MULTI-PROCESS VARIABLE LIQUID LEVEL SENSOR

Total Tank Level System - Dual 4-20mA Output

Magnetostriuctive Liquid & Interface Level Sensor with Temperature outputs

Sensors are available in 316SS rigid and flexible probe designs with a choice of Single or Dual NPT mountings. Systems include an explosion-proof conduit housing containing a wiring terminal strip and an intrinsically safe probe. All systems offer totally welded construction.

The Total Tank Level System is an Explosion Proof sensor with Modbus digital output for total level, interface level and temperature sensor outputs. Temperature sensors are evenly distributed over the active length of the probe.

A variety of floats and mounting accessories are available to fit virtually any application. Contact your local representative to match your needs today.

Accurately Measures:
- Total Level
- Interface Level
- Temperature - 5 sensors over active range.

4-20mA & HART digital output for:
- Total level
- Interface level
- Temperature
- System diagnostics

Easy Installation
- No calibration needed

High Accuracy
- 0.01% of measured span - less than 1 mm absolute, over full measurement range.

Minimal Maintenance
- Unique diagnostic output provides float position beyond active range, as well as loss of float(s).

Designed for Hazardous Area Applications
- Rigid Stainless Steel and Flexible Probe models meet FM, ATEX, and IECEx hazardous area approvals. See specification section for details.

Proven Magnetostriective Sensing Performance with Field Programmable Span.
SPECIFICATIONS

Technology:
• Magnetostrictive

Operating Voltage:
• 14 - 30 VDC

Output Signal:
• Single or Dual 4-20mA
• HART provided on one output

Response Time:
• 1.0 Second (Approximately)

Temperature Range:
Rigid 316 SS Probe
Options (F and S) Probes only
• Process: -40°F to 212°F (-40°C to 100°C)
• Housing: -40°F to 158°F (-40°C to 70°C)

UltraFlex PVDF Probe
• -40°F to 158°F (-40°C to 70°C)

Wiring

Dead Band (Bottom of Probe):
Rigid 316 SS Probe
• 2.00” (51 mm)

Hazardous Area Approvals
XP-IS CL I, DIV 1, GRP C,D T4
NI CL I, DIV 2, GRP A,B,C,D, T4
DIP-IS CLII, III, DIV 1, GRP E,F,G,T4
CL I ZN 0/1 AEx ia/deb IIB T4 Ga/Gb
FM16US0417X
EX ia/db IIB Ga/Gb T4, FM16CA0192X
-40°C ≤ Ta ≤ + 70°C
TYPE 4, 4X IP67

ATEX
FM 16 ATEX0114X
II 1/2 G Ex ia/db IIB T4 Ga/Gb
II2 D Ex tb IIIC T90°C Db
-30°C ≤ Ta ≤ + 70°C
IP66, IP67

IECEx
IECEx FMG 17.005X
Ex ia/db IIB T4 Ga/Gb
Ex ia tb IIIC T90°C Db
-30°C ≤ Ta ≤ + 70°C
IP66, IP67

Installing the PVDF Probe

CAUTION!
Part of the equipment enclosure is constructed of non-metallic material; to prevent the risk of electrostatic sparking, the non-metallic enclosure material should be cleaned only with a damp cloth.

3A Sanitary Option (S) Probe Only
Note: 3A Sanitary option (s) Probes
Total Tank Level System

Total Tank Level System (316 SS Rigid Probe)

DIMENSIONS INCHES, (MM)

RIGID 316 SS SERIES

ADJUSTABLE MOUNT (B3 STYLE)

NOTE:
1. REFERENCE DIMENSIONAL DRAWING.

FIXED MOUNT (B2 STYLE)
Total Tank Level System

Total Tank Level System (Food Grade Probes)

DIMENSIONS INCHES, (MM)

RIGID 316 SS F and S SERIES

ADJUSTABLE MOUNT

FIXED MOUNT
MODEL NUMBERING

Model - Total Tank Level System
M  Total Tank Level System

Output
2  Single 4-20mA w/HART
3  Dual 4-20mA w/HART (Single HART output)

Housing
3  Dual compartment powder coated aluminum, 3/4” NPT (No Display)
4  Dual compartment powder coated aluminum, M20 (No Display)
5  Dual compartment powder coated aluminum, 3/4” NPT (Display w/Viewport Lid)
6  Dual compartment powder coated aluminum, M20 (Display w/Viewport Lid)

Dual Seal
X  None
1  Yes

Material
B  316 SS Stainless Steel (Rigid) 20” to 378” Long
V  PVDF (UltraFlex) 65” to 600” Long
S  Sanitary, 3A (Tri-clamp mounting, polished tubing 240 grit 316 SS Rigid only) 21” to 140”
F  Food Grade (Tri-clamp mounting, 180 grit 316 SS Rigid only) 21” to 200”

Mounting
1  Adjustable, 16” Long Extension Tube UltraFlex Option only
2  3/4 NPT 316 SS Rigid Option only
3  Adjustable 316 SS Rigid Option only
A  2” Tri-clamp Sanitary or Food Grade Option only
B  2 1/2” Tri-clamp Sanitary or Food Grade Option only
C  3” Tri-clamp Sanitary or Food Grade Option only
D  4” Tri-clamp Sanitary or Food Grade Option only

Level Measurement Span (LMS)
XXX  3 figure number (specified in inches)

Temperature Points
R1  1 Sensor (@36”)
R5  5 Sensors
T1  1 Sensor (close to bottom)

Number of Floats
F1  1 Float
F2  2 Floats

Over All Length (OAL)
XXX  3 figure number (specified in inches)

Float Kit 1 - Total Product Float Kit
XXX = None
001 = 316SS, 2.06” Diameter, 0.54 SG. UltraFlex PVDF Option
002 = 316SS, 2.06” Diameter, 0.64 SG. UltraFlex PVDF Option
003 = 316SS, 2.06” Diameter, 0.54 SG. E-Clip/Spacer 1.25” Long Rigid
004 = 316SS, 2.06” Diameter, 0.64 SG. E-Clip/Spacer 1.25” Long Rigid
005 = 316SS, 1.83” Diameter, 0.65 SG. R-Clip (3A Sanitary) Rigid “S” Option
006 = 316SS, 1.83” Diameter, 0.65 SG. E-Clip (Food Grade) Rigid “F” Option

Float Kit 2 - Interface Float Kit
XXX = None
101 316SS, 2.06” Diameter, 0.85 SG. UltraFlex PVDF Option
102 316SS, 2.06” Diameter, 0.96 SG. UltraFlex PVDF Option
103 316SS, 2.05” Diameter, 0.85 SG. E-Clip/Spacer .875” Long Rigid
104 316SS, 2.05” Diameter, 0.96 SG. E-Clip/Spacer .875” Long Rigid
105 316SS, 2.05” Diameter, 1.10 SG. E-Clip/Spacer .875” Long Rigid