

## Specification sheet

# ROHEVEL-FRT5201

4 ... 20 mA/HART - 2wire

Radar sensor for continuous level measurement of liquids



## Application area

The ROHEVEL-FRT5201 is a radar sensor for continuous level measurement of liquids. The small process fittings offer particular advantages 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.

## Feature and benefit

### ■ IsoLens Technology

Isolated emitting and receiving signal enable full range measurement without dead zone.

### ■ EverCheck

Real time self-monitoring on voltage, current and chip. Output warning when abnormality present.

### ■ WavesMemo

Wave management concept. To help understand abnormal output, ROHEVEL-FRT storages wave automatically.

### ■ MultiTrack

Due to new MultiTrack wave tracking algorithm, ROHEVEL-FRT get highest reliability.

## Function

The radar uses 80GHz Frequency Modulated Continuous Wave. The FMCW radar emits a high frequency signal whose frequency increases linearly during the measurement phase (called the frequency sweep). The signal is emitted, reflected from the measuring surface and received with a time delay,  $t$ . Delay time,  $t=2d/c$ , where  $d$  is the distance to the product surface and  $c$  is the speed of light in the gas above the product. For further signal processing the difference  $\Delta f$  is calculated from the actual transmit frequency and the receive frequency. The difference is directly proportional to the distance.

## Technical data

Measuring range	0 ~ 30m
Response time	<2s
Resolution	1mm
Deviation	±2mm
Repeatability	±1mm
Frequency	80GHz
Beam angle	Min.3°
Ambient temperature	-40℃ ~ 70℃
Process temperature	-40℃ ~ 130℃
Process pressure	-1.0 kgf/cm <sup>2</sup> ~ 2kgf/cm <sup>2</sup>

## Material

The wetted parts of the instrument are made of PP. The process seal is made of FKM.

## Housing versions

The housings are available as double chamber version in plastic, stainless steel or aluminium. They are available with protection ratings up to IP 67 (1 bar).

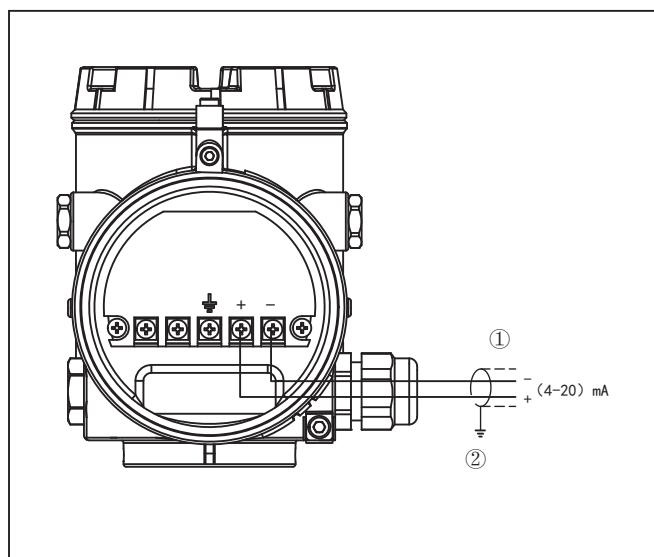
## Electronic versions

The instruments are available in different electronics versions. 4 ... 20 mA/HART in two and four-wire version with 24VDC and four-wire with 220VAC.

## Operation

The adjustment of the instrument is carried out via the Lcd display, Tank side display and Tank side hub.

