

MICROPULS 57L

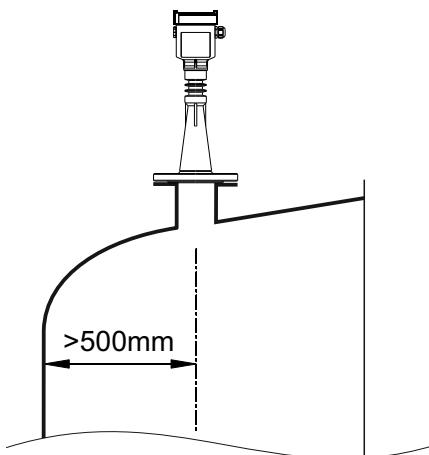
Radar Level Sensor

4...20mA / HART two wire



Installation

For installation on the silo, the sensor should be placed accurately to the centre of half the diameter of the silo. Furthermore, the mounting axis of the sensor must be at least 500mm from the silo wall. For assembling closer to the wall, special attention should be paid to any surface that may cause failure signal echos.



Technical Specifications

Measuring range	up to 30 meter
Accuracy	± 3mm
Process connection	Flanged DN50/DN80/DN100
Process pressure	-1 ... 5 bar
Process Temperature	-40...100°C / optional -40...200°C
Operating frequency	26 Ghz
Measuring angle	8°/12°/18°(Acc. to antenna size)
Power supply	14...36V DC / optional 220V AC
Protection class	IP67

Application Areas

MICROPULS 57L is an ideal sensor for measurement of aggressive liquids especially under difficult conditions. The POM or as optional PTFE coated stainless steel horn antenna operates properly in all kind of chemical environment. By this means, MICROPULS 57L is one of the most effective sensor in measuring up to 30m especially of aggressive substances such as acid and caustic and of similar liquids.

Measuring Principal

Powerful radar waves with short pulses are sent through the antenna system to the product surface. These pulses are reflected by the product surface and received again by the antenna system. The level is measured depending on the period between the time of sending and sensing of the pulses.

Advantages

- Simple mounting
- Non-contact measuring principle
- High sensitivity
- Maintenance-free structure
- Independent of steam, pressure, temperature and gas

Housing and Materials

Sensor bodies are manufactured in accordance with the demands of the customer from single or double chamber plastic, aluminium or stainless steel material. The plastic housing meets the requirements of protection class IP66 and the aluminium and stainless steel housing the protection class IP67. All wet surfaces of the sensor is made from PA66, POM or PTFE material. All sealing gaskets can be manufactured as viton and silicon.

Electronic Options

Sensor electronics are available according to customer demands and process requirements as two-wire or four-wire 4...20mA/HART. They're gel filled and protected against moisture and vibration.

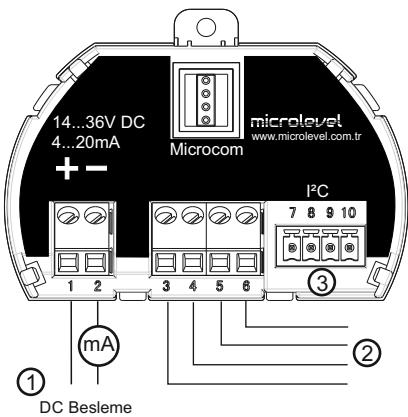
Certificates

MICROPULS 57L has an ATEX approval for use in hazardous areas. The instrument also has CE approvals for EMC Directive 2004/108/EC EN61326-1: 2006 EN61326-2-2: 2006 and Low voltage Directive 2006/95/EC EN 61010-1: 2010.

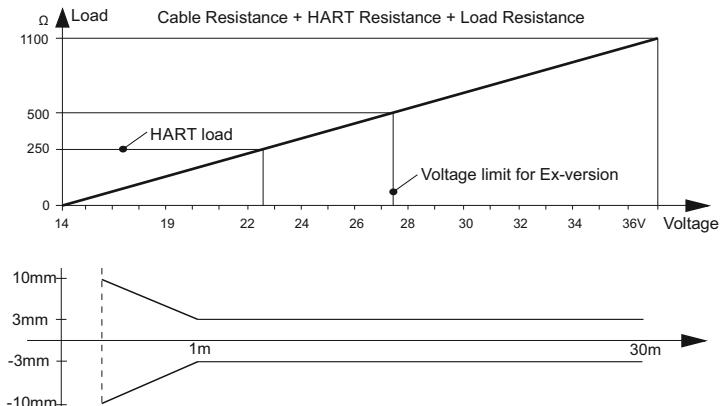
Electrical Connection

The sensor has a system known as two-wire which is operateable with 14..36V DC and which has an 4...20mA output on the same line. The (+) end of the power supply is directly connected to the sensor end 1 and PLC, DCS, indicator and control devices are serially connected to the (-) line 2.

