

ESP 1000

COMPRESSED AIR MANAGEMENT SYSTEM



TAKE CONTROL

Gardner Denver ESP 1000 Compressed Air Management System is the most advanced and user-friendly control system available on the market today. The system can manage up to 12 air compressors of any manufacture, in four different user configured control strategies. The controller is 100% Allen Bradley and is ethernet based for easy plant-wide connectivity.

State-of-the-Art Technology

- // State-of-the-art PLC technology
- // Improved performance and efficiency
- // Simple to operate

Unique Compressed Air Management System

Compressor systems are typically comprised of multiple compressors delivering air to a common distribution system. The combined capacity of those machines is generally greater than the maximum site demand. To ensure the system is operating at the highest levels of efficiency, the **ESP 1000** management system is essential.

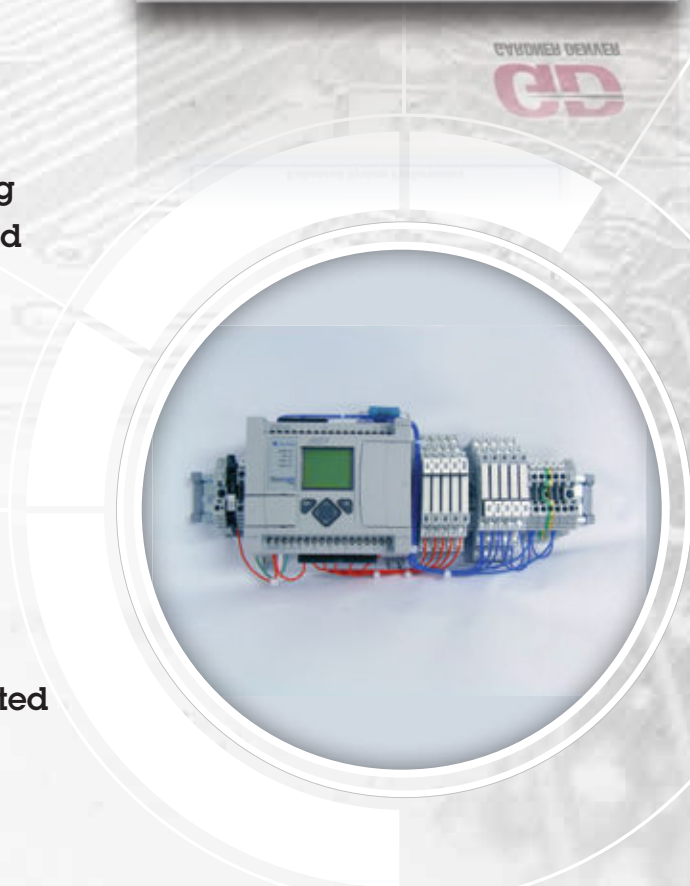
Maximum Flexibility

The ESP 1000 system controller can intelligently control from 2 to 12 compressors of any design or manufacture.

- // Operator selected multiple control schemes
- // Automatic sequence rotation
- // Manual sequence selection
- // Dynamic Expert control
- // Base Expert control
- // Provides built in Demand Expander (Flow Control), integrated with compressor control algorithms.
- // Ethernet communication to each compressor. (Can be used with client's Ethernet infrastructure)
- // Controls compressor loading as well as efficient motor control with both minimum run and cool down timing.
- // Reduces energy consumption by evaluating the rate of pressure change and compressed air storage availability to make intelligent compressor load decisions.

Advanced PLC Microprocessor Technology

- // The ESP 1000 controller is built on a Rockwell Automation Allen Bradley MicroLogix platform.
- // Complete open architecture with documented software available to the user.
- // Replacement parts available directly from local Allen Bradley distributors.
- // The system software can also be updated quickly to accommodate the very latest functions and technology developments.



