What is a Monitoring System

Jason Kelly
Lighthouse Worldwide Solutions

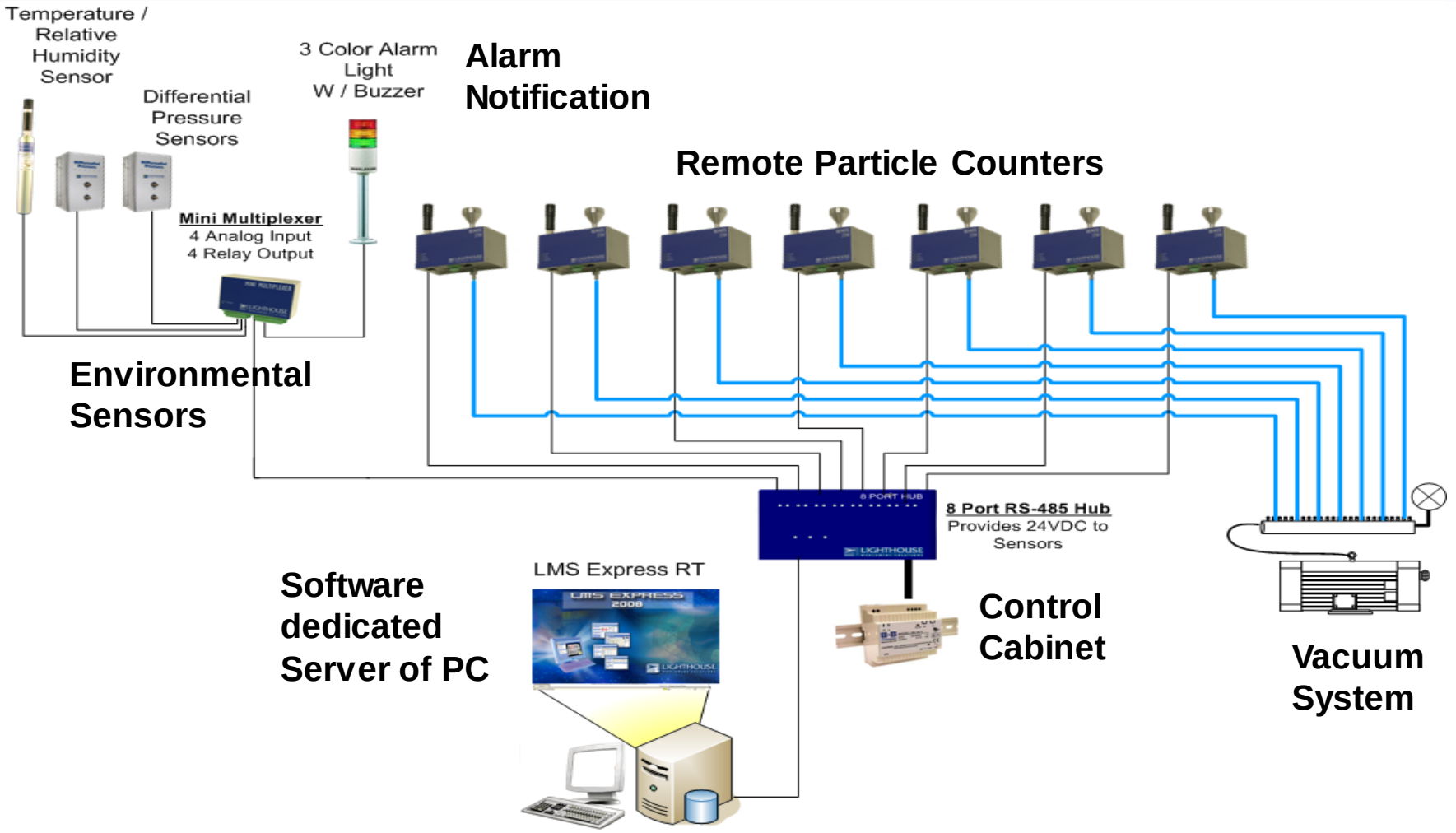
LIGHTHOUSE WORLDWIDE SOLUTIONS

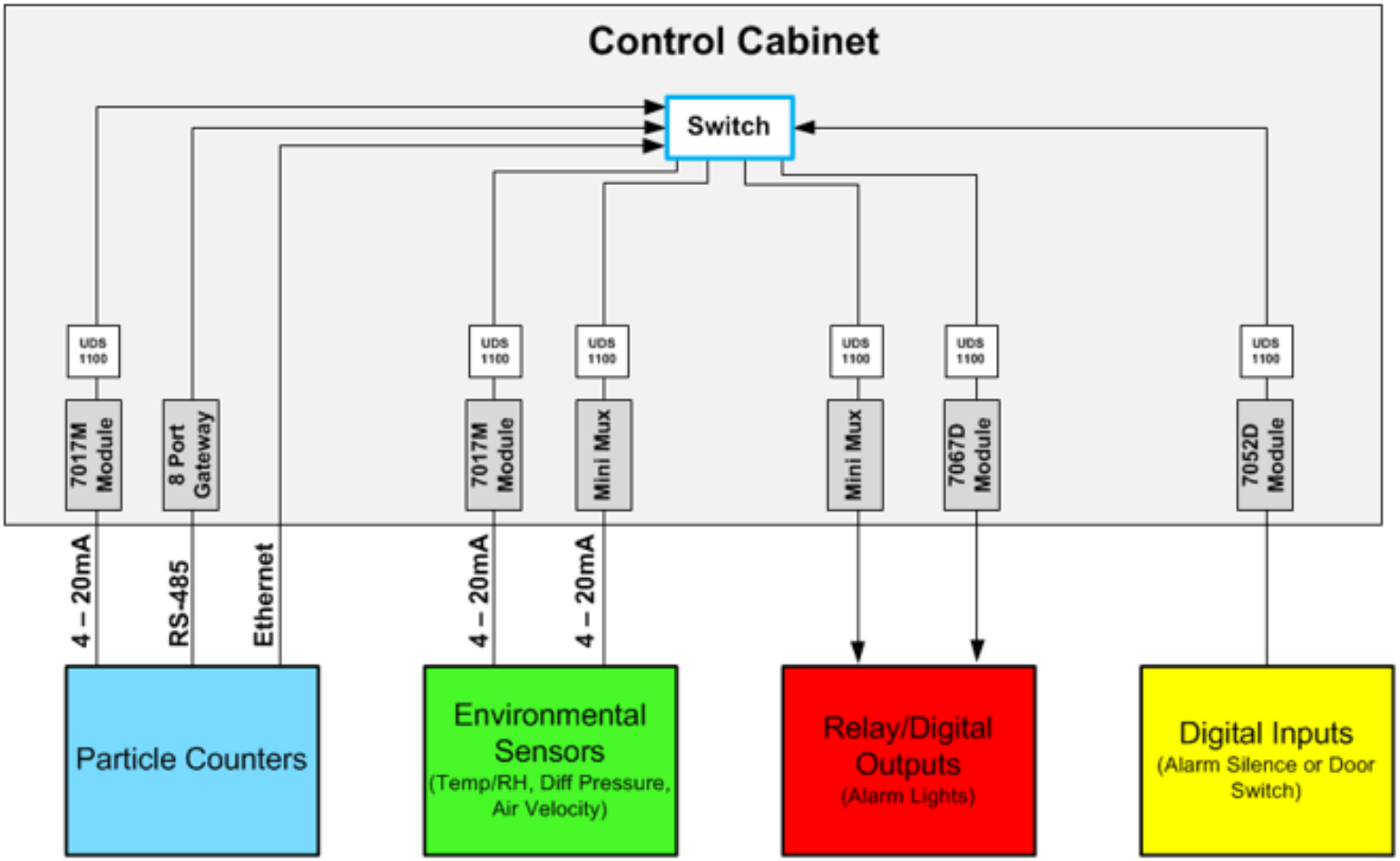
PRESENTER biography

Jason Kelly
Director of Systems

Over 20 Years Management positions in Environmental Monitoring Systems Service, Design, Installation, Validation and ongoing support. Jason has worked on many Projects for top Life-Science, Semi-conductor companies assisting in procurement, delivery and compliance to ensure regulatory acceptance. Worked across the World on many projects in the UK, Ireland, Europe, Australia and now resides in Oregon USA. Where he manages the Systems group. Jason can be contacted by email on jasonk@golighthouse.com or on LinkedIn and always welcomes queries and questions on Monitoring Systems connected to particle counters or environmental sensors.

