

Guided Pulse Level Measurement covering wide range applications including integration into equipment and use in process units of large facilities.

Compact designed housing

Probe Length: Max.8m

(Wire type Model)

Backlit 4-digit LCD display

Connect with a cable with M12 connector (8 pins)

Alarm outputs: Max. 5 points

Open collector outputs(for individual setting as either NPN or PNP)

- Alarm Outputs
- ①Level Alarm

For individual setting either as ON mode or OFF mode.

②Measurement Abnormal

Alarming generated when the reflected echo from the liquid fluid surface was not with enough intensity for the measurement.

③Device Abnormal

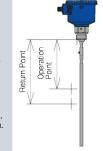
Alarming generated when the electronics does not operate normally with wire-break, component damage or some other reason.

Free combination of alarming functions

Example:

1. All 5 points are set as Level Alarms.

2. 3 are for level alarms and the rest 2 are assigned(one each) for "measurement abnormal" and "device abnormal" respectively.



Quick Setting Mode

Device setting can be finished by key-in at 3 parameters "Probe Length", "Zero Point" and "Span Point". No need to prepare the fluid liquid to measure for this setting.

Device Mounting and Power-ON

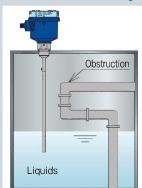
Input (Key-in) at 3 parameters

Measurement start.

Cancellation of unnecessary waves

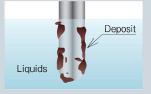
Executing this function after the sensor mounting allows the device to recognize and memorize unnecessary reflection echo from existing obstacles inside the tank. which will be removed then from the measurement targets, thus achieving a stable level

measurement.



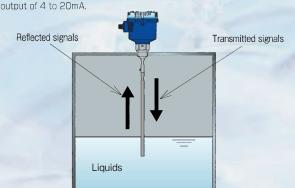
Resistance against build-ups

The probe assembly has no moving parts, so the material buildup and resultant adverse affection to measurement are minimized



Principle of Operation

The sensor electronics transmits high frequency signals that travel down on the probe. The signals are reflected on the material surface, where the dielectric constant* changes, and then received by the sensor electronics. The sensor electronics measures the time taken from transmission to reception of the signals, and calculates the distance from the reference point to the material surface. The distance is then converted to analog



Model Numbering



GW200 series provides customers with selection of a suitable type from variation portfolio

Rod type

Wire type

PFA tubing type

Standard models and Heat Proof models (150° C Max.) are prepared. Available items are Rod type, Wire type suitable for limited space at tank top area and PFA tubing type to cope with highly corrosive chemicals like hydrochloric acid and nitric acid. Each type also can be supplied with Ferrule fittings.

Please do not hesitate to contact us about the type available for your application.

Rod type

Suitable for standard applications



GW200 RA (Rod type standard model) For applications where Heat Proof is required: GW200 RT

The lock screws can fix each 1000mm rod firm as the connector to prevent the loosening with vibration. Rod length is basically flexibly made by cutting it.

Probe Length: 4000mm Max.
Pressure Resistance: 3.0MPa Max.



Wire type

Suitable for tank top mounting where mounting height is limited



GW200 WA (Wire type standard model) For applications where Heat Proof is required: GW200 WT

Wire type is ideal when the mounting space at the top of the liquid tank is just limited. The wire can flexibility be cut to the required measurement range.

Probe length: 8000mm Max.
Pressure Resistance: 3.0MPa Max.

For various tanks at Water Treatment facility or for level monitoring at a Pit



PFA tubing type

Compatible with highly corrosive chemicals



GW200 PA

(Tubing type standard model)
For applications where
Heat Proof is required: GW200_PT

PFA tubing type is ideal for highly corrosive chemicals such as hydrochloric acid and nitric acid.

Probe length: 4000mm Max. Pressure Resistance: 200kPa Max.

