Q-STAR TITAN

Hot Runner Temperature Control System

The Q-Star Titan, utilizing ADAPTIVE PINPOINT CONTROL TECHNOLOGY ALGORITHMS, delivers the ultimate in temperature control capabilities. Available from 12 to 240 zones, modular 15 amp controller cards make servicing easy and reduces downtime significantly. The intuitive 10.1" high resolution LCD touchscreen interface is simple to navigate and advanced users can take advantage of its extended options. The Q-Star Titan features Uniform Temperature Rise, T/C Slaving, and Hot-Swappable Control Cards.

Single Zone Integrity

System downtime is a major concern for users. Due to this, the Q-STAR TITAN has individual zone cards that are completely modular. This allows for instant replacement of the cards in the event of a failure.

Individual control cards are independent of the interface system. If failure of the interface occurs, the system will continue to run uninterrupted providing MAIN POWER is not turned off.

Control Algorithm

The Q-STAR TITAN PINPOINT CONTROL TECHNOLOGY uses an advanced form of adaptive fuzzy logic with PID algorithm, allowing the Q-Star to control virtually any type and size of heater within +/- 0.1°F (0.05°C).

Alarms

Each zone has separate parameters allowing the system to react to alarm conditions on an individual basis. All parameters, including alarms, can be set individually or globally. A siren or an opening or closing of a relay is activated for critical alarms. When an error is detected, the color of the interface control is changed, to alert the user for easy identification.

Graphical Features

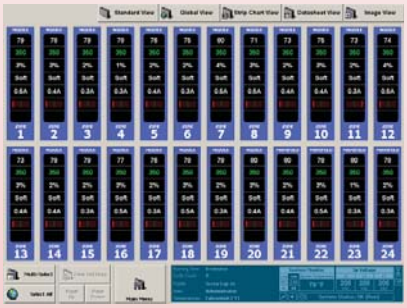
Zones are represented in a variety of formats, including the standard and global graphical view (allowing most moderate zone count systems to display all zones simultaneously), real-time independent zone graphs, a spreadsheet-like data view and a photo view of the mold allowing data to be superimposed. Zones can be given descriptive names to aid in identification. Controls can be selected/manipulated by a simple touch.

Mold Diagnostics

The Q-Star Titan diagnostic and troubleshooting tool offers the ability to check for problems before production is started. When a new mold or a tool change occurs, the diagnostics can assist in detection of miswired power and thermocouples. Early detection of thermocouple problems such as open, reversed, or shorted; problems with power such as open fuses, open or shorted heater/TRIAC; and indication of controller status will reduce downtimes and help prevent damage to tools.

Advanced Data Acquisition

The Q-Star Titan features an intuitive user interface. Based on Windows and MSDE database systems, the Q-Star Titan can store large amounts of data for analysis.



Standard View: Large format for easy reading and information at a glance.

Global View: For medium density tools, global view allows up to 72 zones simultaneously.

Graph View: View real-time graphs for up to 24 zones at a time.

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User Interface:

- Intuitive Interface with Control Panel Design
    - Global/Group/Multi and Individual Selection of Zones
    - 2D/3D Graphing
- SPC Data Logging
- Reporting Utilities and Printing
- Unlimited Storage of Mold Profiling
- User Level Security
- Document and Picture Viewer

Intelligent Design:

- Intelligent Diagnostics Mode
- Algorithmic Compensation for Any Heater Type
- Power Output Control
    - Phase Angle
    - ON/OFF (BURST)
    - Phase Control (Half and Full Cycle)

Operating Modes:

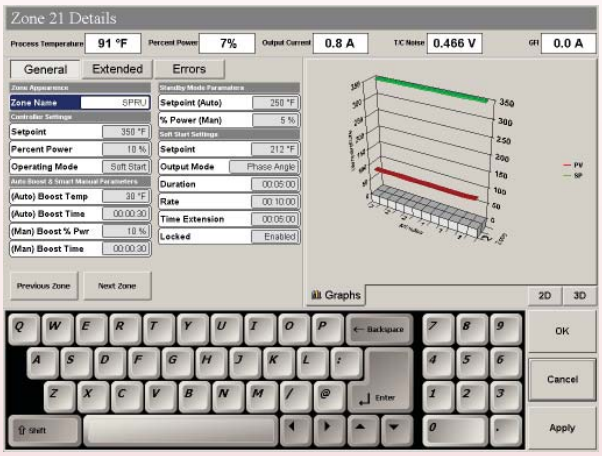
- Soft-Start
- Auto and Manual
- Standby
- Boost

Constant Monitoring:

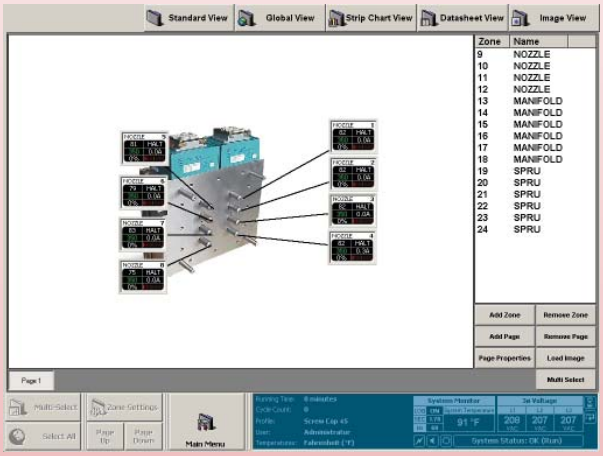
- Frequency Detection
- AC Input Voltage Display
- Current Monitoring
- Thermocouple Noise Monitoring

Fault Detection Alarms:

- Reverse Open and Shorted T/C Alarms
- Open and Shorted Heater/TRIAC Alarms
- Open Fuse (AC Input and TRIAC Output) Detection
- Over and Under Temperature



Zone Details: Advanced parameter manipulation for zone controllers.



Interactive Mold Photos: Link interactive overlays to photos for easy identification.

Protection Features:

- Over Current Protection
- High Voltage T/C Circuit Protection
- Fused AC Inputs
- Fused TRIAC Output
- Shutdown Mold Machine on Critical Failure Via Relay

Performance

Control Accuracy:	±0.1°F (±0.05°C)
Process Sampling:	< 3ms
Power Response:	< 100ms

Input Specifications

Thermocouple Type: (Grounded and Ungrounded)	Type J (Standard) Type K (User Selectable)
Protection:	Fused Diode Clamp RC Filter
Operating Range:	0 - 1200°F (0 - 648°C)
CMRR	> 100db

Electrical

Input Voltage:	208-240VAC
Frequency:	47-63Hz (Autodetected)
Module Ratings:	15 Amps/zone 3600 Watts/zone

Physical Dimensions — Width x Depth x Height

12 Zone:	22 1/8” x 12” x 6 3/4”
12 Zone Multiples:	Add 6 1/4” to height