Monitor & Control Systems

BLOWERS • EXHAUSTERS

HOFFMAN

LAMSON

Control System Products

OPTIMIZE YOUR APPLICATION

Whether you're responsible for a wastewater treatment plant, the smelting operation at a foundry or the precise material handling needs of a manufacturing facility, you need control systems to properly operate your blowers and protect them from conditions that may lead to catastrophic mechanical failure, a voided warranty and costly downtime. At Gardner Denver, we engineer a variety of control systems capable of providing you with the protection and information you need to keep your operation running at its best. Our control systems canmonitor a variety of conditions that include motor current, motor temperature, blower vibration, bearing temperature, bearing oil level, discharge temperature, inlet vacuum and outlet pressure.

Analog and Mechanical Monitors Constant Speed Applications

The simplest and most economical type of controls include our analog and mechanical indicators and switches to protect the blower and motor from mechanical surge and overload, high blower bearing temperatures and high blower (or blower bearing) vibration.

The Gardner Denver Analog Meter Relay monitors motor amperage and air flow and automatically shuts down the blower motor when amperages fall outside the designated operating range. The indicator scale is marked to indicate amps, air flow, normal operating range, surge and overload set point(s). Our Meter Relay is available in single set point configuration for low amp set point surge monitoring or a dual set point configuration for low and high amps surge and overload set point monitoring.

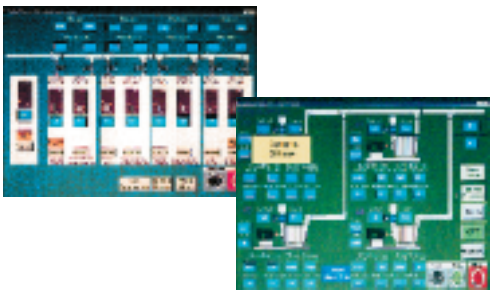
Our Bearing Temperature Switch operates using a filled-capillary with a sensing bulb installed at the bearing. The switch is factory preset to alarm at high temperature and can be used to shut down the blower. Typically, one unit is installed on the inlet bearing and one is installed on the outlet bearing.

For blower vibration monitoring, a single Vibration Switch is available for mounting on the blower housing or bearing. Set point and time delay adjustments are made at the switch. When alarmed, contacts contained in the switch open (or close).

SmartMeter™ II Microprocessor-Based Digital Monitor/Controller Constant Speed Applications

Designed to protect single blowers, the SmartMeter II monitor includes three digital displays, two inputs and four alarm outputs. SmartMeter II can be configured for a variety of blower protection applications. The SmartMeter II can monitor any of the following: motor amperage/airflow, vibration, temperature or pressure, with the ability to alert the customer and shut down the blower. SmartMeter II has an operator adjustable internal timer to prevent shut-down of the blower during start-up. Varied digital communication protocols are available. Non-volatile EEPROM memory prevents the loss of data in the event of a power failure. Scaling is available in both Metric and English.

SmartMeter's 1/8 DIN case easily panel mounts, but is offered with a NEMA 12 housing as standard. Other housing options are available, as well as multiple meters in a single enclosure.



MultiGard™ II Multi-Variable Digital Monitor/Controller Constant Speed/Variable Speed Applications

The MultiGard II is a pre-configured, programmable logic controller (PLC) capable of monitoring various operating conditions. It can even be used to monitor multiple blowers provided that there are only a limited number of variables to monitor. MultiGard II can also network with other MultiGard II controllers or be configured to various protocol systems.

The MultiGard II programmable logic controller features twelve 120 VAC digital inputs, twelve 120 VAC digital (relay) outputs, up to 24 analog inputs and up to four analog outputs. The customer interface consists of a graphic backlit monochrome touch screen LCD display with integral annunciator display. All measured variables are displayed by a calibrated graphic bar with digital values. The standard MultiGard II is mounted in a NEMA 12 enclosure, but is available up to Class I, Division II.

MultiGard II can also network with other MultiGard II systems or optionally, with the customer's PLC, DCS or SCADA systems using Modbus RTU slave, Allen Bradley DH485, DF1 or Ethernet/ IP protocols.

