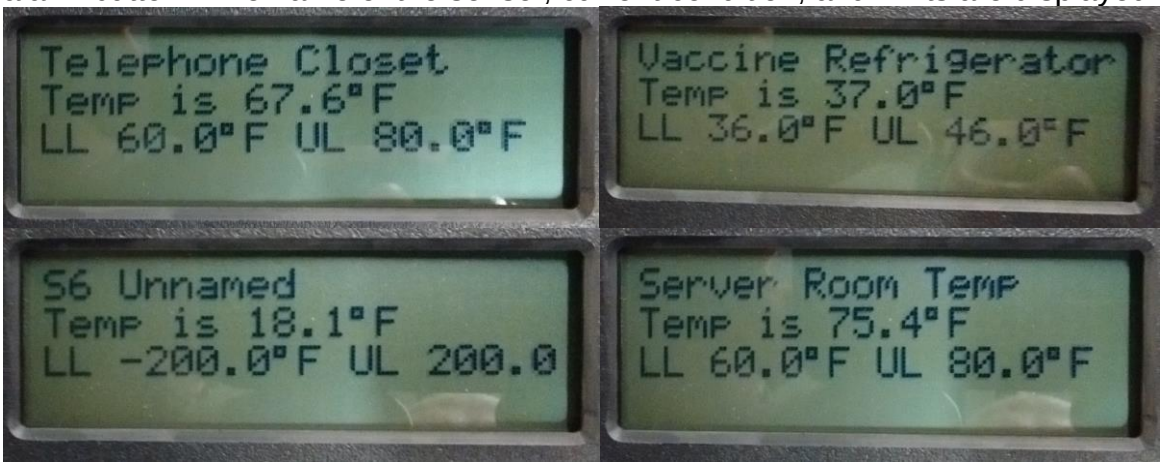
Under normal operation, the main LCD screen will be shown.



Main Screen

Second Screen
This screen displays the internal sensor current temperature and humidity, GSM module status, signal strength, and battery voltage after pressing the cancel alarm button once.

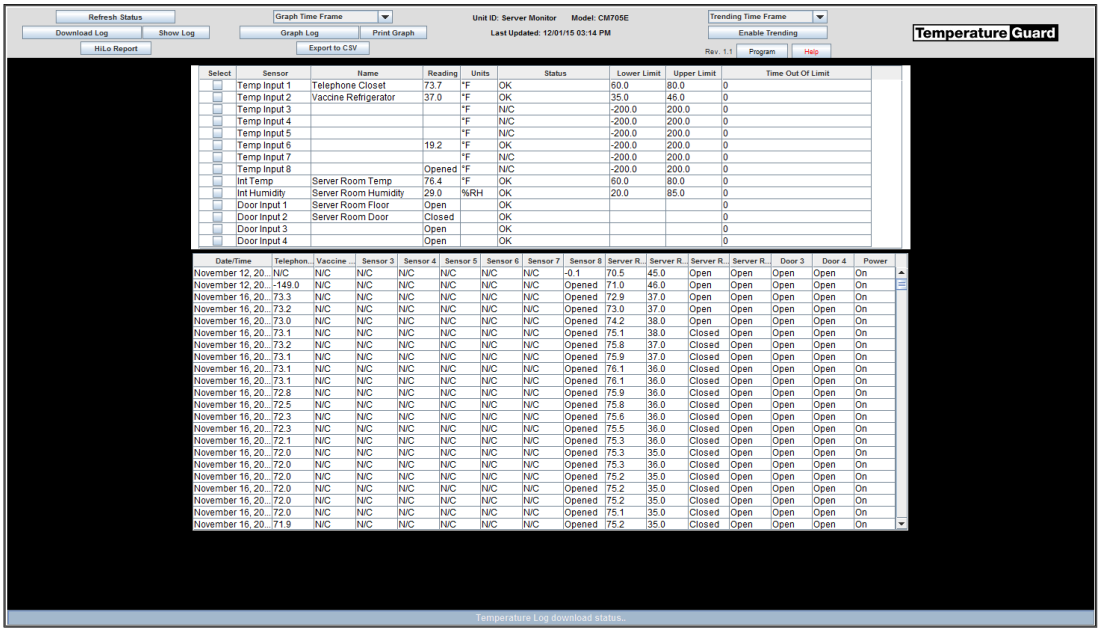
You can also scroll through all the temperature and humidity inputs using the cancel alarm button. The name of the sensor, current condition, and limits are displayed.

