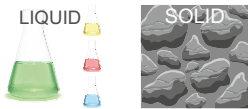


Radar Level Transmitter

LPRS K.01



OVERVIEW

Operation

26 GHz Smart Series radar level transmitters for continuous measurement even under difficult process conditions

- Chemical market
- Oil & Gas
- Petrochemicals
- Power
- Steel

Features

- Compact design
- High accuracy
- Ideal for level measurement in high silos and large bunkers
- No harm to humans and the environment
- Low energy beam that can be installed in a variety of metals

Application

- Level measurement of liquids
- Volume (mass) measurement
- Long measuring range applications
- Measurement of liquids in open air as well as closed tanks

OPERATING DATA

Temperature Limit	-40...85°C 150°C, 250°C as optional
Storage Temperature	-40...80°C
Relative Umidity	<95%
Frequency	26 Ghz
Working Pressure	-0,1...3 bar
Accuracy	±5 mm, ±2 mm as optional
Internal of Measure	~1sec
Weight	up to 5kg (According to Flange size)

MEASURING RANGES

Max Range	0...20 m
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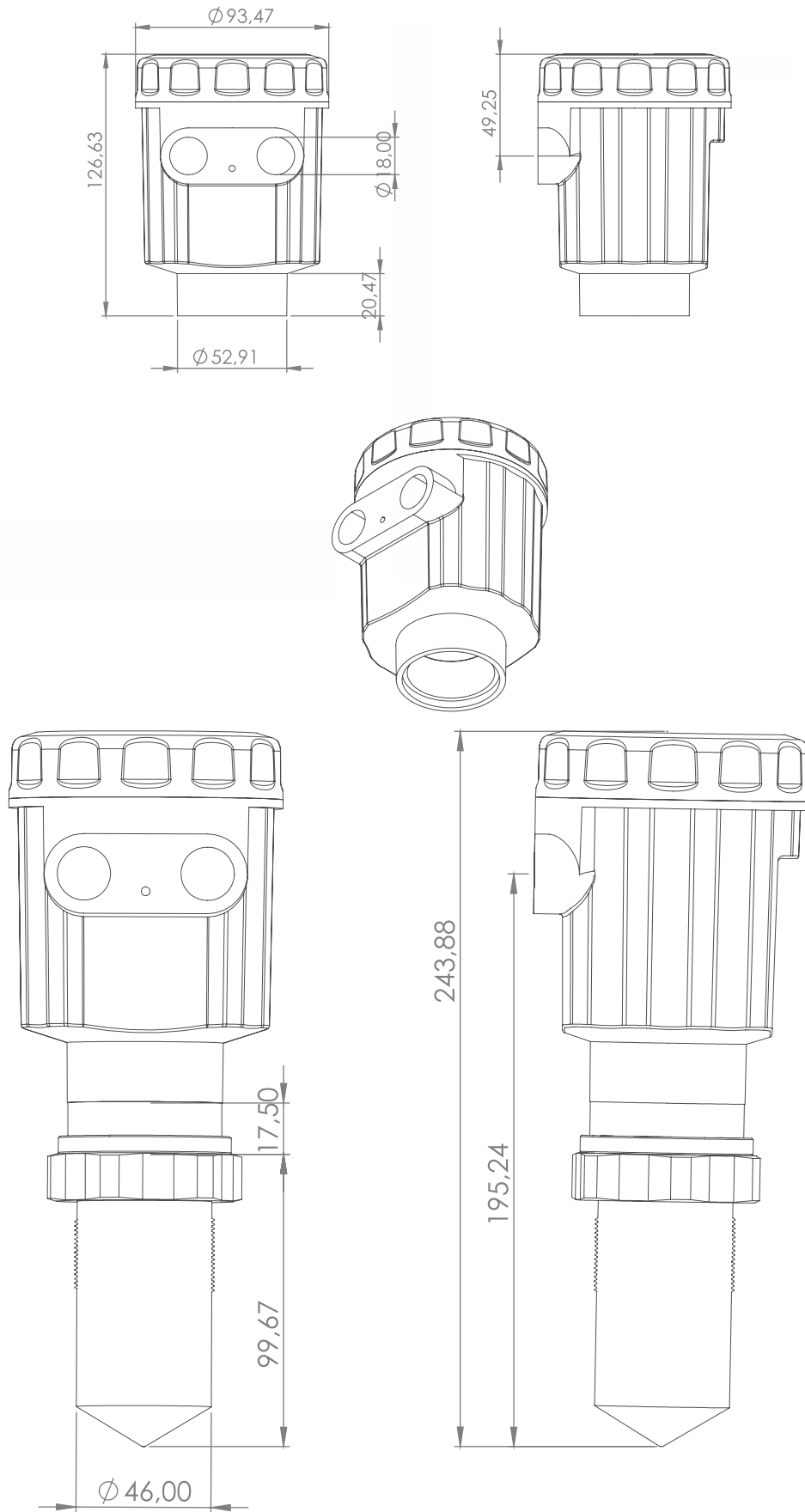
MATERIALS

