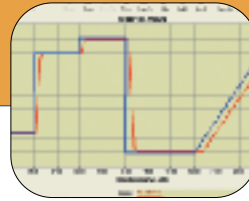




Channel	Value	Unit	Setpoint	Unit
1001	24.0	°C	24.0	°C
1002	32.7	°C	32.7	°C
1003	1.5	°C	1.5	°C
1004	1.5	°C	1.5	°C
1005	1.5	°C	1.5	°C
1006	1.5	°C	1.5	°C
1007	1.5	°C	1.5	°C
1008	1.5	°C	1.5	°C
1009	1.5	°C	1.5	°C
1010	1.5	°C	1.5	°C



**THERMOTRON®**

**8800 PROGRAMMER CONTROLLER**

Intuitive Touch Screen Technology



**8800 Programmer Controller is built by the world's leader in automated control for environmental testing and simulation equipment — it's steps ahead.**



**The Leader in Quality and Reliability.**

Thermotron pioneered the design and development of application-specific instrumentation for environmental test solutions. From the industry's first microprocessor-based control system to the powerful 8800, Thermotron continues to lead the field in quality and reliability. Advanced digital control of critical input and output functions vital to environmental test chamber performance is the hallmark of Thermotron's instrumentation.



# 8800 Programmer Controller

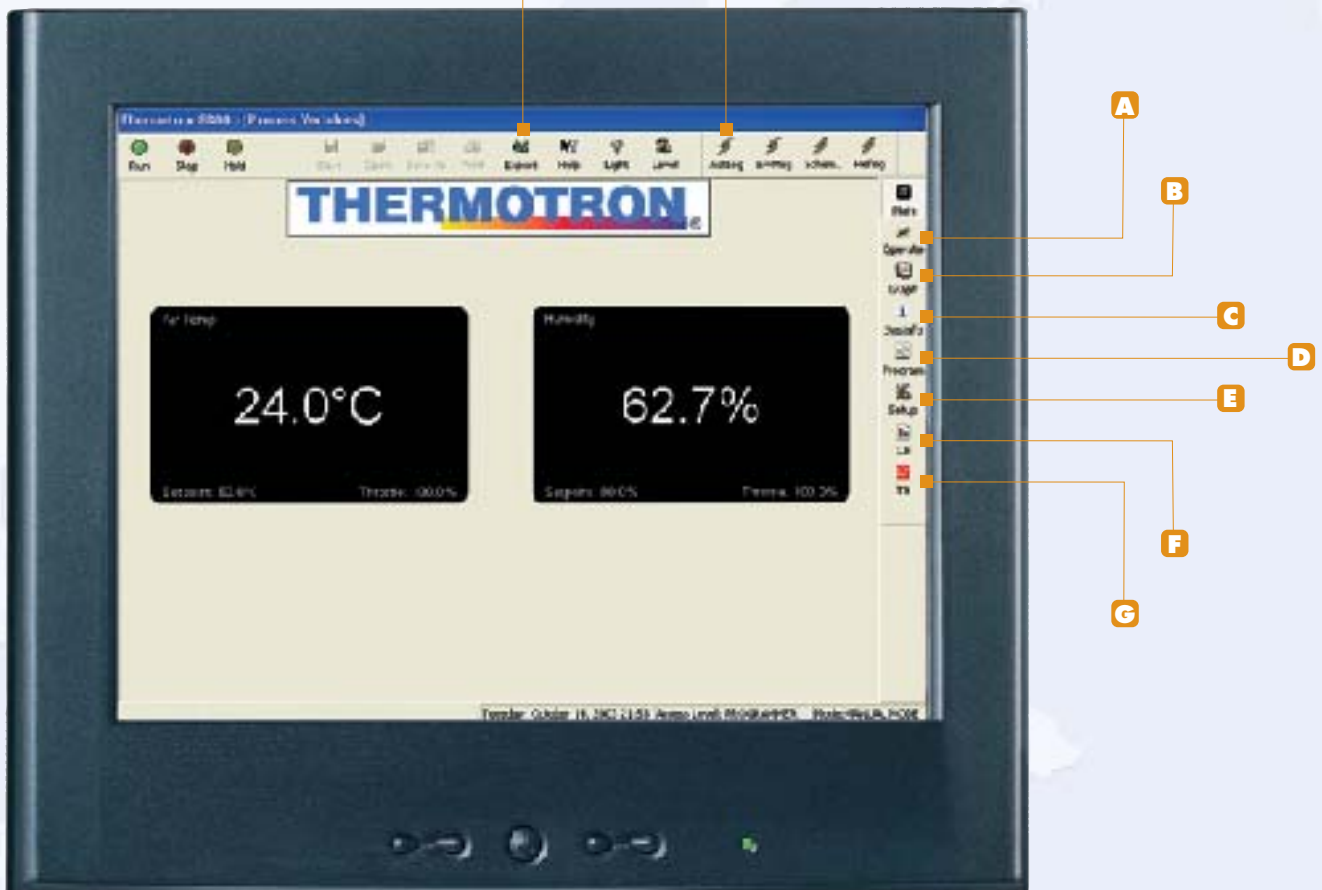
## Touch Screen Function Diagram

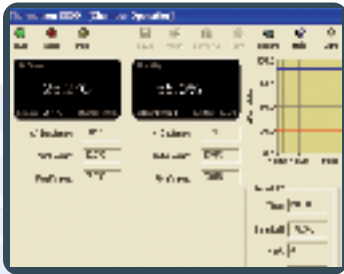
With a brilliant 12" color touch screen display, the 8800 Programmer Controller makes operation and data collection easier and more reliable than ever before. It has a Windows look and feel to support familiar and robust operations. The 8800 is ethernet-compatible and web-enabled with an internet-ready front end for virtual anytime/anywhere access. To increase laboratory efficiency and keep older equipment up to date, the 8800 Programmer Controller can be retrofitted to existing environmental chambers.

With more features than any other controller, user-friendly interface, unparalleled performance and support, the 8800 is the industry's best value.

