Solutions for Remote Monitoring

Real-time monitoring of machine status allows supervisors to address any issues as they arise, minimizing machine downtime and potentially resolving small issues before they become big problems. Providing clear indication of status at a machine is a necessary requirement. Communicating that status information from a machine to other devices makes it possible for personnel to monitor multiple machines on a factory floor from a convenient location.
### Temperature and Vibration Monitoring

**Challenge**
- Off-line motor testing requires costly down time and can miss changes between testing
- On-line or dynamic testing may neglect key symptoms that indicate motor decline

**Featured Solution**
- QMV42VT1 or QMV42T2 (with DX80 nodes, Q45U Nodes, or MultiHop Modbus RTU radios)

**Key Features**
- Sensor continuously monitors RMS velocity and temperature to detect problems early
- Monitor remotely using wireless I/O instead of running cable
- Schedule maintenance without disrupting production by getting email or text in real time when vibration threshold has been exceeded

**Key Benefits**
- Automate the testing process to save time and better predict mechanical failure
- Save maintenance costs by scheduling motor rework rather than unplanned downtime

### Temperature and Humidity Monitoring

**Challenge**
- Running power and signal wire to sensors may require long conduit runs overhead or underground
- Conduit runs over production lines lead to costly downtime
- Checking temperature and humidity manually is time consuming and the human factor can lead to errors

**Featured Solution**
- M12FTH (with DX80 Node, Q45U Node, or MultiHop Modbus RTU radios)

**Key Features**
- Battery-powered nodes with compatible temperature and humidity sensors are perfect for ease of installation
- Temperature accuracy of +/- 0.3 °C and humidity accuracy of +/- 2% relative humidity
- Signal is transmitted wirelessly over radio frequencies
- Up to 47 nodes can be added per gateway creating an efficient network collecting data from multiple points

**Key Benefits**
- Effective solution that reduces the scrap product from out of specification temperatures or humidity
- Easily monitor environmental conditions in locations previously too difficult or expensive to access

### Barrel, Tote, or Tank Level Inspection

**Challenge**
- Difficult to tell how much liquid product is in a barrel, tote or tank
- Running out of product at the wrong time can be a hassle and create unnecessary production loss
- Running cables for power and signal wires to barrels, totes or tanks for automatic level monitoring can be expensive and creates a potential tangled mess as items are moved around

**Featured Solution**
- K50U Ultrasonic (with DX80 Node, Q45U Node, or MultiHop Modbus RTU radios)

**Key Features**
- Ultrasonic sensor specifically for tank level monitoring, is optimized for power consumption and has threaded housing to fit a bung of a barrel or tote
- Utilizes power from batteries inside the node for ease of installation and use
- Signal can be monitored remotely with no cables by using wireless radio waves

**Key Benefits**
- Easily monitor remote and mobile barrels, totes and tanks
- Empty barrels are switched with full ones in a timely manner with no production loss
- Manage inventory with real time data indicating when to re-order materials
Machine Indicator Tower Lights with Wireless Connectivity

**Challenge**
- Placing indicators in locations that don’t have an existing signal cable
- Long conduit runs are costly and installation may cause unnecessary down time
- Legacy machines often don’t have the ability to send data to the network

**Featured Solution**
TL70 Wireless Tower Light

**Key Features**
- Flexible solution for placing an indicator in the desired location
- Line of sight range of signal is up to 2 miles
- Bright LED’s for easy visual monitoring of a machine’s condition
- Wireless connectivity enables machine status to be collected on legacy machines

**Key Benefits**
- Wireless connectivity results in more uptime and efficient troubleshooting
- Easy installation compared to hard wiring tower lights into the network

Line Throughput/Scoreboarding/Part Counting

**Challenge**
- Monitoring machine production throughput requires time-consuming electrical installation
- Each machine and production line may have unique product detection needs

**Featured Solution**
Q4X DXM100

**Key Features**
- Nodes on a machine monitor the signal on existing sensors and wirelessly transmit the signal back to a Gateway
- Log the data and communicate to the network or the cloud
- Show production metrics on scoreboard

**Key Benefits**
- Easy and cost effective installation
- Add counting capabilities to legacy machines

Wireless Clean Room Indication

**Challenge**
- Monitor the status of each clean room in one central location without adding long conduit runs
- Signal personnel when it is safe to enter and exit the clean room.

**Featured Solution**
K70L Wireless DXM100

**Key Features**
- Up to 47 wireless nodes can wirelessly send a wide variety of data to a central gateway.
- Logic controller with action rules and ScriptBasic programming

**Key Benefits**
- Without adding additional wiring, send current temperature, humidity, pressure and entry/exit door status from every clean room to a central monitoring room
- Wirelessly activate an indication light and lock or unlock the entry/exit doors based on the room parameters