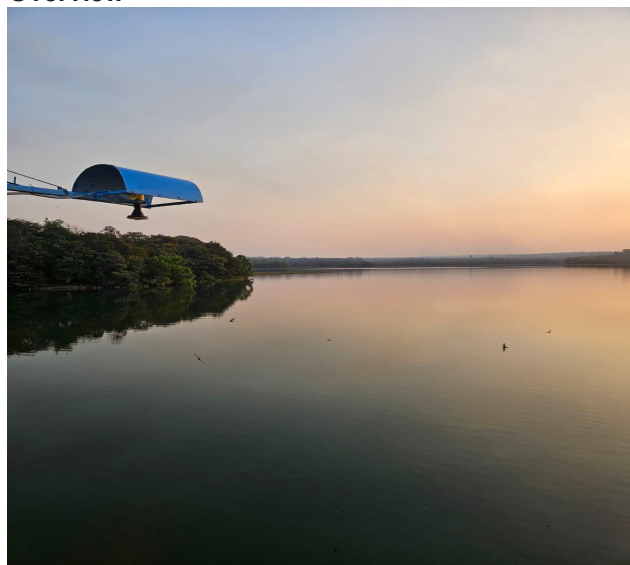


## MRT1101

### Radar sensor for continuous level measurement of liquids and bulk solids

#### - Overview



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#### Application area

MRT1101 is a radar sensor for continuous level measurement of liquids and bulk solids.

The small process fittings offer particular advantages for liquids in small tanks or tight mounting spaces. The very good signal focusing ensures the use in vessels with many installations such as stirrers and heating spirals.

For bulk solids under most different process conditions, the device is ideal for level measurement in very high silos, large bunkers and segmented vessels. The MRT1101 is equipped with an encapsulated plastic antenna or a lens antenna integrated into the metal flange for this.

#### Applications

The MRT1101 can be used in almost all industrial areas and applications. It is selected and adapted simply by an application-orientated configuration and setup.

#### Your benefit

- Maintenance-free operation thanks to non-contact measuring principle
- High plant availability, because wear and maintenance free
- Exact measuring results independent of process conditions

#### Function

The device sends a continuous radar signal or extremely short microwave pulses, depending on its measuring frequency, via its antenna. The transmitted signal is reflected by the medium and received as an echo by the antenna.

The frequency difference between the transmitted and the received signal or the time from transmitting to receiving the signals is proportional to the distance and depends on the filling height.

The thus determined filling height is transformed into an appropriate output signal and output as a measured value.

#### Technical data

Measuring range	up to 120 m (393.7 ft)
Deviation	≤ 1 mm
Beam angle depending on antenna	3°
Measuring frequency	W-band – 80 GHz, C-band – 6 GHz, K-band – 26 GHz technology
Process fitting	Mounting straps, compression flanges from DN 80, 3", thread from G2, ¼ NPT, encapsulated antenna system, flanges from DN 20, 2", flange with swivelling holder from DN 100, 4"
Process pressure	-1 ... 160 bar (-100 ... 16000 kPa/-14.5 ... 2320 psig)
Process temperature	-196 ... +450 °C (-321 ... +842 °F)
Ambient, storage and transport temperature	-40 ... +80 °C (-40 ... +176 °F)
Bluetooth standard	Bluetooth 5.0
Bluetooth range	typically 25 m (82 ft)
Operating voltage	12 ... 35 V DC
Output signal	4 ... 20 mA/HART, Profibus PA, Foundation Fieldbus, Modbus
Protection rating	IP66/IP67, IP66/IP68 (0.2 bar)/IP69, IP66/68 (1 bar) – acc. to IEC 60529; Type 4X, Type 6P – acc. to NEMA

#### Materials

The wetted parts of the instrument are made of 316L, PP, PTFE or PEEK. The process seal is made of FKM, FFKM, EPDM or PTFE.

A complete overview of the available materials and seals can be found on our homepage under "Products".

#### Housing versions

The housings are available as single or double chamber version in plastic, stainless steel or Aluminium. They are available in protection class IP68 (1 bar).

#### Electronics versions

The device is available in different electronic versions.

- 4 ... 20 mA/HART in two or four-wire version
- Profibus PA, Foundation Fieldbus, Modbus protocol
- Integrated overvoltage arrester, additional current output, integrated radio module PLICSMOBILE 81

#### Approvals

Worldwide approvals are available for MOSERP instruments, e.g. for use in hazardous areas, on ships or in hygienic applications.

For approved devices (e.g. with Ex approval) the technical data in the respective safety instructions are applicable.

You can find detailed information in the available approvals on our homepage under "Downloads".

