

# 2270 Ultrasonic Level Sensor



The type 2270 is a rugged, high performance ultrasonic level measurement sensor, having transducer and processing electronics incorporated in one single housing. It provides all the sophisticated echo detection features of the well accepted 2260 Ultrasonic Level Transmitters.

For single and multiple tank applications 2-wire sensors are recommended using either HART protocol or 4 to 20 mA for the direct communication with a panel mount controller or a PLC.

Either for liquid level measurement in sumps or tanks, for tank contents measurement, or open channel flow measurement, the 2270 Level Sensors provide the answer. Sensing ranges up to 6 m are available. PP and PVDF sensor bodies provide best chemical resistance in applications where concentrated chemical shall be detected.

## Features

- 2 wire compact sensor
- Non-contact level measuring
- Narrow 5° beam angle
- Compact housing
- Fully temperature compensated electronics
- Outstanding signal processing software providing highly accurate measuring results
- PP or PVDF sensor body provides best chemical resistance
- Secondary lightning protection
- 4 to 20 mA / HART interface

CE

## Applications

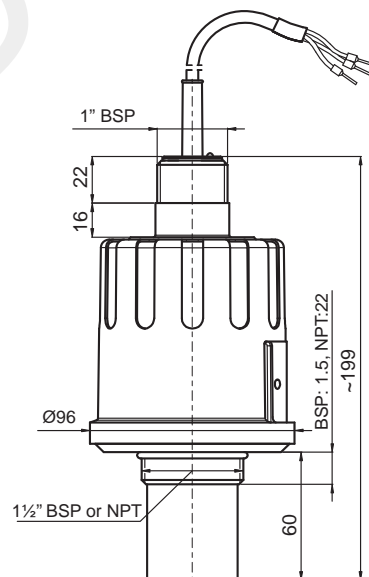
- River water
- Seawater
- Potable water
- Demineralized water
- Treated water

## Specifications (Type 2270-X-XX-4)

General	
Range	0.2 to 4 m / 0.65 to 13 ft
Total Beam Angle	6°
Measuring Frequency	80 kHz
Accuracy *	± (0.2 % of measured distance plus 0.05 % of range)
Resolution	<2 m: 1 mm, 2 to 4 m: 2 mm
Environmental	
Process Temperature	-30 °C to +90 °C
Ambient Temperature	-30 °C to +80 °C
Process Pressure (absolute)	0.05 to 0.3 MPa (0.5 to 3 bar)
Enclosure	
Enclosure and Sensor Material	PP or PVDF
Cable Material	Cable sealing: EPDM, cable isolation: PVC
Ingress Protection	IP 68 / NEMA 6P
Process Connection	1½" BSP / NPT
Sealing	
PP sensor	EPDM
PVDF sensor	FPM (Viton)
Electrical	
Outputs	2-wire 4-20 mA , max.600 Ohm; HART interface, Rt >= 250 Ohm
Power Supply	DC 12 to 36 V
Power Consumption	max. 720 mW, overload protected
Connecting	6 x 0,5 mm <sup>2</sup> shielded cable; Ø 6 mm x 5 m (30 m max.)
Electric shock protection	Class III, low voltage

\* Under optimal circumstances of reflection and stabilized transducer temperature

