Case Study – Mercy Hospital

MERCYHEALTH

Mercy Health is a Catholic health care ministry serving eight regions in the Ohio and Kentucky area. With 35,000 employees across their region they are one of the largest health care systems in the country. Their mission is to improve the health of the communities they serve.

Mercy Hospital Facilities Department purchased an AquaMetrix system in 2016 to monitor the pH, temperature and flow of wastewater. They chose sensors that directly output a 4-20 mA analog signal so they can integrate these parameters in the networked AquaMetrix AM-2300 multi-input controller.

In its early days Mercy Hospital Facilities Department used probes and controllers from one of the largest manufacturers of water quality instrumentation. They also paid for the services of a consultant to visit them once per month, gathering the information from their data logger and compiling a report to submit to the local compliance bureau. When they looked to update their system, they determined that the AquaMetrix solution would save money by eliminating the outside consuilting and compiling the monthly compliance report themselves.

The new system included the AM-2300 Controller, 65 Series pH sensor, flow and temperature sensors—all of which can output a 4-20 mA signal or pulsed output and integrated directly to the AM-2300. The AM-2300 has four analog inputs—expandable to eight—so it easily accommodates all the required sensors. The heart of the system however is the networkable AM-2300. Not only does the system monitor and display their key parameters, but the built-in data logger records and compiles a report daily and automatically sends it to the facility manager who used the data to complete their monthly compliance report.

The AM-2300 make the Facilities Manager's job easier since the unit can be accessed from a web page. Alerts and alarms can be set up and sent to individuals or groups in the form of emails or texts. The system has security features to minimize the risk of unauthorized access. When AquaMetrix introduced the AM-2300 six years ago it was the first web-enabled controller in its price range that required no technical knowledge (e.g. ladder logic) to program. Since then most major manufacturers have come out with their own web connected products, but the AM-2300 has evolved steadily and continues to be amongst the easiest-to-use, most flexible, and most cost effective solutions in the industry.

Since switching over to the AquaMetrix solution Mercy Hospital has been able to save thousands of dollar on outside consultants and department labor expense by having a networked solution with integrated data logging. The system has proven to be reliable. They also have been able to upgrade the system over the years and take advantage of software improvements. In the words of Facility Manager, Scott McCarthy, "I have been very pleased with the performance of AquaMetrix systems over the last four years. It has allowed us to monitor, log and respond to changing conditions without having to be physically standing in front the system. This system has contributed to making our department more productive and efficient."
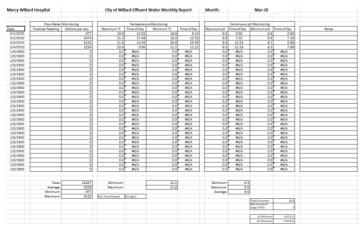
Mercy Hospital panel consisting of 1 AM-2300 Controller, pH, flow and temperature sensors.

time	Flow GPM	pH (pH)	Relay: Low	Temperature (°C)
3/1/2020 0:00	0.05	8.6	0	19.2
3/1/2020 0:13	0.67	8.6	0	19.2
3/1/2020 0:14	2.52	8.6	0	19.2
3/1/2020 0:15	1.36	8.6	0	19.2
3/1/2020 0:16	0.21	8.6	0	19.2
3/1/2020 0:17	0.16	8.6	0	19.2
3/1/2020 0:18	0.05	8.6	0	19.2
3/1/2020 0:23	0.8	8.6	0	19.2
3/1/2020 0:24	0.39	8.6	0	19.2
3/1/2020 0:25	0.05	8.6	0	19.2
3/1/2020 0:26	0.12	8.6	0	19.2
3/1/2020 0:27	0.05	8.6	0	19.2
3/1/2020 0:31	0.05	8.6	0	19.1
3/1/2020 0:40	0.09	8.6	0	19.1
3/1/2020 0:41	0.13	8.6	0	19.1
3/1/2020 0:42	0.05	8.6	0	19.1
3/1/2020 0:43	0.47	8.6	0	19.1
3/1/2020 0:44	1.74	8.6	0	19.2
3/1/2020 0:45	1.22	8.6	0	19.2
3/1/2020 0:46	1.13	8.6	0	19.2
3/1/2020 0:47	0.44	8.6	0	19.2
3/1/2020 0:48	1.91	8.6	0	19.2
3/1/2020 0:49	2.53	8.6	0	19.2
3/1/2020 0:50	2.73	8.6	0	19.2
3/1/2020 0:51	2	8.6	0	19.2
3/1/2020 0:52	2.38	8.6	0	19.2
3/1/2020 0:53	1.93	8.6	0	19.1
3/1/2020 0:54	2.97	8.6	0	19.1
3/1/2020 0:55	2.83	8.6	0	19.1
3/1/2020 0:56	5.04	8.6	0	19.1
3/1/2020 0:57	3.54	8.6	0	19.1
3/1/2020 0:58	3.02	8.6	0	19.1
3/1/2020 0:59	3.94	8.6	0	19.1
3/1/2020 1:00	3.33	8.6	0	19.1

Mercy Hospital daily data log report example.