Antenna	SS304, SS316
Housing	Aluminium, Steel, Plastic

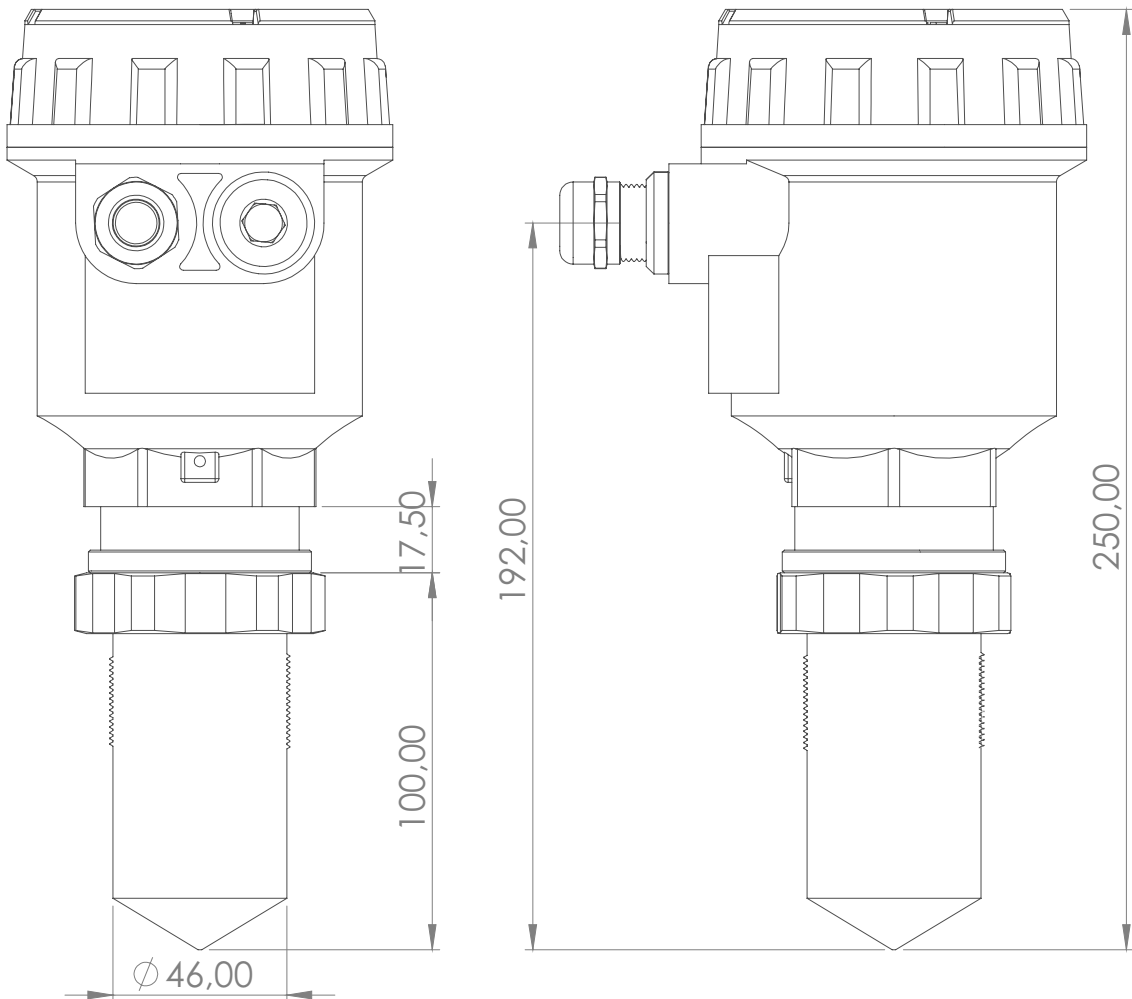
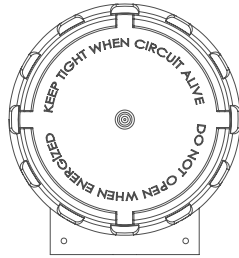
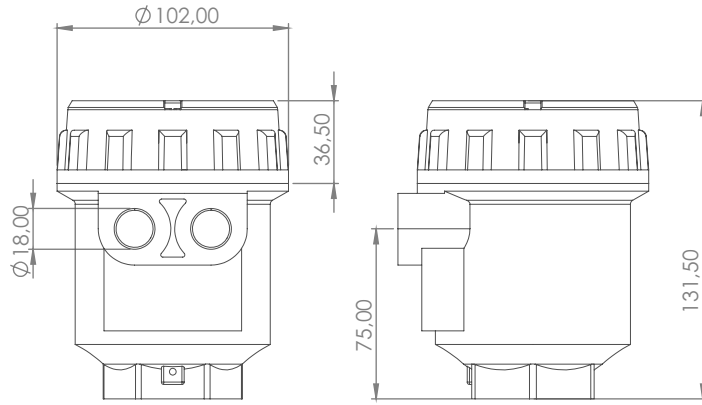
ASSEMBLY DRAWINGS



