



Storage Tank Inventory Management

Solution benefits

- Cost-effective remote inventory management
- Up-to-date inventory information
- Immediate reporting of critical inventory levels
- Local inventory information on multi-language integrated display
- Remote equipment monitoring
- Automated data transfer of inventory information to customer ERP-system

AnyBridge offers a cost-effective and comprehensive solution for managing the inventory of liquid goods stored in tanks. Making clever use of the AnyBridge M2M Controller's capabilities, the AnyBridge Storage Tank Inventory Management solution achieves substantial benefits that allow end-to-end automation of the supply chain.

The AnyBridge tank telemetry solution is based on the AnyBridge M2M Controller in combination with suitable sensors that are available from various vendors. The AnyBridge M2M Controller supports the direct connection of up to two sensors (one per tank); using one or more AnyBridge Wireless Sensor Modules, the number of sensors can be increased to sixteen.

The AnyBridge M2M Controller connects to the AnyBridge M2M Platform using its integrated GPRS communication interface, making it independent of on-site communication facilities. For basic tank configurations, the AnyBridge M2M Controller can also implement the control functions that otherwise typically would be performed by a Programmable Logic Controller (PLC) device.

In many cases, submerged pressure transmitters are an effective way to measure the liquid level. Because the AnyBridge M2M Controller has an internal high-precision barometric pressure sensor for compensating the atmospheric pressure, absolute pressure transmitters can be used for the level measurement. Such sensors cost significantly less and are much more reliable than a relative pressure sensor. From the level signal, the AnyBridge M2M Controller accurately calculates the volume of the liquid product using an

advanced algorithm that is based on the tank table. For situations in which the application requires temperature monitoring to safeguard the product quality, a Pt-100 temperature sensor can be connected to the AnyBridge M2M Controller.

The AnyBridge M2M Controller continuously measures the tank inventory and logs the values at a programmable interval. The measured volumes are compared with the programmed critical levels, in which case a report is sent out immediately. Also, the AnyBridge M2M Controller verifies the integrity of the sensor signals and reports an error in case of fault conditions. For local users, the AnyBridge M2M Controller presents the current tank inventory and other relevant information on its integrated alphanumeric display, in a selectable language.

The services of the AnyBridge M2M Platform, besides the automated reporting of inventory information and events, provide features such as remote configuration of all AnyBridge M2M Controller parameters and remote software updating. The AnyBridge M2M Platform can deliver the inventory records to e.g. an ERP-system, which allows end-to-end automation of the supply chain.

Solution details

Recommended M2M devices

AnyBridge M2M Controller with integrated barometer option

Recommended sensor

Submerged absolute pressure sensor, 4-20 mA or 0-5VDC process interface

M2M application functions

- Measurement of liquid levels and calculation of tank inventory
- Tank installation control functions (optional)
- Inventory temperature monitoring (optional)
- Presentation of inventory information on integrated display
- Periodic logging of tank inventory at configurable intervals
- Periodic data transfer per GPRS of logged inventory information to M2M application database according to a configurable schedule
- Immediate reporting of critical inventory events, based on configurable inventory levels
- Remote configuration of application parameters
- Remote software updating
- Automated, frequent data transfer of inventory information to back-office (e.g. ERP) applications