Monitoring System Overview


Temperature / Relative Humidity Sensor
Differential Pressure Sensors
3 Color Alarm Light W / Buzzer
Alarm Notification
Mini Multiplexer
4 Analog Input
4 Relay Output
Remote Particle Counters
Environmental Sensors
8 PORT HUB
8 Port RS-485 Hub
Provides 24VDC to Sensors
LMS Express RT
Software dedicated Server of PC
Control Cabinet
Vacuum System


Control Cabinet
Switch
UDS 1100
7017M Module
8 Port Gateway
7017M Module
Mini Mux
Mini Mux
7067D Module
7052D Module
4 – 20mA
RS-485
Ethernet
4 – 20mA
4 – 20mA
Particle Counters
Environmental Sensors
(Temp/RH, Diff Pressure, Air Velocity)
Relay/Digital Outputs
(Alarm Lights)
Digital Inputs
(Alarm Silence or Door Switch)

Room Particle Monitoring

Room Pressure Monitoring

Room Particle Monitoring

Room Temp & Humidity Monitoring

Equipment Temp Monitoring

Room Particle Monitoring

Equipment Temp & Humidity Monitoring

Environmental Sensors

Cleanroom parameters such as Room Pressure and Room Temperature and Humidity are critical for successful cleanroom environmental management

Particle Counters

Cleanroom Classification is measured by the concentration of particles allowable in a determined volume of air sampled

Vacuum System

Remote particle counters require an external vacuum to pull a sample of air through the sensor so the particles can be counted and sized.

Control Cabinet

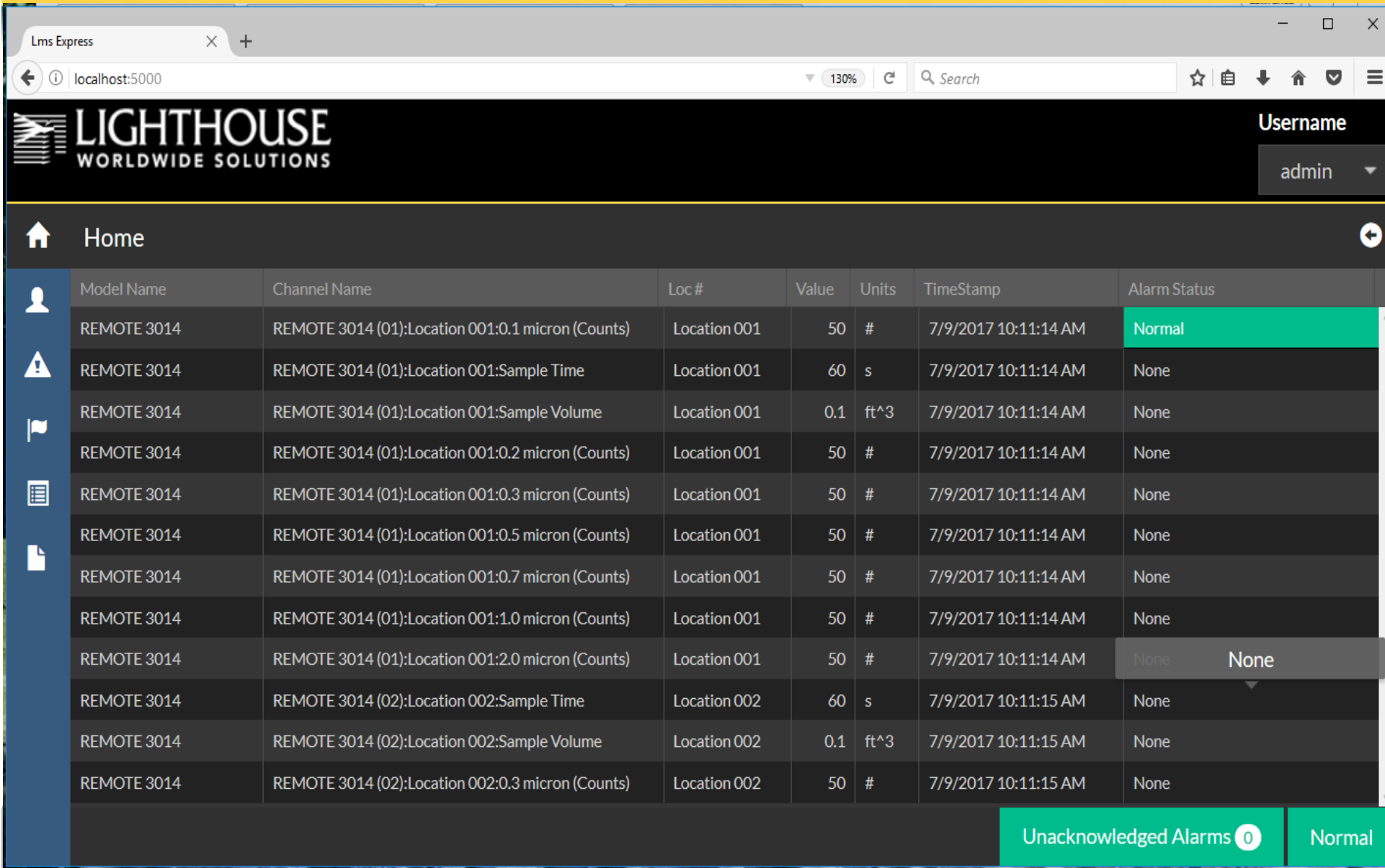
The Monitoring System Control Cabinet connects to all sensors and input/output devices and is the heart of the monitoring system providing an interface between sensors system logic and the software

