

## Type 2270 Ultrasonic Level Sensor



### Product description

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.

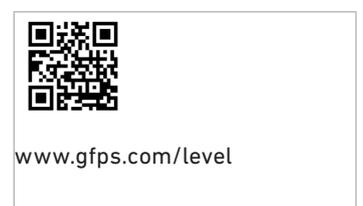
Either for liquid level measurement in sumps or tanks, for tank contents measurement, or open channel flow measurement, the 2270 Level Sensors provide the answer. Sensing ranges up to 8 m (26.2 ft) are available. PP and PVDF sensor bodies provide best chemical resistance in applications where concentrated chemical shall be detected.

### Features

- 2 wire compact sensor
- Compatible with 9900 transmitter (optional signal converter)
- 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

- Water Treatment
- Corrosive Industrial Waste Treatment
- Filling
- Batching
- Bulk Transfer
- Dirty Liquids



## 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.)

\* Under optimal circumstances of reflection and stabilized transducer temperature

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

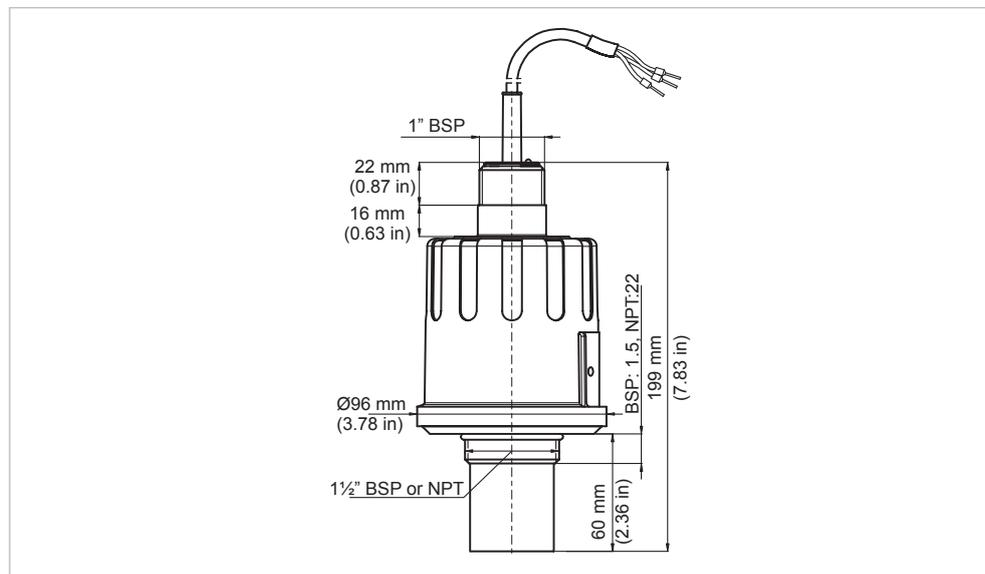
Sealing	
PP sensor	EPDM
PVDF sensor	FKM

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

Standard and Approvals	
General Approvals	CE, UKCA

\* Under optimal circumstances of reflection and stabilized transducer temperature

### Dimensions



## 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.)	

\* Under optimal circumstances of reflection and stabilized transducer temperature

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

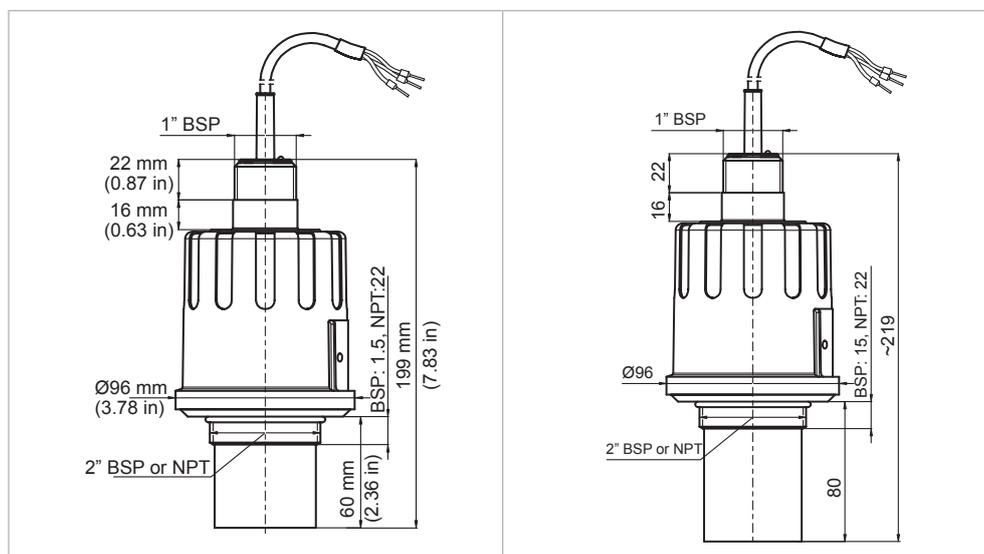
Sealing	
PP sensor	EPDM
PVDF sensor	FKM

Electrical	
Outputs	2-wire 4-20 mA , max. 600 Ohm; HART interface, $R_t \geq 250$ 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