Level monitoring at Plating chemical tank



Other typical applications



Level Monitoring at Food processing or storage tanks



Level Monitoring at a few different tanks in Membrane Filtering Facilities

	M	DDEL	GW200NRA1	GW200FRA1	GW200SRA1	
	OVE	RVIEW	G¾ thread mounting	JIS5K50A flange mounting	ISO 2S Ferrule mounting	
	OUTLINE		Hexagon Signature Signat	Reference point 4 x ø 15 g 10 y y y y 10 y	Reference point 66.1 10	
	MEASURED MATERIAL			Liquids		
22		Linearity ^{※1}	±3 r	mm (L≦2000mm), ±10 mm(L>2000m	m)	
PER	Analog	output accuracy ^{※1}		±0.5 % of span		
OPERATING CHARACTERISTICS	Temperat	ure characteristics		± 0.02 % of span/°C		
E G	Diele	ctric constant		εr ≧ 1.8		
STIC	Pr	obe length	300 to 4000 mm			
Š	Е	Blanking ^{*2}	upper: 25 mm min. / lower: 10 mm min.			
	Power supply		24 V DC ±10 %			
오픈	Power consumption		1.0	W max. (excluding open collector output	t)	
AR AR	Output signal			4 to 20 mA DC, 3 wire		
ELECTRICAL CHARACTERISTICS	AI	arm output	Volta	Open collector NPN/PNP (selectable), 5 points, 26.4 V, 50 mA DC Voltage drop: 2V max. for NPN, 2.5V max. for PNP Each point configured independently for OFF, setpoint, measurement error, or device error		
STIC	Loa	d resistance	500 Ω max. at 24V DC			
Š	Meas	urement cycle	approx. 0.3 s			
	F	Resolution		1 mm		
		Pressure(static)	- 0.1 to	m o + 3~MPa (excluding process connection	on)	
	HANICAL RACTERISTICS	Lateral load		1.5 N·m		
		Tensile load		4 kN		
	RKING	Housing		— 20 to + 60 °C (no condensation)		
TEM	PERATURE	Wetted parts		$-$ 20 to $+$ 100 $^{\circ}$ C (no freezing)		
	RELATIVE	HUMIDITY		85 % max.		
	TECTION	Housing		IP 65 / 67		
CLA	55 I	Wetted parts		IP 68 (4.5 MPa for 10 minutes)		
	Non-wetted	Housing	Glass reinforced PBT (with anti-static agent), Stainless Steel, PC(clear), VMQ, CR, PBT, EPDM, Brass (C3604BD, nickel plated)			
7		Process connection	310	SSS SS	316SS, 316LSS	
MATERIAL		Rod		316SS		
ER/	Wetted	Screw		316LSS		
4		Insulator		PEEK		
		0-ring		FKM		
		Gasket	NBR *5			
		Process connection **3 **4	G ¾	JIS5K50A	ISO 2S or equivalent	
C	OTHERS	Rod diameter		8 mm		
		Housing rotation	0.05	300°		
		Cable		0.25 mm² × 8C (M12 A-code female connector)		
MAS	SS (approx.)	Housing, process connection	0.6 kg	2.0 kg	0.9 kg	
		Probe		0.5 kg/m		

^{*1} Reference conditions

⁻ Application: metal tank (84.9mm l.D.), between 60mm below the reference point to 10 mm above probe end, water (\$r = approx. 80)

^{*2} With water (εr = approx. 80). The lower the dielectric constant of the material, the longer the

blanking will be. - With Kerosene (ϵr =1.8) upper blanking 50 mm min., lower blanking 30 mm min.

³ When installing the threaded or flanged version on a non-metallic tank with no or smaller than ϕ 200 mm metallic connection, use a metal plate/flange ϕ 200 mm or larger. Make sure the threaded connection is directly connected to the metal plate.

^{#4} Use a metal clamp to secure the sanitary fitting to the metal piping.

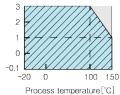
^{%5} No. 6500 from VALQUA, LTD..

