

Radar Level Sensor

- **Non-contact 25 GHz FMCW radar** with intelligent false-reflection elimination
- **Two measuring ranges:** approximately 1.0 to 26.2 ft or 1.0 to 65.6 ft (0.3 to 8 m or 0.3 to 20 m)
- **Basic accuracy:** approximately 0.12 in (3 mm) from 3.3 ft (1 m) through the maximum range
- **Two-wire 4 ... 20 mA output with HART® communication** and 18-34 VDC supply
- **IP68** with flexible top or bottom mounting plus maximum overpressure of 29 psi (2 bar)



About

The P25 is a non-contact antenna radar level meter designed for continuous measurement of liquids and pasty substances in closed vessels, semi-open sumps, and open installations. It uses 25 GHz K-band FMCW radar with intelligent signal processing and false-reflection suppression, allowing measurement without contacting the medium and independently of medium properties, atmospheric temperature, or pressure above the surface. The P25 has a maximum range of 0.3 to 20 meters, and the two-wire instrument provides a 4 ... 20 mA output with HART®. Its IP68 enclosure, covered antenna, top or bottom thread mounting options, and operating temperature range of -22 to 158°F (-30 to 70°C) support reliable measurement.

Applications

- ✓ Water and wastewater
- ✓ Chemical and specialty-material processing
- ✓ General manufacturing
- ✓ Process Automation
- ✓ Bulk storage and material handling
- ✓ Environmental infrastructure

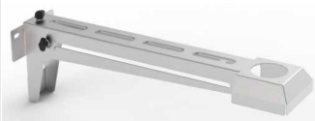
Build Your Part Number

Series P25

Example: P25SM2P1CH15
A1
A6

Series	
P25	
Performance - select one	
S	Standard Atmosphere (non-explosive)
Measuring Range - select one; see diagrams on page 5	
M1	0.30 ... 8 meters (must select P1)
M2	0.30 ... 20 meters (must select P2)
Process Connection - select one	
P1	G 1 ½" male
P2	G 2" male
Output - select one	
C	4...20mA with HART
Electrical Connection - select one; see diagrams on page 4	
S	Cable gland (short)
H	Cable gland (long) for installation of protective hose over cable (see accessories for protective hose)
Cable Length – please inform in meters	
	Cable length in meters (Example: 15 meters = 15)

Note: Product Includes 2 EPDM O-Rings

Accessories – optional; will be quoted as a separate line items		
A1	Telescopic bracket	
A2	Quantity 2 O-ring seals	
A3	Universal USB to HART converter	
A5	Plastic Lock Nut (G1 ½", G 2")	
A6	Stainless steel weldable flange (G1", G1 ½")	
A8	Protecting Hose (Only for Electrical Connection H)	

Technical Parameters

Technical Parameters		
Electrical	Supply Voltage	18 ... 36 VDC
	Output Type	Current 4 ... 20 mA with HART® communication (limit values 3.9 ... 20.5 mA)
	Current Consumption	4 ... 20 mA / max. 22 mA
	Maximal Current Output Load Resistance	U = 24 VDC R _{max} = 270 Ω (250Ω HART® resistor included)
		U = 22 VDC R _{max} = 180 Ω
		U = 20 VDC R _{max} = 90 Ω
	Current Output Error	Maximum 80µA
	Delay Between Supply Power Rise Time and First Measurement	20 seconds
	Status Signaling (Echo Dropout)	3.75 mA; 4mA 20 mA; 22 mA; NO CHANGE
Measuring	Cable	PVC 2 x 0.75 mm ²
	Basic measurement accuracy	3 mm (distance 1 m ... 8/20 m)
		10 mm (distance 0.3 m ... 1 m)
	Resolution	0.1 mm
	Dead zone	30 cm
	Adjustable Measuring Range	Minimum 200mm
	Function Principle	FMCW
	Measuring Frequency	25 GHz (K-Band)
Environmental	Measuring Sensitivity	3 levels
	Damping	1 ... 99 seconds
	Water Protection Class	IP68
	Operating Temperature Range	-22°F ... 158°F (-30°C ... +70°C)
Materials	Maximum Operating Overpressure	29 PSI (2 bar)
	Process Connection	Plastic PP
	Housing	Plastic PP + GF30
	Cable Gland	Plastic - PA

