

Tank Level Monitoring (TLM)

Integrated monitoring solutions for upstream,
midstream, and downstream applications



Complete tank level monitoring solutions

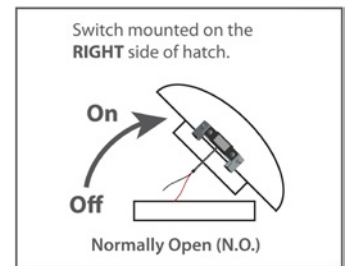
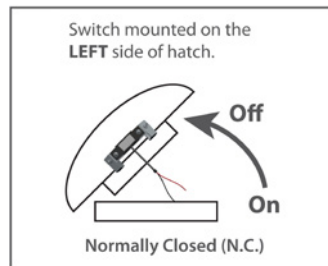
TechnipFMC's Tank Level Monitoring (TLM) allows an operator to monitor, alarm and report tank level, interface level, and tank volumes for production accounting, API 18.2 compliance or leak detection.

All information is recorded on a per-job basis and reported remotely using TechnipFMC's UCOS Remote Monitoring Data Service (URDS) for remote analysis. TLM can run as a stand-alone device or can connect to other systems via a secure network



Benefits

- ▶ Broadly increases data visibility, accuracy, frequency, and availability
- ▶ Low cost controller supports API Temperature compensation for net volume
- ▶ Automated reports provide an organized audit trail for all device data (daily/weekly/monthly reports, setpoint reports, alarm reports, email, and text)
- ▶ Easy installation and maintenance of Resistive Liquid Level Transmitters
- ▶ Intuitive and easy to use user interface that allows flexible configuration
- ▶ HSE: System removes the need for personnel on top of tanks and automated functions removes any unsafe or costly manual gauging methods
- ▶ Complete TechnipFMC solution including cloud integration with data enabling benefits
- ▶ One affordable and flexible TechnipFMC monitoring system: suitable for upstream, midstream and downstream applications
- ▶ Interoperable with all TechnipFMC Digital Oilfield applications and is a fully integrated offering with FUEL-FACS+ connections
- ▶ Reduce or eliminate costly fines while increasing safety on the top of tanks by Storage Tank Emission Detection Monitoring with our Thief Hatch Sensor. The open/close status of this sensor is one of the easiest methods to be alerted of emission leaks



Component overview

- ▶ Wireless Resistive Liquid Level Transmitters
- ▶ Applicable to any type of level sensor, using wireless resistive upstream now
- ▶ Easy installation (one-person install)
- ▶ Provides high quality data to FCU
- ▶ Low Cost Controller (LCC)
- ▶ Primary data collection point
- ▶ Executes logic to trigger I/O or control events (i.e. valve shutoff)
- ▶ Industrial I/O Rack
- ▶ I/O rack for monitor and control of audible and visible alarms
- ▶ Capability to send control events to any wired I/O (valves and pumps)
- ▶ AI, AO, DI, and DO compatible, RS485/232 Instruments, Ethernet etc.
- ▶ Handheld Pad with HMI
- ▶ Portable graphic interface receives data from LCC for observation and control of the tank monitoring system
- ▶ Allows for user configurable setpoint and commands that can be sent out to the LCC, which makes changes to the system
- ▶ GUI interface provides all-in-one alarm management, trending, and logging
- ▶ Data Enabling with URDS
- ▶ Data uploaded to the TechnipFMC cloud
- ▶ Provides remote monitoring and distribution of data (text and email)
- ▶ Provides remote inventory management and predictive modelling
- ▶ Thief Hatch Switch Kit



Resistive liquid level transmitters

- ▶ All-in-one wireless tank level monitoring solution - up to 50' Tanks
- ▶ More practical and affordable than other tank gauging methods (Guided Wave Radar, Capacitance, Magnetostrictive, etc.)
- ▶ RL Sensor supplies a wide range of data
- ▶ Class I, Division 1 (Zone 0)
- ▶ 10 year battery life
- ▶ Delivers high accuracy and reliable data using field-proven reed switch design



HMI features



- ▶ Clean, intuitive GUI packaged with a low cost, handheld pad or existing Windows PC
- ▶ Real-time monitoring of tank data clearly displayed on a process overview screen
- ▶ Flexible configuration allows for dual product management and dynamically defined data
- ▶ User notification of triggered alarms and faults even when not viewing associated tanks
- ▶ Capability to define, change, enable, and disable HH, H, L, and LL setpoints for each individual tank -with Audit Trail support
- ▶ Enforces a user privilege system that prevents unauthorized commands or setpoint changes
- ▶ Includes historical data storage and reporting that generates inflow/outflow, volume, and temperature reports among others
- ▶ Detailed tank information faceplate covers product, group, tank, and maintenance details



