Distributor: Sider Electronic Industries Ltd.
Tel: 852-23892522 Fax: 852-23574546
Email: info@sider.com.hk URL: www.sider.com.hk

SENSOR TECHNOLOGY

RADAR TYPE LEVEL METER
(Frequency Modulated Continuous Wave)

REFLEX RADAR
FMCW-VG7

EXCELLENCE IN NON-CONTACT TYPE!!
OUTSTANDING SOFTWARE ENSURES THE MOST RELIABLE DETECTION.

CAT.No.FMCW.VG7-0703

KANSAI Automation Co.,Ltd.

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Non-contact Radar

FMCW VG7 SERIES OF RADAR FMCW SYSTEM

(Freqency Modulated Coutinuous Wave)

A unique measurement system upgrades the accuracy.
Micro pulses are continuously sent via an antenna toward a product to be measured from which they are reflected back. It Calculates the round trip time from the frequency difference between micro pulses emitted and received at the antenna, which is directly proportional to the distance. The speed of the micro pulses being not affected by temperature and pressure and the changes in dielectric constant or density, this can widely be applied in various fields.
FMCW is the best system to achieve the high resolution both accurately and reproducibly.

VG series are featured by the following unique technical-advantages:

- ETS(Empty Tank Spectrum)
  It memorizes the complex of inner structure when the tank is emptied and detects the level accurately in ignoring tank internals.
- TBF(Tank Bottom Following: Detecting reliably low dielectric products)
- Compatibility of Measuring Head

FEATURES

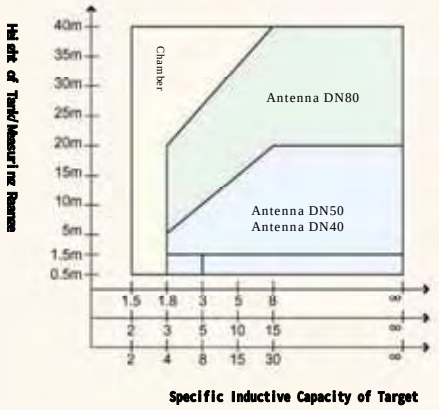
- It can be used for powders, solids, liquids, slurries and viscous materials.
- It may not be affected even if the product is varied.
- It is of non-contact type having the range of 40m.
- It can be used in a vacuum and under high temperature/pressure.
- ATEX EExia(intrinsically safe explosion-proof)
  ATEX EExd(flame-proof)
- Low Consumption (75mW)

OPERATING PRINCIPLE

Electromagnetic waves are emitted, reflected from the target surface and received at a time-delayed frequency. The difference is calculated from the actual transmit frequency and the receive frequency and is transformed into a lower frequency spectrum. Then the distance is calculated from this spectrum. FMCW is programmed so as to process signals to keep the linearity.

with Sunshade Cover

■ SELECTION GRAPH FOR ANTENNA TYPE



*Select Apparent Specific Inductive Capacity for powders and

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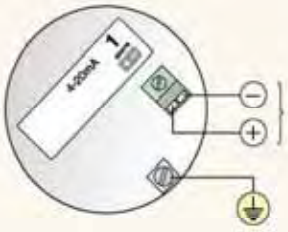
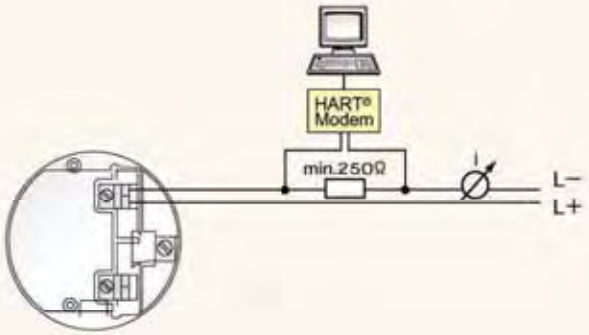
■ CROSSLINE DRAWING



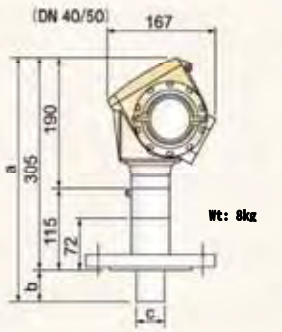
Power Supply
DC14 – 30V
Current Output
DC4 – 20mA