	M	DDEL	GW200NRT1	GW200FRT1	GW200SRT1
	OVE	RVIEW	Heat proof up to 150°C G¾ thread mounting	Heat proof up to 150°C JIS5K50A flange mounting	Heat proof up to 150°C ISO 2S Ferrule mounting
	OUTLINE		Hexagon 32 A/F (e/S5) 17 reight Hexagon 32 A/F (e/S5) 17 reight 17 reight 17 reight 10 height Lower blanking 10 Min.	Peterence pont 4 x e 15 10 height Lower blanking 10 Min. Flange size: JIS 5K 50A	Perference point Perference point Perference p
		D MATERIAL	Liquids		
우유		Linearity ^{※1}	±3 r	nm (L≦2000mm), ±10 mm(L>2000m	m)
ERA IARA	Analog	output accuracy ^{*1}		±0.5 % of span	
OPERATING CHARACTERISTICS	Temperat	ure characteristics		±0.02 % of span/℃	
GERIS		ctric constant	εr ≧ 1.8		
TICS		obe length	300 to 4000 mm		
-		Blanking **2	upper: 25 mm min. / lower: 10 mm min. 24 V DC ±10 %		
	Power supply Power consumption		1.0 W max. (excluding open collector output)		
HE HE	Output signal		4 to 20 mA DC, 3 wire		
ELECTRICAL CHARACTERISTICS	Alarm output Load resistance Measurement cycle		Open collector NPN/PNP (selectable), 5 points, 26.4 V, 50 mA DC Voltage drop: 2V max. for NPN, 2.5V max. for PNP Each point configured independently for OFF, setpoint, measurement error, or device error 500 Ω max. at 24V DC approx. 0.3 s		
		Resolution Pressure(static)	1 mm - 0.1 to + 1 MPa (excluding process connection, Fig.1)		
	IANICAL	Lateral load	0.1 10 1	1.5 N·m	1 lg. 1/
CHAR	ACTERISTICS	Tensile load		4 kN	
WOR	KING	Housing		- 20 to + 60 °C (no condensation)	
	PERATURE	Wetted parts		- 20 to + 150 °C (no freezing)	
	RELATIVE	HUMIDITY		85 % max.	
	TECTION	Housing		IP 65 / 67	
CLAS	SS 	Wetted parts		IP 68 (4.5 MPa for 10 minutes)	
	Non-wetted	Housing	Glass reinforced PBT (with anti-static agent), Stainless Steel, PC (clear), VMQ, CR, PBT, EPDM, Brass (C3604BD, nickel plated)		
3		Process connection	316	SSS	316SS, 316LSS
MATERIAL		Rod		316SS	
RIA	Wetted	Screw		316LSS	
-		Insulator		PEEK	
		O-ring Gasket	NBR ^{※5}	FKM	
		Process connection *3*4	G 34	JIS5K50A	ISO 2S or equivalent
		Rod diameter	5 /7	8 mm	1 100 20 or oquivalent
C	THERS	Housing rotation		300°	
		Cable	0.25 r	mm² × 8C (M12 A-code female connec	etor)
D 4 A C	CC (oper)	Housing, process connection	0.9 kg	2.3 kg	1.2 kg
IVIAS	SS (approx.)	Probe		0.5 kg/m	

- %1 Reference conditions

 - Release Conditions Environmental: $\pm 25^\circ$ C, 60 %RH Application: metal tank (84.9mm l.D.), between 60mm below the reference point to 10 mm above probe end, water ($\epsilon r = approx. 80$)
- **2 With water (er = approx. 80). The lower the dielectric constant of the material, the longer the blanking will be.
 With Kerosene (er = 1.8) upper blanking 50 mm min., lower blanking 30 mm min..
- #3 When installing the threaded or flanged version on a non-metallic tank with no or smaller than ϕ 200 mm metallic connection, use a metal plate/flange ϕ 200 mm or larger. Make sure the threaded connection is directly connected to the metal plate.
- *4 Use a metal clamp to secure the sanitary fitting to the metal piping.
- *5 No. 6500 from VALQUA, LTD..





	M	ODEL	GW200NPA1	GW200FPA1	GW200SPA1	
	OVE	RVIEW	Tubing type with Plug for G1 thread mounting	Tubing with Flare for JIS5K50A flange mounting	Tubing type with Gasket for ISO 2S Ferrule mounting	
	OUTLINE		Hexagon 32 A/F (e35) (9) (9) (9) (9) (9) (1)	Reference point 4 × 615 500 70 70 70 70 70 70	## 10 Perght Company Company	
	MEASURE	D MATERIAL		Flange size : JIS 5K 50A Liquids	Fitting size : equivalent to ISO 2S	
		Linearity *1	+2 r	<u>'</u>	m)	
OPERATING CHARACTERISTICS		output accuracy ^{*1}	±3 mm (L≤2000mm), ±10 mm(L>2000mm)			
RAT		ure characteristics		±0.5 % of span ±0.02 % of span/°C		
DIE I		ectric constant		· · · · · · · · · · · · · · · · · · ·		
RIST			εr ≥ 1.8			
ICS		robe length Blanking ^{**2}	300 to 4000 mm			
			upper: 25 mm min. / lower: 2% of L +30 mm min. (40 mm min.) 24 V DC ±10 %			
		ower supply	1.0		,)	
오픈	Power consumption		1.0	W max. (excluding open collector output	<u> </u>	
AR/	Output signal			4 to 20 mA DC, 3 wire		
ELECTRICAL CHARACTERISTICS	Al	arm output	Open collector NPN/PNP(selectable), 5 points, 26.4 V, 50 mA DC Voltage drop: 2V max. for NPN, 2.5V max. for PNP Each point configured independently for OFF, setpoint, measurement error, or device error			
TIC	Load resistance			500 Ω max. at 24V DC		
S	Meas	urement cycle	approx. 0.3 s			
	F	Resolution		1 mm		
MECH	IANICAL	Pressure (static)	- 0.1 to $+$ 0.2 MPa (excluding process connection)		tion)	
	ACTERISTICS	Lateral load		1.5 N·m		
WOR	KING	Housing	− 20 to + 60 °C (no condensation)			
TEM	PERATURE	Wetted parts		- 20 to + 100 °C (no freezing)		
	RELATIVI	E HUMIDITY		85 % max.		
PRO	TECTION	Housing		IP 65 / 67		
CLAS		Wetted parts		IP 68 (4.5 MPa for 10 minutes)		
		Housing		PBT (with anti-static agent), Stainless S , PBT, EPDM, Brass (C3604BD, nickel		
		Process connection	316	SSS	316SS, 316LSS	
₹	Non-wetter	Gasket B	NBR *7			
MATERIAL	Non-wetted	Earth plate **3	304SS			
≅RI∕		Rod		316SS		
É		Insulator		PEEK		
		Connector		Brass (C3604BD, nickel plated)		
	\\/_++I	Tubing	PTFE, PFA	PFA	PTFE, PFA	
	Wetted	Gasket A	PTFE **7			
		Process connection *4 ** 5	G1	JIS5K50A	ISO 2S or equivalent	
		Tubing diameter ^{*6}		12 mm (rod diameter: 8 mm)		
C	THERS	Housing rotation		300°		
		Cable	0.25 r	mm² × 8C (M12 A-code female connec	etor)	
		Housing, process connection	0.6 kg	2.0 kg	0.9 kg	
MAS	SS (approx.)	Probe	0.0 %	0.7 kg/1000mm	1 0.0 %	
W1.D.	1 Reference conditions		1		ersion on a non-metallic tank with no or smaller than	

