

ABS submersible pressure sensor HSC2

Description

HSC2 is a microprocessor based 2-wire loop powered submersible hydrostatic level sensor used for level measuring in fluids. The HSC2 gives a 4-20 mA signal, which is proportional to the level of the fluid.

The output signal is connected to the mA input of for example set point relays, chart recorders, indicating instruments, PLC, pump controllers etc. The level sensor has a ceramic pressure sensor which can withstand very high overpressures.

Measuring principle

The front side of the membrane senses the pressure of the liquid column, which is proportional to the level of the liquid and the atmospheric pressure, which is variable.

The change in atmospheric pressure effects the measurement and gives a measuring error. To eliminate this error the atmospheric pressure is passed to the backside of the membrane through an air hose in the sensor cable.

HSC2 can be adjusted and calibrated from a personal computer with the calibration system CB2 (accessory), which consists of a calibration box and a Windows program. The calibration box has an interface to enable communication between a personal computer and the sensor, and a precision instrument to measure the sensors mA-output signal.

Features:

- High overpressure
- Very robust, all stainless steel
- Programmable sensor with ceramic membrane
- High accuracy
- Integrated overvoltage protector
- Measuring ranges 1-40 mH₂O
- Non clogging, due to open membrane design

Measuring range	Max. overpressure
0-3.3 ftH ₂ O	-0,10.9 psi
0-6.6 ftH ₂ O	87 psi
0-13.1 ftH ₂ O	87 psi
0-33 ftH ₂ O	145 psi
0-66 ftH ₂ O	261 psi
0-131 ftH ₂ O	363 psi



Technical specifications

Description	
Output signal:	2-wire, 4-20 mA proportional to the media level
Supply:	9-60 VDC
Inaccuracy:	or = ±0,15 % F.S./°C (Sum of nonlinearity, hysteresis & repeatability)
Temp. shift Zero point:	or = ±0,1 % F.S./°C
Temp. shift Span:	or = ±0,1 % F.S./°C
Long term stability:	or = ±0,15 % F.S./year (F:S:=the range of the pressure cell)
Ambient temperature:	-4 to 140 °F compensated -22 to 140 °F uncompensated
Material:	Acid proof steel SS2343/1.4404/316L, Al ₂ O ₃ (Aluminium oxide) and FPM (Viton)
Cable:	PVC, 5 x 0,5 mm ² with shield and integrated air hose.
Encapsulation:	IP 68
Weight:	1.7 lb + 0.2 lb / cable

Mounting

Aeration

The air hose in the cable of the sensor must be in connection with the atmospheric pressure. This means that if the sensor cable is connected inside an airtight box, this box must be airtight.

Mounting in fluid without turbulence

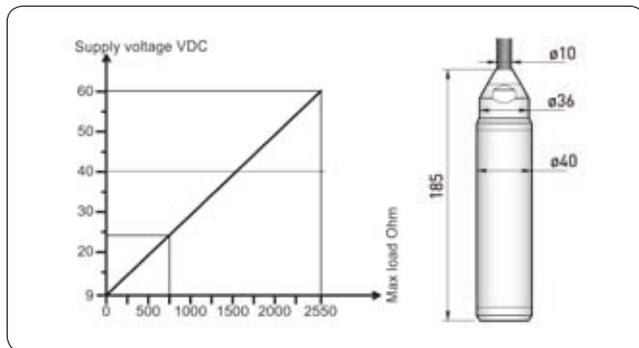
Normally the HSC2 can be mounted hanging freely in the delivered cable hanger and not touch the bottom. See fig 1.

Mounting in liquid with turbulence

If there is a strong turbulence, we recommend that the weight is mounted. See fig 2. Alternatively the sensor is protected inside a pipe, with an inside diameter of at least 2 in, which is mounted vertical alongside the tank or pit wall to above 4 in from the bottom. See fig 3.

The HSC2 is lowered through the tube until its lower end is free of the tube, but still free from the bottom. Slots in the tube prevent floating sludge to collect in the tube which can make lifting of the sensor difficult.

Accessories



Calibration system CB2

- Calibration box
- Net adapter
- Connecting cable for PC
- 3 connectors

Weight

Weight in bluepainted cast iron, weight 4.4 lb

