

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



www.gfps.com/level

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	FKM

Electrical

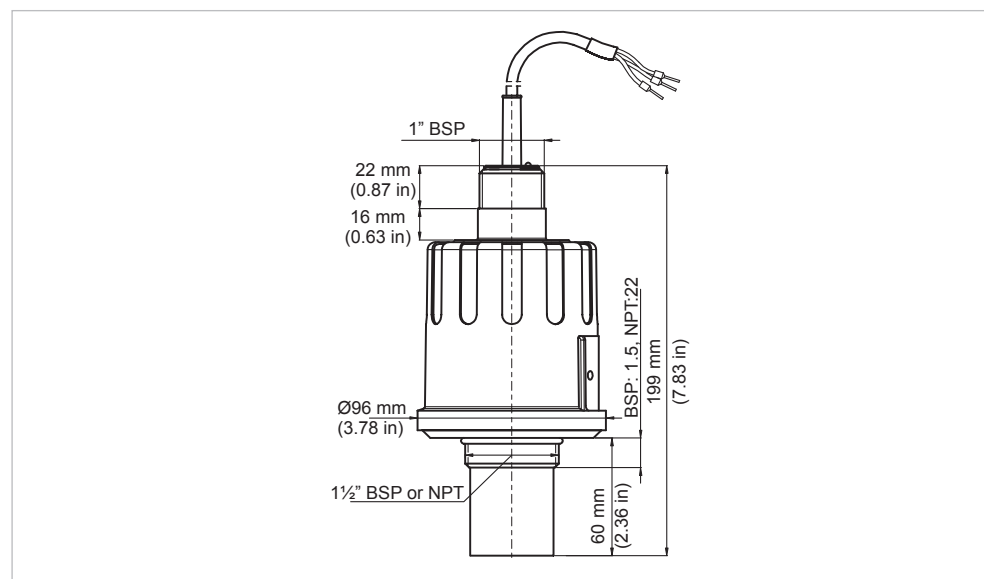
Outputs	2-wire 4–20 mA , max. 600 Ohm; HART interface, Rt ≥ 250 Ohm
Power Supply	DC 12 to 36 V
Power Consumption	max. 720 mW, overload protected
Connecting	6 x 0,5 mm ² shielded cable; Ø 6 mm x 5 m (30 m max.)
Electric shock protection	Class III, low voltage

Standard and Approvals

General Approvals	CE, UKCA
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* 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.)	

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

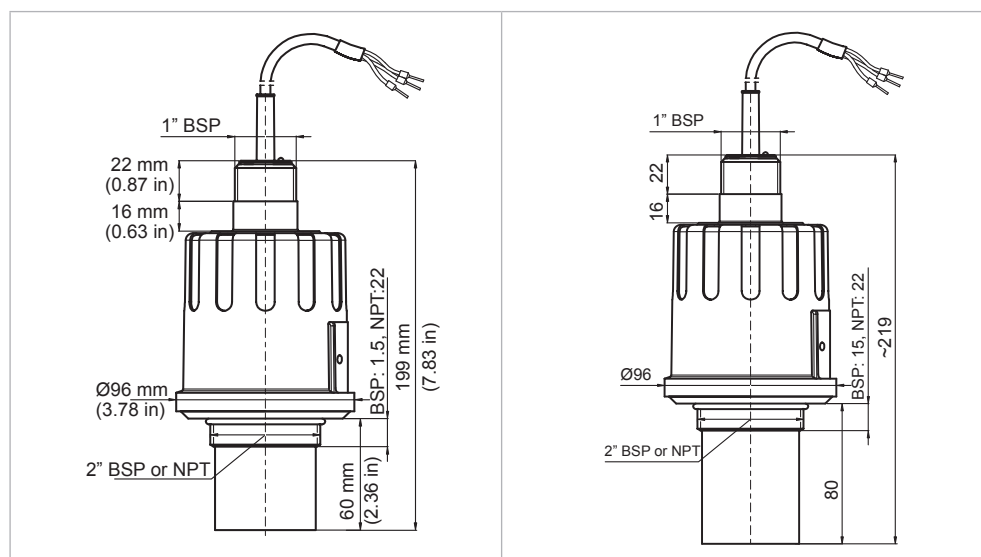
Outputs	2-wire 4–20 mA , max. 600 Ohm; HART interface, $R_t \geq 250 \text{ Ohm}$
Power Supply	DC 12 to 36 V
Power Consumption	max. 720 mW, overload protected
Connecting	6 x 0,5 mm ² shielded cable; Ø 6 mm x 5 m (30 m max.)
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Standard and Approvals

General Approvals	CE, UKCA
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* Under optimal circumstances of reflection and stabilized transducer temperature

Dimensions



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
159 300 208	HART - USB Modem
159 300 182	HART - USB Modem, DIN Rail
159 300 183	HART - USB Modem, DIN Rail, ATEX

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