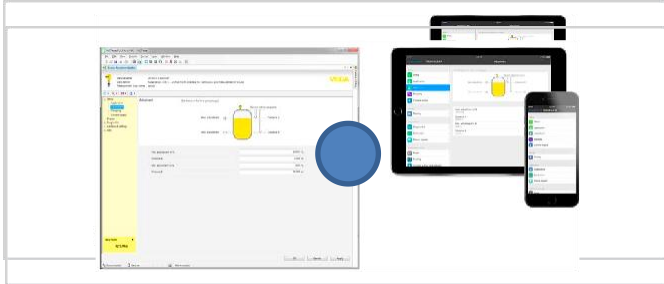
### Adjustment

#### Adjustment directly at the measuring point

The adjustment of the instrument is carried out via the optional display and adjustment module PLICSCOM or via a PC with the adjustment software PACTware and corresponding DTM.

#### Wireless adjustment via Bluetooth

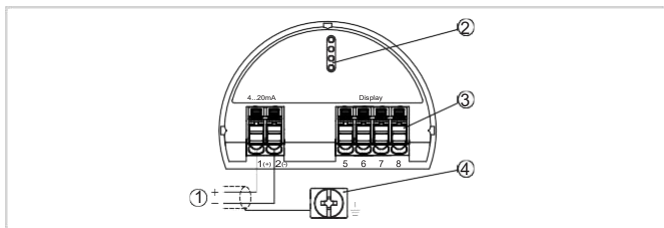
The Bluetooth version of display and adjustment module enables a wireless connection to standard adjustment units. This can be smartphones/tablets with iOS or Android operating system or PCs with PACTware and Bluetooth USB adapter.



#### Adjustment via remote systems

Further adjustment options are possible via a HART Communicator as well as manufacturer-specific programs such as AMS™ or PDM.

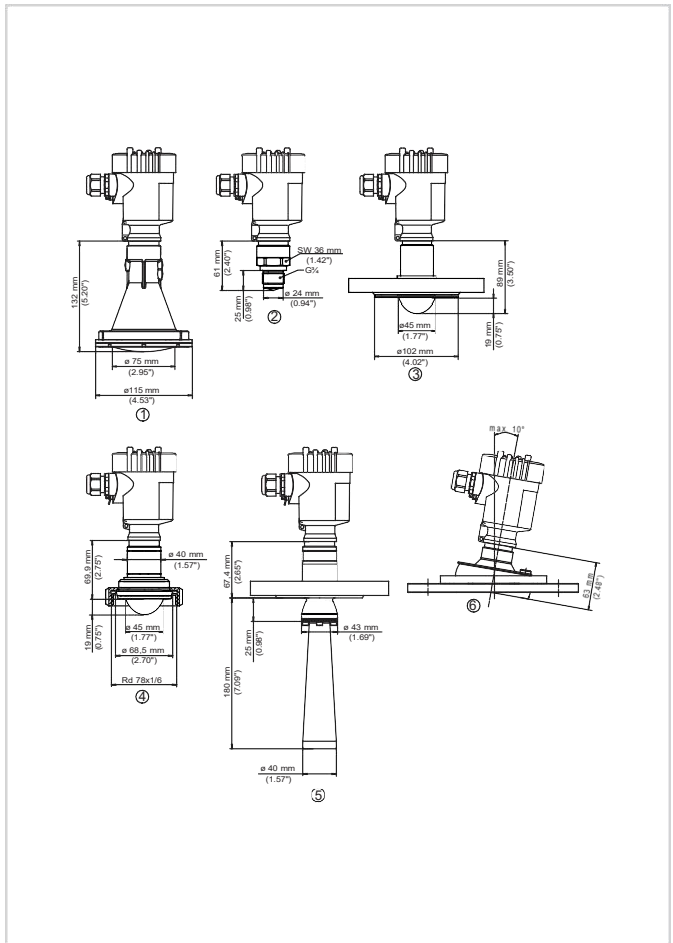
### Electrical connection



Electronics and connection compartment, single chamber housing (example)

- 1 Voltage supply/Signal output
- 2 For display and adjustment module or interface adapter
- 3 For external display and adjustment unit
- 4 Ground terminal for connection of the cable screening

### Dimensions



Dimensions and antenna versions MRT1101

- 1 Plastic horn antenna
- 2 Thread with integrated antenna system
- 3 Flange with encapsulated antenna system
- 4 Hygienic fitting
- 5 Horn antenna
- 6 Flange with lens antenna

### Information

You can find further information on the MOSERP product line on our home- page.

In the download section of our homepage you'll find operating instructions, product information, industry brochures and approval documents as well as device and adjustment software.

### Instrument selection

On our homepage under "Products" you can select the suitable measuring principle and instrument for your application.

There you will also find detailed information on the available device versions.

### Contact

You can find your personal contact person at MOSERP on our homepage under "Contact".