 ^{*1} Reference conditions
 Environmental: +25 °C, 60 %RH
 Application: metal tank (84.9mm l.D.), between 60mm below the reference point to 10 mm above probe end, water (\$\epsilon\$ r = approx. 80)

^{*2} With water (εr = approx. 80). The lower the dielectric constant of the material, the longer the blanking will be.

⁻ With Kerosene ($\varepsilon r = 1.8$) upper blanking 50 mm min., lower blanking 30 mm min.. 30 = 1.80 Connect the earth plate and the external earth terminal on the housing with the supplied earth wire.

^{*4} When installing the threaded or flanged version on a non-metallic tank with no or smaller than when installing tille theaded on haliged version on a normetallic tank within or smaller the \$200 mm that like connection, use a metal plate/flange \$200 mm or larger. Make sure the threadedconnection is directly connected to the metal plate.

^{%5} Use a metal clamp to secure the sanitary fitting to the metal piping.

 $[\]ensuremath{\mbox{\%7}}$ NBR gasket is in No. 6500, and PTFE gasket in No.7020 from VALQUA, LTD..

	М	DDEL	GW200NPT1	GW200FPT1	GW200SPT1
	OVE	RVIEW	Heat Proof type up to 150°C Tubing type with Plug for G1 thread mounting	Heat Proof type up to 150°C Tubing with Flare for JIS5K50A flange mounting	Heat Proof type up to 150°C Tubing type with Gasket for ISO 2S Ferrule mounting
	OUTLINE		Process Process Q1 Q8 Q5 Q1 Q6 Q1 Q6 Q5 Q6 Q6 Q6 Q6 Q6 Q6 Q6 Q6	Reference point A × 015 A × 015	Perference point (P81) (P81)
	MEASURE	D MATERIAL		Liquids	
00		Linearity ^{※1}	±3 r	nm (L≦2000mm), ±10 mm(L>2000m	m)
OPERATING CHARACTERISTICS		output accuracy ^{*1}		±0.5 % of span	
RATII	Temperati	ure characteristics		±0.02 % of span/℃	
EN NG	Diele	ctric constant		εr ≧ 1.8	
ISTI	Pr	obe length	300 to 4000 mm		
SC	В	lanking ^{*2}	upper: 25 mm min. / lower: 2% of L +30 mm min. (40 mm min.)		
	Po	wer supply	24 V DC ±10 %		
ОШ	Powe	r consumption	1.0 W max. (excluding open collector output)		
HAI	Output signal			4 to 20 mA DC, 3 wire	
ELECTRICAL CHARACTERISTICS	Alarm output Load resistance Measurement cycle		Open collector NPN/PNP(selectable), 5 points, 26.4 V, 50 mA DC Voltage drop: 2V max. for NPN, 2.5V max. for PNP Each point configured independently for OFF, setpoint, measurement error, or device error 500 Ω max. at 24V DC approx. 0.3 s		
	F	Resolution	1 mm		
MECH	HANICAL	Pressure(static)	- 0.1 to + 0.2 MPa (excluding process connection)		ion)
	ACTERISTICS	Lateral load		1.5 N·m	
WOR	KING	Housing		- 20 to $+$ 60 °C (no condensation)	
TEM	PERATURE	Wetted parts		$-$ 20 to $+$ 150 $^{\circ}$ C (no freezing)	
	RELATIVE	HUMIDITY		85 % max.	
	TECTION	Housing		IP 65 / 67	
CLAS		Wetted parts		IP 68 (4.5 MPa for 10 minutes)	
		Housing		BT (with anti-static agent), Stainless St , PBT, EPDM, Brass (C3604BD, nickel	
		Process connection	316	SSS	316SS, 316LSS
Z	Non-wetted	Gasket B	NBR *7		
MATERIAL	Non-wetted Earth plate **3 304SS				
RIA		Rod		316SS	
		Insulator		PEEK	
		Connector		Brass (C3604BD, nickel plated)	
	Wetted	Tubing	PTFE, PFA	PFA	PTFE, PFA
		Gasket A	PTFE *7		
		Process connection*4*5	G1	JIS5K50A	ISO 2S or equivalent
	THERS	Tubing diameter ^{**6}		12 mm (rod diameter: 8 mm)	
		Housing rotation		300°	
		Cable		mm² × 8C (M12 A-code female connec	
MAS	SS (approx.)	Housing, process connection	0.9 kg	2.3 kg	1.2 kg
	(-1-12-2)	Probe		0.7 kg/1000mm	

