



Open Controller for Centrifugal Compressors

DESCRIPTION

AirLogix™ is a widely proven, robust control solution for centrifugal compressors built on Allen-Bradley CompactLogix and ControlLogix PLCs and PanelViewPlus HMIs.

With no Case Controls proprietary components, and with familiar PLC technology, the system is completely supportable with your own resources.

The control scheme completely automates the compressor continuously adjusting to real world conditions including air density, demand changes and actual pressure readings.

A small group of well conceived operator screens gives you complete control and thorough information about the performance of the machine.

Another sixty-plus secured screens give you all the tools you need to add, name, scale and configure additional I/O points, tune PID loops, take manual control of the valves and more.

You can even configure custom screens to display the information you are most interested in.

AirLogix™ is 3PX compatible and is designed to dovetail with all other Case Controls plant air automation solutions.

FEATURES AND BENEFITS

- **Dynamic** minimum throttle algorithm utilizes air density compensation for better turn-down (energy savings) and surge protection.
- **Elaborate** HMI functionality allows complete configuration, tuning, troubleshooting and operation of the compressor.
- **Familiar** Allen-Bradley modular PLC and HMI platforms that can be easily supported. No proprietary parts are used.
- **Support** whether on-site, by phone or modem connection is prompt, effective and available around the clock.
- **Documentation** thoroughly addresses set-up, tuning, troubleshooting and operations.
- **Program** back-up copies are provided on flash cards that are shipped installed in the PLC and HMI for insurance against failed hardware.
- **Ethernet** communications are native and Modbus is optional for connection to any third party DCS, MIS or SCADA systems.
- **Plug and Play** kits available for fast installation in your existing enclosure.
- **Compatible** with 3PX-Backbone™ which permits electronic integration with numerous third party controllers.



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HARDWARE SPECIFICATIONS

Enclosure

Rating..... Nema 12
Dimensions..... 36h x 24w x 12d
Color Pebble Gray
Weight 166 lbs

PLC Components

Processor..... A-B CompactLogix L32E
Analog Inputs..... sixteen
Analog Outputs two
Digital Inputs..... sixteen
Outputs..... sixteen

Front Panel Devices

HMI PanelView Plus 700 Color
Emergency Stop push button
Control Power selector switch

Communications

Ethernet..... port used for connection to HMI
Serial port..... used for connection to Modem
Ethernet switch connection to others

Power Requirements 120VAC 15 amp

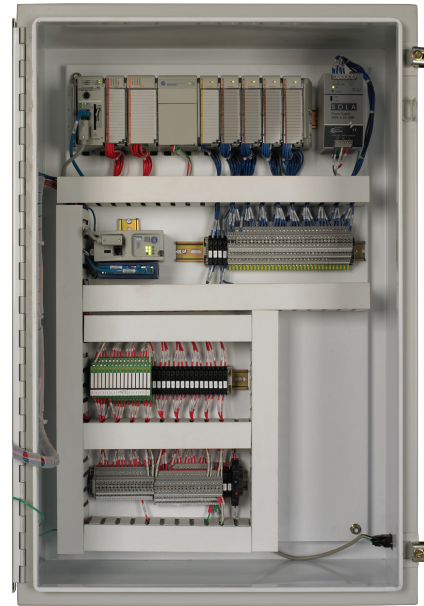
Plug and Play Retrokits

AirLogix™ can be configured for a plug and play installation that can be installed in approximately two hours for compressors with the following OEM control systems.

- Ingersoll-Rand MP3, CMC
- Joy, Cooper, Cameron Quad III, Quad 2K

Retrokits include additional instruments and transmitters for complete installation.

AirLogix with a CMC retrokit requires a satellite enclosure for the PLC.



OPTIONS

Enclosure/ System

Nema 4/4x SS Enclosure Rating
Purge-able Instrument Access Door for HMI
Vortec Panel Cooler
Panel Air Conditioning
Panel Heater

PLC Components

Analog Inputs..... up to sixteen
Analog Output..... two

Front Panel Devices

Color HMI..... PanelView Plus 1000

Communications

Modbus connection optional



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I/O CONFIGURATION

Analog Inputs (4-20ma/1-5VDC) loop powered

1	System Air Pressure
1	Discharge Air pressure
1	Inlet Air Temperature
1	Discharge Air Temperature
1	Motor Current
1	Oil Temperature
1-3	Oil Pressure
1-3	Inter-Stage Air Pressures
1-3	Inter-Stage Air Temperatures
1-4	Vibrations
2-10	Field Configurable Spares

Analog Outputs

1	Inlet Valve or (IGV)
1	By-Pass Valve or (BOV)

Digital Inputs (120VAC)

1	Seal Air Pressure
1	Emergency Stop Pressed
14	Field Configurable Spares

Digital Outputs (dry contact)

1-3	Main Motor Run
1	Aux Oil Pump Run
1	Common Alarm
1	Common Trip
1	Oil Heater
1	Cooling Water Valve
1	Automatic Block Valve
1-4	Inlet and Bypass Control



BASE SYSTEM

The base system is defined as having sixteen analog inputs (4-20ma or 1-5 VDC), two analog outputs, sixteen digital inputs (120VAC) and sixteen digital outputs which are dry contacts.

Additional variables for display, alarming, machine trip, and start-permissive can be added and configured in the field.

When requested the analog input capacity can be increased to thirty-two.

Instruments are not included as part of the controller and may be provided separately or existing instruments may be reused.



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