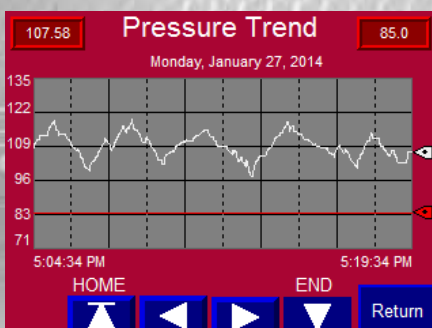
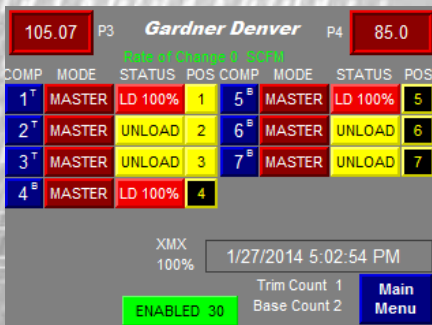
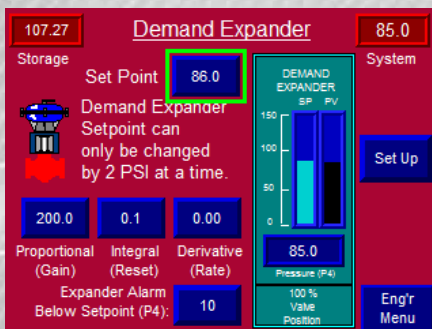
SIMPLY POWERFUL

Easy-To-Use Touchscreen Display

The ESP 1000 operator interface consists of a 6" color touch screen display providing a variety of performance data while giving plant managers and operators a comprehensive overview of the complete system, including any number of system measurements to evaluate performance.

This can include information such as individual and totalized compressor power, system flow from multiple points of entry, pressures and dew points which can all be monitored, and trended on the color graphics screen.

Compressor activity, system power and system flow are data logged internally for daily downloading.



High Energy Efficiency Improvement Potential

The ESP 1000 Controller can provide huge energy savings potential on simple sequence management alone. However using the Gardner Denver exclusive Base Expert control strategy, the energy savings potential goes beyond conventional control alternatives.

Universal Compressor Module

The C1000-2-E compressor module provides universal compressor connectivity to any compressor of any type, style or manufacturer. The use of digital interfaces allows the module to be field adaptable to conventionally wired compressors or microprocessor controlled compressors, either rotary screw (fixed or variable speed), reciprocating or centrifugal. Each compressor module can accept up to two analog 4–20 mA input signals at the compressor level such as kW or flow. Modbus and ASCII ports are included for direct connection to the Gardner Denver AutoSentry ES+ or AirSmart controller with communication module.

Extensive Visualization Options

Several options are available for system data to be viewed at remote locations including the internet.

// ESP 20/20 Remote Monitoring option for internet access

// Remote Panelview displays can be provided.