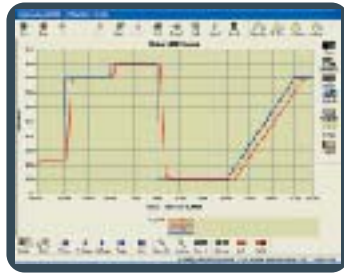
■ Rapid Export button conveniently transfers data to common spreadsheet or database programs.

■ Main Screen Quick Nav buttons provide time-saving shortcuts to user-defined access screens.





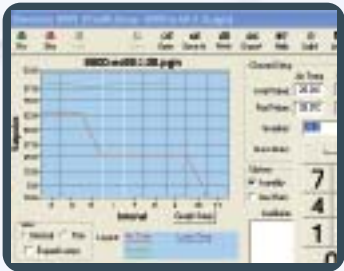
**A** Chamber Operation clearly displays helpful run-time information.



**B** Graphing Screen offers expanded capabilities, enhanced programming and reporting.



**C** System Status displays crucial refrigeration system parameters.



**D** Program Entry makes it easy to load, view and edit profiles.



**E** Set Up quick-step wizards make profile entry easy.



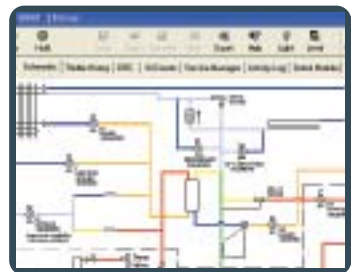
**F** Pop-Up Refrigeration Charts for handy reference.



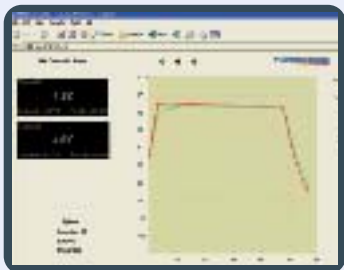
**G** Therm-Alarm™ provides over & under temperature alarm and protection.

Log	Type	Location
6/1/2003	3:40	Control Panel Faulty
6/1/2003	3:40	MultiChannel ModChannel 2 InPort 00 00
6/1/2003	3:40	MultiChannel ModChannel 1 InPort 00 00
6/1/2003	3:40	Chamber Temperature Manual Reset Mode
6/1/2003	3:40	Chamber 2 InPort 00 00
6/1/2003	3:40	Chamber 1 InPort 00 00
6/1/2003	3:40	Chamber Temperature Manual Reset Mode
6/1/2003	3:40	Chamber Temperature Manual Reset Mode
6/1/2003	3:40	Chamber Temperature Manual Reset Mode
6/1/2003	3:40	Chamber Temperature Manual Reset Mode

■ Activity Log Screen provides comprehensive equipment history.



■ Schematic Screen displays actual system temperature and pressure, simplifying trouble shooting and maintenance.



■ Web Server allows internet access to equipment via ethernet.



■ User-Friendly Pop Up Key Pad makes data entry quick and easy.