■ TECHNICAL DRAWINGS AND DIMENSIONS

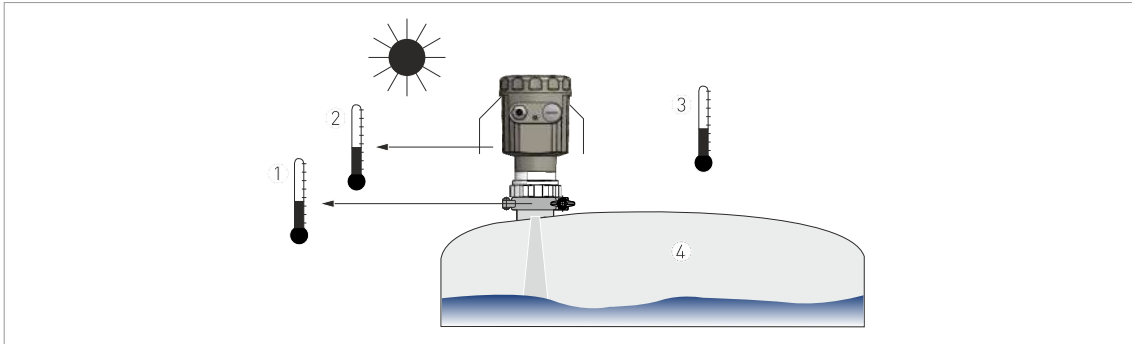


LPRS K.01 Plastic



LPRS K.01 Aluminum

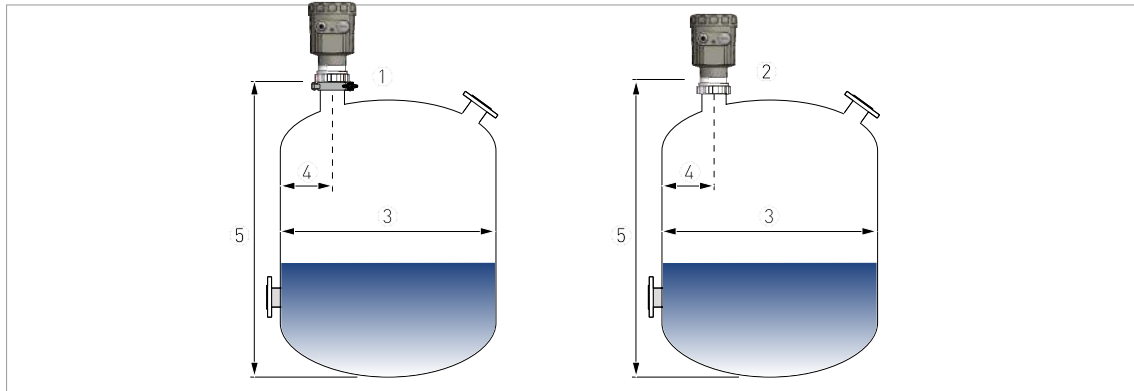
■ INSTALLATION



Pressure and temperature ranges

- 1 Temperature at the process connection
- 2 Ambient temperature for operation of the display
- 3 Ambient temperature
- 4 Process pressure

