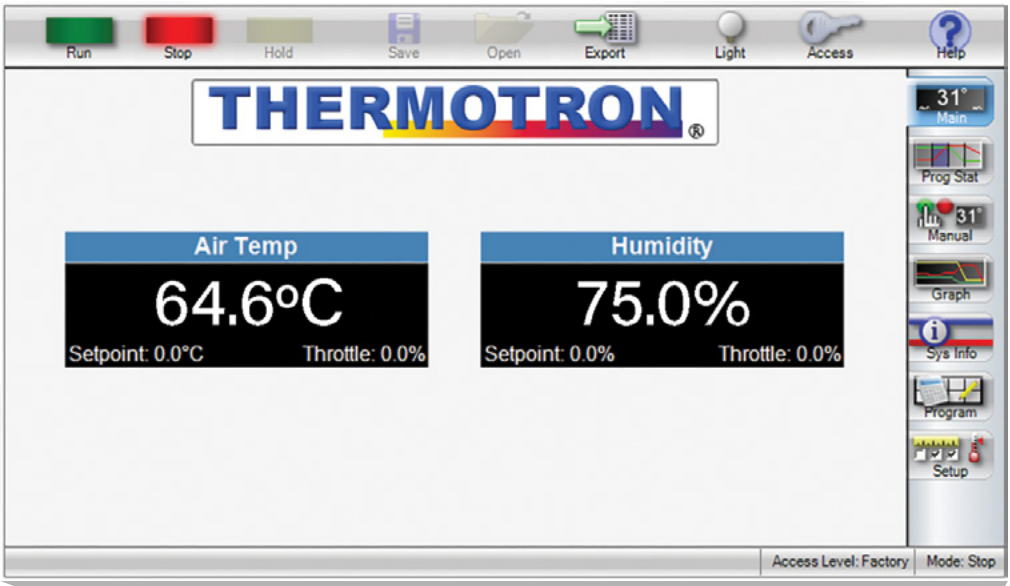
8200+ PROGRAMMER CONTROLLER



Pinpoint Accuracy with Touchscreen Simplicity

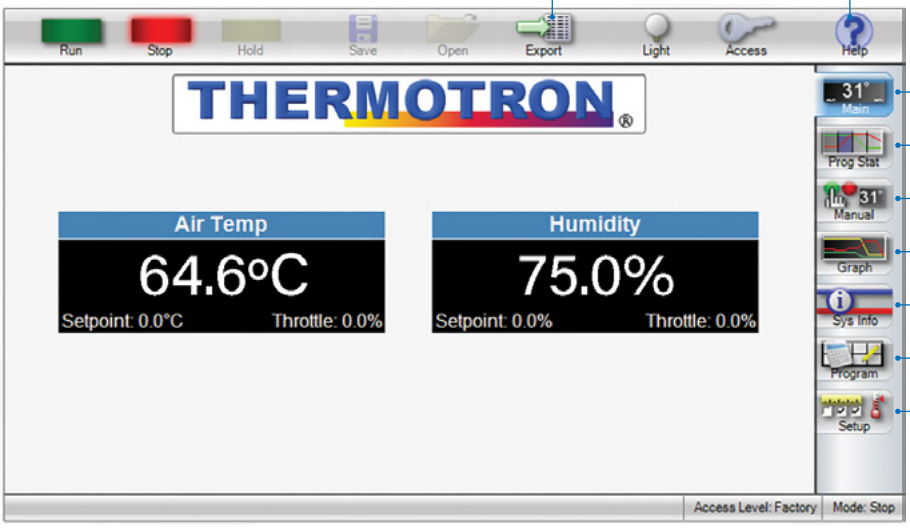
Thermotron has a rich tradition in designing and building application-specific instrumentation solutions. For more than 45 years we have been developing instrumentation and software that optimize the functionality and performance of environmental testing equipment. Our 8200+ Programmer Controller continues this tradition.

SM-8

FEATURES

Help Button
Provides tips and information regarding the relevant screen.

Export Button
Conveniently transfers data to a common spreadsheet or database.