- *1 Reference conditions

 - Reference Conditions
 Environmental: +25°C, 60 %RH
 Application: metal tank (84.9mm I.D.), between 60mm below the reference point to 10 mm above probe end, water (cr = approx. 80)
- $\ensuremath{\text{\#2}}$ With water (ϵr = approx. 80). The lower the dielectric constant of the material, the longer the blanking will be.
- With Kerosene ($\varepsilon r = 1.8$) upper blanking 50 mm min., lower blanking 30 mm min.. *3 Connect the earth plate and the external earth terminal on the housing with the supplied earth wire.
- #4 When installing the threaded or flanged version on a non-metallic tank with no or smaller than \$\phi200\$ mm metallic connection, use a metal plate/flange \$\phi200\$ mm or larger. Make sure the threadedconnection is directly connected to the metal plate.
- \$5 Use a metal clamp to secure the sanitary fitting to the metal piping.
- %6 Tubing expands and contracts with temperature changes.
- $\ensuremath{\mbox{\%7}}$ NBR gasket is in No. 6500, and PTFE gasket in No.7020 from VALQUA, LTD..

	M	DDEL	GW200NWA1	GW200FWA1	GW200SWA1
	OVE	RVIEW	G¾ thread mounting	JIS5K50A flange mounting	ISO 2S Ferrule mounting
	OUTLINE		Heragon 32 (53) 17 Present (61) Neasurement (range) 48 hole 48 hole 48 hole	Reference point A	Reference point Measurement Messurement M
	MEASURED MATERIAL		Weight : About 350g	Flange size : JIS 5K 50A Weight: About 350g Liquids	Fitting siz: equivalent to ISO 2S Weight: About 350g
	MEASURED MATERIAL Linearity *1		+3 r	nm (L≦2000mm), ±10 mm(L>2000m	m)
OPERATING CHARACTERISTICS		output accuracy ^{*1}		±0.5 % of span	
RAT		ure characteristics		±0.02 % of span/°C	
H ING		ctric constant	±0.02 % of span/ C εr ≧ 1.8		
NSTI		obe length	300 to 8000 mm		
CS		Ilanking ^{**2}	upper: 80 mm min. / lower: 160 mm min.		
	Power supply		24 V DC ±10 %		
ОШ	Power consumption		1.0 W max. (excluding open collector output)		
LEC HAF	Output signal		4 to 20 mA DC, 3 wire		
ELECTRICAL CHARACTERISTICS	AI	arm output	Open collector NPN/PNP(selectable), 5 points, 26.4 V, 50 mA DC Voltage drop : 2V max. for NPN, 2.5V max. for PNP Each point configured independently for OFF, setpoint, measurement error, or device error		
STIC	Loa	d resistance	500 Ω max. at 24V DC		
Š	Meas	urement cycle	approx. 0.3 s		
	F	Resolution		1 mm	
MECH	HANICAL	Pressure (static)	- 0.1 to + 3 MPa (excluding process connection)		on)
CHAF	ACTERISTICS	Tensile load		4 kN	
	KING PERATURE	Housing		- 20 to + 60 °C (no condensation)	
I LIVI		Wetted parts	- 20 to + 100 °C (no freezing)		
		HUMIDITY		85 % max. IP 65 / 67	
PRO CLA	TECTION SS	Housing Wetted parts		IP 68 (4.5 MPa for 10 minutes)	
	Non-wetted	Housing		PBT (with anti-static agent), Stainless S, PBT, EPDM, Brass (C3604BD, nickel	
		Process connection	316	6SS	316SS, 316LSS
MATERIAL		Rod		316SS	
띮	Wetted	Screw		316LSS	
P	welled	Insulator		PEEK	
		O-ring		FKM	
		Gasket	NBR ^{%5}		
		Process connection *3*4	G ¾	JIS5K50A	ISO 2S or equivalent
C	THERS	Rod diameter		4 mm (pipe φ8 mm, weight φ20mm)	
		Housing rotation	0.05	300°	ntor)
		Cable	0.25 mm² × 8C (M12 A-code female connector)		
MAS	SS(approx.)	Housing, process connection Probe	0.6 kg	2.0 kg Wire 70 g/m, weight 350g	0.9 kg
		FIUDE		WHIC TO BYIH, WEIGHT GOOR	