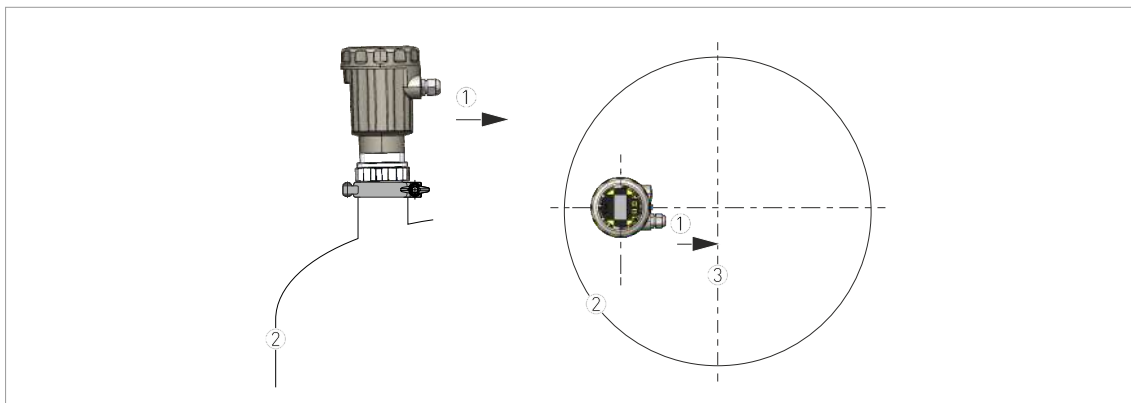
We recommend that you prepare the installation when the tank is empty



Recommended nozzle position for liquids, pastes and slurries

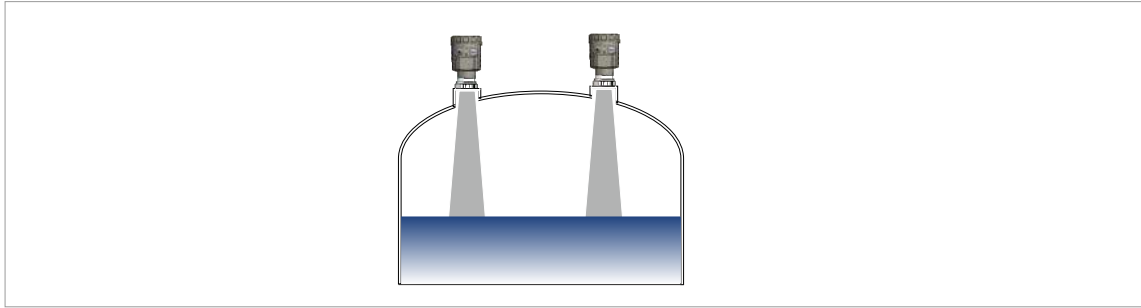
- 1 Socket for the DN25 Lens antenna
- 2 Socket for the DN40 Lens antenna
- 3 Tank diameter
- 4 Minimum distance of the nozzle or socket from the tank wall
 - DN25 Lens : $1/5 \times$ tank height
 - DN40 Lens: $1/10 \times$ tank height
 - Other Lens: $1/3 \times$ tank diameter
- 5 Tank height

Note: If there is a nozzle on the tank before installation, the nozzle must be a minimum of 200mm/ 7.9" from the tank wall. The tank wall must be flat and there must not be obstacles adjacent to the nozzle or on the tank wall.