Features and Use

Basic Features

Non-contact radar level meters with an antenna are suitable for continuous level measurement at medium and longer distances. They can be used both in various closed tanks, containers, in semi-open sumps, and in open space. Their use is suitable where their advantages are fully realized:

1. Non-contact measurement
2. Independence of measurement on temperature and atmospheric pressure above the surface
3. Possibility of measurement even in vacuum
4. Possibility of measurement even in aggressive vapors
5. Measurement is independent of medium parameters

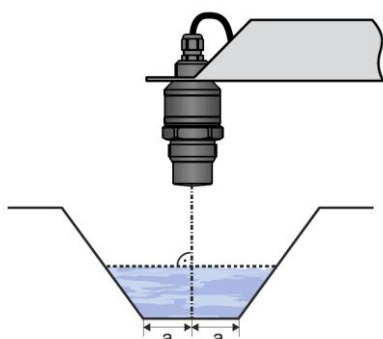
The P25 radar level meter operates on the FMCW (frequency modulated continuous wave) principle with a frequency of 25 GHz (K-Band).

The level meter is equipped with a compact covered funnel antenna. The antenna cover prevents dirt, vapors and gases from penetrating the antenna.

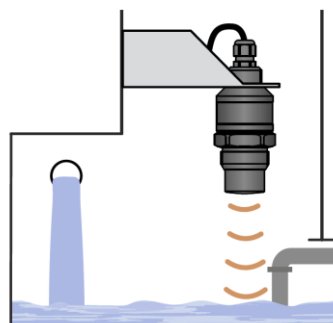
The P25 is designed for measuring the level of liquid or pasty substances.

The level meter is two-wire with a current output of 4 ... 20 mA with HART® communication. Measuring range 0.3 ... 8 m or 0.3 ... 20 m.

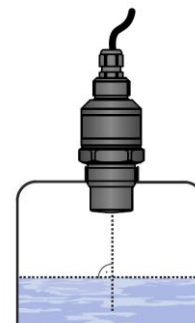
Usage



Installation in the gutter

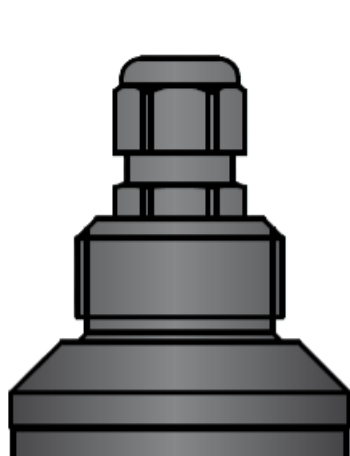


Recommended installation of the P25 level gauge in the tank through the top thread

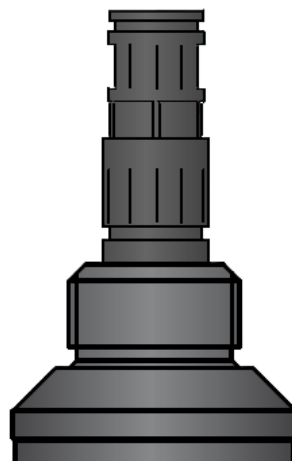


Recommended installation of the P25 level gauge in the tank using the bottom thread