 ^{*1} Reference conditions
 Environmental: +25 °C, 60 %RH
 Application: metal tank (84.9mm l.D.), between 60mm below the reference point to 10 mm above probe end, water (\$\epsilon\$ r = approx. 80)

^{*2} With water (ε r = approx. 80). The lower the dielectric constant of the material, the longer the blanking will be.

⁻ With Kerosene (εr =1.8) upper blanking 50 mm min., lower blanking 30 mm min.

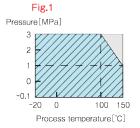
^{*3} When installing the threaded or flanged version on a non-metallic tank with no or smaller than \$\phi^200 \text{ mm metallic connection, use a metal plate/flange \$\phi^200 \text{ mm or larger. Make sure the threaded} connection is directly connected to the metal plate.

 $[\]ensuremath{\mbox{\%}} 4$ Use a metal clamp to secure the sanitary fitting to the metal piping.

^{\$5} No. 6500 from VALQUA, LTD..

	M	DDEL	GW200NWT1	GW200FWT1	GW200SWT1	
	OVE	RVIEW	Heat Proof type up to 150°C G¾ thread mounting	Heat Proof type up to 150°C JIS5K50A flange mounting	Heat Proof type up to 150°C ISO 2S Ferrule mounting	
	OUTLINE		Hexagon 32 AF (635) 17 height Wasurement Measurement Measurement Measurement Weight: About 350g	Reference point Refere	Reference point Measurement (1981) Measurement (1984) Measureme	
	MEASURED MATERIAL		Weight, Adout 350g Frienge size - Jis 5A 50A Weight: Adout 350g Friting size- equivalent to 150-25 Weight: Adout 350g Frienge size - Jis 5A 50A Weight: Adout 350g Friting size- equivalent to 150-25 Weight: Adout 350g			
20	Linearity *1		±3 r	mm (L≦2000mm), ±10 mm(L>2000m	m)	
OPERATING CHARACTERISTICS	Analog	output accuracy ^{*1}		±0.5 % of span		
ATIN	Temperat	ure characteristics		± 0.02 % of span/°C		
E G	Diele	ctric constant	εr ≧ 1.8			
STIC	Pr	obe length	300 to 8000 mm			
Ö	Е	Blanking ^{**2}	upper: 25 mm min. / lower: 160 mm min.			
	Power supply		24 V DC ±10 %			
오픈	Power consumption		1.0	W max. (excluding open collector output	<u>t)</u>	
AR/	Output signal		4 to 20 mA DC, 3 wire Open collector NPN/PNP(selectable), 5 points, 26.4 V, 50 mA DC			
ELECTRICAL CHARACTERISTICS	AI	arm output	Volta	Voltage drop : 2V max. for NPN, 2.5V max. for PNP int configured independently for OFF, setpoint, measurement error, or device error		
STIC	Loa	d resistance		500 Ω max. at 24V DC		
S	Meas	urement cycle		approx. 0.3 s		
	F	Resolution	1 mm			
	HANICAL	Pressure (static)	- 0.1 to + 1 MPa (excluding process connection, Fig.1)		Fig.1)	
CHAF	RACTERISTICS	Tensile load		4 kN		
	RKING PERATURE	Housing		- 20 to + 60 °C (no condensation)		
1 [10]		Wetted parts		- 20 to + 150 °C (no freezing) 85 % max.		
		E HUMIDITY		IP 65 / 67		
PRO CLA	TECTION SS	Housing Wetted parts		IP 68 (4.5 MPa for 10 minutes)		
	Non-wetted	Housing		PBT (with anti-static agent), Stainless Si , PBT, EPDM, Brass (C3604BD, nickel		
		Process connection	316	6SS	316SS, 316LSS	
MATERIAL		Rod		316SS		
Ξ̈	Metted	Screw		316LSS		
₽	Wetted	Insulator		PEEK		
		O-ring		FKM		
		Gasket	NBR *5			
		Process connection *3*4	G ¾	JIS5K50A	ISO 2S or equivalent	
(THERS	Rod diameter		4 mm (pipe φ8 mm, weight φ20mm)		
		Housing rotation		300°		
		Cable		$mm^2 \times 8C$ (M12 A-code female connect		
MAS	SS(approx.)	Housing, process connection	0.9 kg	2.3 kg	1.2 kg	
		Probe		Wire 70 g/m, weight 350g		

