



Water



GWF

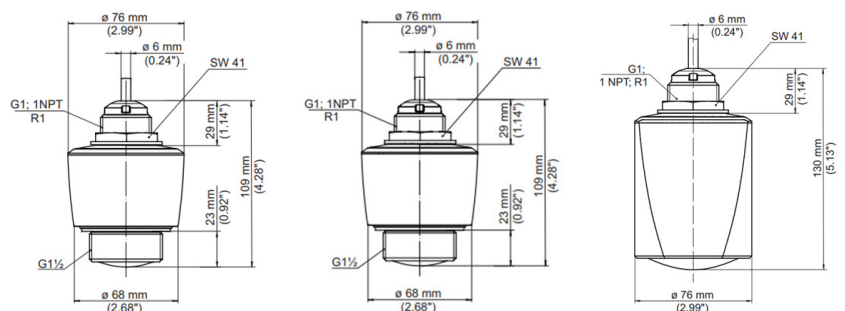
# Water Level Sensors

Water level sensors for Q-Eye, Kanalis and Fluvius systems

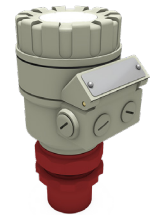


Radar level sensor	WLR1108	WLR2115	WLR2330
Sensor type	Contact free, radar	Contact free, radar	Contact free, radar
Range	0-8 m	0-15 m	0-30 m
Accuracy	+/- 5 mm	+/- 2 mm	+/- 2 mm
Measuring frequency	80 GHz (W-band)	80 GHz (W-band)	80 GHz (W-band)
Beam angle	8°	8°	4°
Output	Two-wire, 4-20 mA	Two-wire, 4-20 mA	Two-wire, 4-20 mA
Ambient temperature	-40°C to +60°C	-40°C to +80°C	-40°C to +80°C
Threaded connection	G 1½ process side G1 cable side	G 1½ process side G1 cable side	G1 cable side
Protection rating	IP66/IP68 (3 bar)	IP66/IP68 (3 bar)	IP66/IP68 (3 bar)
Dimensions	Length = 109 mm Diameter = 68 mm	Length = 109 mm Diameter = 68 mm	Length = 130 mm Diameter = 76 mm
Housing material	PVDF, FKM seal	PVDF, FKM seal	PVDF
ATEX option	No	II 1G, 1/2G Ex ia IIC T4 Ga, Ga/Gb	II 1G, 1/2G Ex ia IIC T4 Ga, Ga/Gb
Cable length, material	10 m (PVC)	5 m / 10 m / 25 m (PUR)	5 m / 10 m / 25 m (PUR)

The new 80 GHz generation of radar level sensors is ideal for wastewater and hydrological applications. The 80 GHz transmission frequency results in a small, focused beam angle. The radar level sensor thus only receives clear reflections from the measured medium, unaffected by surrounding disturbances such as walls, pumps or pipes. This increases measurement accuracy and reliability over the entire measuring range. Moreover, radar level sensors are not sensitive to environmental influences such as temperature, solar radiation, fog, wind or rain.



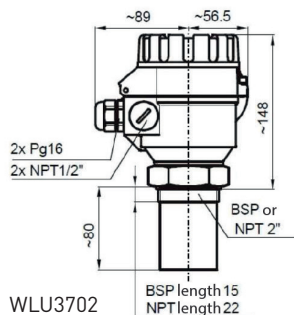
# Products



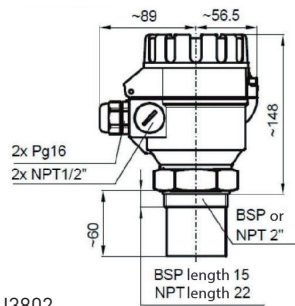
## Ultrasonic level sensor

## WLU3702 / WLU3802 / WLU3902

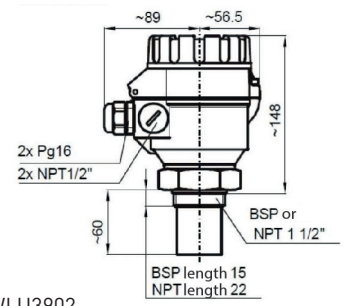
Frequency	60 kHz for WLU3702 80 kHz for WLU3802 80 kHz for WLU3902
Range	0.35-8 m for WLU3702 0.25-6 m for WLU3802 0.2-4 m for WLU3902
Accuracy	± 0.2 % of measured value or ± 0.05 % of range
Cable	Ø 6-12 mm
Display	1 line (optional)
Datalogger	internal, 10000 sets of data (option)
Power supply	24 V DC
Approval	ATEX option (II 1 G/Ex ia IIB T6)
Mounting	2" BSP/NPT for WLU3702 2" BSP/NPT for WLU3802 1½" BSP/NPT for WLU3902
Enclosure	flame retardant plastic (PP, PVDF or PTFE)
Protection Class	IP67