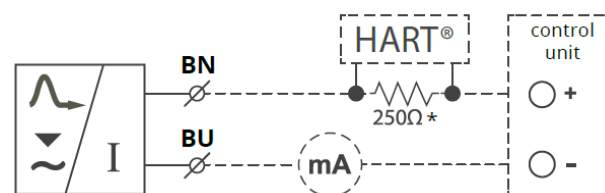
Electrical Connection



Standard Cable Gland
M16 x 1.5 Type B



Cable Gland with
Protective Hose

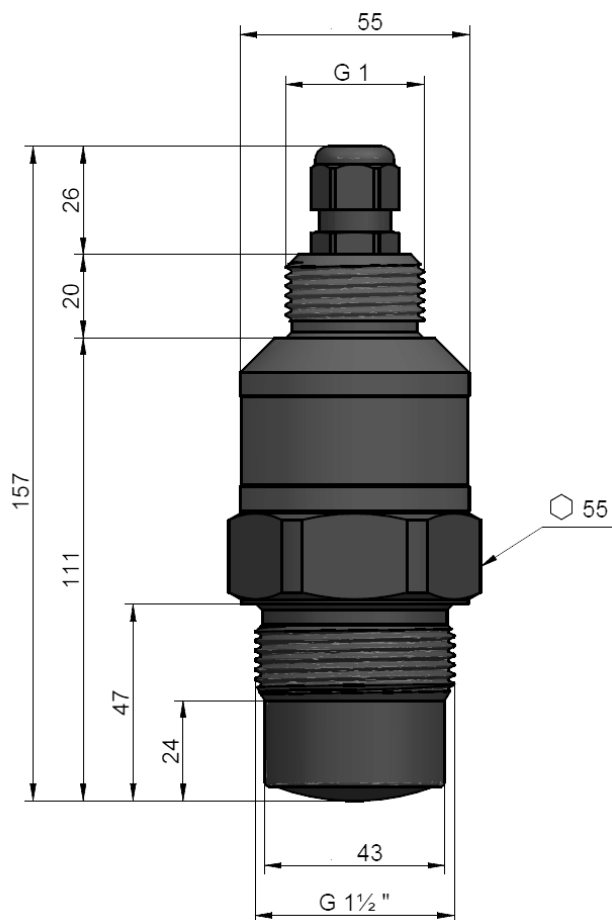


Connection Diagram of the level Gauge with current output

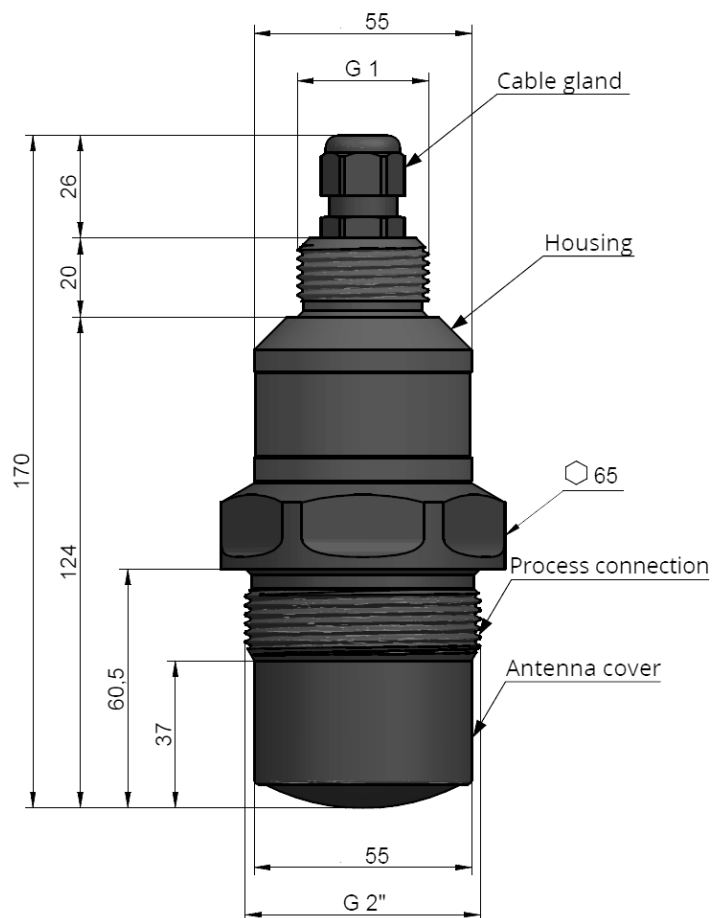
*When using HART communication

Dimensions

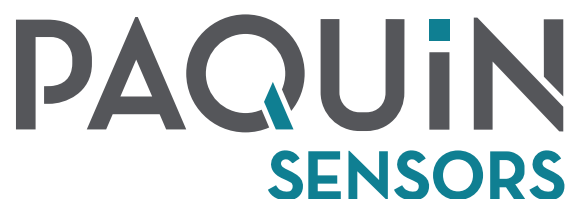
Measuring Range M1
(0.30 ... 8.0 meters)



Measuring Range M2
(0.30 ... 20.0 meters)



Additional Information



Paquin Sensors' product portfolio is designed to provide options to fit the most diverse range of specifications.

We collaborate with our customers to match the best product technologies with your unique application requirements.

Please [contact us](#) or call +1 (800) 831-8217 anytime to discuss your needs!