- **1 Reference conditions
 Environmental: +25 °C, 60 %RH
 Application: metal tank (84.9mm I.D.), between 60mm below the reference point to 10 mm above probe end, water (ɛr = approx. 80)
- *2 With water (ar = approx. 80). The lower the dielectric constant of the material, the longer the blanking will be.
 - With Kerosene (εr =1.8) upper blanking 50 mm min., lower blanking 30 mm min.
- *3 When installing the threaded or flanged version on a non-metallic tank with no or smaller than ϕ 200 mm metallic connection, use a metal plate/flange ϕ 200 mm or larger. Make sure the threaded connection is directly connected to the metal plate.
- %4 Use a metal clamp to secure the sanitary fitting to the metal piping.
- \$5 No. 6500 from VALQUA, LTD..



Optional components

Item	Description	Remarks
Component E	Extension rod (930mm, 316SS) ×1 Connection rod (50mm, 316SS) ×1 Screw (M4×5mm, 316LSS) ×2	980mm extension kit for rod versions(GW200□R□□).
Component L1M	End rod (1030mm、316SS) ×1	For GW200NR□□1, L=1070mm, (L=1005mm for Heat proof)
Component L2M	Component E ×1 Component L1M×1	For GW200NR□□1, L=2050mm, (L=1985mm for Heat proof)
Component L3M	Component E ×2 Component L1M ×1	For GW200NR□□1, L=3030mm, (L=2965mm for Heat proof)
Component L4M	Component E ×3 Component L1M ×1	For GW200NR 1, L=4010mm, (L=3945mm for Heat proof)
Component L5M	Component E ×4 Component L1M ×1	Extends the rod length of GW200NRT1 to 4925mm
Component G1	Gasket (No.6500, VALQUA, LTD.) ×1 (φ42mm, φ27mm, 2mm thick)	For G¾. Standard accessory to GW200N□□□.
Component G2	Gasket(No.7020, VALQUA, LTD.) ×1 (φ49mm, φ34.5mm, 2mm thick)	For G1. Standard accessory to GW200NP□□.
Component E1 (Earth plate A)	G¾ threaded earth plete ×1 (φ200mm, 2mm thick, 304SS)	Comes with a gasket for G¾ thread.
Earth plate B	Earth plete for flange ×1 (φ200mm, 6mm thick, 304SS)	Specify the flange size at the time of order.
Threaded tubing	PFA tubing with G1 threaded connection in PTFE ×1	Standard accessory to GW200NP versiond. Specify probe length at the time of order.
Flared tubing	PFA flared tubing for JIS 5K 50A ×1	Standard accessory to GW200FP versiond. Specify probe length at the time of order.
Tubing with gasket	PFA tubing with a PTFE gasket fitted to ISO 2. OS connection ×1	Standard accessory to GW200SP□□. Specify probe length at the time of order.

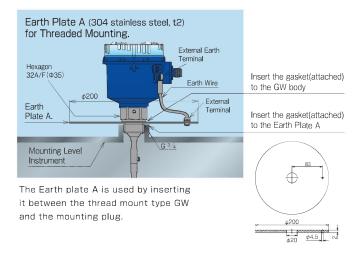


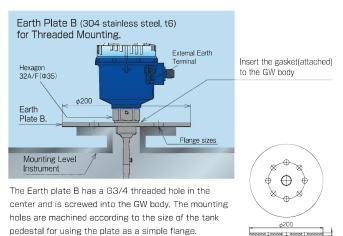
Component

When the mounting seat material is resin (Earth plate mounting image)

- The cases in which Earth Plate is required
 - Required when the tank is non-metal tank, when the pit is an open yard pit and when the mounting part (Plug or Flange) is non-metal.
- The aim in using the Earth Plate

In the above case, sufficient reflection from the liquid surface is often not obtained, so a ground plate is set to the sensor and used to stabilize the reflection from the liquid surface.





