

# Control Modular System

## Benefits

- ■ □ Increased production
- ■ □ Higher efficiency
- □ □ Compliance with environmental regulations
- ■ □ Availability and Reliability
- ■ ■ Life extension

Customer benefits include:

- High efficiency and reliability
- Easy installation in existing control system
- Cost-effective solution
- Small footprint



## What it is

The CMS (Control Modular System) is an embedded control system based on standard GE turbomachinery control algorithms for Mark VI, steam turbine and centrifugal compressor unit control panels.

It is built on a 32-bit microprocessor specifically designed to meet automation and control needs. It has a real-time bus combined with a real-time multitasking operating system

and can perform control loops for turbogenerator and turbocompressor control systems with a scan rate of from 5 ms. to 20 ms.

It can be delivered with an embedded touch-screen video unit and with a wireless palmtop for remotely checking and configuring all parameters. Also, multiple units can be connected over a wireless ethernet network.

The classic modules include analog input and output, discrete input and output, high speed counter, ethernet, serial, parallel and USB ports. Optional control modules include alarms and trips, sequence of events, historian and trends.

This control panel is a cost-effective alternative for upgrading existing installations with leading edge control technology.

## How it works

The CMS can be programmed in any of the IEC 61131-3 international standard programming languages (e.g., Ladder, FBD, ST, IL or SFC).

A steam turbine governor has been implemented and validated for both mechanical and generator drive steam turbine control. Video pages show the functionality and the

parameters to be controlled and the graphics with the controlled variables and trends.

Centrifugal compressor control algorithms have also been implemented to control suction and/or discharge pressures, prevent surge phenomena and/or to balance the load demand across multiple

compressors. Single loops can also be controlled and monitored (e.g., anti-icing, seal gas, and lube oil temperature, pressure, and flow controls). All PID controllers are bumpless, can be configured to work in automatic or manual mode, and are based on an anti-wind-up tracking system.



GE imagination at work