- 1-Supply / analog output
- 2-Exterior indicator output
- 3-Interface connection socket

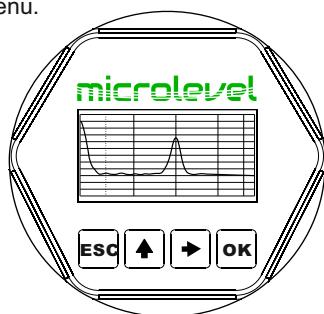


Energy Supply Table / Accuracy Diagram



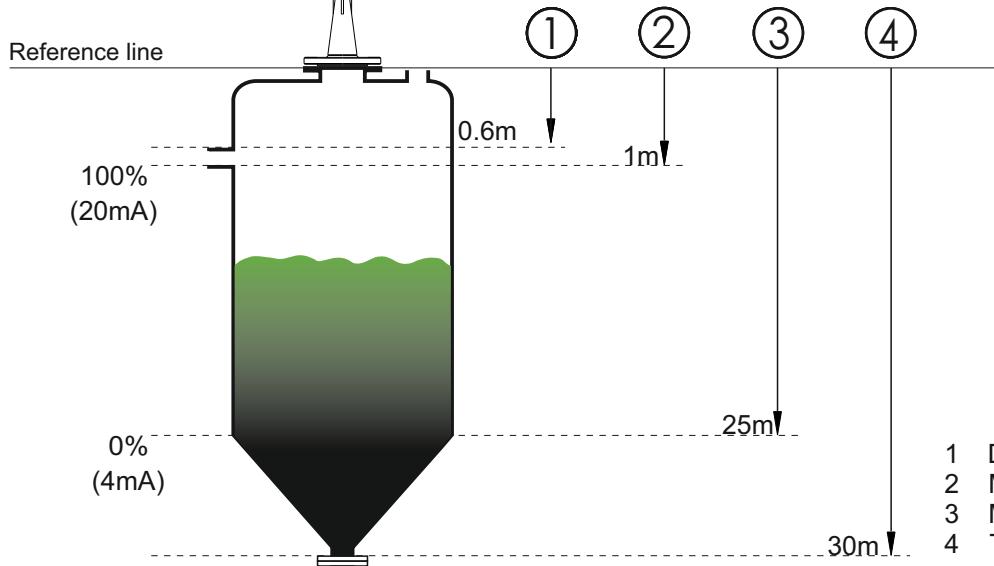
Adjustment with MICROCOM

The basic settings of the sensor can be easily done via the display and adjustment module MICROCOM with different menu language. The measuring range, the product type and the min. and max. values can be easily set. The space to the surface, fullness from ground to top, volumetric values and scaled data and values can be monitored on the display. Many parameters such as signal strength, error codes, simulation can be set under the diagnostic menu and settings such as suppression of faulty echos, type of current output, distance correction setting, reset, enter the PIN etc. can be adjusted under the service menu.

