



Grown...to meet challenges

30+ years in Process Control Instrumentation

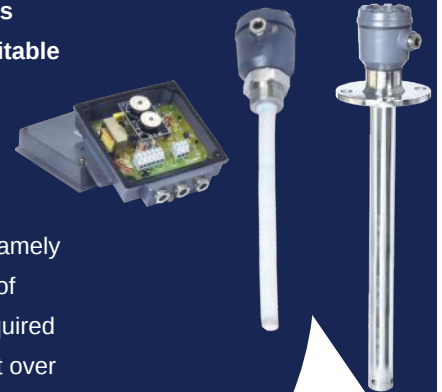
## Loss of Head Indicator - Capacitance-based Switch

Version 2.1

Sapcon LOH series instruments are quasi differential capacitance type continuous differential level indicators with built-in switching functions. The instrument is suitable for measuring the Loss of Head (LOH) in water canals.

### Principle

The capacitance formed by sensing probe and water is measured, and it is directly proportional to the level of water known as 'Head'. By measuring heads at two points, namely 'High Head' and 'Low Head', their difference can be calculated. This difference is 'Loss of Head'. LOH sensor measures the heads in millimeters and thus calibration might be required on site. The two sensors digitally send their level values of head heights in digital format over the same set of wires. A shielded cable should be used to assure flawless operation.



**Approvals** CE Marking, RoHS Compliance

### Features

- 'Heads' and 'Difference' are measured in millimeters from -400mm to 1500mm.
- -50.0% to +150.0% option is also provided for 4-20mA associated Head / Difference.
- Multi-purpose 5 digit Seven Segment LED display for best resolution and better viewing from distance.
- 2-wire Pulse Coded Digital communication enabling two sensors to be connected on same pair of wires to the evaluation unit.
- Supports as far as 1 KM distance between Sensor and Evaluation Unit with shielded two core cables.
- Two independent potential-free relays, providing flexibility of selecting six combinations of switching.
- Galvanically isolated two wire 4-20mA proportional to 0% and 100% level is available for remote indication purposes.
- 2-wire implementation solves problems occurring with other PLC 4-20 input interfaces, thus better suiting high-end automation.
- Offers local as well as remote indication.

### Special Feature:

- Sapcon 'Open Channel Flow' solutions are cost-effective. Instead of using separate evaluation units and sensors, we offer an integrated solution where one of the LOH sensors also serves the utility of an ROF sensor. This results in saving a sensor. This feature is only valid for LOH solutions using ultrasonic sensors using the corresponding evaluation unit.
- LOH solutions utilizing capacitance-based sensors need to use additional control unit and sensor.

### Applications

- Measuring differential level in Open Channel
- Effluent treatment plants
- Water treatment plants
- Filtration stations

Manufacturing Level Instruments & Speed Monitoring Systems

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## Measuring System

Two probes with pre-amplifier & still well (grounding pipe) on either side of the filter screen, translate the level change into an electrical signal by using the principle of capacitance.

The relative difference between the two signals is processed by the evaluation unit and displayed as 'Loss-of-Head' digitally.

## Technical Specifications

### Electrical

**Input Power Supply:** 24 V DC; 90-260 V AC at 50 Hz

**Output:** 2 SPDT Relay outputs

### Mechanical

**Housing:** Cast aluminium weatherproof  
Stoving enamel painted

**Cable Entry:** 3 Nos. 1/2" / 3/4" BSP / NPT  
gland brass / PG 13.5

**Process Connection:** Threaded mounting  
Flanged mounting

**Extension Length:** above 3500 mm

**Wetted Parts:** S4: SS 304

S6: SS 316

GI: Galvanized pipe

MS: Mildsteel

**Electronic Insert:** LDC-117 / LCDM-111: (High  
Head and Low Head)

**Measuring Frequency:** 250 KHz to 100 KHz

**Operating Temperature:** -20°C to + 60°C

## Why Sapcon

- Sapcon – Synonymous with Level Measurement.
- Pioneers in this field with over 32 years of expertise.
- Understanding your problems, always ready with solutions.
- Masters in customization.
- Offering accelerated delivery, saving your inventory costs.

## System Diagram

Figure 2 describes the system diagram of LOH.

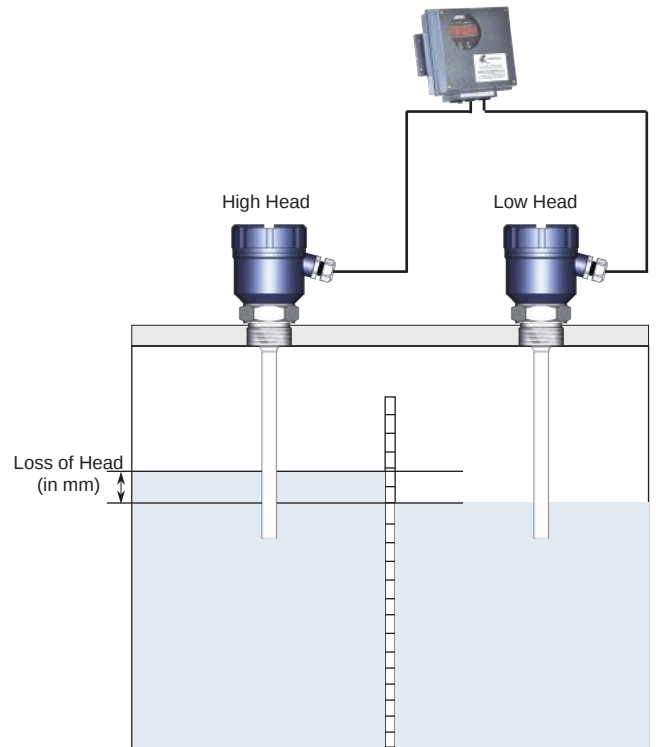


Figure 2: System Diagram of LOH-Series

## Connect to us

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