

TRG808X SERIES 80GHZ RADAR LEVEL METER

Summary

TRG808X series 80G radar level meter is a level measuring instrument with international advanced level developed by our company independently. The radar adopts frequency modulated continuous wave (FMCW) technology, which has the characteristics of small antenna beam angle, large range, small blind area and high accuracy. The instrument is easy to calibration and supports the software configuration and upgrading of the upper computer, and supports Bluetooth configuration. The radar level meter is widely used in petrochemical, fine chemical, metallurgy, water treatment, food and other industries.



Working Principle

The 80G radar level meter uses frequency modulated continuous wave (FMCW) technology, the antenna transmits a high frequency FM radar signal, the signal propagates in space at the speed of light, and encounters the surface of the measured medium, part of its energy is reflected back and is received by the antenna. The frequency difference between the transmitted signal frequency and the received signal frequency is proportional to the measured distance, thus calculating the distance from the antenna to the surface of the measured medium.

Main Technical Data

TRG8081

- **Antenna structure:** Small lens antenna
- **Measuring range:** 0.08m~10m/0.08m~30m
- **Power supply:** 12~28V DC
- **Accuracy:** ± 1 mm
- **Beam angle:** 8°
- **Output:** 4~20mA+HART
RS485+Modbus RTU
- **Ambient temperature:** -40℃~+70℃
- **Ingress protection:** IP67
- **Housing material:** Aluminum alloy
- **Process temperature:** -40~85℃
- **Process pressure:** -0.1~2.5 MPa



TRG8082

- **Antenna structure:** structure: Standard lens antenna
- **Measuring range:** 0.08m~10m/0.08m~30m/
0.3m~60m/0.3m~120m
- **Power supply:** 12~28V DC
- **Accuracy:** ± 1 mm/ ± 3 mm
- **Beam angle:** 3°
- **Output:** 4~20mA+HART
RS485+Modbus RTU
- **Ambient temperature:** -40℃~+70℃
- **Ingress protection:** IP67
- **Housing material:** Aluminum alloy
- **Process temperature:** -40~200℃
- **Process pressure:** -0.1~2.5 MPa



TRG8083

- **Antenna structure:** Anti-corrosion antenna
- **Measuring range:** 0.08m~10m/0.08m~30m
0.3m~60m/0.3m~120m
- **Power supply:** 12~28V DC
- **Accuracy:** ±1mm/±3mm
- **Beam angle:** 3°/8°
- **Output:** 4~20mA+HART
RS485+Modbus RTU
- **Ambient temperature:** -40℃~+70℃
- **Ingress protection:** IP67
- **Housing material:** Aluminum alloy
- **Process temperature:** -40~150℃
- **Process pressure:** -0.1~2.5 MPa



TRG8084

- **Antenna structure:** Universal purge antenna
- **Measuring range:** 0.08m~10m/0.08m~30m/
0.3m~60m/0.3m~120m
- **Power supply:** 12~28V DC
- **Accuracy:** ±1mm/±3mm
- **Beam angle:** 3°
- **Output:** 4~20mA+HART
RS485+Modbus RTU
- **Ambient temperature:** -40℃~+70℃
- **Ingress protection:** IP67
- **Housing material:** Aluminum alloy
- **Process temperature:** -40~200℃
- **Process pressure:** -0.1~2.5 MPa

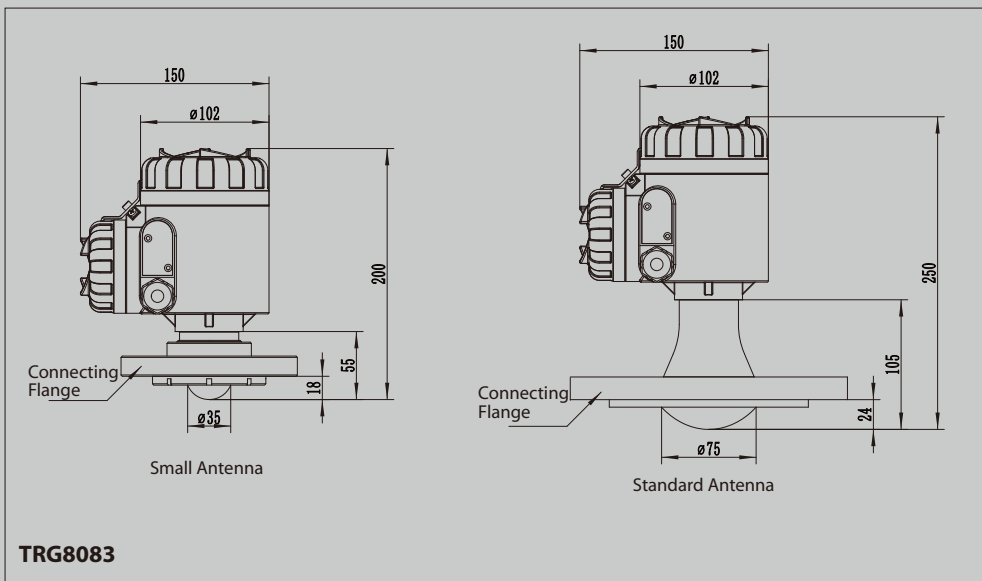
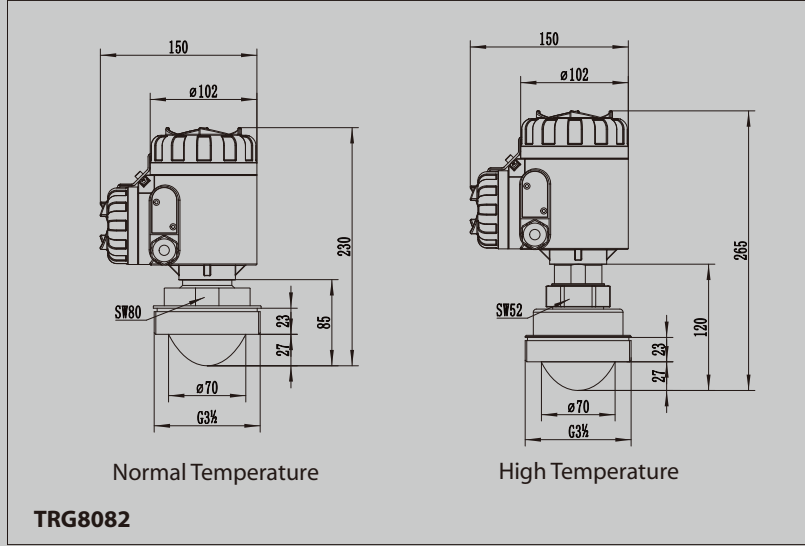
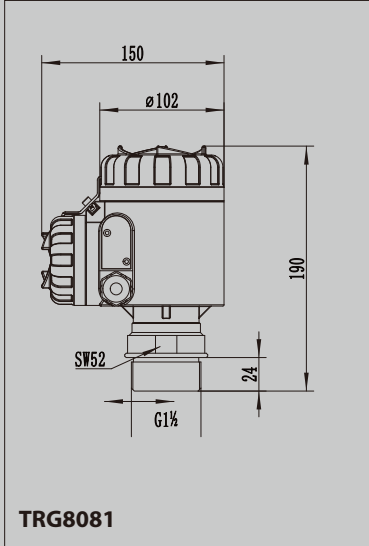


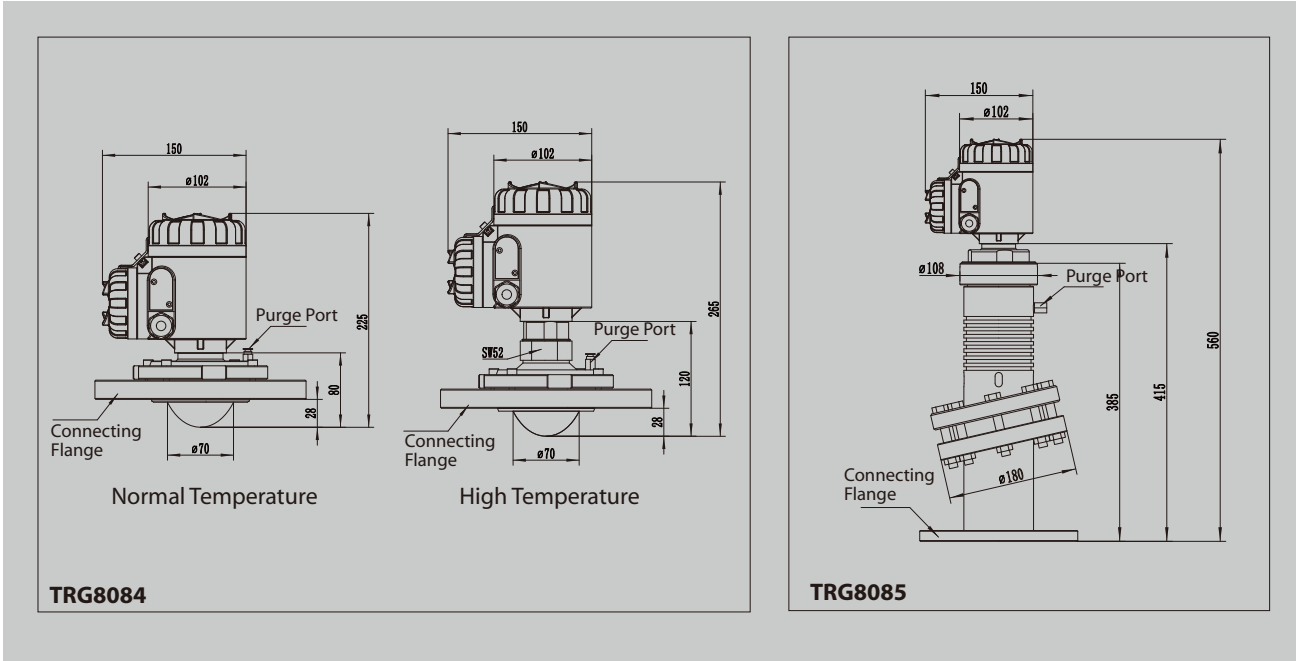
TRG8085

- **Antenna structure:** High temperature and high pressure antenna
- **Measuring range:** 0.08m~10m/0.08m~30m/
0.3m~60m/0.3m~120m
- **Power supply:** 12~28V DC
- **Accuracy:** ±1mm/±3mm
- **Beam angle:** 3°
- **Output:** 4~20mA+HART
RS485+Modbus RTU
- **Ambient temperature:** -40℃~+70℃
- **Ingress protection:** IP67
- **Housing material:** Aluminum alloy
- **Process temperature:** -40~1000℃
- **Process pressure:** -0.1~10 MPa



Outline Drawing





Model Selection Table

Model	Code	Contents
TRG8081		Small lens antenna
	A	Measure range:0.08m ~ 10m
	B	Measure range:0.08m ~ 30m
	P	Non explosion-proof
	I	Intrinsically safe type (Ex iaD 20 T85°C/Ex ia IICT1 ~ T5/T6 Ga)
	F	Intrinsically safe and explosion-proof composite type Ex d ia [ia Ga]IIC T1 ~ T5/T6 Gb; Ex tD A21 T100°C /T85°C
	1	Process temperature: -40 ~ 85°C
	E	Process pressure: -0.1 ~ 2.5MPa
	A	Electronic components :(4 ~ 20)mA/ (13 ~ 28) V DC/HART/two wire
	B	Electronic components:RS485/ (13 ~ 28) V DC/MODBUS/four wire
	X	Special customization
	M	Cable entrance:M20×1.5
	N	Cable entrance:NPT1/2 "
	O	Cable entrance:G3/4 "
	P	Cable entrance:NPT1/2 "
	A	Local display: without bluetooth
	B	Local display: with bluetooth

Example of Model Selection

TRG8081AI1EAMA type for small lens antenna 80G radar level meter, measuring range 0.08m ~ 10m, intrinsically safe, process temperature -40 ~ 85 °C , process pressure -0.1 ~ 2.5MPa, electronic component (4 ~ 20)mA + HART, 24V DC, two-wire system, cable entrance M20 x 1.5, local display without Bluetooth.

Model	Code	Contents
TRG8082		Standard lens antenna
	A	Measure range:0.08m ~ 10m
	B	Measure range:0.08m ~ 30m
	C	Measure range:0.3m ~ 60m
	D	Measure range:0.3m ~ 120m
	P	Non explosion-proof
	I	Intrinsically safe type (Ex iaD 20 T85°C/Ex ia IICT1 ~ T5/T6 Ga)
	F	Intrinsically safe and explosion-proof composite type Ex d ia [ia Ga]IIC T1 ~ T5/T6 Gb; Ex tD A21 T100°C /T85°C
	1	Process temperature: -40 ~ 85°C
	2	Process temperature: -40 ~ 150°C
	3	Process temperature: -40 ~ 200°C
	E	Process pressure: -0.1 ~ 2.5MPa
	A	Electronic components :(4 ~ 20)mA/ (13 ~ 28) V DC/HART/two wire
	B	Electronic components :RS485/ (13 ~ 28) V DC/MODBUS/four wire
	X	Special customization
	M	Cable entrance:M20×1.5
	N	Cable entrance:NPT1/2 "
	O	Cable entrance:G3/4 "
	P	Cable entrance:NPT1/2 "
	A	Local display: without bluetooth
	B	Local display: with bluetooth

Example of Model Selection

Model TRG8082BI2EAMA is a standard lens antenna 80G radar level meter with a range of 0.08m to 30m, intrinsically safe, process temperature -40 to 150°C, process pressure -0.1 to 2.5 MPa, electronic component (4 to 20)mA + HART, 24V DC, two-wire system, cable entrance M20 x 1.5, local display without Bluetooth.

Model	Code	Contents
TRG8083		Anti-corrosion antenna
	A	Measure range:0.08m ~ 10m
	B	Measure range:0.08m ~ 30m
	C	Measure range:0.3m ~ 60m
	D	Measure range:0.3m ~ 120m
	P	Non explosion-proof
	I	Intrinsically safe type (Ex iaD 20 T85°C/Ex ia IICT1 ~ T5/T6 Ga)
	F	Intrinsically safe and explosion-proof composite type Ex d ia [ia Ga]IIC T1 ~ T5/T6 Gb; Ex tD A21 T100°C /T85°C
	S	Lens antenna: φ 40mm
	T	Lens antenna: φ 80mm
	1	Process temperature: -40 ~ 85°C
	2	Process temperature:-40 ~ 150°C
	E	Process pressure: -0.1 ~ 2.5MPa
	A	Electronic components : (4 ~ 20)mA/ (13 ~ 28) V DC/HART/two wire
	B	Electronic components :RS485/ (13 ~ 28) V DC/MODBUS/four wire
	X	Special customization
	M	Cable entrance:M20×1.5
	N	Cable entrance:NPT1/2 "
	O	Cable entrance:G3/4 "
	P	Cable entrance:NPT1/2 "
	A	Local display: without bluetooth
	B	Local display: with bluetooth

Example of Model Selection

Model TRG8083BIT1EAMA is a corrosion-resistant antenna 80G radar level meter with a range of 0.08m to 30m, intrinsically safe, lens antenna φ80mm, process temperature -40 to 85°C, process pressure -0.1 to 2.5MPa, electronic component (4 to 20) mA + HART, 24V DC, two-wire system, cable entrance M20 x 1.5, local display without Bluetooth.

Model	Code	Contents
TRG8084		Universal purge antenna
	A	Measure range:0.08m ~ 10m
	B	Measure range:0.08m ~ 30m
	C	Measure range:0.3m ~ 60m
	D	Measure range:0.3m ~ 120m
	P	Non explosion-proof
	I	Intrinsically safe type (Ex iaD 20 T85°C/Ex ia IICT1 ~ T5/T6 Ga)
	F	Intrinsically safe and explosion-proof composite type Ex d ia [ia Ga]IIC T1 ~ T5/T6 Gb; Ex tD A21 T100°C /T85°C
	1	Process temperature: -40 ~ 85°C
	2	Process temperature: -40 ~ 150°C
	3	Process temperature: -40 ~ 200°C
	E	Process pressure: -0.1 ~ 2.5MPa
	A	Electronic components :(4 ~ 20)mA/ (13 ~ 28) V DC/HART/two wire
	B	Electronic components :RS485/ (13 ~ 28) V DC/MODBUS/four wire
	X	Special customization
	M	Cable entrance:M20×1.5
	N	Cable entrance:NPT1/2 "
	O	Cable entrance:G3/4 "
	P	Cable entrance:NPT1/2 "
	A	Local display: without bluetooth
	B	Local display: with bluetooth

Example of Model Selection

Model TRG8084B1EAMA is a universal purge antenna 80G radar level meter with a range of 0.08m to 30m, intrinsically safe, process temperature -40 to 85°C, process pressure -0.1 to 2.5 MPa, electronic component (4 to 20)mA + HART, 24V DC, two-wire system, cable entrance M20 x 1.5, local display without Bluetooth.



Model	Code	Contents
TRG8085		High temperature and high pressure antenna
	A	Measure range:0.08m ~ 10m
	B	Measure range:0.08m ~ 30m
	C	Measure range:0.3m ~ 60m
	D	Measure range:0.3m ~ 120m
	P	Non explosion-proof
	I	Intrinsically safe type (Ex iaD 20 T85°C/Ex ia IICT1 ~ T5/T6 Ga)
	F	Intrinsically safe and explosion-proof composite type Ex d ia [ia Ga]IIC T1 ~ T5/T6 Gb; Ex tD A21 T100°C /T85°C
	4	Process temperature: -40 ~ 600°C
	5	Process temperature: -40 ~ 1000°C
	F	Process pressure: -0.1 ~ 5MPa
	G	Process pressure: -0.1 ~ 10MPa
	A	Electronic components :(4 ~ 20)mA/ (13 ~ 28) V DC/HART/two wire
	B	Electronic components :RS485/ (13 ~ 28) V DC/MODBUS/four wire
	X	Special customization
	M	Cable entrance:M20×1.5
	N	Cable entrance:NPT1/2 "
	O	Cable entrance:G3/4 "
	P	Cable entrance:NPT1/2 "
	A	Local display: without bluetooth
	B	Local display: with bluetooth

Example of Model Selection

TRG8024IANT2BAMA5800 is TRG8024 guided wave radar level transmitter, double cable type, intrinsically safe, wetted material 316L, process connection NPT2" thread, sealing material fluororubber, process temperature -40 ~ 150 C , electronic components (4 ~ 20) mA+HART, 24V DC, two-wire system, housing material aluminum alloy, ingress protection IP67, cable entry M20×1.5, with local display, probe rod length 5800mm.

Order Information

Please fill in the following data sheet carefully when ordering.

Radar Data Sheet				
User Information				
Attn		Tel		
Email		Fax		
Company				
City		Country		
Storage Tank Information				
<input type="checkbox"/> Solid 		<input type="checkbox"/> Liquid 		
		<input type="checkbox"/> Standing Tank <input type="checkbox"/> Lying Tank <input type="checkbox"/> Ball Tank		
		Working Pressure		
		Normal Pressure		
		Max Pressure		
		Tank Dimensions		
Tank Roof		Tank Bottom		Installation Position
<input type="checkbox"/> open <input type="checkbox"/> flat <input type="checkbox"/> taper <input type="checkbox"/> arch		<input type="checkbox"/> bevel <input type="checkbox"/> flat <input type="checkbox"/> taper <input type="checkbox"/> arch		<input type="checkbox"/> top Mounted <input type="checkbox"/> screw-thread Mounted <input type="checkbox"/> flange Mounted <input type="checkbox"/> chamber Mounted <input type="checkbox"/> waveGuideTube Mounted
				Tank Height
				Tank Diameter
				Opening Size
				Neck Length
				Process Connection Type <input type="checkbox"/> Flange <input type="checkbox"/> Thread
				Process Connection Size
				Distance from Tank Edge
		Medium		
Medium Name		<input type="checkbox"/> liquid <input type="checkbox"/> solid <input type="checkbox"/> grout Particle size (solid)		
Operating Temperature Normal °C Max °C		<input type="checkbox"/> dust, < 0.5cm <input type="checkbox"/> grits, < 2cm <input type="checkbox"/> patch, > 2cm <input type="checkbox"/> chunk, < 9cm		
Measurement Type <input type="checkbox"/> Liquid <input type="checkbox"/> Measurement				
Dielectric Constant				
Level Fuctuation <input type="checkbox"/> Yes <input type="checkbox"/> No				
Density		kg/m ³		
Viscosity		Foam		steam
<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"/> without <input type="checkbox"/> with		<input type="checkbox"/> without <input type="checkbox"/> with
Installation				
Power Supply	Protection Rating	Electrical Interface	Explosion-proof	Protection Rating
<input type="checkbox"/> 24V DC Other	<input type="checkbox"/> IP66 Other	<input type="checkbox"/> M20×1.5 <input type="checkbox"/> NPT1/2 Other	<input type="checkbox"/> Standard type (non explosion-proof) <input type="checkbox"/> Intrinsic safety type (Ex ia IIC T1 ~ T5/T6 Ga, Ex iaD 20 T85°C) <input type="checkbox"/> Dual intrinsic-safe and explosion-proof type (Ex d ia [ia Ga] IIC T1 ~ T5/T6 Gb, Ex tD A21 T100°C /T85°C) Other	<input type="checkbox"/> Process Other
Communication	Output			
<input type="checkbox"/> HART/4 ~ 20mA Other	<input type="checkbox"/> 4 ~ 20mA Other			