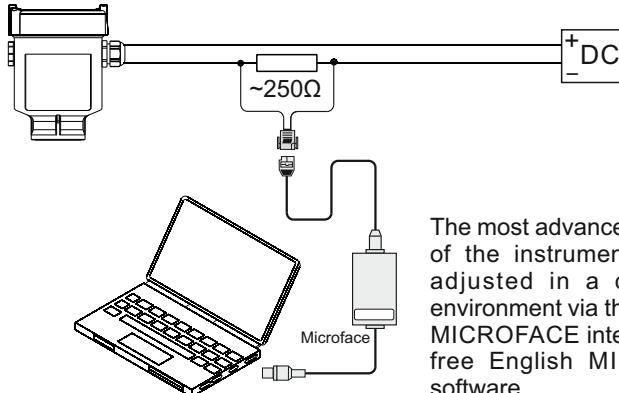


Microcom Adjustment Module

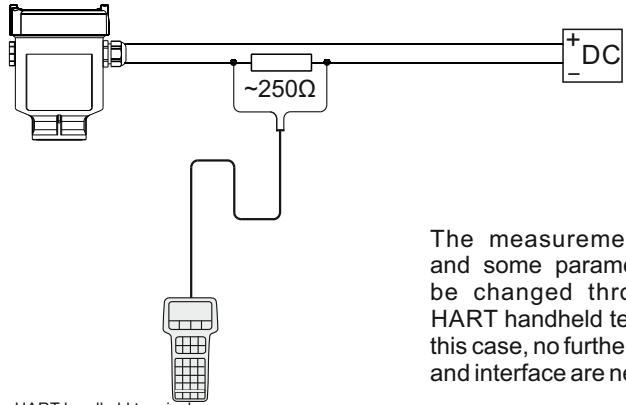
- allows you to enter into the programming mode and to confirm the programming option and the parameter changes.
- allows you to select the programming options and the parameter values to be entered, to read off the parameter contents and to go to the next page.
- allows you to change the parameter values.
- allows you to revert from the programming mode to the upper menu.



