

## CGR8100 Specification Sheet

4 ... 20 mA/HART - 2 wire/4 wire Radar sensor for continuous level measurement of non-aggressive liquids



### Area of application

The CGR8100 is a radar sensor for continuous level measurement of non-aggressive liquids. The sensor delivers precise and reliable measured values even in applications with steam, buildup, foam generation or condensation. It is a truly cost-effective level and interface sensor for your measuring task.

### Feature and benefit

- **Twin-chips**  
With two chips, CGR8100 achieves higher processing ability.
- **Multi-Track**  
Due to new Multi-Track wave tracking algorithm, CGR8100 gets highest reliability.
- **Waves Memo**  
With wave management function. To help understand abnormal output, CGR8100 storages wave automatically.

### Function

The CGR8100 guided radar transmitter is designed for continuous level measuring of conductive or nonconductive liquids. The CGR8100 is a "downward-looking" measuring system that functions according to the TDR principle

(Time Domain Reflectometry). High frequency microwave impulses are guided along a steel cable or rod. When they reach the product surface, the microwave pulses are reflected and received by the processing electronics. Level distance is directly proportional to the flight time of the pulse.

### Technical data

Measuring range	
- Cable probe	0 ~ 30 m
- Rod probe	0 ~ 6 m
- Coax probe	0 ~ 3 m
Sample frequency	16Hz
Response time	<2s
Resolution	1mm
Deviation	±3mm
Repeatability	±1.5mm
Frequency	100MHz ~ 1.8GHz
Ambient temperature	-40 °C ~ 70 °C
Process temperature	-40 °C ~ 200 °C
Process pressure	-1 ~ 40 bar
Protect level	IP67

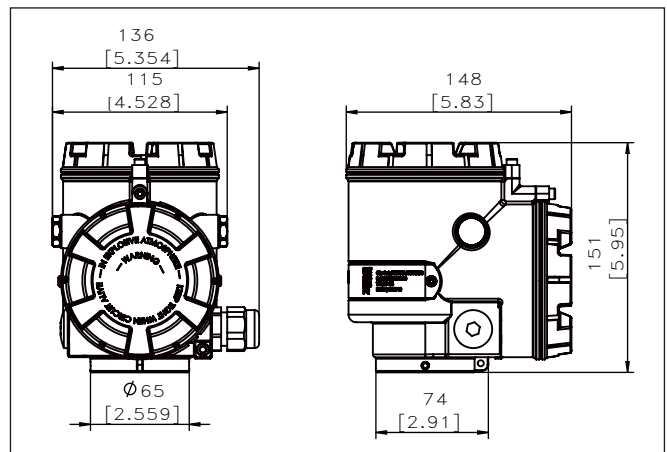
### Material

The wetted parts of the instrument are made of 316L stainless steel and PTFE. The process seal is made of FKM.