Thermotron's 8200+ Controller uses a high resolution, widescreen, color touchscreen display for easy operation and data collection. The Windows® look and interface gives the 8200+ a familiar feel while still supporting robust operations. Built-in Ethernet capabilities give it network-wide accessibility, while Thermotron's extensive multi-level, password-based security system protects sensitive data and provides peace of mind.

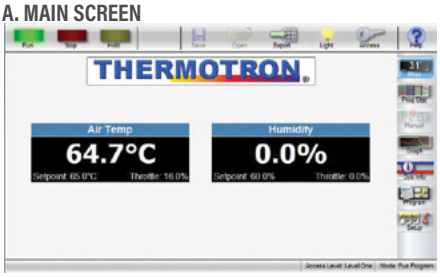
A logical user interface on the 8200+ makes it easy to operate. The main screen eliminates confusing navigation, allowing the most important information to be contained on a single monitor. Programming wizards add to the ease of operation, providing step-by-step instructions on program entry. A specialized graphing screen uses a tap-and-drag zoom box feature, allowing you to hone in on a specific area of a graph.

The built-in USB port allows programs to be interchanged between instruments quickly and easily, as well as allowing for the export and transfer of test data with a USB flash drive. Designed and refined specifically for environmental test chamber applications, the 8200+ can be retrofitted to existing environmental chambers. Incorporating new instrumentation keeps older equipment up-to-date, allowing you to take advantage of newly developed benefits and efficiencies.

SM-1.0-8200

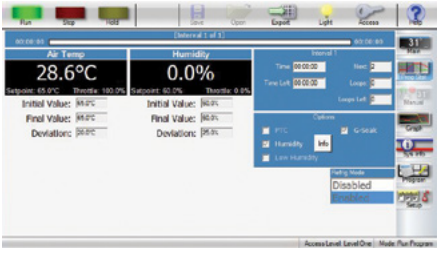
SCREEN SAMPLES*

A. MAIN SCREEN



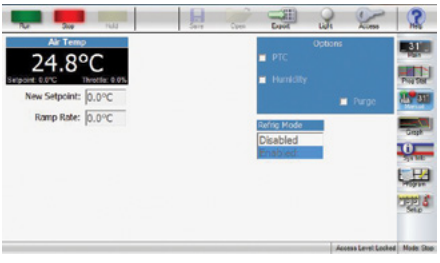
The main point of navigation. The unique and uncluttered design allows temperature, humidity, setpoint and throttle information for each channel to be displayed clearly.

B. PROGRAM STATUS



Clearly displays helpful run time information on a program in progress, such as initial and final air temperature, along with humidity values, run time clocks, and loops.

C. MANUAL MODE

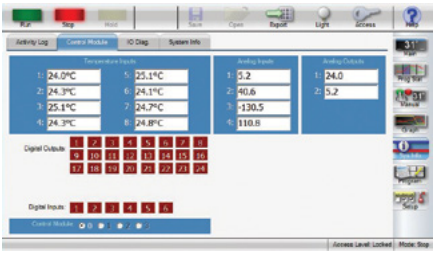


Makes it easy to tap and change temperature and humidity settings for customized test profiles. Also activate your Product Temperature Control Modes or Auxiliary Relays from this screen.

D. GRAPHING

Offers expanded graphing capabilities, enhanced programming, and reporting. A touch-and-drag zoom feature allows the user to hone on on a specific area of graph data.

E. SYSTEM INFORMATION

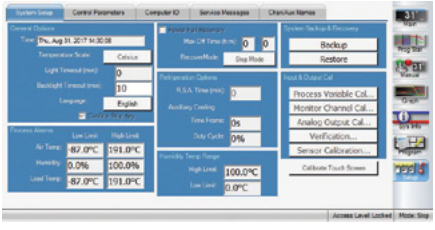


Uses several tabbed folders to provide access to 8200+ controller information. From software version and chamber configuration to the Activity Log, this screen displays critical system parameters.