## Electrical connection

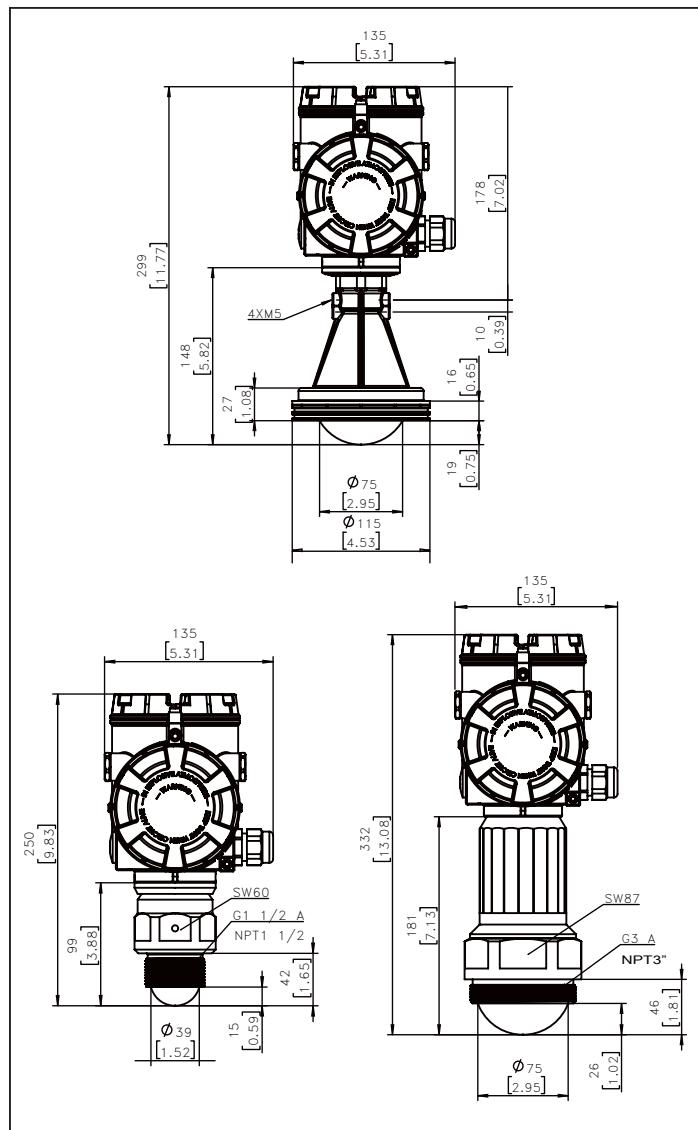


Electronics and terminal compartment, double chamber housing

1 Voltage supply/Signal output

2 Ground terminal for connection of the cable screen

## Dimensions



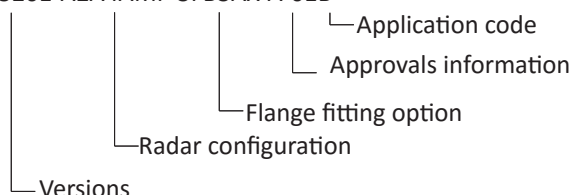
Dimensions ROHEVEL-FRT5201

1 Flange version DN 80

2 Rod version G 1 1/2, G3, NPT 1 1/2, NPT3

## How to order

ROHEVEL-FRT5201-A2A4AMF-3FB3AX-A-01B



### Approval

- A None
- B Ex ia IIC T6 Ga
- C Ex d ia [ia Ga] IIC T6/T2 Gb
- D ATEX II 1/2G Ex ia IIC T6
- E ATEX II 1/2G Ex d (ia) IIC T6
- Z Special order

### Flange fitting option

3	F	B	3	A	X	
						<b>Counter flange</b>
					X	None
					A	304
					B	316L
					C	Q235
					Z	Special order
						<b>Flange material</b>
					A	304
					B	316L
					C	Q235
					D	PP
					E	PTFE
					Z	Speical order
						<b>Flange surface type</b>
					2	Solid flange
					3	RF raised face flange
					4	FM male and female face flanges
					5	M male face flanges
					6	TG tongue and groove face flanges
					7	FF flat face flange
					8	RJ ring joint face flanges
					0	Special order
						<b>Flange pressure level</b>
					X	Solid flange
					A	PN2.5
					B	PN10
					C	PN16
					D	PN25
					E	PN40
					F	Class150
					G	Class300
					H	Class600
					I	Class900
					Z	Special order
						<b>Flange sizes</b>
					A	2"(DN50)
					B	3"(DN80)
					C	4"(DN100)
					D	5"(DN125)
					E	6"(DN150)
					F	8"(DN200)
					G	10"(DN250)
					Z	Special order
						<b>Flange standard</b>
					2	ANSI B16.5
					3	EN1092-1
					4	Solid special flange(8mm)
					5	GB/T9119-2010
					0	Special order

0802-0100-01MSN18042110