System Software

The Monitoring System software provides the data collection and the user interface. System alarms are registered and users can look at facility or room trends and run reports or start or stop sampling.

Technology That Counts

LIGHTHOUSE WORLDWIDE SOLUTIONS



Model Name	Channel Name	Loc #	Value	Units	TimeStamp	Alarm Status
REMOTE 3014	REMOTE 3014 (01):Location 001:0.1 micron (Counts)	Location 001	50	#	7/9/2017 10:11:14 AM	Normal
REMOTE 3014	REMOTE 3014 (01):Location 001:Sample Time	Location 001	60	s	7/9/2017 10:11:14 AM	None
REMOTE 3014	REMOTE 3014 (01):Location 001:Sample Volume	Location 001	0.1	ft^3	7/9/2017 10:11:14 AM	None
REMOTE 3014	REMOTE 3014 (01):Location 001:0.2 micron (Counts)	Location 001	50	#	7/9/2017 10:11:14 AM	None
REMOTE 3014	REMOTE 3014 (01):Location 001:0.3 micron (Counts)	Location 001	50	#	7/9/2017 10:11:14 AM	None
REMOTE 3014	REMOTE 3014 (01):Location 001:0.5 micron (Counts)	Location 001	50	#	7/9/2017 10:11:14 AM	None
REMOTE 3014	REMOTE 3014 (01):Location 001:0.7 micron (Counts)	Location 001	50	#	7/9/2017 10:11:14 AM	None
REMOTE 3014	REMOTE 3014 (01):Location 001:1.0 micron (Counts)	Location 001	50	#	7/9/2017 10:11:14 AM	None
REMOTE 3014	REMOTE 3014 (01):Location 001:2.0 micron (Counts)	Location 001	50	#	7/9/2017 10:11:14 AM	None None
REMOTE 3014	REMOTE 3014 (02):Location 002:Sample Time	Location 002	60	s	7/9/2017 10:11:15 AM	None
REMOTE 3014	REMOTE 3014 (02):Location 002:Sample Volume	Location 002	0.1	ft^3	7/9/2017 10:11:15 AM	None
REMOTE 3014	REMOTE 3014 (02):Location 002:0.3 micron (Counts)	Location 002	50	#	7/9/2017 10:11:15 AM	None

Unacknowledged Alarms 0

Normal


LIGHTHOUSE
Main Facility
Log Off
Main Facility
Go To...
Time Range to Display
Fixed Time
Start:
End:
Data to Display
Particle
Environmental
Diff. Pressure
Viable
Other
50.80 Pa
6.87 Pa
95.85 %
6.87 Pa
95.85 %
50.80 Pa