Point the device in the correct direction to get the best performance

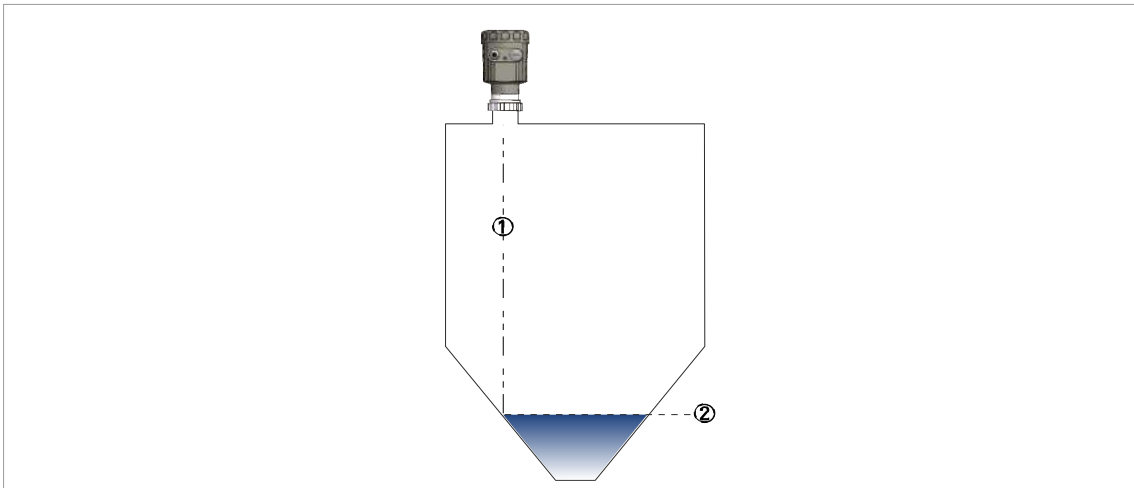
- 1 Cable entry
- 2 Nearest tank wall
- 3 Tank centerline



There is no maximum limit to the number of devices that can be operated in the same tank

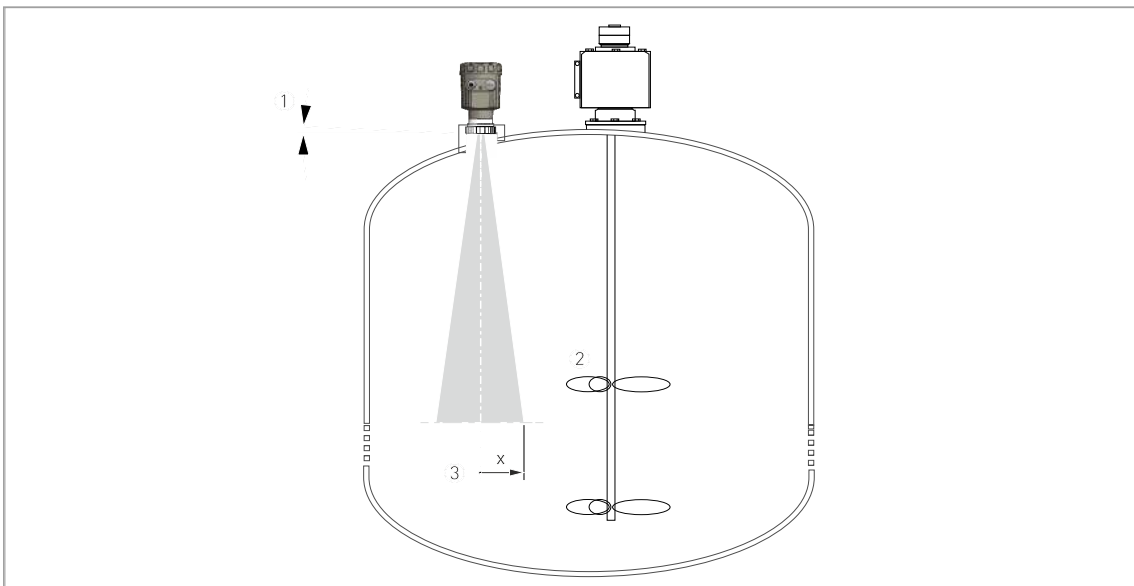
There is no maximum limit to the number of devices that can be operated in the same tank. They can be installed adjacent to other radar level transmitters.