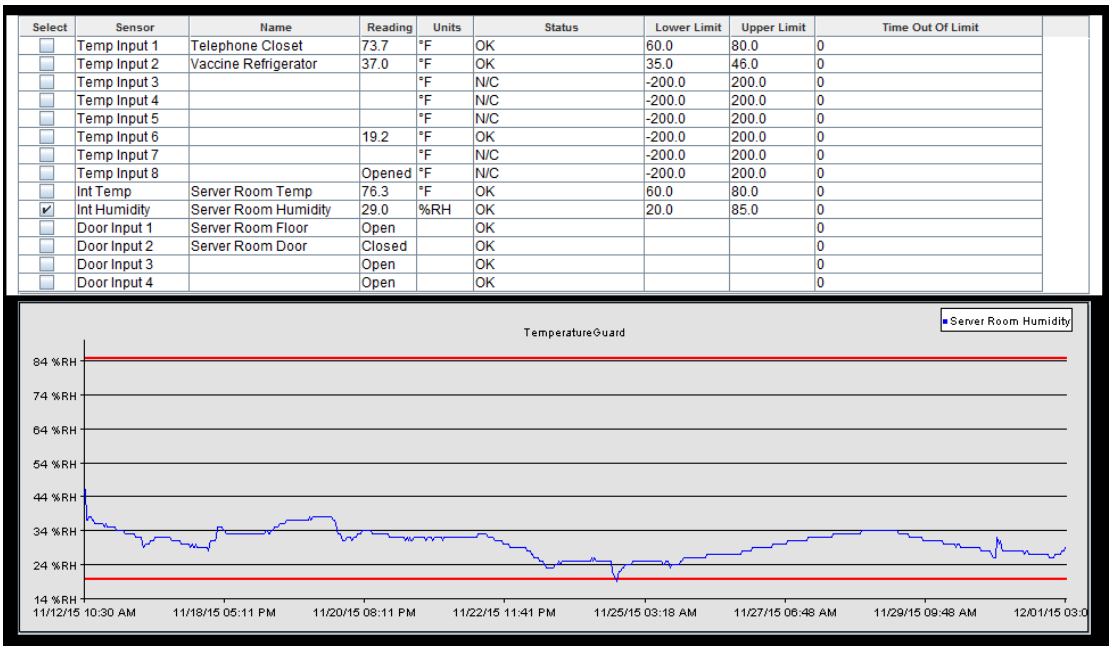


The dry contact inputs are on the right side of the display of the main screen. The open square means the input is **open**, a **closed** square is a closed input. Top square is Input #1, second is Input #2 etc. If the input is set to water sensor, the open square is no water detected, the closed square is a wet condition. The inputs are not displayed in the scroll through menu unless they are in alarm.

Java

The CM705E has a built in Java applet that allows the user to view the current status of all sensors and download the on-board log file. Once the log file is downloaded, the logs can be graphed or exported to a .csv file. The Program button currently is not operational, but will be added in the future. There will be no need to send the unit back to upgrade it.
The Java applet is only compatible with Internet Explorer or Firefox.





Select	Sensor	Name	Reading	Units	Status	Lower Limit	Upper Limit	Time Out Of Limit
☐	Temp Input 1	Telephone Closet	73.7	°F	OK	60.0	80.0	0
☐	Temp Input 2	Vaccine Refrigerator	37.0	°F	OK	35.0	46.0	0
☐	Temp Input 3			°F	N/C	-200.0	200.0	0
☐	Temp Input 4			°F	N/C	-200.0	200.0	0
☐	Temp Input 5			°F	N/C	-200.0	200.0	0
☐	Temp Input 6		19.2	°F	OK	-200.0	200.0	0
☐	Temp Input 7			°F	N/C	-200.0	200.0	0
☐	Temp Input 8		Opened	°F	N/C	-200.0	200.0	0
☐	Int Temp	Server Room Temp	76.3	°F	OK	60.0	80.0	0
☑	Int Humidity	Server Room Humidity	29.0	%RH	OK	20.0	85.0	0
☐	Door Input 1	Server Room Floor	Open		OK			0
☐	Door Input 2	Server Room Door	Closed		OK			0
☐	Door Input 3		Open		OK			0
☐	Door Input 4		Open		OK			0

Helpful hints

Since the alarms are text messages and not phone calls, you may want to adjust your cell phone sms tones to be louder and more aggressive if you have critical monitoring needs. Free apps like **Ringo Lite®** and **Ringdroid®** can be very useful in setting up specific contacts for the sms tones and playing various sounds, even recordings.