Special cable with 8 pin connector

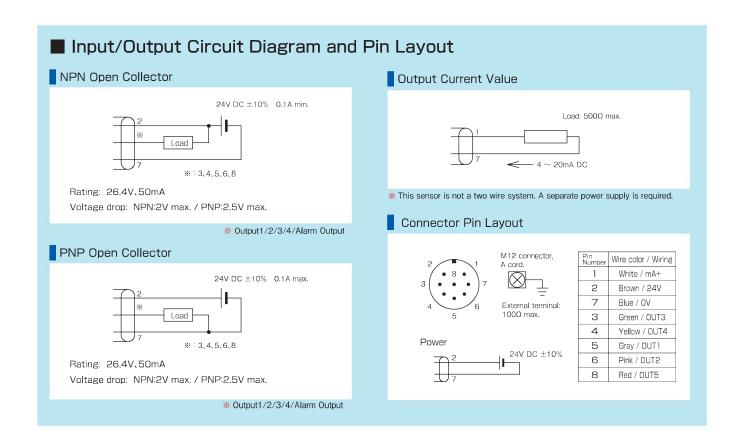


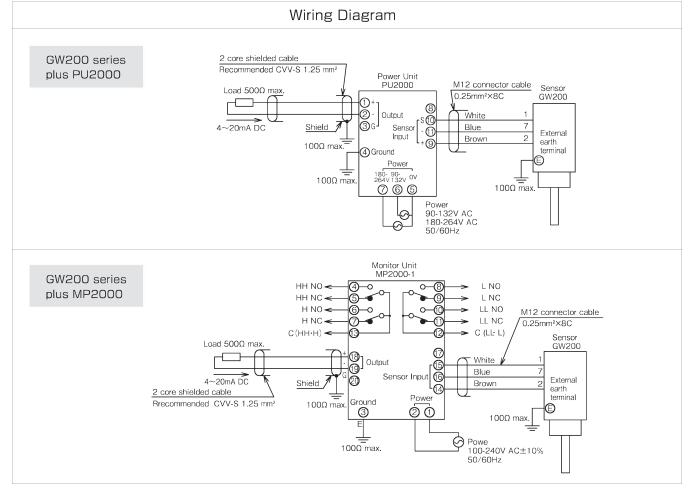
The end of the cable core is a loose wire. The connector is a straight type [Connector material: brass (zinc plated] L-shaped connectors is not available.

Item	Sheathed Material	Length
C1	PVC	5 m
C2	PVC	10 m
С3	PUR	5 m
C4	PUR	10 m

PUR: Oil resistant cable.
Use PVC material type as wet part for water and aqueous solution applications.

^{*} Probe can be cut to the specified length at factory upon request.





(Caution)

Using alarm outputs of GW200 series, utilizing the power supply of our peripheral devices, the current capacity can be insufficient depending on the size of the load current required in the application and/or with the number of the alarm outputs used at the same time. Please be careful about this point in terms of the type of the contact load or when it is necessary, kindly prepare a separate power supply source.

■ Peripheral devices of GW200 series.

Wide range of supply power(90~132V AC/180~264V AC) with 24V DC power source

PU2000 (90~132V AC, 180~264V AC) providing GW200 series with DC 24V power source.



Small controller with MPU available for level indication and capacity conversion signal linearization functions

MP2000 series Level Controller with Digital Display. $(90 \sim 264V AC)$



At ordering, kindly let us know following factors.

 Process Conditions
· Temperature of the fluid to measure. Max.()°C / Min.()°C
· Temperature inside the tank. Max.()°C / Min.()°C
· Pressure inside the tank. \square Open tank
Max.()MPa(G) / Min. ()MPa(G)
· Build-up occurrence. Yes No
· Existence of Vapor. 🗌 Yes (Water Vapor Vapor of measurement target fluid) 🔲 No
· Existence of Stirrer in the tank or vessel. Yes No
Operating conditions for measuring the fluid
· Name of the fluid to measure. ()
· Dielectric constant of the fluid to measure. (
\cdot Presence or absence of corrosion against 316SS, FKM, PEEK \square Yes \square NO
· Viscosity ()cP
Power Supply Voltages
Power Supply Voltages

Please note that the specifications are subject to changes without notice for product improvement or other reasons.

ISO2001 registration in January 1998





ISO Registration Scope: Design, development, manufacturing and after-sales service of level sensors for measurement and control, and related devices/peripherals, except handling items imported for distribution.

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