



LNG

Custody Transfer System



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LNG Custody Transfer System

As environmental regulations change, and the demand for LNG increases, it is important to have an accurate and reliable custody transfer system on your carriers. Musasino's CTS is built on our extensive experience in the marine industry, and our unique technologies.

FEATURES

1 Unique Self-Correction Function

The radar type liquid level sensors are equipped with a self-calibration function that ensures accurate measurements over long-term operation.

2 All-in-One Structure

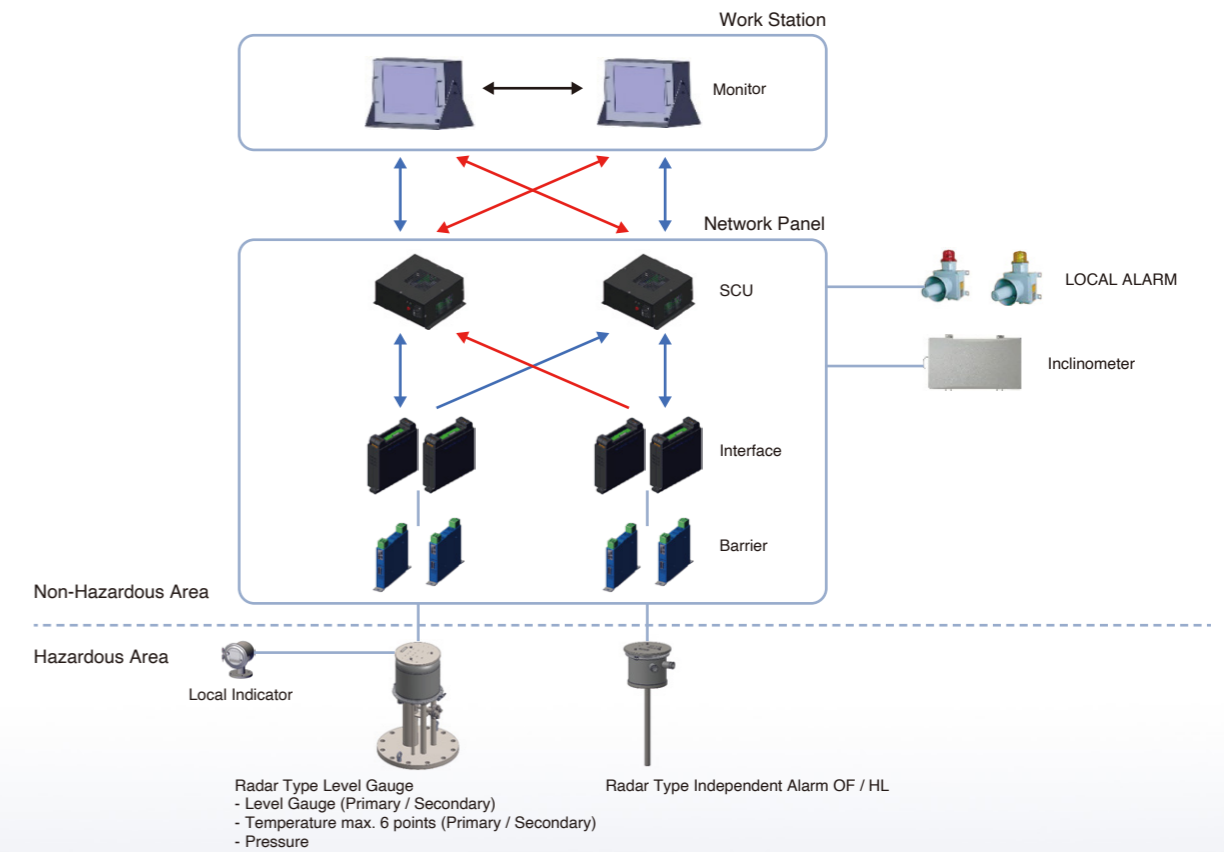
The all-in-one design combines modules for level sensors, temperature sensors, and pressure sensors in a single housing. Each module is independent, and can be maintained without having to open the tank. Musasino's in-house developed transducer makes it possible to take stable measurements with less attenuation and less interference from any unevenness in the guide pipe.

3 Bottom Structure

Musasino's unique bottom attenuator has a simple form and requires little space for installation. This allows for measurements down to 15 mm from the tank bottom, and with an accuracy of ± 5 mm down to 25 mm above the tank bottom.

4 Designed for Durability

The inside of an LNG tank is a harsh environment, and the installation has to hold up under those conditions for decades. Simulations using sloshing models show our design is robust enough to withstand over 40 years of operations.



Level Gauge

Measuring Method	FMCW (Frequency Modulated Continuous Wave)
Measurement Range	0.5m to 50m
Resolution	1mm
Accuracy	± 5 mm
Ambient Temperature	-30 to +70°C (Electronics Housing)
Explosion Protection	Intrinsically Safe Type Ex ia IIC T5
Protection Class	IP66
Material	SUS316L

Inclinometer

Method	Capacitive MEMS Sensor
Measurement Range	$\pm 5^\circ$
Accuracy	$\pm 0.05^\circ$
Resolution	0.001°

Temperature Sensor

Method	PT-100, 4-wire Temperature Sensor
Measurement Range	-200 to +100°C
Accuracy	$\pm 0.2^\circ\text{C}$ ($\leq -145^\circ\text{C}$), $\pm 1.5^\circ\text{C}$ ($> -145^\circ\text{C}$)
Resolution	0.1°C

Pressure Sensor

Method	Diaphragm with Strain Gauge Bridge
Measurement Range	0.8 bar to 1.4 bar
Accuracy	$\pm 0.5\%$ FS
Resolution	1 mbar
Diaphragm Material	SUS 316L

