

Hydrostatic Fuel Level Sensor data



The Sensor has been designed for use in continuous submersion in liquids such as water, oils and fuels in tanks and containers where conventional mechanical level switches and sensors are not ideal and more level 'control' and measurement is required. The submersible device uses a silicon pressure sensor which has excellent performance and stability. It is ideal for applications where a small tank level is required from as low as 1m through to 10m high tanks. The housing is stainless steel and with a choice of PVC, PUR, FEP or TPE cable material enables compatibility to water, oils and fuels. Every device is temperature compensated and calibrated, supplied with a traceable serial number and calibration certificate.

| Input Pressure Range | | | | | | | | | |
|-----------------------------|-------|----|-----|-----|-----|----|----|-----|----|
| Nom. pressure, Gauge | mW G | 1 | 1.6 | 2.5 | 3.5 | 5 | 6 | 7.5 | 10 |
| Nom. pressure, Sealed Gauge | mW SG | 1 | 1.6 | 2.5 | 3.5 | 5 | 6 | 7.5 | 10 |
| Permissible Overpressure | mW | 20 | 20 | 20 | 20 | 50 | 50 | 50 | 50 |

| Output Signal & Supply Voltage | | |
|--------------------------------|---|--|
| Wire system | Output | Supply Voltage |
| 2-wire | 4 - 20mA | 9 – 32V dc |
| 3-wire ¹⁾ | 0.5 to 4.5V dc / ratiometric 0.5 to 4.5V dc / non-ratiometric (others on request) | 5V dc 8 – 30V dc (others on request) |
| 4-wire | Passive mV/V (dependent on range) 2mV/V (rationalised) | 2 – 12V dc 2 – 12V dc |

¹⁾ Care must be taken when using voltage output regarding the screening and earthing.

Performance

| | | |
|--------------------------|---|--|
| Accuracy (Non-linearity) | Standard: $<\pm 0.5\%$ / FS (BFSL) Optional: $<\pm 0.25\%$ / FS (BFSL) | |
| Hysteresis | $<\pm 0.1\%$ / FS | |
| Setting Errors (offsets) | 2-wire 3-wire 4-wire | Zero & Full Scale, $<\pm 0.5\%$ / FS Zero & Full Scale, $<\pm 0.5\%$ / FS Zero & Full Scale, $<\pm 1\%$ / FS |
| Permissible Load | 2-wire 3-wire | $R_{max} = [(Voltage\ Supply - 9\ min) / 0.02] \Omega$ $R_{min} = 10\ k\Omega$ |
| Output Resistance | 4-wire | $R_{min} = 11\ k\Omega$ |
| Influence Effects | Supply Load | mV/V & 0.5 to 4.5V – Ratiometric, other outputs: - $<0.005\%$ FS / 1V 0.05 % FSO / k Ω |

Permissible Temperatures & Thermal Effects

| | |
|-------------------------------|---|
| Media temperature | -20°C to +60°C (non freezing) |
| Storage temperature | -20°C to +70°C |
| Compensated temperature range | 20°C \pm 25°C |
| Thermal Zero Shift (TZS) | $<\pm 0.02\%$ / FS / °C (option code 4) $<\pm 0.02\%$ / FS / °C (option code 2) $<\pm 0.01\%$ / FS / °C (option code 1) |
| Thermal Span Shift (TSS) | $<\pm 0.015\%$ / °C |

Electrical Protection

| | |
|------------------------------------|--------------------------------|
| Supply reverse polarity protection | No damage but also no function |
| Electromagnetic compatibility | CE Compliant |

Mechanical Stability

| | |
|-----------|---------------------------|
| Shock | 100 g / 11 ms |
| Vibration | 10 g RMS (20 ... 2000 Hz) |

| Materials | |
|-----------------------|---|
| Housing | 303 Stainless Steel |
| 'O' ring seals | Viton (others on request) |
| Diaphragm | 316 Stainless Steel |
| Cable sheath material | PUR PVC (optional) FEP (optional) TPE (optional) |
| Media wetted parts | Housing, 'O' ring seal, diaphragm & cablesheath |

| Miscellaneous | |
|-----------------------|--|
| Current consumption | 2-wire: limits at 25mA, 3-wire: Typ. 6mA, 4-wire: Typ. 2-5mA |
| Weight | Transmitter: Approx. 75g Cable: Approx. 48g per mtr |
| Installation position | Any |
| Operation Life | > 100 x 10 ⁶ cycles |

| Wiring Designation | | | | | |
|--------------------|--------------|------------|------------|------------|------------|
| | | PUR Sheath | PVC Sheath | FEP Sheath | TPE Sheath |
| 2-wire | +ve Supply | Red | Brown | Brown | Brown |
| | -ve Supply | Blue | White | White | White |
| | Ground | White | Pink | Pink | Pink |
| | Cable Screen | Green | Green | Green | Green |
| 3-wire | +ve Supply | Red | Brown | Brown | Brown |
| | -ve Supply | Blue | White | White | White |
| | +ve Output | Yellow | Yellow | Yellow | Yellow |
| | Ground | White | Pink | Pink | Pink |
| 4-wire | +ve Supply | Red | Brown | Brown | Brown |
| | -ve Supply | Blue | White | White | White |
| | +ve Output | White | Pink | Pink | Pink |
| | -ve Output | Yellow | Yellow | Yellow | Yellow |
| | Cable Screen | Green | Green | Green | Green |

Outline Drawing