■ CONNECTION DRAWING



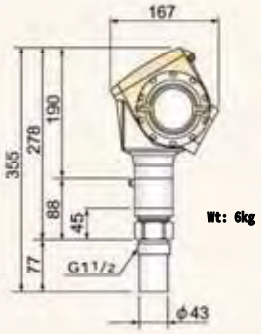
■ HOUSING DIMENSIONS

● Flangee Mounting

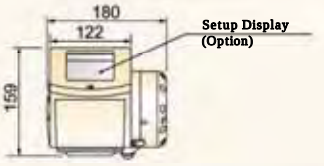


Antenna	a	b	c
DN40	344	39	Φ39
DN50	355	50	Φ43

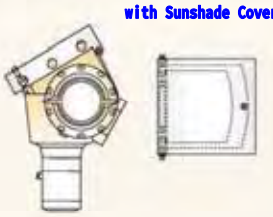
■ Screw Mounting



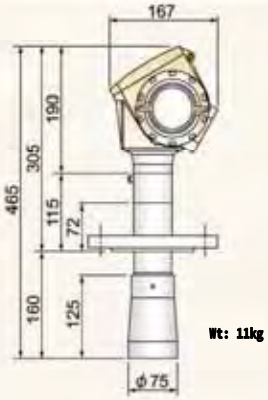
Plane View



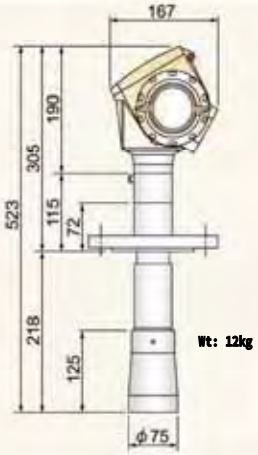
with Sunshade Cover



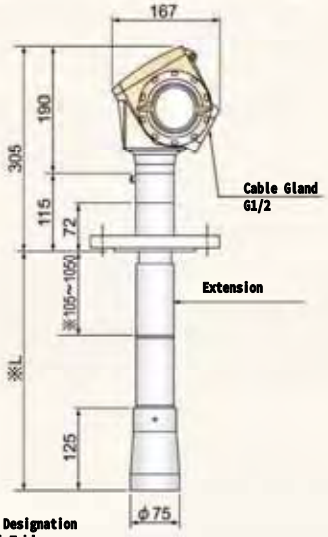
■ Flange Mounting(80A)
(DN80 Short Type)



■ Flange Mounting(80A)
(DN80 Long Type)



■ Flange Mounting(80A)
(DN80 Long Type) Extended Antenna



Ref Designation
Model Table

PROGRAMMING

With a setup display on the head and HART Protocol options, it is possible to do remote programming with PC and to monitor.

Sensor-head Display(Option)

PC Display

● STANDARD SPECIFICATIONS

Power Supply (Two Wire)	Non Explosion-proof/ EExi	24VDC (DC14 – 30V)
	EExd	24VDC (DC20 – 36V)
Measuring Range	Min Tank Height	0.5m
	Max Measuring Range	40m(dependant on environment)
	Blocking Distance	Extended Length + Antenna Length + 0.1m
Output	Output 1(Max Load Resistance 350Ω)	DC4 – 20mA HART (Max Load Resistance: 350Ω)
	Error Output	DC3.6mA or DC22mA or hold
	Accuracy	0.05%
	Resolution	±2μA
Accuracy	Accuracy	±3mm(dependant on environment)
	Resolution	1mm
	Beam Angle(DN40)	20°
	Beam Angle(DN50)	15°
	Beam Angle(DN80)	10°
Conditions	Ambient Temperature	-40 - +85℃(EExi: -40 - +60℃)
	Storage Temp. for Insutrment	-40 - +85℃
	Flange Temperature	-40 - +200℃(EEx: +150℃)
	Withstanding Pressure	-0.1MPa – 4MPa
	Housing	IP66 NEMA6 – 6X

● DESIGNATION OF MODEL

VG7□□□□

Dimensions of Extension
0 Extension No
1 105mm(Under flange length = 321mm)
2 210mm(Under flange length = 426mm)
3 315mm(Under flange length = 531mm)
4 420mm(Under flange length = 636mm)
5 525mm(Under flange length = 741mm)
6 630mm(Under flange length = 846mm)
7 735mm(Under flange length = 951mm)
8 840mm(Under flange length = 1056mm)
A 945mm(Under flange length = 1161mm)
B 1050mm(Under flange length = 1266mm)

DN80
Long Type only

Shape of Antenna
0 DN40 Φ39mm
1 DN50 Φ43mm
2 DN80 Φ75mm
3 DN80(Long Type) Φ75mm

Material of Mounting Portion/Antenna
0 SUS316L
1 Hastelloy C

Explosion-proof
0 Non explosion-proof
2 ATEX EExia IIC T6
3 ATEX EExd ia IIC T6

製造元 HYCONTROL

Line of business

- ●回転式レベルスイッチ
- ●振動式レベルスイッチ
- ●振子式レベルスイッチ
- ●音波式レベルスイッチ
- ●静電容量式レベルスイッチ
- ●静電容量式近接センサ
- ●静電容量式レベルメータ
- ●ダイヤフラム式レベルスイッチ
- ●チルトスイッチ
- ●リーク式レベルスイッチ
- ●マイクロウェーブスイッチ
- ●サウンジング式レベルメータ
- ●フロースイッチ
- ●電極式レベルスイッチ
- ●フロートスイッチ
- ●フロート式レベルメータ
- ●超音波式レベルメータ
- ●コンベア周辺機器
- ●ダストモニタ
- ●ジルコニア酸素濃度計
- ●レーザー式レベルメータ
- ●電波式レベルメータ
- ●液体濃度・濃度計
- ●超音波流量計

※ご使用に際しては取扱説明書を必ずお読み下さい。
※予告なく仕様変更することがありますので予めご了承下さい。

Nuclear Power Generation to Rice Milling
All-round Manufacturer of Level Controllers for Powder, Granules and Liquid

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代理店 /Agent