



How to Specify

CC-6000 Air Compressor Master Control

Operational Data

The supplier shall provide a Century Controls Model CC-6000 Air Compressor Master Control to manage the operation of multiple air compressors. The control shall analyze the process variable load (air pressure) versus the set point to match load requirements. The control shall have Underwriters Laboratories approval and labeling.

Control Design Features

The pressure transducer shall be mounted in the main receiver or header wired to the controller. The control shall be PLC-based and utilize an algorithm that can analyze the process variable for optimum selection of lag compressors. Lead/lag sequence is entered and will allow only the correct number of compressors to operate. It will monitor the header pressure and the process variable recovery response via the computer's "fuzzy logic" with the ability to change the add or shed loading decision midstream, should the load suddenly change, and instead will go into a "wait & see" mode. Controls that add compressors by pressure offsets alone will not be acceptable.

The control shall start the lead compressor in response to demand. It will bring the pressure up with only one or two compressors if the loading has not yet started, or will accomplish it with additional compressors when partial loading has commenced. The operator enters the rate desired. Should any compressor in the sequence fail, it will turn on the next compressor in the sequence.

The computer will automatically rotate the lead compressor at selectable intervals; daily, weekly, monthly, etc. to even the wear. If any lag motor cycles more than the allowable, designated number of cycles per hour, it immediately rotates the system. A special program is to be utilized for varied HP compressors, selecting the correct combination at all times for maximum power savings.



As the load demand increases, the operational cycle is reversed. The control will allow only one compressor to run unloaded with normal process variations, and only two compressors to run unloaded with wide variations. The lead/lag sequence shall be changed via the HMI touch screen, or the automatic alternation feature by which can be implemented on any desired time schedule to equalize wear.

The control shall have the capability of two set points selectable in the program to permit a lower setting during night and weekend operations. A contact closure input from and external source, computer or time clock, can implement the change in set points. A menu key allows the operator to look up the “run” and “loaded” time of each compressor as well as the number of on/off cycles.

The control shall include a touch screen display which displays each compressor’s loaded condition, the lead/lag sequence, system pressure and pressure set point. The control will have multi-level password protection, provide remote Ethernet access and communicate to other facility control systems via BACnet IP, BACnet MS/TP, Modbus RTU, Modbus TCP or LonWorks protocols.

Technical Data/Specifications:

Display	6”, 8” or 10” color touch screen with remote Ethernet communications
Range	0-999 Eng. units settable to match transducer
Alarms	Hi and low process variable
Input	4-20 mA or 1 to 5 volts DC
Memory	Non-volatile, battery back-up included
Power Requirement	120 VAC, 50/60 Hz
Construction	NEMA 12 panel
Output	Start contacts, load/unload contacts or 4-20 mA
Quality	UL/CUL Approved
Warranty	Two-years, limited
Pressure Transducer	4-20 Ma, range 0-100, 0-200 etc.