

## TRG804X RADAR LEVEL TRANSMITTER

### Summary

TRG804X series radar level transmitter is suitable for petroleum, chemical, food, metallurgy and some other measuring sites. It can provide accurate and reliable level measurement and control. It also has many good features such as large measuring range, high precision, strong interference-resistance, easy installation and so on.



### Operating Principle

Extremely short microwave pulses are transmitted by the antenna system to the measured product, reflected by the product surface and received back by the antenna system. The time from emission to reception of the signals is proportional to the level in the vessel. A special time stretching procedure ensures reliable and precise measurement of the extremely short transmission periods and the conversion into level. The radar sensors operate with low emitted power.

### Technical Parameters

Range: 30m

Accuracy:  $\pm 10\text{mm}$  or  $0.1\%FS$  (depend on the bigger one)

Dead zone: 300mm

Ambient temperature :  $-40^{\circ}\text{C} \sim 70^{\circ}\text{C}$

Minimum dielectric constant: 1.8

Power supply: (16 ~ 36) VDC (two-wire)

Explosion-proof: Intrinsic safe : Ex iaD 20 T85°C/Ex ia IIC T1 ~ T5/T6 Ga

Dual intrinsic-safe and explosion-proof type : Ex d ia [ia Ga]IIC T1 ~ T5/T6 Gb; Ex tD A21  
T100°C /T85°C

Housing/IP rating: Aluminium/IP67

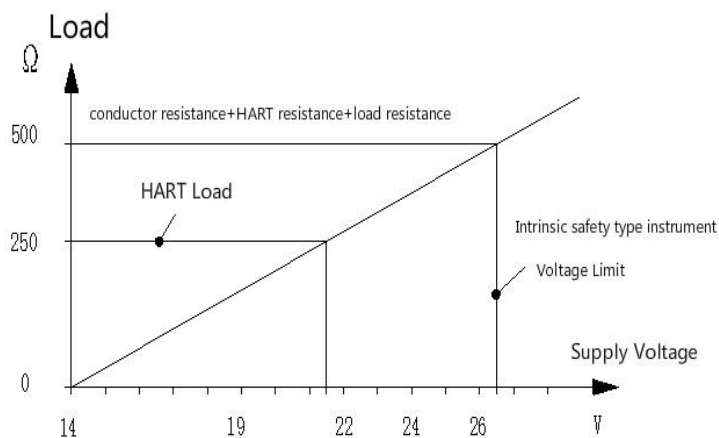
Output signal: 4 ~ 20mA

Display resolution: 1mm

Emission frequency: 6.3GHz

Structure form: Rod antenna and horn antenna

### Two-Wire Load Resistance Diagram:



## Outline Drawing and Parameters

### 1. Product Structure Form

#### 1.1 TRG8041

Application: Suitable for corrosive liquids, simple process condition

Measuring range: 30m

Accuracy:  $\pm 10\text{mm}$  or 0.1%FS (depend on the bigger one)

Process temperature: (-40 ~ 130) °C

Process Pressure: (-0.1 ~ 0.3) MPa

Antenna structure: Rod antenna



## 1.2 TRG8042

Application: Suitable for storage container or process container, complicated process condition

Measuring range: 30m

Accuracy:  $\pm 10\text{mm}$  or  $0.1\%FS$  (depend on the bigger one)

