



Technology Solutions

TEK-SUB 4800A

PTFE Submersible Level Transmitter



LEVEL



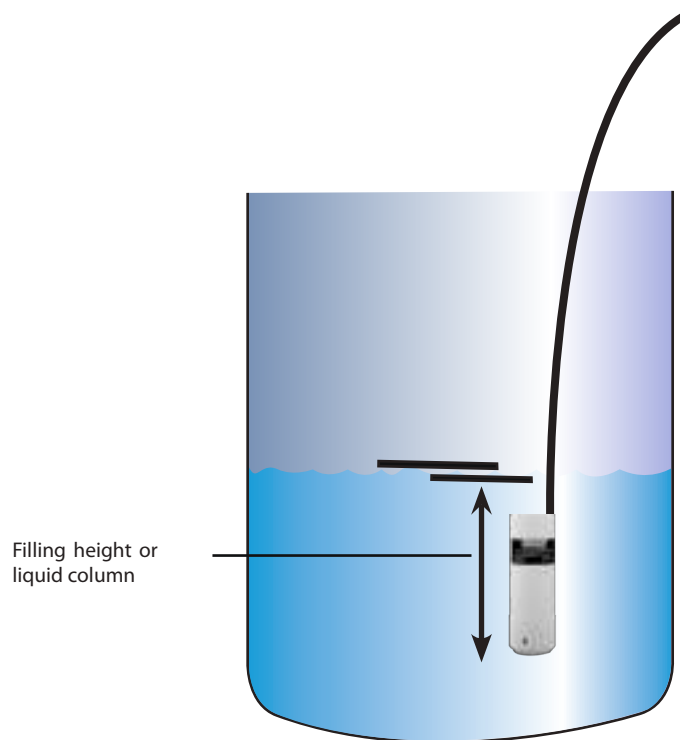
Introduction

Tek-Sub 4800A has high-quality Ceramic pressure sensor design. The pressure sensor is packaged in PTFE housing. The Tek-Sub 4800A is precision engineered to fit most level measurement applications.

The Tek-Sub 4800A features an integrated construction design with standard output signal which enables easy operation and good automatic control. Water-proof cable, sealed housing, and vented tube constructions helps the transmitter to be used in aggressive liquids such as acids, Lye and other fluids.

Measuring Principle

Tek-Sub 4800A is a PTFE Submersible Level sensor based on hydrostatic pressure measurement. This transmitter measures the level or filling height in a tank in accordance with the following principle: A liquid generates, through its specific gravity and the force of gravity, a weight force which increases with the filling height. This weight force, increasing proportionally with the filling height, is called the liquid column. The Tek-Sub 4800A measures the height-dependent weight force of this liquid column, as a hydrostatic pressure. From the measured hydrostatic pressure and the density of the product, one can calculate the filling height of the vessel.



Benefits

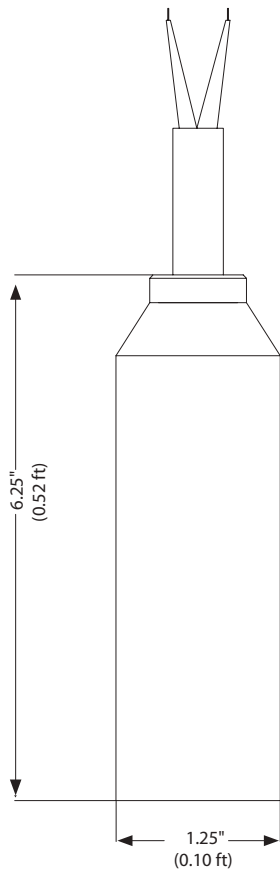
- Measuring Pressure ranges from 2.8 psig to 15 psig (2 mH₂O to 10.5 mH₂O)
- Accuracy: $\pm 0.5\%$ FS
- Temperature compensated
- Available in PTFE housing
- Ceramic pressure sensor design
- Variety of Pressure and Electrical connections
- Output: 4 to 20 mA, 0.5 to 4.5 VDC, RS485

Application

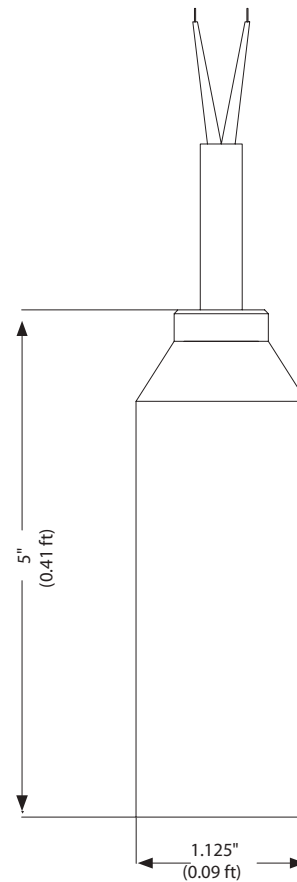
Level measurement in open tanks with aggressive liquids as acids and Lye for sewage treatment or level measurement application in chemical industry