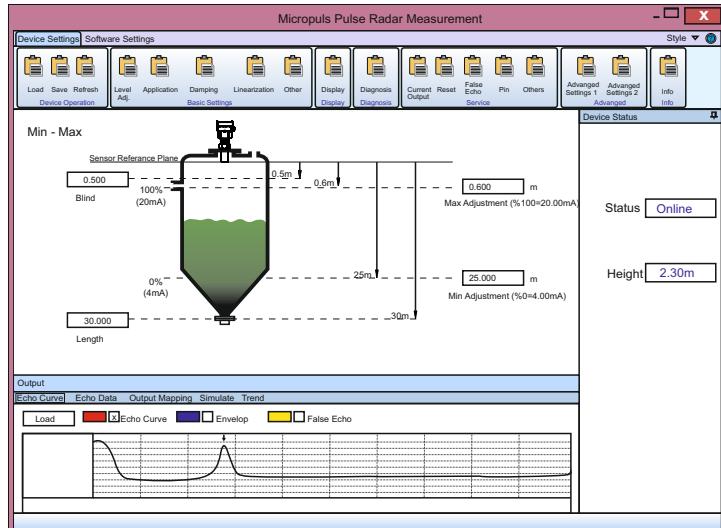
Connection and Adjustment via PC



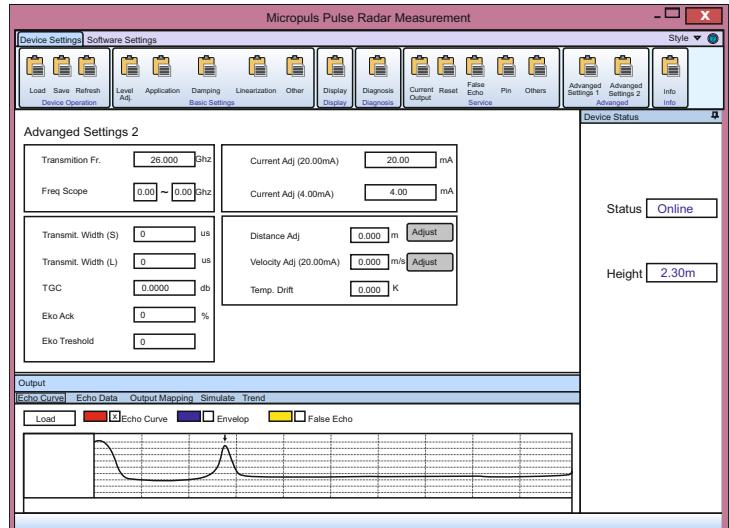
Adjustment with HART Handheld Terminal



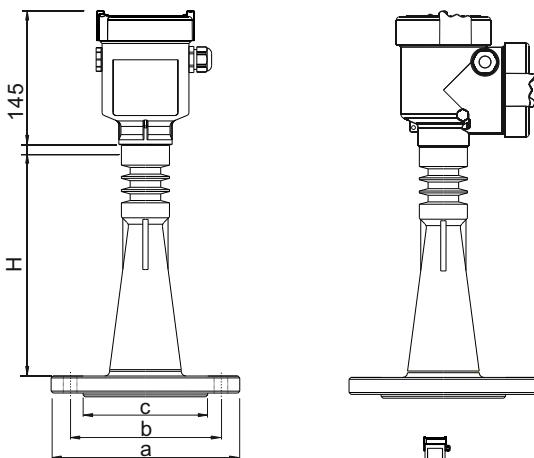
Adjustment with Software



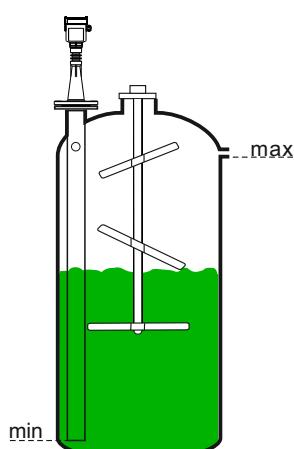
Advanced Parameter Setting



Technical Dimensions

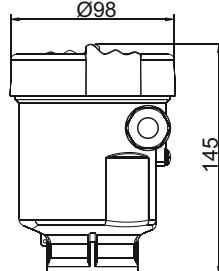


	a	b	c	H
DN 50	Ø165	Ø125	Ø99	120
DN 80	Ø200	Ø160	Ø132	174
DN 100	Ø220	Ø180	Ø156	260

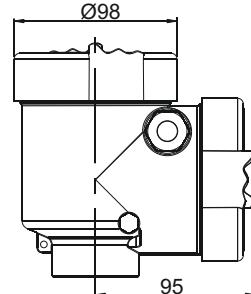


Technical Dimensions (Housing)

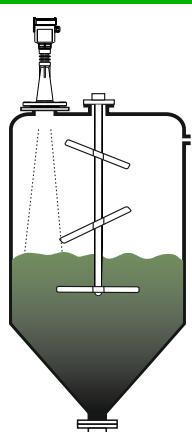
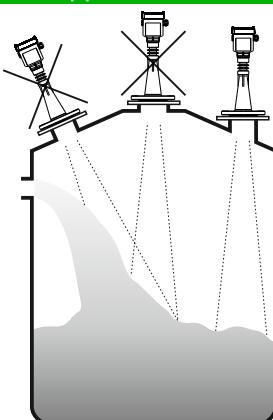
Single Chamber Housing



Double Chamber Housing



Various Applications / Considerations



Selection Table

Model: MICROPULS 57L (20/30m)

Explosion Proof Approval

- P - Standard (Without Approval).....
G - ATEX II 1G Ex ia IIC T6...T3 Ga.....
D - ATEX II 1D Ex ia IIIC T76°C...T146°C Da.....

Process Connection / Material

- FC4 - Stainless Steel 304 / PTFE / Flange DN50.....
FD4 - Stainless Steel 304 / PTFE / Flange DN80.....
FE4 - Stainless Steel 304 / PTFE / Flange DN100.....
FCX - Stainless Steel 316L / PTFE / Flange DN50.....
FDX - Stainless Steel 316L / PTFE / Flange DN80.....
FEX - Stainless Steel 316L / PTFE / Flange DN100.....
FXX - Special Type.....

Antenna Sealing / Temperature

- 1 - PA66 / 100°C.....
2 - POM / 100°C.....
3 - PTFE / 200°C.....

Electronic

- B - 4...20mA / Hart Two wire 14...36VDC.....
C - 4...20mA / Hart Four wire 14...36VDC.....
D - 4...20mA / Hart Four wire 198...242VAC.....

Housing / Protection

- A - Aluminium / IP67.....
B - Plastic / IP66.....
D - Aluminium Two Chamber / IP67.....
G - Stainless Steel 316L / IP67.....

Cable Entry

- M - M20x1.5.....
N - 1/2 NPT.....

Display / Programming

- A- Yes.....
X- No.....

Measuring Range

- 1 - Up to 20m.....
2 - Up to 30m.....

MP57L

Notes:

- ATEX instruments can be used with only "B" Electronic and "A" "G" Housing
-Four wire is only used with "D" Housing