Dish-shaped or conical bottoms have an effect on the measuring range. The device cannot measure to the bottom of the tank. If possible, install the device as shown in the illustration that follows;



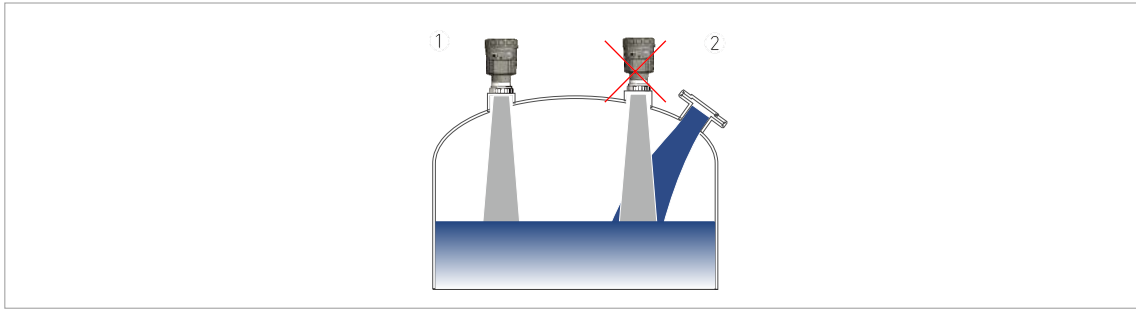
Tanks with dish-shaped or conical bottoms

- 1 Axis of radar beam
- 2 Minimum level reading



Equipment and obstacles: how to prevent measurement of interference signals

- 1 Do not tilt the device more than 2°
- 2 We recommend that you do an empty spectrum recording
- 3 Beam radius of the antenna The beam radius increases by increments of "x" mm for each metre of distance from the antenna.



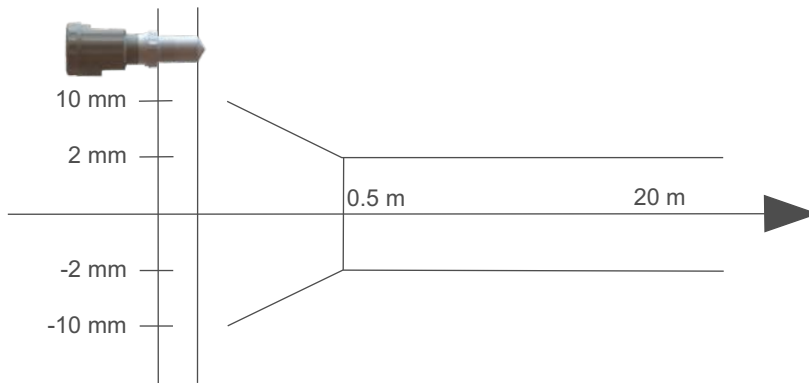
Product inlets

- 1 The device is in the correct position.
- 2 The device is too near to the product inlet.

CAUTION!

Do not put the device near to the product inlet. If the product that enters the tank touches the antenna, the device will measure incorrectly. If the product fills the tank directly below the antenna, the device will also measure incorrectly.

PRECISION CHART OF MEASUREMENT



CONNECTION

Standart
On request

Flanged DIN or ANSI
Others

ELECTRICAL DATA

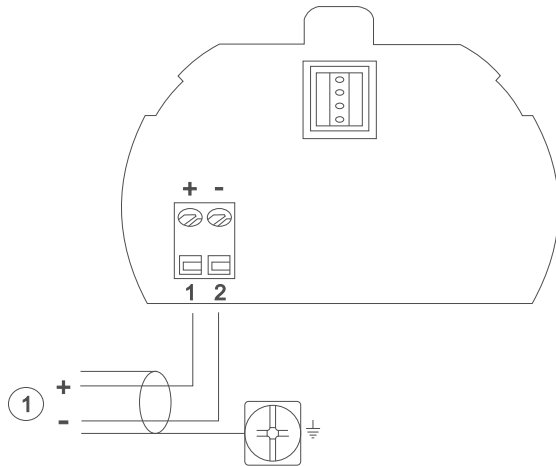
Output	2/4 wires, 4-20 mA + HART 2/4 wires, 4-20 mA + MODBUS
Power Supply- 2 Wires Version	
Input Voltages	15-36 VDC
Absorption	Max. 22.5 mA
Power Supply- 4 Wires Version	
Input Voltages	24 VDC ±10%, 230 VAC ±10%
Absorption	Max. 4 VA, 2W
Electrical Connection	1/2 NPT, M20 × 1.5
Fixed Signal For Anomaly	20.5 mA ; 22 mA ; 3.8 mA
Cable Entry	M20x1,5
Integration Time	0-20s, Programmable

COMMUNICATION

Protocol

HART
MODBUS
WIFI

WIRING



2 wires--VDC

HART 2 wires①

Supply 16~36V DC

Output Parameters

Output Signal

4-20mA (HART)

