

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 (19.7 ft) 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
- Level, volume and open channel flow
- Compact housing
- 32 points of linearization
- 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



Applications

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

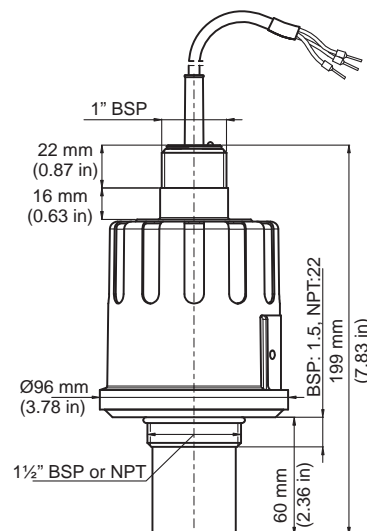


Specifications (Type 2270-X-XX-4)

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 (6.6 ft): 1 mm (0.04 in.), 2 to 4 m (6.6 to 13.1 ft): 2 mm (0.08 in.)
Environmental	
Process Temperature	-30 °C to +90 °C (-22 °F to +194°F)
Ambient Temperature	-30 °C to +80 °C (-22 °F to +176°F)
Process Pressure (absolute)	0.05 to 0.3 MPa (0.5 to 3 bar) 7.25 psi to 43.5 psi
Enclosure	
Enclosure and Sensor Material	PP or PVDF
Cable Material	Cable sealing: EPDM, cable isolation: PVC
Ingress Protection	IP68 / 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 ² shielded cable; Ø 6 mm x 5 m (30 m max.)
Electric shock protection	Class III, low voltage
Standard and Approvals	
General Approvals	CE

* Under optimal circumstances of reflection and stabilized transducer temperature

Dimensions

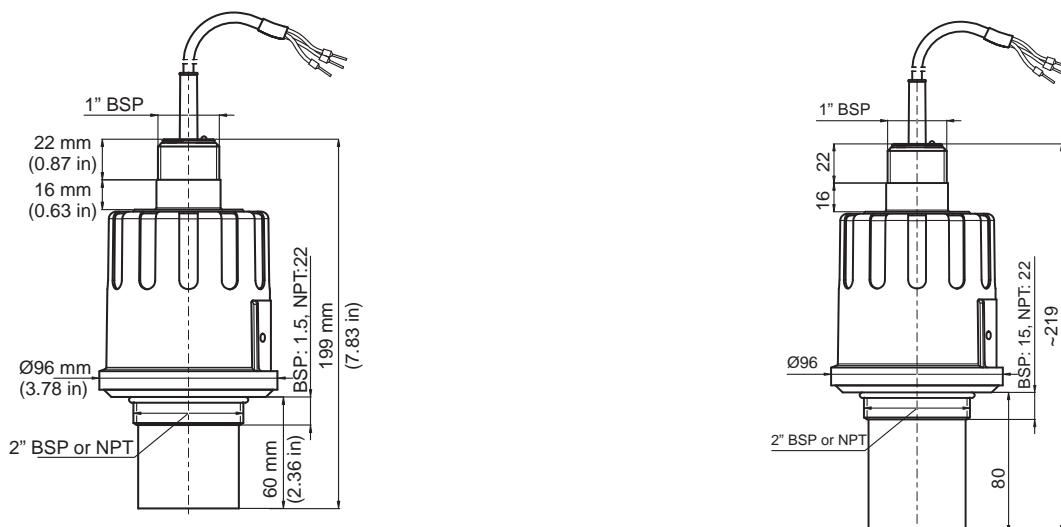


Specifications (Type 2270-X-XX-6 / 2270-X-XX-8)

