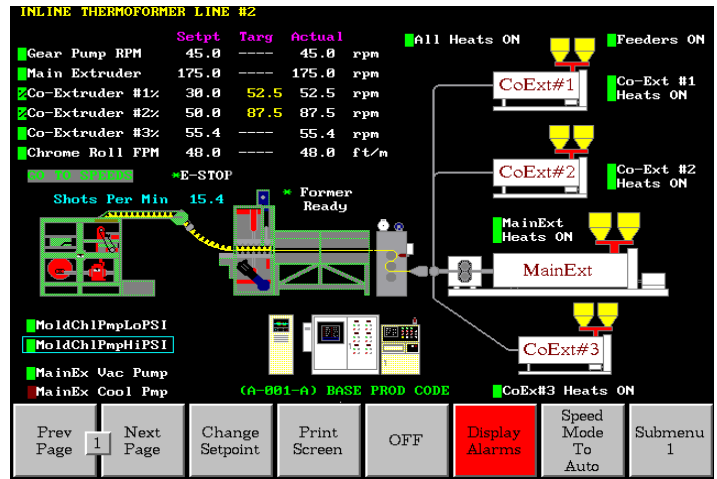




THERMOFORMER CONTROL SOLUTIONS

FACTS, Inc. TTC



The **FACTS TTC** Total Thermoformer Control System is designed specifically for integrated and centralized control of the entire thermoforming process or operation.

The **TTC** can be configured for new thermoforming machinery or to replace and upgrade existing thermoformer control systems. The system is suitable for roll feed or cut sheet thermoforming applications.

The system incorporates a high-resolution color touchscreen for operator command input plus data and graphics display. The **TTC** is operator-configurable, requires no computer skills and comes as a completely configured system for your specific line.

The application of Total Thermoformer Control has resulted in a fast payback as measured by:

- | | |
|------------------------|---------------------|
| Material Savings | Quality Improvement |
| Increased Productivity | Reduced Downtime |
| Reduced Scrap | Labor |

System Highlights

- Operator Ease of Use
 - Menu Driven
 - Interactive Line Graphics
 - Alarm Presentation
- Single Product Code Setup For:
 - All Control Points
 - Multi-loop Control Strategy
- Specialized Displays for:
 - Production
 - Quality Assurance
 - Management
 - Cycle Count
- Control Tuning
- Control Screens
- Custom Displays
- Maintenance
- Engineering
- Multi-Language

Optimized Monitoring and Controls for:

- Temperatures
- Dimensions
- Cycle Time
- Vacuum Level Controls
- Internal Air Support
- Pressures
- Digital Speed Control
- Servo Drive Control
- Plate Drives

Total Thermoformer Control

System Setup & Product Codes

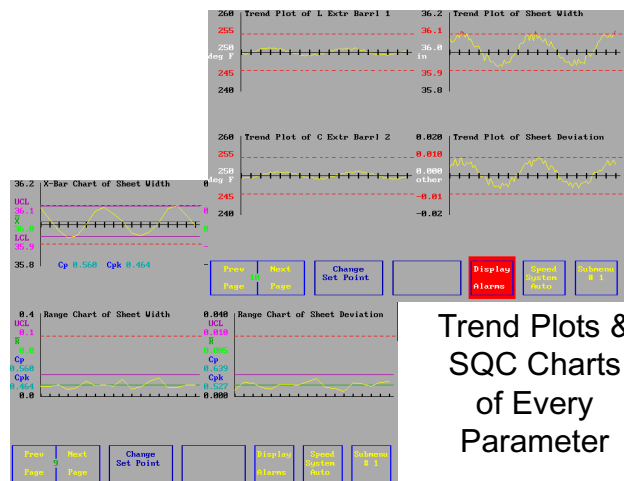
Over 160 Unique Product Codes
Configurable System Design, NO PROGRAMMING REQUIRED
Customized for Each Application, including Graphics
Selectable Security System at All Functional Levels
Real Time Trend Plots of All Process Variables
Real Time SQC Charts

Product & Process Analysis

Process Analysis and Historical Reporting with 3001 NT Host
Including Trend Plots & SQC Charts of every parameter
Alarm & Activity Historical Logs for Data, Operator & Alarms

Support for Upper Level Functions such as:

Job Scheduling, Job Tracking, Production Tracking Reports, Raw Material Usage/Reports, Networking Interface to Customer MRP & MIS Systems



Trend Plots & SQC Charts of Every Parameter

Additional Features

- Real Time Trend Plotting
- Product recipe system
- Security code system
- Cascade/strategy loop control (configurable)
- PID loop control (configurable)
- Numerous **Profile Extrusion Industry Specific** Features
- Master/slave speed control (configurable)
- Cold start protection
- Thread/start-up mode
- Failed/broken thermocouple override
- Alarm/new alarm function
- Math function calculations
- Transaction & Alarm logging (with optional **3001 NT Host**)
- Boolean logic functions for complex process logic operations
- Digital speed control loops for all speed loops

Configuration

- Freestanding NEMA 12 enclosure - environmentally protected
 - Complete power regulation and isolation
 - Internal air temperature control through electronics grade air conditioner
- 32 bit processor in a distributed architecture
- Real Time Executive operating system
- Communications support for
 - Remote control or display stations
 - Local or remote printers
 - Bar Code readers & printers
 - Intelligent peripherals such as scales & digitizing calipers
- 17" sealed high-resolution color touchscreen terminal
 - Menu-driven command input and data display, Real-Time SQC charts & Trend plotting of All inputs

Hardware Specifications

All hardware specifications will be based on each customer's individual needs and application.

FACTS Total Control Solutions mean Total Profit Control.

The *FACTS* Formula
+ Increased Productivity
+ Improved Quality
+ Improved Efficiency
+ Reduced Material Usage
+ Reduced Labor
+ Reduced Scrap

= Increased Profits

Optional Total Information Manager TIM 3001 NT Host System

- Off-line data collection and complete analysis for historical data (i.e. trending, SQC charting, X/Y analysis, etc.)
- Complete hardware and software
- Transaction logging of any or all operator activity such as set-point changes as well as logging of all alarms
- Provides full Job or Work Order system support including job sheet presentation to operator at touchscreen operator interface

FACTS Corporate Profile

FACTS Inc. is the leader in process control technology for the polymer market. In fact, we wrote the book on extrusion control—literally. For the Society of Plastics Engineers, **FACTS** penned the chapter on Extrusion Control in the "Guide on Extrusion Technology & Troubleshooting."

Founded in 1992, **FACTS** offers total extrusion control solutions for plastic and rubber extrusion, thermoforming, calender and mixing lines—from custom-tailored engineering systems to pre-configured control packages. **FACTS** technology can be utilized with new equipment or retrofitted to existing systems, offering precision control or monitoring of all process conditions, including temperature, color, speed, data archiving, alarms and recipe storage. We have extensive experience in plastic films, sheet, profile, vinyl siding, pipe, tubing and medical applications.



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PROCESS CONTROL SYSTEMS

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