The MultiGard II control system can be configured to monitor motor bearing, winding temperature and vibration, blower surge and motor overload, blower bearing temperature and vibration, blower discharge temperature, blower inlet temperature, inlet filter differential pressure and more.

MDOCS Control System Constant Speed/Variable Speed Applications

Designed for wastewater system dissolved oxygen applications, the MDOCS series PLC (programmable logic controller) system is the answer to controlling more complex blower configurations. The MDOCS control combines the operator interface, the system logic and the field interface into a flexible system that is easily configured for individual applications using a touch sensitive screen that displays multiple states. The MDOCS system may be retrofitted to existing installations, allowing users to reap its benefits without replacing the fully functional elements of an existing system.

MDOCS replaces the previous LamGard series blower controller and can be configured as stand alone blower protection and control. MDOCS can also be configured to provide all the functions of the MultiGard or SmartMeters, reducing overall initial investment costs. MDOCS can accept and control blower inlet valves, as well as monitor airflow.

MDOCS can be configured for two or more blowers. Standard features include Dissolved Oxygen Mode, time based scheduling and manual modes, configurable blower start/stop (ppm) levels, in service/out of service selection, lead blower selection and a service modem for remote access factory maintenance and troubleshooting. Also standard is automatic alternation sequence, which allows equal wear for multiple blowers and a backup manual operation feature for startup and troubleshooting.

Monitoring and Special Functions

	A	SM	MG	MD
Number of Blowers	1	1	1	>1
Standard Surge Controls				
Surge/Overload shutdown	X	X	X	X
Surge prevention discrete modulating (blowoff or inlet)	X	X	X	X
Surge prevention bleed (solenoid)	X	X	X	X
Special Function Surge Controls				
Surge/Overload shutdown with inlet temperature compensated setpoints		X	X	X
Surge/Overload prevention discrete modulating (blowoff or inlet) with inlet temperature compensated setpoints		X	X	X
Surge/Overload prevention and shutdown using 4-20 mA inlet valve control		X	X	X
Surge/Overload shutdown for VFD driven blowers using flow, speed & temperature inputs			X	X
Vibration Monitoring				
Blower housing vibration	X	X	X	X
Blower bearing vibration	X	X	X	X
Motor bearing vibration	X	X	X	X
Temperature Monitoring				
Motor bearing temperature	X	X	X	X
Motor winding temperature	X	X	X	X
Blower bearing temperature	X	X	X	X
Inlet/outlet air temperature	X	X	X	X
Pressure Monitoring				
Filter differential pressure	X	X	X	X
Outlet Pressure	X	X	X	X
Inlet Vacuum	X	X	X	X
Process Controls				
Flow setpoint capacity control using inlet valve		X	X	X
Flow setpoint capacity control using VFD			X	X
System pressure control using inlet valve			X	X
Dissolved Oxygen Control			X	X

A = Analog Monitors
SM = Smart Meter II
MG = MultiGard II
MD = MDOCS System

Motor Control Equipment

Motor control equipment such as fully integrated motor control centers, full voltage non-reversing combination starters, reduced voltage starters and many other items are also available.

Service and Parts

When you need after-the-sale service, no one can beat Gardner Denver's offering of genuine parts and service programs. Our factory trained service professionals are available for on-site, on-demand service, system optimization, re-manufacturing, training, troubleshooting and consulting.

For added insurance, we offer Preventative Maintenance Program Agreements and our exclusive Gardner Denver Warranty Renewal Program. When you order replacement parts and lubricants from Gardner Denver, you can be assured they are the highest quality available and guaranteed to perform.

Warranty

All Gardner Denver Control System products feature a full year limited warranty.

English/metric units of measure, NEMA 12 enclosures standard, NEMA 3R, 4, 4X, 7 and 9 available. UL available for additional cost.

Acceptable input signals are: 100 ohm platinum RTD, 4-20 mA DC, 0-5AAC current transformer.

Gardner Denver

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ENERGY STAR PARTNER

Specifications subject to change without notice. Please recycle after use.

CF-C-MAIN-C-1113