

# Measuring Milk Pipe Pressure

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## Challenge

To develop an automated system for logging the pressure of the milk in the inlet pipe of milk tankers. The system was required to:

- Continuously monitor the pressure in the inlet pipe, with data logging being triggered by the pressure reaching a predetermined level during loading or washing.
- Log to file data acquired during pre-defined intervals, both before and after the trigger.
- Log the pressure values in conjunction with the status of several valves part of the system – both proportional and on/off.
- Be fully configurable in terms of sampling frequency, data logging duration (pre and post trigger), trigger and alarm levels.
- Be fully portable, capable of running off the truck's 24VDC system, yet immune to the electrical noise inherently present in a truck's electrical system.

## Solution

- Develop a standalone, self-contained data acquisition system based on a NI USB 6210 unit. The system comprises a power inverter that supplies 240VAC to a 24VDC switchmode power supply and the laptop.
- Develop a LabVIEW application to implement all the procedural requirements.

## Benefits

- The customer is capable of measuring at high sampling rates and with a high degree of accuracy the level of milk pressure. By correlating the pressure level with the status of the valves, the customer can determine the factors that cause the pressure to exceed acceptable levels and cause damage to other components of the supply system.



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