

Specification sheet

ROHEVEL-FRT5205

4 ... 20 mA/HART - 2wire

Radar sensor for continuous level measurement of liquids



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 Δf is calculated from the actual transmit frequency and the receive frequency. The difference is directly proportional to the distance.

Application area

The ROHEVEL-FRT5205 is a radar sensor for continuous level measurement of liquids with slightly aggressiveness. It is suitable for level measurement in storage containers, reactors and process vessels. The small fitting enables the installation in small vessel openings.

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.

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℃ ~ 200℃
Process pressure	-1.0 kgf/cm ² ~ 20kgf/cm ²

Material

The wetted parts of the instrument are made of 316L The process seal is made of PTFE or PEEK.

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).

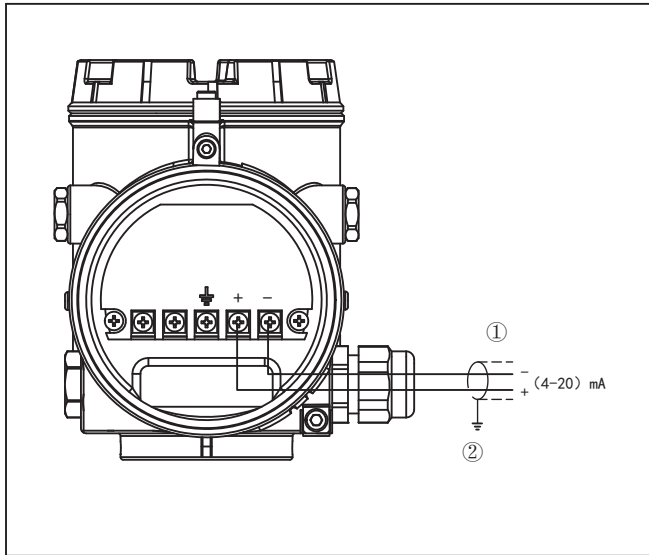
Electronic versions

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



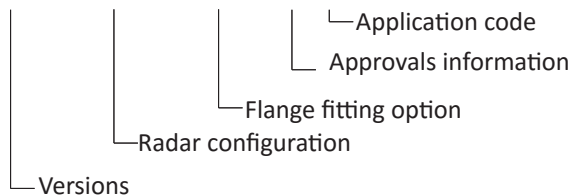
Electronics and terminal compartment, double chamber housing

1 Voltage supply/Signal output

2 Ground terminal for connection of the cable screen

How to order

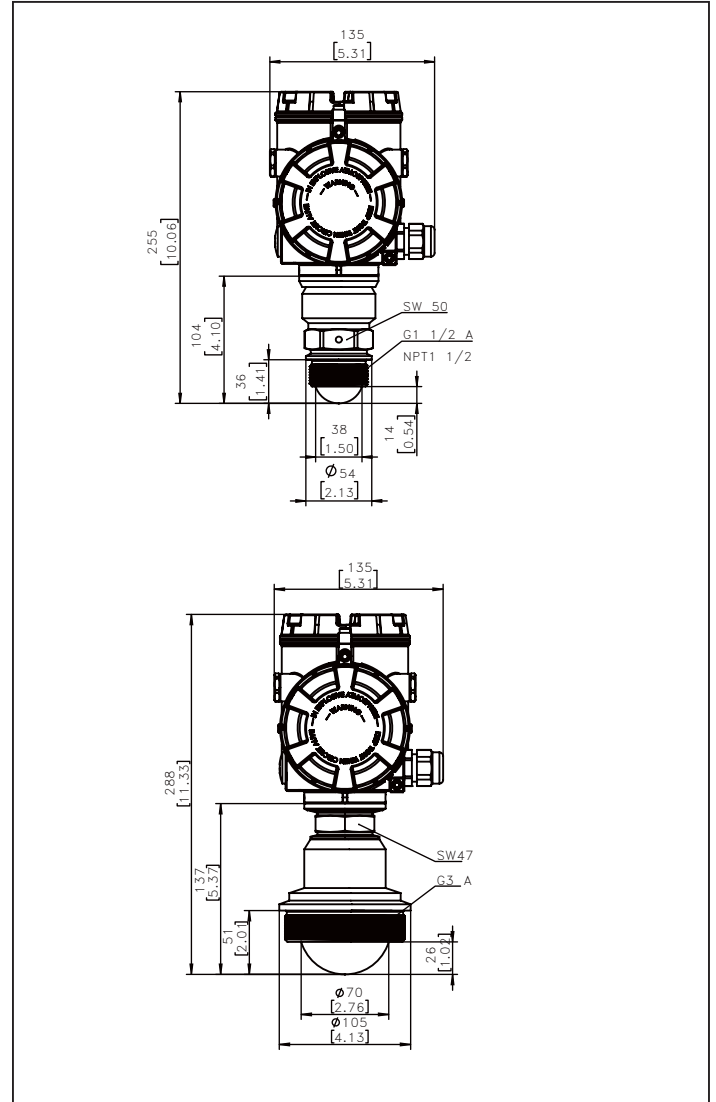
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Approval

- 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

Dimensions



Dimensions ROHEVEL-FRT5205

1. Thread version G 1½, G3, NPT 1½, NPT3

Flange fitting option

3	F	B	3	A	X	Counter flange
					X	None
					A	304
					B	316L
					C	Q235
					Z	Special order
						Flange material
					A	304
					B	316L
					C	Q235
					D	PP
					E	PTFE
					Z	Speical order
						Flange surface type
					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
						Flange pressure level
					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
						Flange sizes
					A	2"(DN50)
					B	3"(DN80)
					C	4"(DN100)
					D	5"(DN125)
					E	6"(DN150)
					F	8"(DN200)
					G	10"(DN250)
					Z	Special order
						Flange standard
					2	ANSI B16.5
					3	EN1092-1
					4	Solid special flange(8mm)
					5	GB/T9119-2010
					0	Special order

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