

Specification sheet

ROHEVEL-FRT5207

4 ... 20 mA/HART - 2wire

Radar sensor for continuous level measurement of solid



Application area

The ROHEVEL-FRT5207 is a radar sensor for continuous measurement of bulk solids. It is particularly suitable for level measurement in small silos and bunkers. The ROHEVEL-FRT5207 is an economical solution thanks to the simple setup and the reliable, maintenance-free operation.

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 stores 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 Δf 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	±3mm
Repeatability	±2mm
Frequency	80GHz
Beam angle	Min. 3°
Ambient temperature	-40 °C ~ 70 °C
Process temperature	-40 °C ~ 200 °C
Process pressure	-1.0 kgf/cm ² ~ 2kgf/cm ²

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).

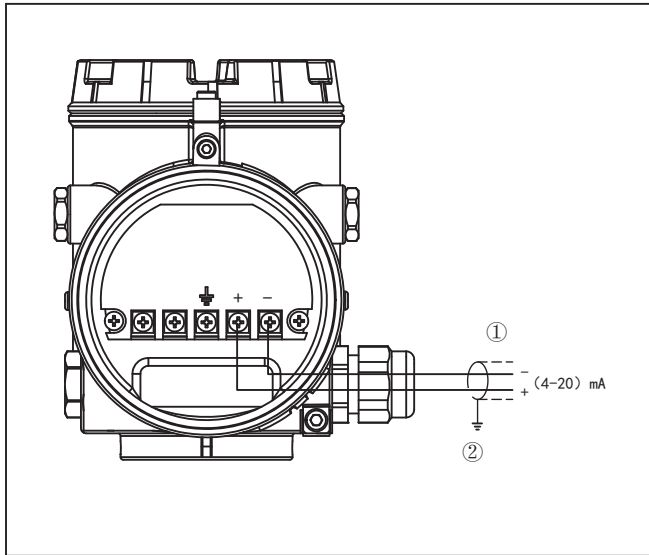
Electronic versions

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

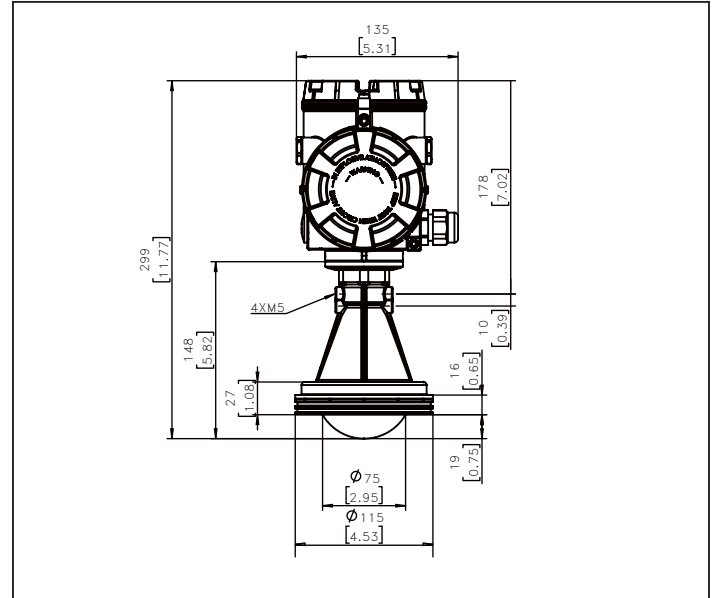


Electronics and terminal compartment, double chamber housing

1 Voltage supply/Signal output

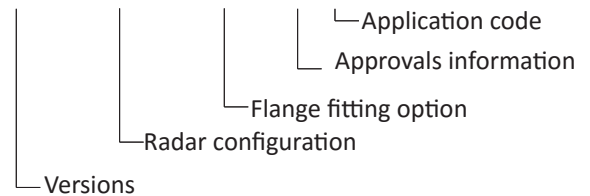
2 Ground terminal for connection of the cable screen

Dimensions



How to order

ROHEVEL-FRT5207-A2A01AMF-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

Radar configuration

A	2	A	01	A	M	F
						Process fitting
						A Thread G1½
						F Flange(Recommend PP flange according to application approval)
						C Special order
						Process pressure(kgf/cm²)
						L -1
						M 1
						A 3
						Z Special order
						Process temperature
						A FKM -40~80 °C (PP cover only)
						B FKM -40~80 °C (PTFE cover only)
						C FKM -40~200 °C
						D EPDM -40~130 °C
						E KALREZ 6375 -20~130 °C
						F KALREZ 6375 -20~200 °C
						Z Special order
						Antenna type
						01 Ø75mm Plastic horn with PP cover
						02 Ø75mm Plastic horn with PTFE cover
						00 Special order
						Tank side display
						A None
						B Tank side display without power supply (RS485/50m)
						C Tank side display with 220V power supply (HART/1500m)
						Z Sepcial order
						Supply/Communication
						2 24VDC-2wires/4-20mA HART
						3 24VDC-4wires/4-20mA HART
						4 220VAC-4wires/4-20mA HART
						0 Special order
						Housing material
						A Cast alminium
						B Stainless steel
						Z Special order

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

Note: Flange is provided by local branches or distributors according to local flange standard.