# 8800 Programmer Controller

## Features and Benefits

### Simple to Operate

The 8800's brilliant 12" color touch screen display captures more data on one screen than any other controller and is *ThermoTrak II™* and *Direct Link* ready. Quik Nav buttons provide time-saving shortcuts. Quick-step wizards make profile generation a breeze. Online help screens are standard for novice-mode operation. Edit-on-the-fly allows the user to select any interval, quickly and easily, to make modifications.

### Easy Access and Interface

Ethernet compatibility provides network-wide accessibility. Computer interface and USB connectors are conveniently located on the front of the chamber for easy access. USB memory devices support fast and convenient data storage and transfer. The resident hard drive provides plenty of additional program and data storage.

### Increased Productivity

*ThermoTrak II™* software simplifies lab management and increases productivity by allowing multiple chambers to be linked to a central computer, making it possible to run several tests simultaneously. Our unique product temperature control software optimizes chamber performance based upon the actual conditions the product is experiencing.

### Security

Thermotron's extensive multi-level, password-based security system protects sensitive data. A true paperless recorder, the 8800 generates tamper-proof data print outs.

### Peace of Mind

*Direct Link*, a remote system-monitoring package, reduces downtime and maximizes utilization. When coupled via the internet to factory-direct remote monitoring, it maximizes equipment utilization.

### Accurate

Digital Refrigeration Control provides consistently repeatable test results. Improved gradient control for tighter uniformity means greater accuracy.

### Easy to Maintain

Streamline troubleshooting with Thermotron's System Monitor. Solenoid pulse counts provide predictive maintenance information to optimize equipment up-time. Real time system schematic displays actual refrigeration temperatures and pressures. The 8800's complete data retention and activity log provide a comprehensive equipment history.

### On-Time Service and Support

Our worldwide service centers and technical support staff provide on-time delivery and responsive service after the sale throughout the life of your equipment.

Factory-trained field engineers, preventive maintenance programs, instrument retrofits and a complete inventory of standard parts and components are all designed to keep your equipment running. We can also provide overnight delivery on emergency parts orders if needed.



# 8800 Programmer Controller

## Technical Specifications

### General

- **Channels**  
One to four independently programmable channels.
- **Temperature Range**  
-200°C to +400°C (-328°F to +752°F).
- **Measuring Accuracy**  
0.25% of span typical.
- **Temperature Scale**  
Celsius or Fahrenheit (user selectable).
- **Color Display**  
12" flat-panel display with touch screen interface (800 x 600 resolution).
- **Resolution**  
0.1°C or °F, 0.1% RH, or 0.01 for other linear applications.
- **Sample Rate**  
Process variable sampled every 0.1 seconds.
- **Real Time Clock**  
Internal real time clock provides time of day and delayed start capability.

### Programming

- **Control Method**  
Digital. One of four independent parameter groups (i.e. proportion band, integral time) can be selected for each interval.
- **Proportional Band**  
Programmable 1.0° to 300°.
- **Integral Time**  
Programmable 0 to 1,000 seconds.
- **Machinery Cycle Time**  
Software controlled.
- **Intervals**  
Limited only by hard drive space.
- **Interval Length**  
1 second to 99 hours and 59 minutes, with 1 second resolution.
- **Operation**  
Automatic or manual mode.
- **Program Storage**  
Limited only by hard drive space.
- **Looping**  
Up to 64 loops can be used per program; loops can be repeated up to 9,999 times; up to 64 nested loops are allowed per program.

### Outputs

- **Process Output**  
Proportional-control outputs, 1 to 100 second duty cycle; 0 to 5 VDC/0 to 20 mA, staged heating and cooling, bypass, MTO and system enable; TTL high/low.
- **Analog Outputs**  
Optional analog outputs to send throttles, setpoints, or process variables; 2 standard, 8 total.
- **Alarm Outputs**  
Deviation alarm output, TTL high (active); programmable per interval for each channel; each channel has configurable "Program Value Limits" for over/under programming protection; if the process exceeds the program limits, the unit enters a stop condition.
- **Event Outputs**  
These outputs can be programmed independently or controlled manually; 2 standard, up to 16 event outputs available.

### Inputs

- **Inputs 1 and 2**  
Thermocouple (type "T", "KE" or "J") or RTD.
- **Inputs 3 through 8**  
Thermocouple (type "T", "KE" or "J").
- **Analog Inputs**  
4 analog inputs available. 0 to 20m AMP or 0 to 10v DC.

### Physical Characteristics

- **Operating Temperature**  
Display: 0°C to 40°C (32°F to 104°F).  
Control Module: 5°C to 50°C (41°F to 122°F).
- **Power Requirements**  
95 to 135 VAC, 50/60 Hertz, 80 volt-amperes typical, 100 volt-amperes maximum.

**THERMOTRON®**

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