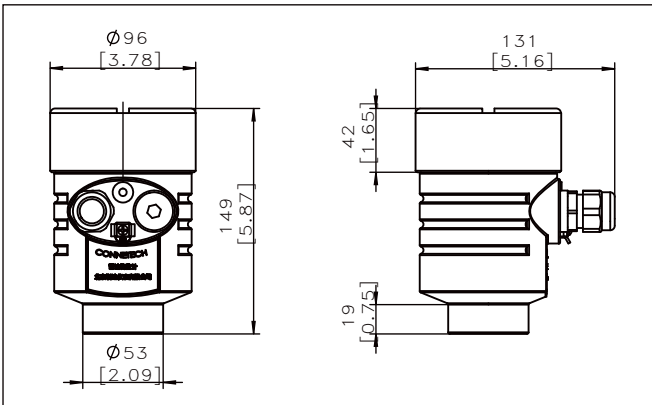
### Housing version

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

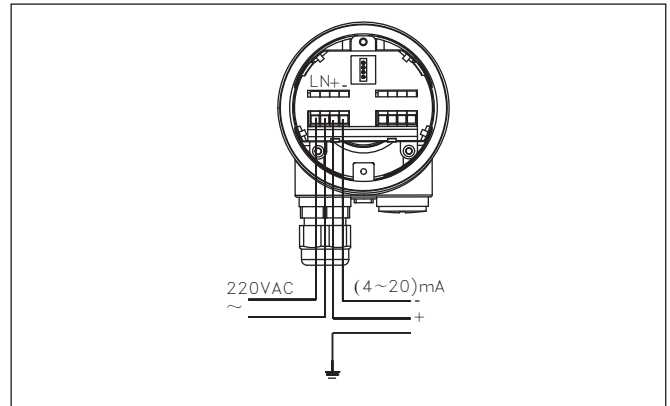
#### Double chamber housing



## Single chamber housing



## 220V AC.Four-wire



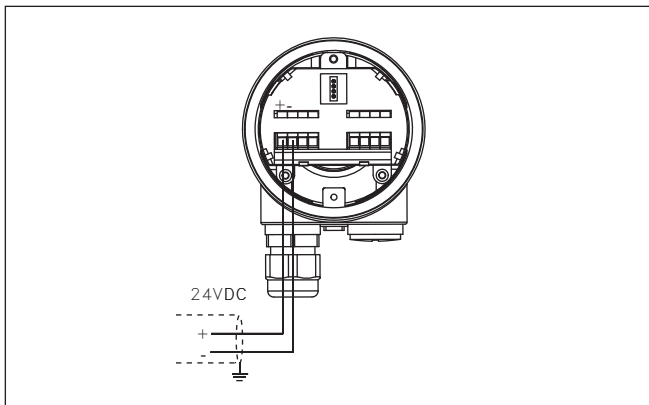
## Electric connection

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

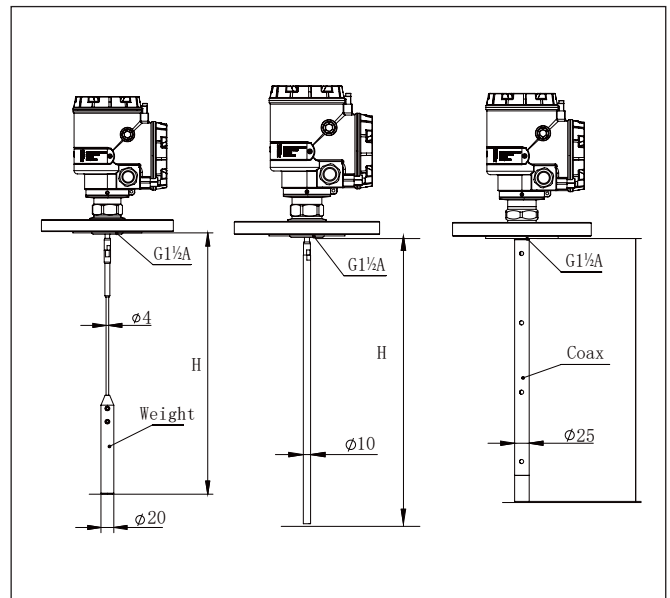
## Operation

The adjustment of the instrument is carried out via the - LCD display, tank side display, tank side hub and HART communicator.

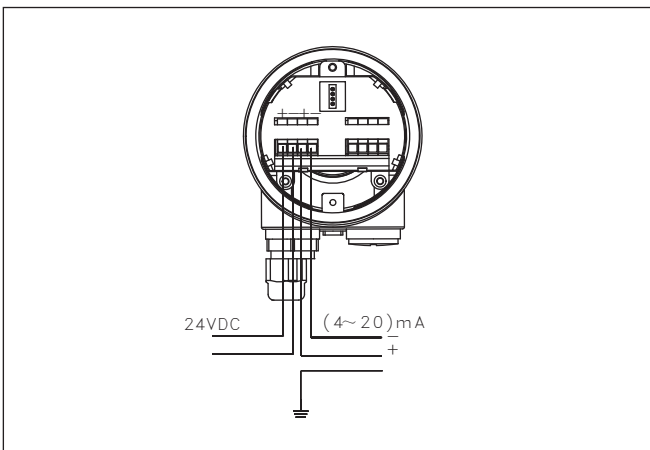
## 24V DC.Two-wire



## Dimensions



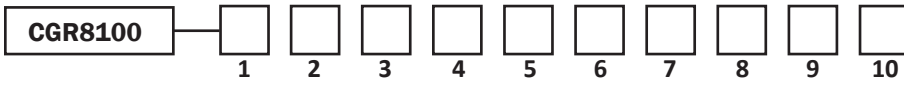
## 24V DC.Four-wire



- 1 Single cable probe version
- 2 Single rod probe version
- 3 Coax probe version

## Ordering code

### CGR8100 Guided Wave Radar Level Transmitter



#### 1 | LANGUAGE

A	English
I	Chinese

#### 2 | APPROVAL

XX	Standard
CX	Ex ia IIC T6 Ga
DX	Ex d ia [iaGa] IIC T6/ T2 Gb
EX	Ex iaD tD A21 IP67T80°C/ T290°C

#### 3 | ANTENNA VERSION / MATERIAL

B	∅ 2mm probe cable+ weight /316SS
A	∅ 4mm probe cable+ weight /316SS
E	∅ 10mm probe rod/316SS
F	∅ 16mm probe rod/316SS
G	∅ 4mm double SS probe cable+ weight /316SS
L	Coaxial waveguide ∅22mm/ SS316
P	Coaxial waveguide ∅42mm/ SS316
T	Customized

#### 4 | PROCESS FITTING

TA	Thread G3/4
TS	Thread 3/4 NPT
TI	Thread G1½A
NP	Thread 1½ NPT
DA	Flange DN25
DD	Flange DN50
DF	Flange DN80
TT	Customized

#### 5 | PROCESS SEAL / TEMPERATURE

A	VITON Fluorine rubber/-40 °C...80 °C
F	VITON Fluorine rubber/-40 °C...150 °C
L	KALREZ fluoroether rubber/-20 °C...200 °C
T	Customized

#### 6 | ELECTRONICS

H	Two-wire 4...20mA/HART; 24 VDC
B	Four wire 4...20mA/HART; 220 VAC
I	Four wire 4...20mA/HART; 24 VDC
W	Wireless; GPRS; Wireless C Mesh
T	Customized

#### 7 | AUXILIARY ACCESSORIES

X	Without
T	Tank side monitor entry

#### 8 | HOUSING/PROTECTION

A	Single chamber/ Aluminum / IP67
B	Double chamber/ Aluminum / IP67
W	Double chamber/ 316L SS/ IP67

#### 9 | CABLE ENTRY / CABLE GLAND/ CONNECT CABLE

M	M20x1.5 / with/ without
N	½NPT/ without/ without

#### 10 | LCD DISPLAY

X	Without display
A	With display