Process temperature:  $(-40 \sim 250) \text{ } ^\circ\text{C}$

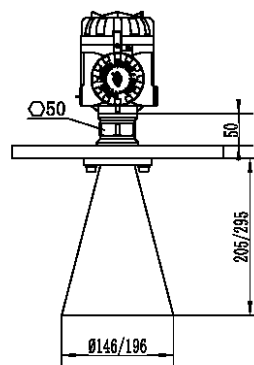
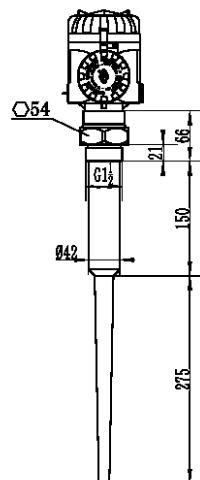
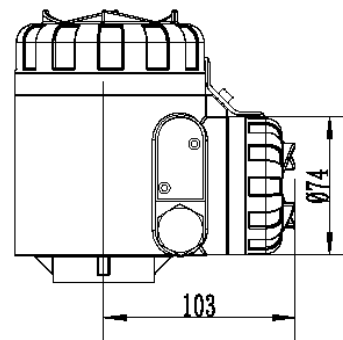
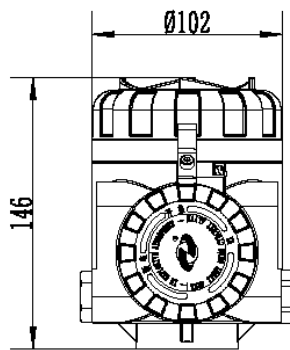
Process pressure:  $(-0.1 \sim 4.0) \text{ MPa}$

Antenna structure: Horn antenna



## Product Dimensions Drawing

### Transmitter



TRG8041

TRG8042

### Model Selection Table

Model	Code		Contents
TRG8041			Rod
	P		Non explosion-proof
	I		Intrinsic safe type (Ex ia IICT1 ~ T5/T6 Ga; Ex iaD 20 T85°C)
	F		Dual intrinsic-safe and explosion-proof type (Ex d ia [ia Ga]IIC T1 ~ T5/T6 Gb; Ex tD A21 T100°C /T85°C)
	2		Material/Process temperature: PVDF/(-40 ~ 130)°C
		GP	Process connection: Thread G1½ "
		NP	Process connection: Thread NPT1½ "
		GX	Process connection: Special customization
		A	Neck tube:100mm
		B	Neck tube:200mm
		X	Neck tube: Special customization
		B	Electronic components:(4 ~ 20)mA/ (22.8 ~ 26.4) V DC/HART/Two-wire
		A	Housing/Protection rating: Aluminium alloy/IP67
		M	Cable incoming line:M20×1.5
		N	Cable incoming line:NPT1/2 "
		A	Status display/ programming : with
		X	Status display/ programming : without

### Example

TRG8041I2GPABAMA is TRG8041 radar, rod type, intrinsic safety type, material is PVDF, process temperature is -40 ~ 130°C, process connection is thread G1½ ", neck tube is 100mm, electronic components are (4 ~ 20)mA+HART,24V DC, two-wire, housing material is aluminium alloy, protection rating is IP67, cable incoming line is M20×1.5, with status display.




Model	Code		Contents
TRG8042			Horn type
	P		Non explosion-proof
	I		Intrinsic safe type (Ex ia IICT1 ~ T5/T6 Ga; Ex iaD 20 T85°C)
	F		Dual intrinsic-safe and explosion-proof type: Ex d ia [ia Ga]IIC T1 ~ T5/T6 Gb; Ex tD A21 T100°C /T85°C
	D		Antenna size/Material:φ98mm/ 316L
	F		Antenna size/Material:φ148mm/ 316L
	G		Antenna size/Material:φ198mm/ 316L
	X		Special customization
	Z		Dust cover: with
	X		Dust cover: without
	GP		Process connection: Thread G1½ "
	NP		Process connection: Thread NPT1½ "
	GX		Process connection: Special customization
	A		Neck tube:100mm
	B		Neck tube:200mm
	X		Neck tube: Special customization
	2		Seal/Process temperature: FKM (Fluoro rubber) (-40 ~ 150)°C
	3		Seal/Process temperature: FFKM(-20 ~ 250)°C
	B		Electronic components:(4 ~ 20)mA/ ( 22.8 ~ 26.4 ) V DC/HART/Two-wire
	A		Housing/Protection rating: Aluminium alloy/IP67
	S		Sweep function: with
	X		Sweep function: without
	M		Cable incoming line:M20×1.5
	N		Cable incoming line:NPT1/2 "
	A		Status display/ programming : with
	X		Status display/ programming : without

### Example

TRG8042IGXGPX2BAXMA is TRG8042 radar, horn type, intrinsic safety type, antenna size is φ198mm, material is 316L, without the dust cover, process connection is thread G1½ ", neck tube is special customization, sealing material is Fluoro rubber, process temperature is -40 ~ 150°C, electronic components are (4 ~ 20)mA+HART, 24V DC, two-wire, housing material is aluminium alloy, protection rating is IP67, without the sweep function, cable incoming line is M20\*1.5, with status display.

### Ordering Requirements

Please fill in the following data sheet when you place an order.

Radar Data Sheet	
User Information	
Attn:	Tel:
Email:	Fax:
Company:	
City:	Country:
Storage Tank Information	
<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <input type="checkbox"/> Solid Tank   </div> <div style="text-align: center;"> <input type="checkbox"/> Liquid Tank   </div> <div style="text-align: center;"> <input type="checkbox"/> Standing Tank   </div> </div> <div style="margin-top: 20px; text-align: center;"> <input type="checkbox"/> Lying Tank  <input type="checkbox"/> Ball Tank         </div>	<p style="text-align: center;"><b>Working Pressure</b></p> <p>Normal Pressure:</p> <hr/> <p>Max Pressure:</p>
	<p style="text-align: center;"><b>Tank Dimensions</b></p> <p>Tank Height: M</p> <p>Tank Diameter: M</p> <p>Opening Size: CM</p> <p>Neck Length: CM</p> <p>Process Connection Type: <input type="checkbox"/> Flange <input type="checkbox"/> Thread</p> <p>Process Connection Size:</p>
	<p><b>Tank Top:</b> <input type="checkbox"/> open <input type="checkbox"/> flat <input type="checkbox"/> cone installation</p> <p><b>Tank Bottom:</b> <input type="checkbox"/> slope <input type="checkbox"/> flat <input type="checkbox"/> cone</p> <p><b>Installation Location:</b> <input type="checkbox"/> top-mounted <input type="checkbox"/> thread installation <input type="checkbox"/> chamber installation</p>

<input type="checkbox"/> arch installation <input type="checkbox"/> arch <input type="checkbox"/> guided wave tube	Distance from Tank Edge: _____ CM			
<b>Medium</b>				
<b>Medium Name:</b> _____ <b>Operating Temperature:</b> Normal _____ °C Max _____ °C <b>Measurement type:</b> <input type="checkbox"/> Liquid measurement <input type="checkbox"/> level measurement <b>Dielectric constant:</b> _____ <b>Level Fluctuation:</b> <input type="checkbox"/> Yes <input type="checkbox"/> No <b>Density:</b> _____ kg/m <sup>3</sup> <b>Viscosity:</b> <input type="checkbox"/> 1-5 cST(water) <input type="checkbox"/> 5-20 cST(motor oil) <input type="checkbox"/> 20-50 cST(cooking oil) <input type="checkbox"/> 50-100 cST(honey) <input type="checkbox"/> 100-500 cST(syrup) <input type="checkbox"/> >500 cST(tar)	<input type="checkbox"/> liquid <input type="checkbox"/> solid <input type="checkbox"/> grout <b>Particle size: (solid)</b> <input type="checkbox"/> dust, < 0.5cm <input type="checkbox"/> grits, < 2 cm <input type="checkbox"/> patch, > 2cm <input type="checkbox"/> chunk, < 9 cm <hr/> <b>Foam:</b> <b>Steam:</b> <input type="checkbox"/> without <input type="checkbox"/> without <input type="checkbox"/> with <input type="checkbox"/> with			
<b>Installation</b>				
<b>Power Supply:</b> <input type="checkbox"/> 24V DC Other _____	<b>Protection Rating:</b> <input type="checkbox"/> IP67 Other _____	<b>Electrical Interface:</b> <input type="checkbox"/> M20*1.5 <input type="checkbox"/> NPT1/2 Other _____	<b>Explosion-proof:</b> <input type="checkbox"/> standard type(non explosion-proof)	<b>Protection Rating:</b> <input type="checkbox"/> Process Instruments Other _____

<p><b>Communication</b> :</p> <p><input type="checkbox"/> HART</p> <p>Other</p>	<p><b>Output:</b></p> <p><input type="checkbox"/> 4-20mA</p> <p>Other</p>		<p><input type="checkbox"/> Intrinsic safety type</p> <p>Dust:Ex iaD 20 T85°C</p> <p>Gas:Ex ia II</p> <p>CT1~T5/T6 Ga</p>	
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