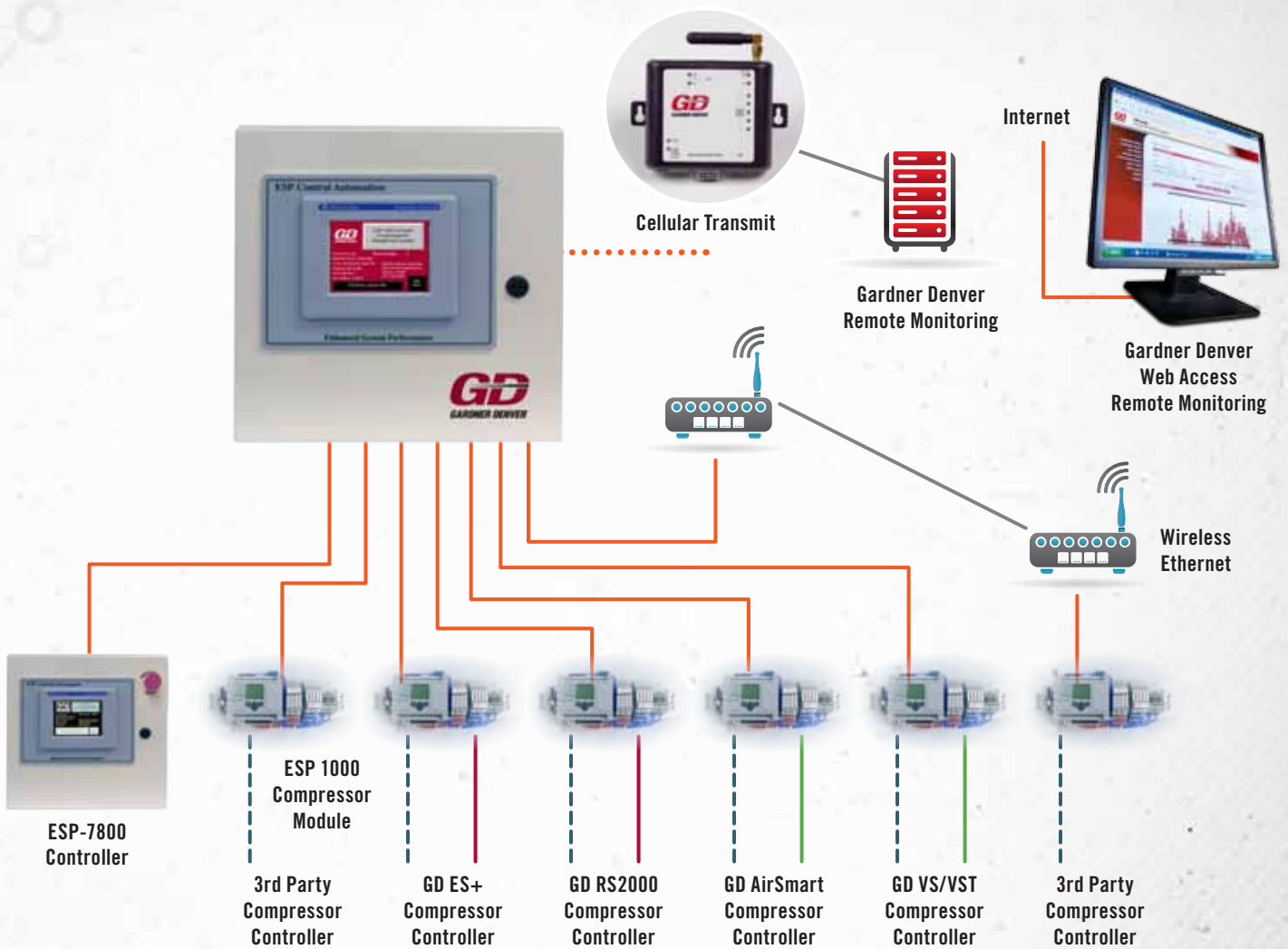
// The communication is completely compatible with most plant SCADA systems via Ethernet or Modbus communication.

Gardner Denver ESP 1000 Compressed Air System Automation provides the highest level of system efficiency with measurable results. Using existing compressor assets or adding newer more efficient compressors, the ESP 1000 will maximize the compressed air system operation and provide a valuable tool to the engineer.

TECHNICAL SUMMARY

ELECTRICAL CONNECTION	Voltage Approvals	110/230 V +/- 10% 50/60 Hz UL, CUL
DISPLAY	Type Screen Size	Color graphics display with touch function 5.7" diagonal
INTERFACES	Analog Inputs Analog Outputs Relay Outputs	(5) std main controller (2) std each compressor (2) std, main controller (1) std, main controller
MEMORY CARD	Type	SD Card
CONNECTION FOR COMPRESSOR	Quantity Interface Distance	max. 12 Compressors Ethernet TCP/IP 100 m Cat5 Unlimited w/ fiber optic or if connected to client's network
CUSTOMER INTERFACE	Interface Protocol	EthernetIP TCP/IP RS-485 EthernetIP / Modbus RTU
AMBIENT CONDITIONS	Operation Humidity	Min. 32° to max. 132° F Max. 95% RH
HOUSING	Dimensions (W x H x D) Protection Type Weight	16" x 16" x 9" Type 4/12 40 lbs.
OPTIONS	Analog Inputs Main Controller Additional Sensors	Up to eight additional groups of four 4–20 mA kW or Amps Flow (up to three) Dew Point Temperature

ESP 1000 CONNECTIVITY



- Ethernet or Fiber Optic Cable
- - - Individual Conductor Interface
- ASCII Serial Cable
- Modbus Serial Cable
- 4–20 mA Signal Cable
- · · · · Antenna Cable



THE FORCE — THAT DRIVES — AMERICAN INDUSTRY



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