

**FACTS, Inc.**

PROCESS CONTROL SYSTEMS

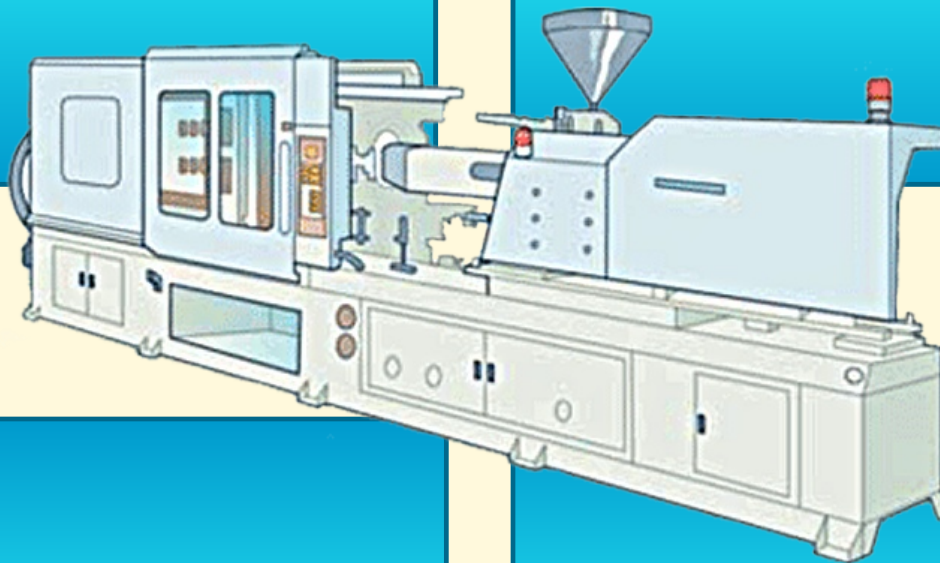
Measure .. Control .. Inform

TOTAL MACHINE CONTROL  
MACO INJECTION MOLDING  
CONTROL SYSTEM UPGRADES

# Replace Your Obsolete Injection Molding Machine Control and Receive

Support When  
You Need It

a Friendly User  
Interface



Reduced Risk of  
Downtime

Spare Parts  
Availability

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## TMC 9000 for Injection

The **FACTS** Total Machine Control, (TMC) family of Injection Molding Control Systems provides complete control of the injection molding process including the recovery, clamp and ejection stages. The TMC family offers integrated control solutions using technology from key suppliers including Barber Colman, B&R Automation and Rockwell Automation.

The TMC 9000 is based on Barber Colman's MACO® Compact technology. The single MACO® Compact rack provides for total machine control including IMPACT II adaptive closed loop injection process control and auto-tuning temperature control. Optional Intellimold™ Closed Loop Control is also available.

## DELIVERABLES

Machine.Logic  
Operator Training  
On-Site Startup  
System Architecture  
Old System Removal  
Drawings  
Recipes  
System Drawings  
Alarms  
Diagnostics  
Installation  
**Service**  
Control Components  
Logic Programming

## Operator Interface

- ▶ 12.1" TFT Display
- ▶ 800 x 600 viewing resolution
- ▶ Touchscreen interface
- ▶ Full Keyboard (Number pad and Machine Function Keys)
- ▶ Ethernet Communications
- ▶ 1G Compact Flash card for data storage
- ▶ Pivot arm attached to stationary platen

## Control System

The TMC 9000 control solution will be configured to support the following:

- ▶ (48) discrete inputs & outputs for machine control
- ▶ (6) analog inputs for clamp, ejector and injection unit position sensing and injection and clamp pressure input
- ▶ (4) analog outputs for injection pressure, injection flow and system pressure control
- ▶ (1) digital input for screw speed
- ▶ (8) zones of closed loop temperature control for barrel, adapter and nozzle heat with J or K type thermocouple inputs
- ▶ Ethernet communications capability for machine diagnostics
- ▶ Expandable as required for specific applications

## Additional Services

- ▶ Linear position sensors
- ▶ Tachometer/encoder feedback for screw RPM
- ▶ Hydraulic valve upgrades
- ▶ Mold heat and hot runner control