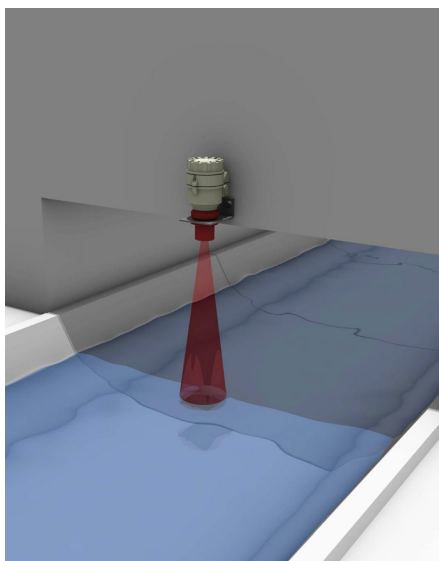
WLU3702



WLU3802



WLU3902

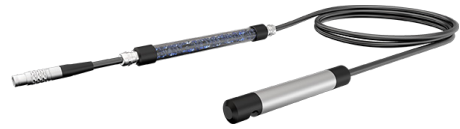


The ultrasonic depth sensor operates by energizing a piezoelectric transducer with an electronic pulse. This pulse creates a pressure wave that travels to the flow surface and is partially reflected back to the transducer.

The signal time of flight to the flow surface and back is recorded. The actual distance is calculated knowing the speed of sound at the site, which is corrected by an embedded temperature sensor. Our ultrasonic sensors offer you the best in liquid level measurement in one compact single package. The sensors are easy to install, eliminate maintenance caused by sensor fouling and your personnel does not get in contact with the fluid during installation.

Developed using the established range of narrow beam angle pulse echo transducers, the units are available with measurement ranges up to 8 meters. Installed above the liquid level surface to be measured, the sensor gives an analogue output proportional to liquid level.

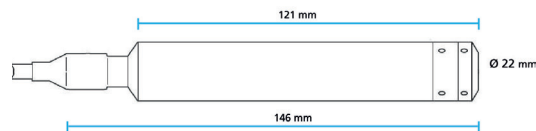
# Products



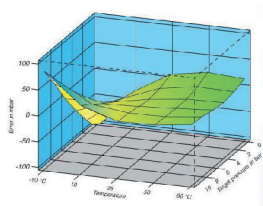
## Hydrostatic pressure sensor

## WLP36XWI

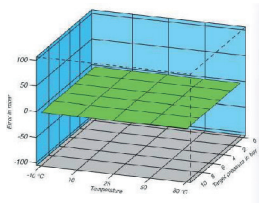
Sensor/membrane type	piezoresistive, ceramic pressure sensor
Range	0-10 m [other ranges available]
Accuracy	± 0.1 % FS
Temperature accuracy	± 0.1 °C
Temperature coefficient	< 0.01 % FS
Reproducibility	0.05 % FS
Output	4-20 mA
Operating temperature	-20 °C to +60 °C
Power supply	8-28 V DC
Overtoltage protection	yes, on the power supply lines and on all input and output wires
Dimensions	length: 121 mm diameter: 22 mm
Material	stainless steel (DIN 1.4435, AISI 316L)
Approval	ATEX (option)
Cable	polyethylene with atmospheric pressure compensation
Option	dynamic Pressure Protection to prevent dynamic pressure (PVC)
Protection class	IP68 (100 m water column)
Weight	approx. 200 gr



The sensor is pressure-sealed up to 50 bar. The sensor is long-term stable without the need for field-calibration requirements 0.1 % / year → 3 mm for 30 m range.



Standard transmitter 10 bar



Digitally compensated WLP36XWI

This pressure transducer is designed for level measurements where the highest accuracy is required. This series is based on the stable, piezoresistive transducer and a micro-processor electronics with integrated 16 bit A/D converter. Temperature dependencies and non-linearities of the sensor are mathematically compensated.

The sensor signal is measured up to 500 times per second with a highly precise A/D converter (16 bit). After each measurement, the exact pressure value is calculated (elimination of the linearity and temperature errors). The analog output signal is updated via the DIA converter. This technology allows highly precise and fast pressure measurements, even over high temperature ranges. This compensation technology reduces the error band to typically 0.04 % FS and a total error band of 0.15 % FS over the entire pressure and temperature range, which is an improvement of factor 20 to 50 (see graphics left).

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