F. PROGRAM CREATION

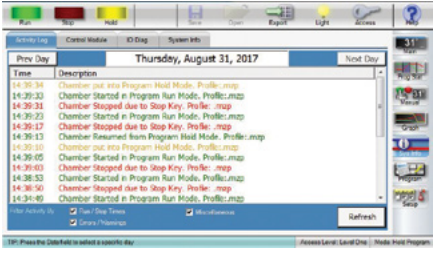
Allows the user to build a test profile, interval by interval. Utilizes step-by-step programming wizards to eliminate confusion and make profile set-up easy.

G. SET UP



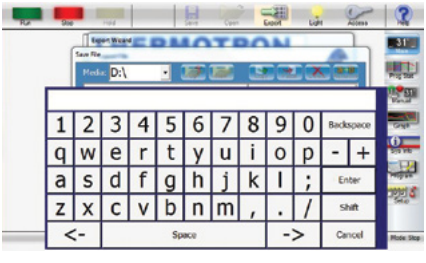
Serves as a gateway for configuring the chamber's systems and information. This screen allows the user to enable alarms, calibrate inputs/ outputs, configure service messages and channel names, along with other tasks.

ACTIVITY LOG



Provides a comprehensive operational & equipment history.

POP-UP KEYBOARD



User-friendly keyboard makes data entry quick and easy.

**Images may not reflect chamber specifications. Please contact Thermotron to find out actual chamber capabilities.*

SPECIFICATIONS

General

Channels
One to four independently programmable channels

Temperature Range
-200°C to +400°C (-328°F to +725°F)

Measuring Accuracy
0.25% of span typical

Temperature Scale
Celsius or Fahrenheit (user selectable)

Color Display
5" (12.7 cm) or 7" (17.8 cm) widescreen, color LCD with touch screen interface (800x480 resolution)

Resolution
0.1°C or °F, 0.1% RH, or 0.01 for other linear applications

Sample Rate
Process variable sampled every 0.5 seconds

Real-Time Clock
Internal real time clock providing time of day and delayed start capabilities

Programming

Control Method
Proportional/Integral (PI). One of four independent parameter groups (i.e proportion band, integral time) can be selected for each interval

Proportional Band
Programmable 1.0 to 9999

Integral Time
Programmable 0 to 1,000 seconds

Machinery Cycle Time
Software controlled

Intervals
300 per program

Operation
Automatic or manual mode

Program Storage
Limited only by internal storage space

Looping
Up to 300 loops can be used per program; loops can be repeated up to 9,999 times

Outputs

Control Outputs
Proportional-control outputs, 1- to 15-second duty cycle; staged heating and cooling, bypass, MTO and system enable; TTL high/low or SSR/ Up to 32 TTL, 64 SSR - time proportioned/ on/off

Analog Outputs
Optional analog outputs to send throttles, setpoints, or process variables; 2 standard, up to 8 current (0 to 20 mA) or voltage (0 to 10v DC)

Alarm Outputs
Process variable, deviation, refrigeration trip

Auxiliary Outputs
Up to 16

System Event Outputs
These outputs can be programmed independently or controlled manually; 2 standard, up to 14 event outputs available

Inputs

Control Channels
Up to 8 (4 programmable, 4 single setpoint); Thermocouple, RTD, Voltage, and Current

Digital Inputs
Up to 24 TTL

Analog Inputs
Up to 16 available. 0 to 20mA or 0 to 10v DC

Thermocouple Inputs
Thermocouple (type "T", "K", "E" or "J") or RTD

Monitoring Channels
Up to 16 Thermocouple, RTD, Voltage, Current. 0 to 20mA or 0 to 10v DC

Physical Characteristics

Operation Temperature
Display: 0°C to 50°C (32°F to 122°F)
Control Module: 0°C to 50°C (32°F to 122°F)

Graphing Mode

6 Adjustable Display Intervals

Auto-scale Y-axis Function

Movable Cursor
With Automatic Data Point Identification

Tap-and-Drag Zoom Feature
Hone in on a specific area of a graph

"Go To" Function
For historical data fact navigation

Data Log Mode

Default
All data logged every 6 seconds for up to 5 years

Export Data Wizard

Back-up and Restore Wizard

Options

ThermAlarm®
Once incorporated into your chamber, this independent device, which prevents temperature from exceeding user-defined limits, will be accessed by the 8200+ Controller

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