

Application Note

For LNG Tanks & More



Cryogenic Plant Monitoring

SensorTran offers a range of advanced cryogenic plant monitoring solutions based on leading edge fiber optic Distributed Temperature Sensing (DTS) technology.

These solutions provide continuous, autonomous, on-line temperature monitoring of storage tanks and pipelines, providing tank and pipeline integrity monitoring, tank base temperature control, and pipeline cool-down monitoring.

With SensorTran DTS utilizing optical fibers, you can take advantage of real-time temperature data with fine resolution and high accuracy for up to 30,000 discrete measurement points.



Such systems have an open-communications architecture allowing for reliable and easy interfacing with 3rd party systems and networks over, for example, Ethernet, OPC and SCADA.

SensorTran's specifically developed application software presents the data in a meaningful, representative and intuitive graphical form to the operator.

Intelligent alarm types and configurations can be readily tailored to each specific project to alert the operator to both potential and present undesirable temperature and health events.

Applications

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| <ul style="list-style-type: none">○ LNG○ LPG○ Ethylene○ Ammonia○ Oxygen, etc. | <ul style="list-style-type: none">○ Buried or above ground storage tanks○ Single and double-wall tanks○ On-shore and ship installations |
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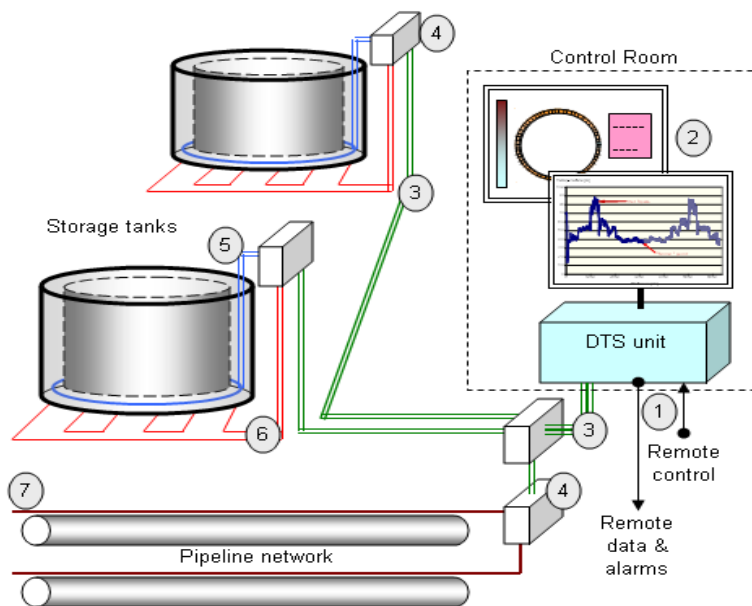
The configuration example below shows a typical LNG plant with two storage tanks and an import/export line.

A fiber is installed in the annulus of each double-wall storage tank to monitor for leaks through the inner wall. Fiber is also shown running in the conduits within the concrete slab bases to provide temperature distribution data to the heating control system.

The trunk lines have fiber installed not only to monitor for leaks but also to provide dynamic temperature data along their full length for cool-down monitoring.

Single or multiple DTS units can be provided within a single cabinet (backup controllers are aimed at achieving SIL2 redundancy levels).

DTS networks can be readily implemented providing expanded coverage for plant-wide solutions.



1. Data output and remote control via Ethernet, OPC, SCADA RS232, RS485, GPIB, relay contacts (alarm data only), etc
2. Specially developed application software
3. Multi-core fiber-optic transit cable
4. Field optical junction box
5. Fiber-optic cable for tank leak detection
6. Fiber-optic cable for tank-heat monitoring
7. Fiber-optic cable for pipeline leak detection and temperature monitoring



SENSORTRAN

Optical Conclusions

Contact

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