Mercy Willard Hospital — **City of Willard Effluent Water Monthly Report** — Month: **Mar-20**

Date	Flow Meter Monitoring: Totalizer Reading	Gallons per day	Temperature Monitoring: Maximum °C	Time of Day	Minimum °C	Time of Day	Continuous pH Monitoring: Maximum pH	Time of Day	Minimum pH	Time of Day	Notes
3/1/2020		977	19.9	22:02	18.6	6:14	8.6	0:00	8.6	0:00	
3/2/2020		3474	21.3	17:48	18.0	12:33	8.9	7:20	8.6	7:19	
3/3/2020		5132	21.6	11:44	20.8	23:40	8.8	22:23	8.7	0:00	
3/4/2020		3254	20.8	0:00	12.2	11:22	9.5	12:18	6.3	7:06	
1/0/1900		0	0.0	#N/A	0.0	#N/A	0.0	#N/A	0.0	#N/A	
1/0/1900		0	0.0	#N/A	0.0	#N/A	0.0	#N/A	0.0	#N/A	
1/0/1900		0	0.0	#N/A	0.0	#N/A	0.0	#N/A	0.0	#N/A	
1/0/1900		0	0.0	#N/A	0.0	#N/A	0.0	#N/A	0.0	#N/A	
1/0/1900		0	0.0	#N/A	0.0	#N/A	0.0	#N/A	0.0	#N/A	
1/0/1900		0	0.0	#N/A	0.0	#N/A	0.0	#N/A	0.0	#N/A	
1/0/1900		0	0.0	#N/A	0.0	#N/A	0.0	#N/A	0.0	#N/A	
1/0/1900		0	0.0	#N/A	0.0	#N/A	0.0	#N/A	0.0	#N/A	
1/0/1900		0	0.0	#N/A	0.0	#N/A	0.0	#N/A	0.0	#N/A	
1/0/1900		0	0.0	#N/A	0.0	#N/A	0.0	#N/A	0.0	#N/A	
1/0/1900		0	0.0	#N/A	0.0	#N/A	0.0	#N/A	0.0	#N/A	
1/0/1900		0	0.0	#N/A	0.0	#N/A	0.0	#N/A	0.0	#N/A	
1/0/1900		0	0.0	#N/A	0.0	#N/A	0.0	#N/A	0.0	#N/A	
1/0/1900		0	0.0	#N/A	0.0	#N/A	0.0	#N/A	0.0	#N/A	
1/0/1900		0	0.0	#N/A	0.0	#N/A	0.0	#N/A	0.0	#N/A	
1/0/1900		0	0.0	#N/A	0.0	#N/A	0.0	#N/A	0.0	#N/A	
1/0/1900		0	0.0	#N/A	0.0	#N/A	0.0	#N/A	0.0	#N/A	
1/0/1900		0	0.0	#N/A	0.0	#N/A	0.0	#N/A	0.0	#N/A	
1/0/1900		0	0.0	#N/A	0.0	#N/A	0.0	#N/A	0.0	#N/A	
1/0/1900		0	0.0	#N/A	0.0	#N/A	0.0	#N/A	0.0	#N/A	
1/0/1900		0	0.0	#N/A	0.0	#N/A	0.0	#N/A	0.0	#N/A	
1/0/1900		0	0.0	#N/A	0.0	#N/A	0.0	#N/A	0.0	#N/A	
1/0/1900		0	0.0	#N/A	0.0	#N/A	0.0	#N/A	0.0	#N/A	
1/0/1900		0	0.0	#N/A	0.0	#N/A	0.0	#N/A	0.0	#N/A	
1/0/1900		0	0.0	#N/A	0.0	#N/A	0.0	#N/A	0.0	#N/A	

Total:	12837	Minimum:	12.2		Minimum:	6.3				
Average:	3209	Maximum:	21.6		Maximum:	9.5				
Minimum:	977				Average:	9.0				
Maximum:	5132	Max Temp Allowed:	80.0 deg C							

Total Excursions: 0.0
Max time out of range (HRS): 0
pH Minimum: >6.0 S.U.
pH Maximum: <10.0 S.U.

Mercy Hospital monthly compliance report example