



BMS4 Pneumatic Level Measurement System



Key features

- A complete system engineered and configured for each application
- Adaptive pulse operation reduces air consumption
- Built-in periodic zero self calibration of pressure sensors, with automatic monitoring for leaks
- Self purging of air tubes for protection from contamination and freezing
- Back-up pressure sensor for continuous operation if the main sensor fails
- Modbus output for direct interface to PSM TankView or VPM 4300 HMI systems
- Functionality of HMI system provides level display, alarm handling and interface to other shipboard systems

Part of the **TankWatch** product group



BMS4 Pneumatic (bubbler) Level Measurement System

PSM's pneumatic level measurement modules provide 12 independent measurement channels to give a robust and reliable solution for level gauging on multi-tank marine installations with open or vented tanks.

The level measurement principle of BMS4 is based on periodic purging (pulses) of compressed air from the system to the tank bottom through an air tube, with associated measurement of the steady state air back pressure in the tube. The back pressure is directly related to the head pressure of the liquid in the tank, and consequently with a known density of liquid, the level can be calculated.

A complete system comprises:

Air handling unit - a cabinet containing the filter and regulator components required to condition the incoming compressed air supply

Multi-point pneumatic transmitter module - an integrated unit for air pulsing into the tubes, providing back pressure measurement and calculation of level, with pressure sensors for up to 12 measurement channels (tanks) per module.

HMI display - Receives the Modbus measurement output from the transmitter unit and provides a visual display of tank levels with associated functionality for alarms outputs and measurement retransmission.

With no active electronics needed to be installed in the hazardous area the system is suitable for measurement of flammable liquids and is certified for marine duty by many approval organisations.

Specifications	
Air handling unit	According to application
Number of measurement channels	Up to 12 per transmitter module
Measurement range - pressure	0 - 1.8 bar
Measurement range - level	0 - 18 m (water density)
Measurement accuracy	0.25%
Measurement update rate	Adjustable between 5 - 30 seconds
HMI display	Panel or wall mount
Screen size and resolution	Depending on TankView or VPM 4300 option
Functionality	Local display and alarm for tank levels Optional outputs for remote alarm control and transmission to ships control system

Part of the [TankWatch](#) product group

A complete range of transmitters and switches with HMI display and control modules.

Together these comprise simple-to-install but scalable solutions for marine level measurement systems for ballast, cargo, service and bunker fuel oil tanks, as well as vessel draught and trim & heel measurement.

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