Resolution

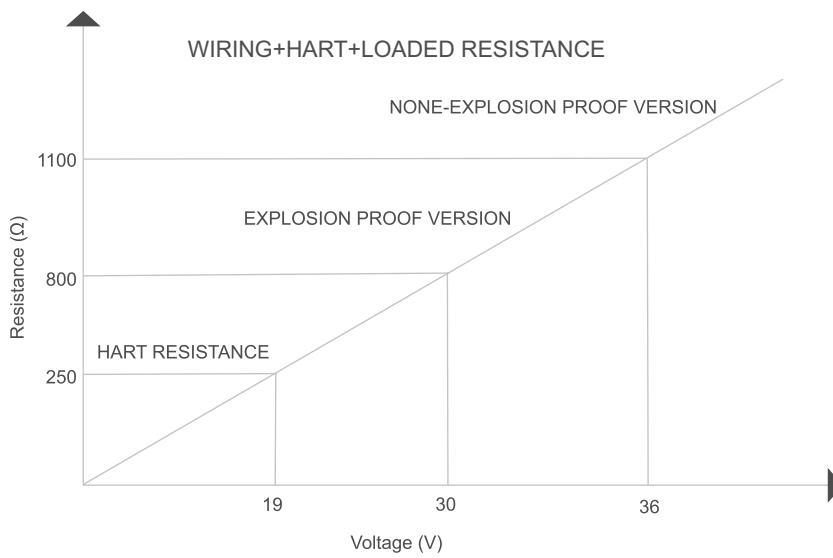
1.6ua

Fault Signal

Current is unchanged 20.5mA 22mA 4mA

Two-wire Load Resistance

250~500 ohms



■ OPTIONS, ELECTRONIC

■ BAB100.L

Inputs	
Analog	4...20 mA,
Output	
Analog	4...20 mA, 0-5 VDC, 0-10VDC selectable
Digital	4x SPDT relay, 5A max.
Optional Output Modules	2x 4-20 mA, 5x SPDT or others
Display	
Type	4.3" TFT full graphic colour display
Resolution	480x272 pixel resistive touchscreen
Refresh rate	Fast or user selectable (1...99 sec.)
Programming	By touch-screen or push-button
Power Requirements	
For Panel Mount	24VDC ±10%
For Wall Mount	24VDC ±10% or 100...240VAC
Max Power Consumption	DC: <5W / AC: 20VA
Enclosure	
Connections	Removable screw terminal blocks
Dimensions	144x144x94 mm DIN standard
Material	PC
Protection	IP65, Front
Ambient Temperature	
Operating Temp	-20...+70°C
Storage Temp	-30...+80°C
Max. Humidity	80%, non-condensaing
Measurement Units	
Metric	lt, kg, m3, mm, cm, m
Imperial	inch, feet
Other	
Non-Volatile Memory	All programmed settings are stored in non-volatile memory for a minimum of five years if power is lost.
Recalibration	All ranges are calibrated at the factory. Recalibration is recommended at least every 12 months.



BAB100.DL

Selectable Inputs	2x4-20 mA or 1x0-10VDC and 1x4-20 mA
Selectable Outputs 1	4-20 mA, 0-10VDC
Outputs 2	4x SPDT relay, 2A
Communication	RS485 MODBUS-RTU
Analog Input Resolution	10 bit
Display	4.3" 480x272 pixel resistive touchscreen
Humidity	%10...85 non-condensate
Power Supply	24 VDC, \pm 10
Power Consumption	3 W
Dimensions	144 x 144 mm (front) , 134 x 134 mm (rear) ,depth 100 mm
Protection	IP65 (front)



ORDERING

LPRS.K.01						Radar Level Transmitter	
Process connection	T					Thread	
	50F					DN50	
	80F					DN80	
	100F					DN100	
	150F					DN150	
Output	H					4-20 mA + HART	
	M					4-20 mA + MODBUS	
Temperature			T1			85°C	
			T2			150°C	
			T3			250°C	
Display			Y			Yes	
			N			None	
Housing					P	Plastic	
					A	Aluminium	
Enclosure					I1	IP67	
					I2	IP68	
Options Electronic					N	None	
					L	BAB100.L	
					DL	BAB100.DL	
Exproof					N	None	
					Xi	II 1/2G Ex ia IIC T4 Gb(Ga)	