

Air Compressor Monitoring System

Industry:

Product: Standalone MW100

Introduction

As manufacturing capacity expands, manufacturing facilities are required to increase the capacity of compressed air in order to provide adequate support to meet demand output. This can be achieved by upgrading existing system to provide additional air capacity or installing a separate system. Air compressors can consume a great deal of electricity, even when they are idle. Furthermore, air compressors that are old can run inefficiently. As a result, old air compressors will consume more power.

In order to ensure air compressors are not consuming unnecessary power, it is imperative to monitor the efficiency of the air compressor which may include the following parameters: on/off time, load/unload duration, pressure, flow, humidity and power consumption. Additionally, by monitoring these parameters, facility maintenance can conduct preventative maintenance.

Application

In order to determine the efficiency of the air compressor as well as the power consumption, the following criteria should be considered:

- Secure a highly reliable, network capable data logger that continuously log and record air compressor parameters and take a wide variety of inputs
- Easy setup and powerful data logger software that displays and live parameter

values being measured from the data logger

- Power meter that has the capability to measure integrated active power (kWh and MWh), voltage and current
- Temperature sensor that will measure temperature value of the air compressor line
- Pressure sensor that will measure the pressure per square inch of each air compressor
- Humidity sensor that will measure the amount of water vapor within the air compressor to prevent condensation from occurring and to prevent moisture from interfering with sensitive industrial processes
- On/off time of the compressor

Solution

A major Korean electronics manufacture is realizing the benefits of monitoring air compressors in 7 different manufacturing areas at the same site. Each manufacturing area has a dedicated MW100 data logger recording the process requirement outlined above. The MW100 can totalize the power consumption on a daily/weekly/monthly basis.

The MW100 is connected to the company's network and live data is sent to the GA10 data logging software. An operator monitors the data logging software for alarms. Additionally, GA10 data logging software allows management to review historical trend and data to see which manufacturing area is consuming the most power.

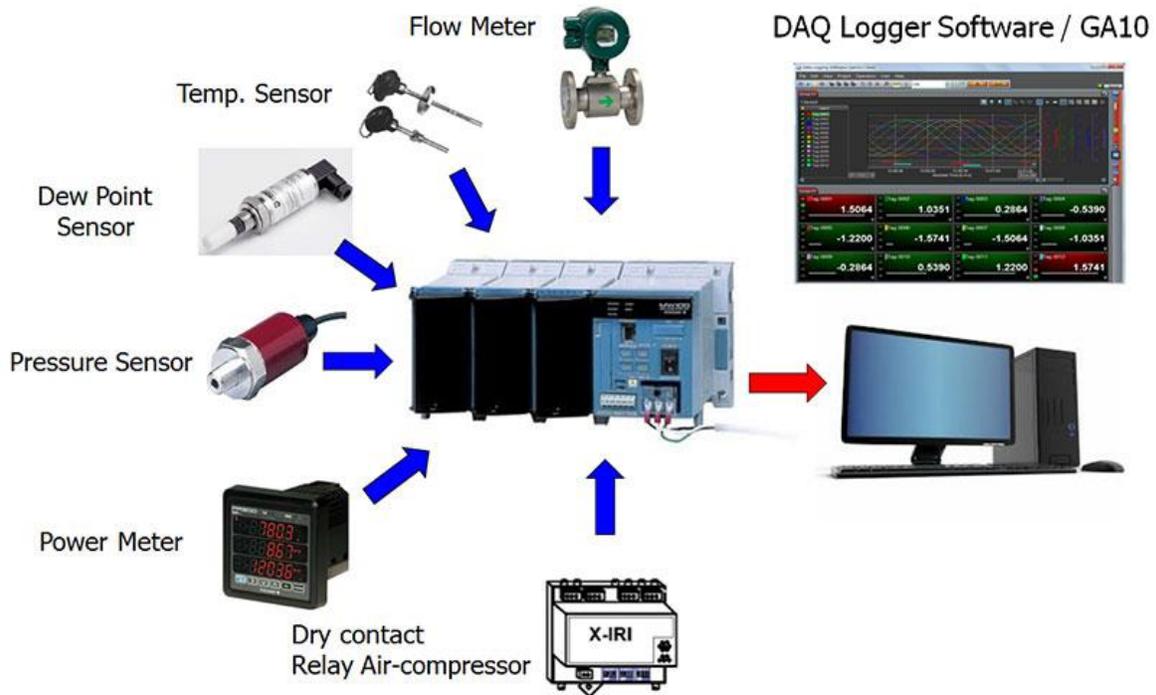


Figure 1 MW100 data logger showing all required sensors and inputs



Figure 2 GA10 software monitoring live process values from air compressor