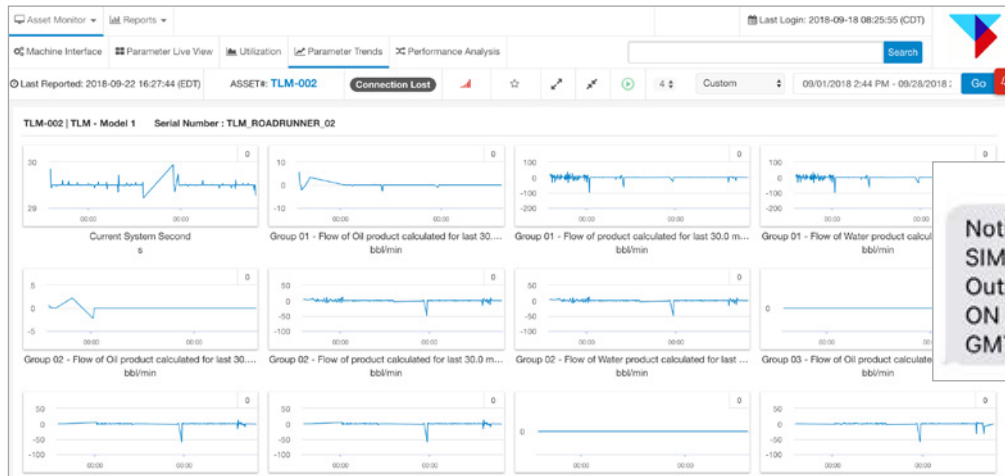
Remote monitoring and reporting

Automated customer specific reporting

Reports are generated automatically. They are complete, accurate, and uniform.

Alerts

Receive text and email alerts at schedules intervals, alarms or as field conditions change.



Today, 12:11 PM

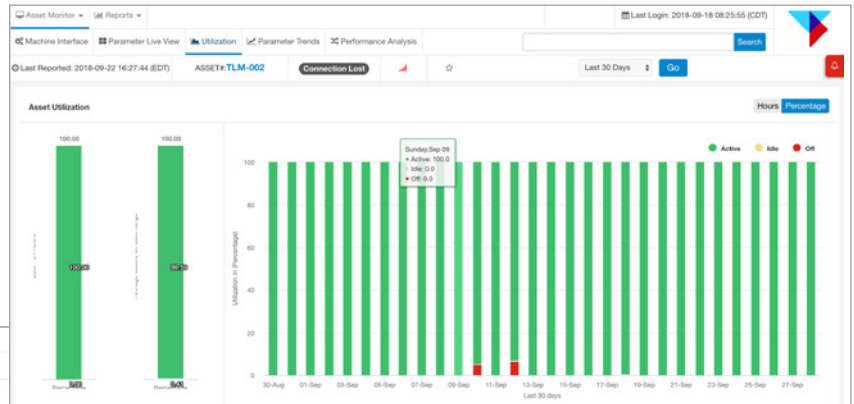
Notification from Asset EPS - SIM_2: High Vessel to Gas Output Differential Pressure - ON at 2017-08-01 11:48:58.000 GMT-06:00.

Alert notification

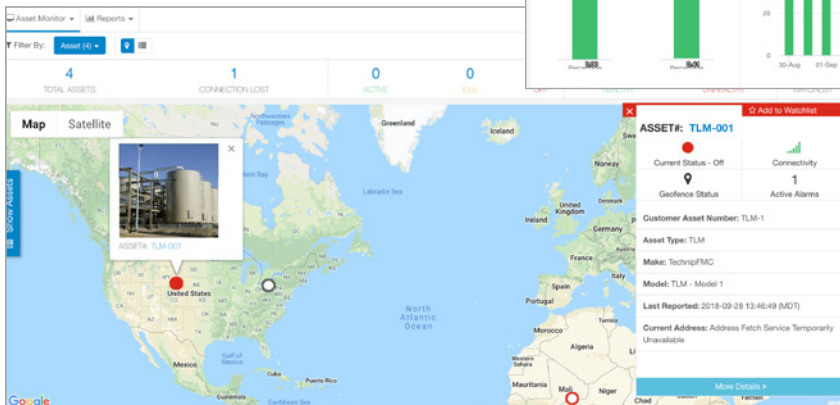
Trending and analytics

Advanced analysis

Our advanced data analysis tools give you details about each location and allows you to drill down for details.



Tank utilization



Asset map

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