## Dimensions

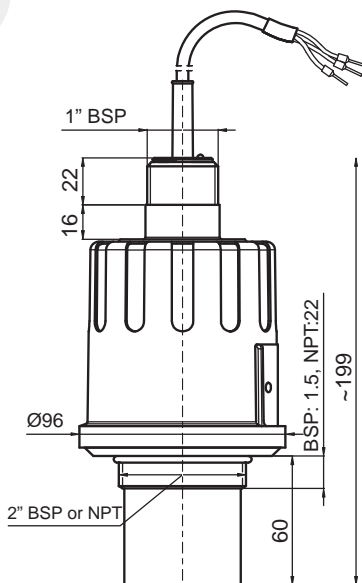


## Specifications (Type 2270-X-XX-6)

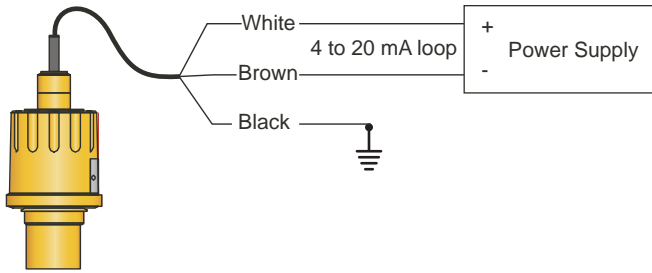
General	
Range	0.25 to 6 m / 0.82 to 20 ft
Total Beam Angle	5°
Measuring Frequency	80 kHz
Accuracy *	± (0.2 % of measured distance plus 0.05 % of range)
Resolution	<2 m: 1 mm; 2 ... 5 m: 2 mm; 6 m: 5 mm
Environmental	
Process Temperature	-30 °C to +90 °C
Ambient Temperature	-30 °C to +80 °C
Process Pressure (absolute)	0.05 to 0.3 MPa (0.5 to 3 bar)
Enclosure	
Enclosure and Sensor Material	PP or PDVF
Cable Material	Cable sealing: EPDM, cable isolation: PVC
Ingress Protection	IP 68 / NEMA 6P
Process Connection	2" BSP / NPT
Sealing	
PP sensor	EPDM
PVDF sensor	FPM (Viton)
Electrical	
Outputs	2-wire 4-20 mA , max.600 Ohm; HART interface, Rt >= 250 Ohm
Power Supply	DC 12 to 36 V
Power Consumption	max. 720 mW, overload protected
Connecting	6 x 0,5 mm <sup>2</sup> shielded cable; Ø 6 mm x 5 m (30 m max.)
Electric shock protection	Class III, low voltage

\* Under optimal circumstances of reflection and stabilized transducer temperature

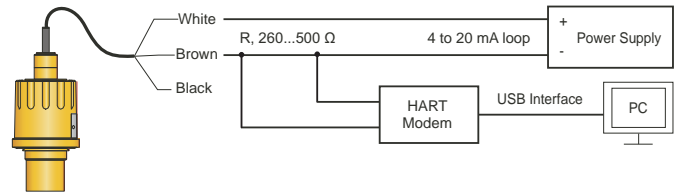
## Dimensions



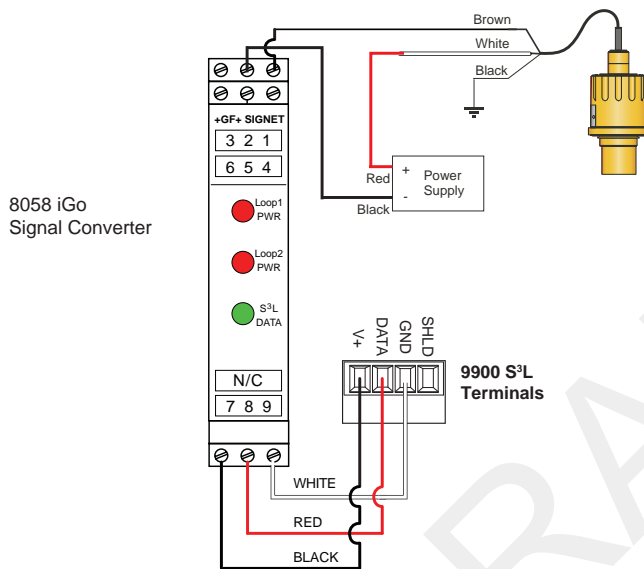
## 4 to 20 mA Loop Wiring



## HART Interface Wiring



## Wiring to 9900 Universal Transmitter



## Ordering Information

Mfr. Part No.	Code	Description
<b>Versions with BSP thread</b>		
2270-P-1B-4	<b>159 300 155</b>	Range 4 m, PP body, 4 to 20 mA 2-wire/HART, BSP thread
2270-P-1B-6	<b>159 300 156</b>	Range 6 m, PP body, 4 to 20 mA 2-wire/HART, BSP thread
2270-V-1B-4	<b>159 300 162</b>	Range 4 m, PVDF body, 4 to 20 mA 2-wire/HART, BSP thread
2270-V-1B-6	<b>159 300 163</b>	Range 6 m, PVDF body, 4 to 20 mA 2-wire/HART, BSP thread
<b>Versions with NPT thread</b>		
2270-P-1N-4	<b>159 300 169</b>	Range 4 m, PP body, 4 to 20 mA 2-wire/HART, NPT thread
2270-P-1N-6	<b>159 300 170</b>	Range 6 m, PP body, 4 to 20 mA 2-wire/HART, NPT thread
2270-V-1N-4	<b>159 300 176</b>	Range 4 m, PVDF body, 4 to 20 mA 2-wire/HART, NPT thread
2270-V-1N-6	<b>159 300 177</b>	Range 6 m, PVDF body, 4 to 20 mA 2-wire/HART, NPT thread