

International Temperature Control, Inc.

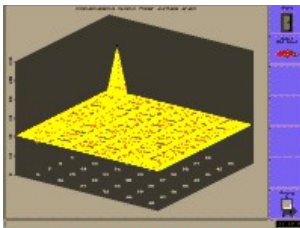
VISIONS 3000 Controller - Software



Introduction

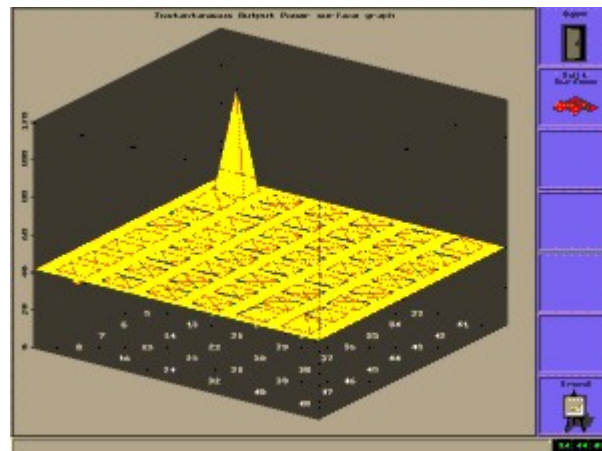
The software within the VISIONS 3000 range of hot runner temperature controllers has been designed to be intuitive to use to provide easy access to the wide range of advanced and informative features available as standard within the controller. These include:

- Surface Graphs
- Toolguard™
- Trend Graphs
- Tool Diagnosis
- Tool Sets
- Boost
- Standby
- Selectable Viewing Modes
- Soft Start



Surface Graphs

The latest release of the VISIONS 3000 software includes the ability to display information obtained from the tool as a three dimensional surface graph. With selectable averaging time, the ability to view measured values, output power or output percentage and editable zone grid, the Surface Graph feature allows the operator to examine the performance and determine any cooling issues in a quicker and simpler manner than trend graphs or tabular data ever can.

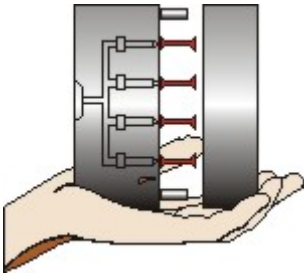


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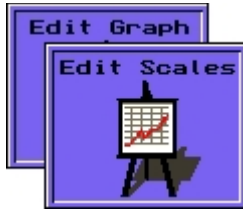
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Toolguard™



Exclusive to ITC and the VISIONS 3000 system is the Toolguard™ element, which is a suite of hardware and software features that monitor the performance and operation of the mold tool and automatically puts the system into standby when it detects that the water cooling system of the mold tool has failed or the mold tool has stopped cycling. This prevents excessive heat build up in the tool, which can degrade the material or even damage the hot runner system.



Trend Graphs

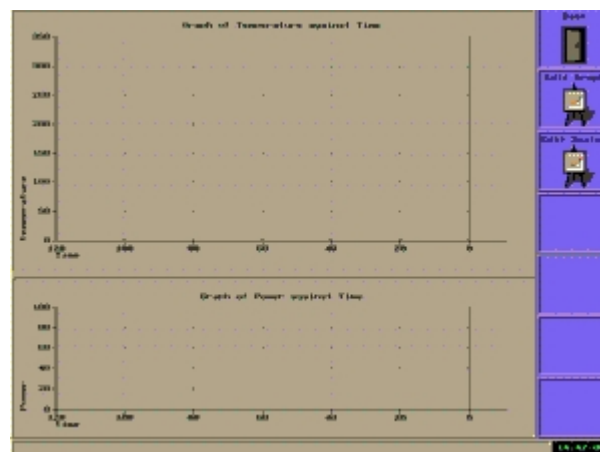
The Graph mode within the VISIONS 3000 allows the operator to display the historical trend of the measured value and output power for up to 8 selected zones at a time.

The Trend Graph screen shows both a trend graph of the measured values for each selected zone and a trend graph of the output power for each selected zone.

Alternatively, the average cavity value, average manifold value or total zone average value can be displayed in place of zone data.

With the EDIT SCALES function, the vertical and horizontal scales of the measured value and power graphs can be altered to provide more detailed analysis of the displayed data.

The VISIONS 3000 stores the measured value and output power data for all the zones in the system for a period of three hours. This enables the operator to freely switch between zones on the graph without losing data.



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Tool Diagnosis

Run from the STOP mode screen, the Tool Diagnose function performs a full test of the connected mold tool to determine: open circuit thermocouples, reversed thermocouples, swapped thermocouples and heater failures.

With a serial printer connected, the results of the tool diagnosis can be printed out for quality tracking purposes.



Tool Sets / Database

Within the VISIONS 3000 it is possible to store over 100 Tool Sets, or Recipes, in the database, each with a unique 8 character name.

These can be readily retrieved using Hotkeys from the STOP menu or from within the Setup dialogue boxes.



Boost

The Boost function operates on the cavity zones to temporarily increase the temperature by a defined amount. This increase in temperature makes the material flow better and is useful in production startup.



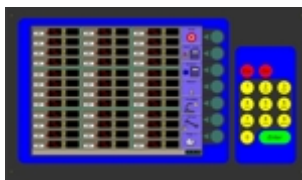
Standby

Operated by a RUN menu hotkey, the Standby mode reduces the set-points on all the active zones to a predefined level. This enables the operator to reduce the temperature of the mold tool during stoppages in production, without letting the tool get cold.

The Standby function substantially reduces the time taken to return the mold tool to production temperature after a production stoppage.

NEW This feature can also be activated by a remote signal, typically from the injection molding machine, such that any stoppage in molding on the press will automatically place the VISIONS 3000 into Standby.

Viewing Modes



The VISIONS 3000 offers three viewing modes to enable the operator to determine the level of detail that he wishes to see. Trading zone density against zone information, the three levels (Mode 0, 1 & 2) are readily accessible from the Setup dialogue boxes.

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Mode 0

Mode 0, the default mode, shows two columns of 12 zones in systems up to 24 zones, when it automatically switches to three columns of 12 zones for systems from 25 to 36 zones.

For systems over 36 zones, a page Hotkey allows the operator to step quickly between the various pages of zone data.

In mode 0, the setpoint, measured value and output power are displayed. For systems with the Current Sense Module fitted, the display of load resistance, load power and load wattage is also available.



Mode 1

Mode 1, is a high density mode, showing the same information as Mode 0, but in smaller fonts to save space. This enables Mode 1 to show two columns of up to 42 zones each.

For systems over 84 zones, a page Hotkey allows the operator to quickly step between the various pages of zone data.



Mode 2

Mode 2, is a low density mode. The number of zones on display in a single screen is reduced to 3 columns of 6 zones, a total of 18 per page.

For systems over 18 zones, a page Hotkey allows the operator to quickly step between the various pages of zone data.

In mode 2, in addition to the information presented in the other two modes, graphs show the trend over the past 20 minutes of the measured value and output power in two auto-scaling trend graphs that also show the average measured value and output power for the system.



Soft Start

Activated from the STOP mode screen, the Soft Start function ramps the output power in steps (1% for cavities, 4% for manifolds), to slowly introduce power into the mold tool.

This process prevents thermal shock on the hot runner system, potentially preventing the unseating of the hot runner bushings due to uneven thermal expansion. The slow introduction of power also prevents over temperature in all the heaters within the mold.

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