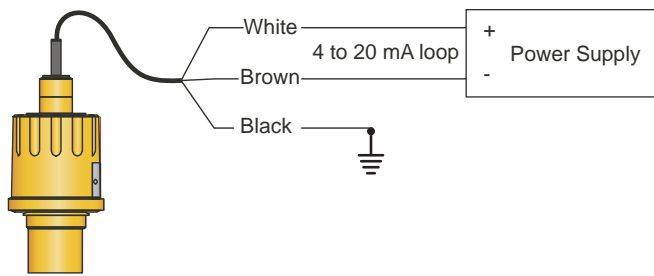
General		
Type	2270-X-XX-6	2270-X-XX-8
Range	0.25 to 6 m / 0.82 to 20 ft	0.35 to 8 m
Total Beam Angle	5°	7°
Measuring Frequency	80 kHz	50 kHz
Accuracy *	± (0.2 % of measured distance plus 0.05 % of range)	
Resolution	<2 m (6.6 ft): 1 mm (0.04 in.); 2 to 5 m (6.6 to 16.4 ft): 2 mm (0.08 in.); 6 m (19.7): 5 mm (0.2 in.)	
Environmental		
Process Temperature	-30 °C to +90 °C (-22 °F to +194 °F)	
Ambient Temperature	-30 °C to +80 °C (-22 °F to +176 °F)	
Process Pressure (absolute)	0.05 to 0.3 MPa (0.5 to 3 bar) 7.25 psi to 43.5 psi	
Enclosure		
Enclosure and Sensor Material	PP or PVDF	
Cable Material	Cable sealing: EPDM, cable isolation: PVC	
Ingress Protection	IP68 / 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 ² shielded cable; Ø 6 mm x 5 m (30 m max.)	
Electric Shock Protection	Class III, low voltage	
Standard and Approvals		
General Approvals	CE	

* Under optimal circumstances of reflection and stabilized transducer temperature

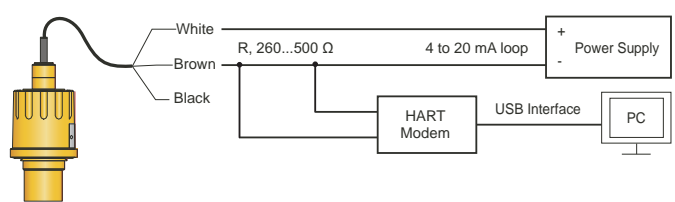
Dimensions



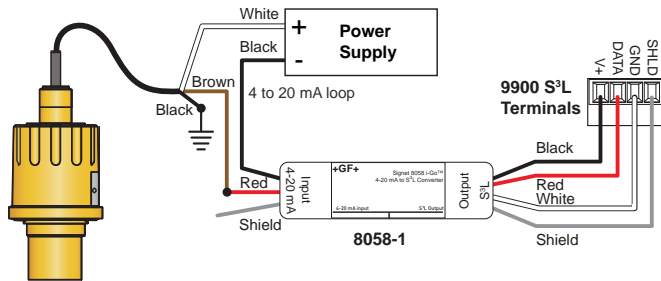
4 to 20 mA Loop Wiring



HART Interface Wiring



Wiring to 9900 Universal Transmitter



Ordering Information



Mfr. Part No.	Code	Description
Versions with NPT thread		
2270-P-1N-4	159 300 169	Range 4 m (13.1 ft), PP body, 4 to 20 mA 2-wire/HART, NPT thread
2270-P-1N-6	159 300 170	Range 6 m (19.7 ft), PP body, 4 to 20 mA 2-wire/HART, NPT thread
2270-P-1N-8	159 300 116	Range 8 m (26.2 ft), PP body, 4 to 20 mA 2-wire/HART, NPT thread
2270-V-1N-4	159 300 176	Range 4 m (13.1 ft), PVDF body, 4 to 20 mA 2-wire/HART, NPT thread
2270-V-1N-6	159 300 177	Range 6 m (19.7 ft), PVDF body, 4 to 20 mA 2-wire/HART, NPT thread
2270-V-1N-8	159 300 117	Range 8 m (26.2 ft), PVDF body, 4 to 20 mA 2-wire/HART, NPT thread
Versions with BSP thread		
2270-P-1B-4	159 300 155	Range 4 m (13.1 ft), PP body, 4 to 20 mA 2-wire/HART, BSP thread
2270-P-1B-6	159 300 156	Range 6 m (19.7 ft), PP body, 4 to 20 mA 2-wire/HART, BSP thread
2270-P-1B-8	159 300 111	Range 8 m (26.2 ft), PP body, 4 to 20 mA 2-wire/HART, BSP thread
2270-V-1B-4	159 300 162	Range 4 m (13.1 ft), PVDF body, 4 to 20 mA 2-wire/HART, BSP thread
2270-V-1B-6	159 300 163	Range 6 m (19.7 ft), PVDF body, 4 to 20 mA 2-wire/HART, BSP thread
2270-V-1B-8	159 300 115	Range 8 m (26.2 ft), PVDF body, 4 to 20 mA 2-wire/HART, BSP thread

Accessories

Code	Description
159 300 181	HART - USB Modem
159 300 182	HART - USB Modem, DIN Rail
159 300 183	HART - USB Modem, DIN Rail, ATEX