Standard and Approvals	
General Approvals	CE, UKCA

\* Under optimal circumstances of reflection and stabilized transducer temperature

## Dimensions



## Ordering Information

Mfr. Part No.	Code	Description
<b>Versions with NPT thread</b>		
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
<b>Versions with BSP thread</b>		
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

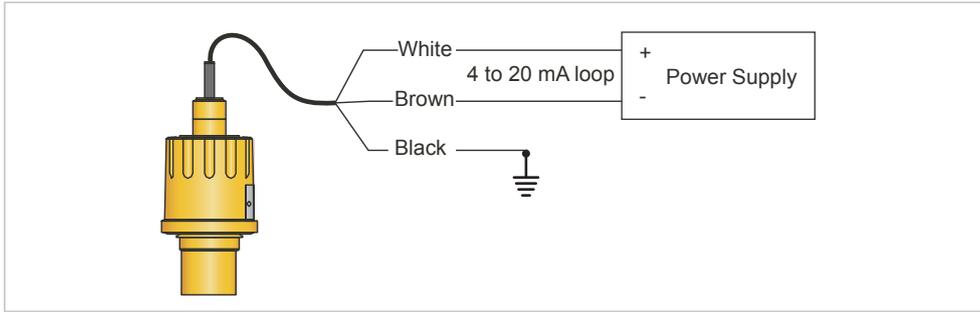


## Accessories

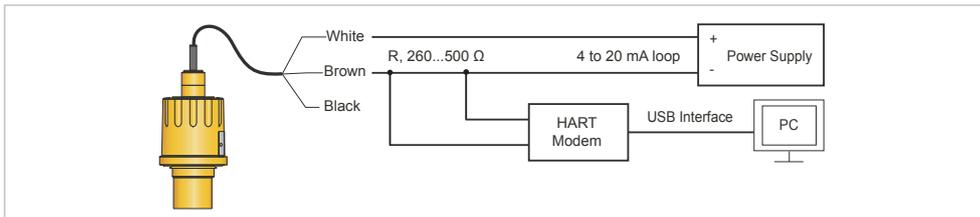
Code	Description
159 300 181	HART - USB Modem
159 300 182	HART - USB Modem, DIN Rail
159 300 183	HART - USB Modem, DIN Rail, ATEX

## Wiring

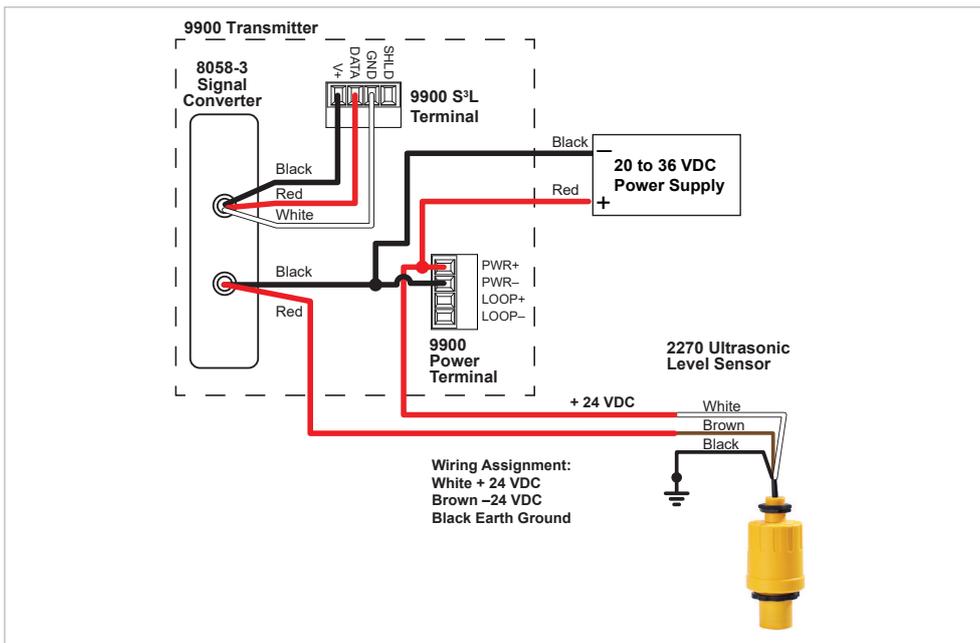
### 4 to 20 mA Loop Wiring



### HART Interface Wiring



### Wiring to 9900 Universal Transmitter



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