Dimensional Drawing

RS485 model



4 to 20 mA and 0.5 to 4.5 VDC models



Accessories



Lighting Surge Protection box

Specification

Pressure Range	2.8 psig to 15 psig (2 mH ₂ O to 10.5 mH ₂ O)
Pressure Type	Gauge
Over pressure	150% FS
Accuracy	±0.5% FS(max.)
Temperature coefficient-zero	±0.02% FS/°F (typ.), ±0.03% FS/°F (max.)
Temperature coefficient-span	±0.02% FS/°F (typ.), ±0.03% FS/°F (max.)
Long term stability	±0.2% FS/year (typ.), ±0.3%FS/year (max.)
Output signal	4 to 20 mA, RS485, 0.5 to 4.5 VDC
Power supply (Vs)	12 to 36 VDC
Load resistance(R _L)	For current output: $R_L \leq (V_s - 15) / 0.02 \Omega$
	For voltage output: $R_L \geq 10 \text{ k}\Omega$
Maximum current consumption	4 to 20 mA: 22.8 mA
	0.5 to 4.5 VDC: 2 mA
	RS485: 6 mA
Response time	≤10 ms
Vibration	10g-force (20-2000 Hz)
Shock	100g-force (10 ms)
Insulation resistance	100 MΩ/50 VDC
Compensated temperature range	PTFE: 32 °F to 140 °F (0 °C to 60 °C)
Operating temperature range	PTFE: -20 °F to 160 °F (-29 °C to 71 °C)
Storage temperature range	-40 °F to 257 °F (-40 °C to 125 °C)
Maximum specific gravity	2.2
Housing	PTFE
Cable	PTFE or Polyurethane
Diaphragm	Ceramic (Al ₂ O ₃ , 96%)
O-ring	FKM (Flourine rubber)
Protection	IP68
Net weight	0.91lb

Model Chart

PTFE Submersible Level Transmitter Model Chart

Example	Tek-Sub 4800A	T	2	42	05	T7	#	Tek-Sub 4800A-T-2-42-05-T7
Series	Tek-Sub 4800A							PTFE Submersible Level Transmitter
Wetted Materials		T TF						PTFE, FKM and Ceramic Wetted Materials PTFE, FFMK and Ceramic Wetted Materials
Range			1 2 3 4					2.8 psig (2 meters H ₂ O) 5.7 psig (4 meters H ₂ O) 10 psig (7 meters H ₂ O) 15 psig (10.5 meters H ₂ O)
Output				42 43 45 48 49				4-20mA 4-20mA, HART 0.5 - 4.5VDC Low-Voltage Modbus (5 VDC) Modbus RS-485
Accuracy					05			0.5% FS
Cable Length and Type						T7 T14 T34 P7 P14 P34		20 Feet of PTFE Cable 40 Feet of PTFE Cable 100 Feet of PTFE Cable 20 Feet of Polyurethane Cable 40 Feet of Polyurethane Cable 100 Feet of Polyurethane Cable
Option							LP	Lighting Surge Protection box

Popular Models

Model Number	Description
4800A-T-1-42-05-T7	PTFE, 2.8 psi, 20 Feet PTFE Cable, 4-20 mA
4800A-T-2-42-05-T7	PTFE, 5.7 psi, 20 Feet PTFE Cable, 4-20 mA
4800A-T-2-42-05-T14	PTFE, 5.7 psi, 40 Feet PTFE Cable, 4-20 mA
4800A-T-3-42-05-T14	PTFE, 10 psi, 40 Feet PTFE Cable, 4-20 mA
4800A-T-1-42-05-P7	PTFE, 2.8 psi, 20 Feet Polyurethane Cable, 4-20 mA
4800A-T-2-42-05-P7	PTFE, 5.7 psi, 20 Feet Polyurethane Cable, 4-20 mA
4800A-T-2-42-05-P14	PTFE, 5.7 psi, 40 Feet Polyurethane Cable, 4-20 mA
4800A-T-3-42-05-P14	PTFE, 10 psi, 40 Feet Polyurethane Cable, 4-20 mA

Accessories

Model Number	Description
4800-LP	Lighting Surge Protection box
4800-Hanger	Submersible Cable Hanger