

Monitoring CNC Cutting Fluid Tank Levels

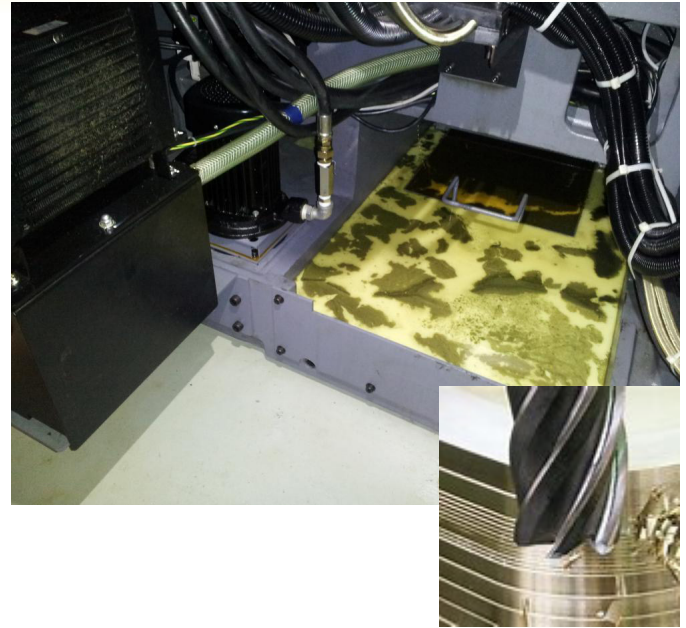
Customer

Company – Major automotive component supplier

Background – A major supplier to the automotive industry was looking for a more effective means of ensuring proper cutting fluid levels were being maintained on a shift basis and not creating safety issues when tanks were overfilled.

Requirement – Because of efficiency and safety concerns, the customer was looking for a simple-to-deploy tank level monitoring solution that can also provide direct alerts to operators, support personnel, and supervisors.

Challenges – This company needs to monitor more than 50 machines at each of their many facilities throughout the world to ensure the proper amount of cutting fluids are available during the machining process. They also want to gather tank level data from each machine to help them predict raw product needs and prevent defective products from being produced.



Solution

K50UX1ARA ultrasonic level sensors are mounted on each CNC machine's cutting fluid tank and connected to a Wireless Q45U Node. Data is transmitted wirelessly to a DXM100 Controller that uses action rules to define thresholds. Local indicator lights turn on to indicate when an alert condition is reached. Tank level data is also sent via Ethernet to a web hosting service where historical trending and monitoring functions are accessed via the Cloud.

Why Banner?

Value – Effective Monitoring

- Reassign an employee from daily monitoring and filling all tanks to focusing on only the in-need locations
- Reduce equipment downtime because of low fluid levels
- Reduce the percentage of defective products because of improper cutting caused by cutting fluid levels

Safety – By monitoring cutting fluid levels during operation and tank filling, they can avoid overfilling the tanks and creating slip conditions.

Expansion – With a wireless network backbone already in place, customer can capture additional value by adding:

- Vibration monitoring of spindles in the CNC equipment
- Temperature monitoring of the cooling fluids to ensure they are not compromised through excessive heat conditions
- Remote indication of low or high conditions for maintenance or supervisory locations.

Customer Benefits

- ROI – Cost avoidance of over/under filling cutting fluid tanks.
- Reduced scrap and tool wear
- Eliminated safety concerns – reduce spills due to overfilling
- Eliminated cost and time of manually checking and filling the tanks
- Reduced downtime – Allows continual monitoring for maintenance scheduling

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