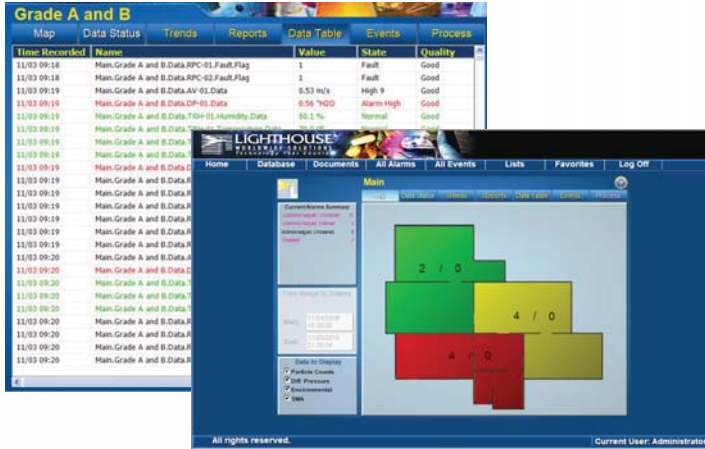




LIGHTHOUSE
WORLDWIDE SOLUTIONS
Technology That Counts!



LMS Pharma Modular

Facility Monitoring System for Life Science Applications

The **LMS Pharma Modular** monitoring software system collects, analyzes and displays data for all phases of pharmaceutical operations. Its modular design allows selection of predefined features that match specific project requirements, simplifying installation, configuration and validation.

Specifically designed for high-reliability and secure facility monitoring, **LMS Pharma Modular** integrates robust and comprehensive security with system data redundancy and an intuitive easy-to-use interface. Real time and historical data can be securely viewed and analyzed in maps, trend charts (graphs), data tables and fully customizable reports. Easy-to-use graphical area displays provide exceptionally fast visual notification of problems so that monitoring tasks and alarm acknowledgements can be accomplished quickly and easily.

The optional redundant data acquisition computer (standby system) will take over control seamlessly should the primary computer fail. This "failover" feature provides uninterrupted operation and reliable data collection even during the most critical situations. The "failback" feature returns control back to the primary computer when it has been restored to functionality. All of this takes place without any operator intervention.

Possible failure scenarios during which a redundant computer will protect the overall system functionality may include:

- ★ Physical failure of primary data acquisition computer
- ★ Primary computer Operating System (OS) errors causing software failure
- ★ Primary computer power failure (standby computer has power)
- ★ Operator errors or induced problems
- ★ Main network failure (standby system is on a redundant network)

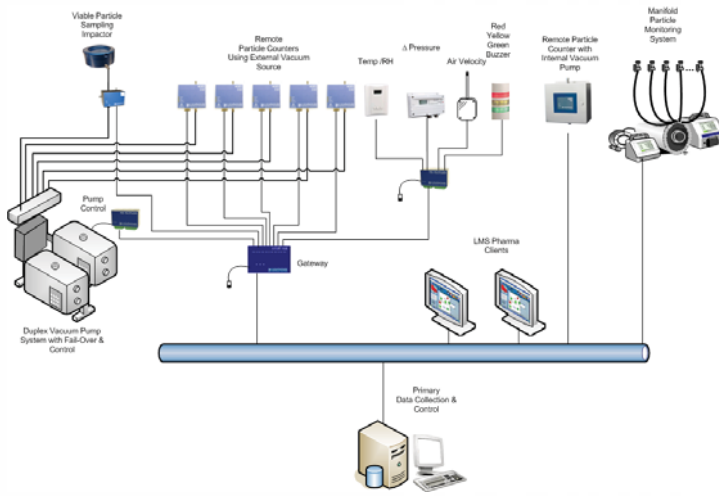
Features and Benefits:

- ★ Easy-to-use intuitive User Interface
- ★ User names and passwords can be controlled by a Microsoft Active Directory server in a Windows domain
- ★ Open Architecture integrates with external systems via OPC, DDE, HTTP, ODBC, SQL and others
- ★ Designed and developed to current GAMP and ASTM E 2500 guidelines
- ★ Designed for 21 CFR Part 11 compliance
- ★ Modular Design: predefined modules simplify installation, configuration and validation
- ★ Real-time and historical data analysis
- ★ Automatic failover to redundant system - seamless switchover assures continuous data collection, notifications and alarming with no data lost
- ★ Automatic failback from redundant system - reconnects to the primary system seamlessly upon its recovery with no data lost
- ★ Alarm Notification via alarm lights, e-mail and SMS
- ★ Support for thin client systems
- ★ Full project-based validation lifecycle documentation based on GAMP guidelines
- ★ Automatic data archiving and report exporting
- ★ Calibration Management maintains Connected Instrument calibration information and warns or alarms for due or past-due calibrations
- ★ Localization for any language
- ★ Included reports:
 - ★ Conformance Report
 - ★ Summary Conformance Report
 - ★ Current Status Report
 - ★ Event Report (Audit Trail)
 - ★ Excursion Report (Alarm Report)
 - ★ Calibration Alarm Report
 - ★ Calibration Warning Report
 - ★ Raw Data
 - ★ Data Export

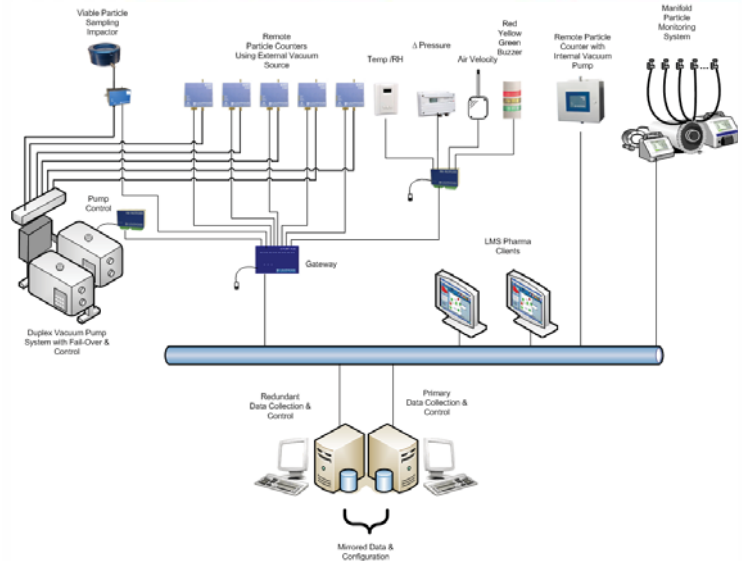
**Designed and built by
Lighthouse - a name you can trust.**

Lighthouse is an ISO 9001:2008 Registered Company

www.golighthouse.com



LMS Pharma Modular without Redundant Data Collection



LMS Pharma Modular with Redundant Data Collection

Base System Configuration

LMS Pharma Modular
(2 Concurrent Network Licenses for MS Internet Explorer)

LMS Pharma Modular with Redundant Data Collection
(via an additional computer providing Automatic Fail-over, Fail-back, Mirrored Database and Mirrored Configuration)
(2 Concurrent Network Licenses for MS Internet Explorer)

Data Collection, Control and Alarming Modules Selectable Modules may be purchased in combinations of up to a total of 1250 modules		Additional Modules
Partide Counters Modules	Additional Inputs / Output Modules	Multi-Level Map Module (5 Additional Map Levels)
4 Particle Counters 2 Channels	8 Analog Input Module (4-20mA)	Cubic Meter Module, Additional View of Particle Count Data Supplied in Either: - Rolling Cubic Meter - Static Cubic Meter Summation - Raw - Normalized Data Particles /ft ³ - Normalized Data Particles /m ³
4 Particle Counters 4 Channels	8 Analog Input Module (Universal Inputs)	
4 Particle Counters 8 Channels	4 Alarm Light Module (3 Color Light with Buzzer)	
32 Port Manifold - 2 channels / port - 4 channels / port - 8 channels / port	Viable (Biological) Particle Sampling Module - Control Viable Impactors and samplers - Update CFU counts (post Incubation)	Additional Concurrent Network License: - 5 Concurrent Network Clients - 10 Concurrent Network Clients - 15 Concurrent Network Clients
6 Port Manifold - 2 channels / port - 4 channels / port - 8 channels / port	16 Discrete Input Module (Digital)	
	Door Switch Timer and Counter Module	
	Pump Control Module: Automatic Fail Over Control on Dual Pump Systems	

Manufactured by:



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541 770 5905 Outside of USA

Distributed by:

