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: 0.08m0.08m ~ 10m/0.08m ~ 30m Power supply: 1212 ~ 28V DC Accuracy: ±1mm:±1mm Beam angle: 8° Output: 4 ~ 20mA+HART RS485+Modbus RTU Ambient temperature: -40°C ~ +70°C Ingress protection: IP67 Housing material: Aluminum alloy Process temperature:: -40 ~ 85°C Process pressure:-0.1 ~ 2.5 MPa

TRG8082

Antenna structure: Standard lens 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°





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Output: 4 ~ 20mA+HART RS485+Modbus RTU Ambient temperature: -40°C ~ +70°C Ingress protection: IP67 Housing material: Aluminum alloy Process temperature:: -40 ~ 200°C 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°C ~ +70°C Ingress protection: IP67 Housing material: Aluminum alloy Process temperature:: -40 ~ 150°C 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°C ~ +70°C Ingress protection: IP67 Housing material: Aluminum alloy Process temperature:: -40 ~ 200°C 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°C ~ +70°C Ingress protection: IP67 Housing material: Aluminum alloy Process temperature:: -40 ~ 1000°C Process pressure:-0.1 ~ 10 MPa



Outline Drawing



TRG8081



TRG8082









TRG8084





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Model Selection Table

Model	Code							Contents					
TRG8081								Small lens antenna					
	А							Measure range:0.08m ~ 10m					
	В							Measure range:0.08m ~ 30m					
		Ρ						Non explosion-proof					
								Intrinsically safe type (Ex iaD 20 T85°C/Ex ia IICT1 ~ T5/T6 Ga)					
								Intrinsically safe and explosion-proof composite type Ex d ia [ia					
		F						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 B X					Electronic components :(4 ~ 20)mA/ (13 ~ 28) V DC/HART/two wire					
								Electronic components:RS485/ (13 ~ 28) V DC/MODBUS/four wire					
								Special customization					
		M						Cable entrance:M20×1.5					
	N O P							Cable entrance:NPT1/2 "					
							_	Cable entrance:G3/4 "					
								Cable entrance:NPT1/2 "					
								Local display: without bluetooth					
							В	Local display: with bluetooth					

Example of Model Selection:

TRG8081Al1EAMA type for small lens antenna 80G radar level meter, measuring range 0.08m \sim 10m, intrinsically safe, process temperature -40 \sim 85°C, process pressure -0.1 \sim 2.5MPa, electronic component (4 \sim 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				
	А							Measure range:0.08m ~ 10m				
	В							Measure range:0.08m ~ 30m				
	С							Measure range:0.3m ~ 60m				
	D							Measure range:0.3m ~ 120m				
		Ρ						Non explosion-proof				
								Intrinsically safe type (Ex iaD 20 T85°C/Ex ia IICT1 ~ T5/T6 Ga)				
								Intrinsically safe and explosion-proof composite type Ex d ia [ia				
		F						Ga]IIC T1 ~ T5/T6 Gb; Ex tD A21 T100℃ /T85℃				
			1 2 3					Process temperature: -40 ~ 85℃				
								Process temperature: -40 ~ 150℃				
								Process temperature: −40 ~ 200°C				
			E A					Process pressure: -0.1 ~ 2.5MPa				
								Electronic components :(4 ~ 20)mA/ (13 ~ 28) V DC/HART/two wire				
					В			Electronic components :RS485/ (13 ~ 28) V DC/MODBUS/four wire				
		Х						Special customization				
	M					Μ		Cable entrance:M20×1.5				
	N							Cable entrance:NPT1/2 "				
	0							Cable entrance:G3/4 "				
	Р							Cable entrance:NPT1/2 "				
	A							Local display: without bluetooth				
	В							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					
	А							Measure range:0.08m ~ 10m					
	В							Measure range:0.08m ~ 30m					
	С							Measure range:0.3m ~ 60m					
	D							Measure range:0.3m ~ 120m					
		Ρ						Non explosion-proof					
		Ι						Intrinsically safe type (Ex iaD 20 T85°C/Ex ia IICT1 ~ T5/T6 Ga)					
								Intrinsically safe and explosion-proof composite type Ex d ia [ia					
		F						Ga]IIC T1 ~ T5/T6 Gb; Ex tD A21 T100°C /T85°C					
			S					Lens antenna:φ40mm					
			Т					Lens antenna:φ80mm					
	1							Process temperature: -40 ~ 85°C					
	2							Process temperature:-40 ~ 150℃					
					Е			Process pressure: -0.1 ~ 2.5MPa					
								Electronic components : $(4 \sim 20)$ mA/ $(13 \sim 28)$ V DC/HART/two					
						А		wire					
						В		Electronic components :RS485/ (13 ~ 28) V DC/MODBUS/four wire					

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X		Special customization
	Μ	Cable entrance:M20×1.5
	Ν	Cable entrance:NPT1/2 "
	0	Cable entrance:G3/4 "
	Ρ	Cable entrance:NPT1/2 "
	А	Local display: without bluetooth
	В	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 φ 80mm, 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					
	А							Measure range:0.08m ~ 10m					
	В							Measure range:0.08m ~ 30m					
	С							Measure range:0.3m ~ 60m					
	D							Measure range:0.3m ~ 120m					
		Ρ						Non explosion-proof					
		Ι						Intrinsically safe type (Ex iaD 20 T85°C/Ex ia IICT1 ~ T5/T6 Ga)					
							Intrinsically safe and explosion-proof composite type Ex d ia [ia						
		F					Ga]IIC T1 ~ T5/T6 Gb; Ex tD A21 T100°C /T85°C						
			1					Process temperature: -40 ~ 85℃					
		2					Process temperature: -40 ~ 150°C						
			3 E					Process temperature: -40 ~ 200℃					
								Process pressure: -0.1 ~ 2.5MPa					
			A				Electronic components :(4 ~ 20)mA/ (13 ~ 28) V DC/HART/two wire						
		B X				Electronic components :RS485/ (13 ~ 28) V DC/MODBUS/four wire							
						Special customization							
		M			Μ		Cable entrance:M20×1.5						
	N O P			Ν		Cable entrance:NPT1/2 "							
				0		Cable entrance:G3/4 "							
				Ρ		Cable entrance:NPT1/2 "							
							А	Local display: without bluetooth					
							В	Local display: with bluetooth					

Example of Model Selection:

Model TRG8084BI1EAMA 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				
	А	A						Measure range:0.08m ~ 10m				
	В							Measure range:0.08m ~ 30m				
	С							Measure range:0.3m ~ 60m				
	D							Measure range:0.3m ~ 120m				
		Ρ						Non explosion-proof				
		Ι						Intrinsically safe type (Ex iaD 20 T85°C/Ex ia IICT1 ~ T5/T6 Ga)				
			=					Intrinsically safe and explosion-proof composite type Ex d ia [ia				
		F						Ga]IIC T1 ~ T5/T6 Gb; Ex tD A21 T100°C /T85°C				
		4						Process temperature: -40 ~ 600℃				
								Process temperature: -40 ~ 1000°C				
			F G					Process pressure: -0.1 ~ 5MPa				
								Process pressure: -0.1 ~ 10MPa				
		А					Electronic components :(4 ~ 20)mA/ (13 ~ 28) V DC/HART/two wire					
	В					Electronic components :RS485/ (13 ~ 28) V DC/MODBUS/four wire						
		Х					Special customization					
	Μ					Μ		Cable entrance:M20×1.5				
	Ν							Cable entrance:NPT1/2 "				
	0							Cable entrance:G3/4 "				
	Р							Cable entrance:NPT1/2 "				
	F							Local display: without bluetooth				
								Local display: with bluetooth				

Example of Model Selection:

Model TRG8085BI4FAMA is a high temperature and high pressure antenna 80G radar level meter with a range of 0.08m to 30m, intrinsically safe, process temperature -40 to 600°C, process pressure -0.1 to 5MPa, electronic component (4 to 20)mA + HART, 24V DC, two-wire system, cable inlet M20 x 1.5, local display without Bluetooth.



Order Information

Please fill in the following data sheet carefully when ordering.

		Radar Da	ata Sheet				
		User Info	ormation				
			Tel:				
			Fax:				
			Country:				
		Storage Tan	k Information	1			
	and the second	State Production State All			ing Pressu	re	
□Liquid		2010.0	inter teas				
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Tank Bottom [.]	Installation Positio	n:		20000000000000000000000000000000000000	nensions		
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		IVIEC		<u></u>			
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			□dust, < 0.5cm □grits, < 2 cm □patch > 2cm				
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500 cST(syrup)) □>500 cST(tar)		□with		□with		
		Instal	llation				
pply: P	rotection Rating:	Electrical	Interface:	Explosion-proof: standard type (non explosion-proof)			
]IP67	□M20*1	.5			Protection Rating:	
		□NPT1/	2				
0	huner	Other				Instruments Other	
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ication:	Output:			Dust:Ex iaD 20 T8	5°C		
	University of the second			Gas:Ex ia II CT1~	T5/T6 Ga		
	LI4-ZUMA			Other			
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	□taper □arch □arch □ perature: Noi type: □ Lie stant: ion: □ Ye SST(water) 0 cST(cooking 500 cST(syrup pply: P C	Liquid Stan Liquid Lying Ball Tank Bottom: Installation Positio bevel Itop Mounted flat Screw-thread M flat flange Mounted taper Chamber Mount arch wave Guide Tub e: mperature: Normal type: Liquid measure: Max type: Liquid stant: No csT(water) 55-20 cST(mot 0 cST(cooking oil) 500 cST(tar) 500 cST(syrup) >500 cST(tar) pply: Protection Rating: IIP67 Other	User Info User Info Storage Tan Storage T	Fax: Country: Storage Tank Liquid Standing Tank Liquid Lying Tank Ball Tank Normal Prision Tank Bottom: Installation Position: Tank Date Itop Mounted Tank Diar Opening S Itaper Ichamber Mounted Itaper Ichamber Mounted Imperature: Normal °C Name: Imperature: Stranding Tank Indust, Itape: Liquid Imperature: Normal °C Max °C Idust, type: Liquid measurement stant: Imperature: Normal °C ion: Yes No Str(water) Is-20 csT(motor oil) Foarn: 0 csT(cooking oil) Iso-100 csT(honey) Iwithout Str(water) Isoo csT(tar) Interface:	User Information Tel: Fax: Country: Storage Tank Information Work Country: Storage Tank Information User Information Country: Storage Tank Information More Country: Country: Tank Bottom: Installation Position: Tank Bottom: Tank Bottom: Tank Bottom: Tank Diameter: Opening Size: Tank Diameter:	User Information Tel: Fax: Country: Mormation Monted Installation Position: Tank Height: Tank Diameter: Opening Size: Tank Diameter: Opening Size: Tank Height: Tank Diameter: Opening Size: Tank Diameter: Opening Size: Tank Diameter: Tank Height:	