



Série Niveau à câble continu admittance
EB RF Admittance Level Transmitter



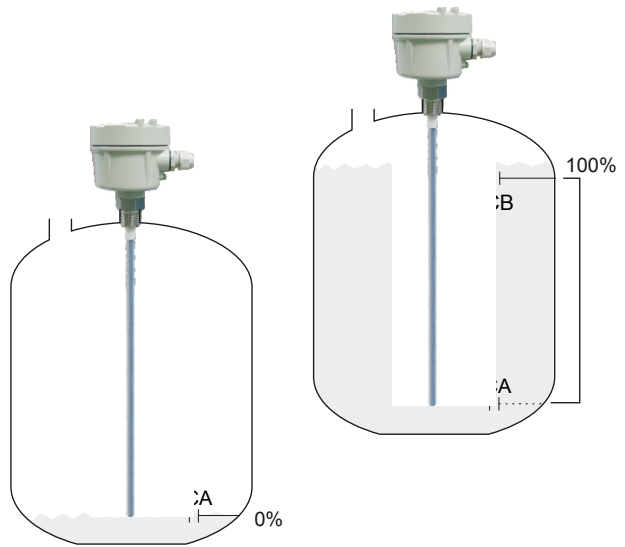
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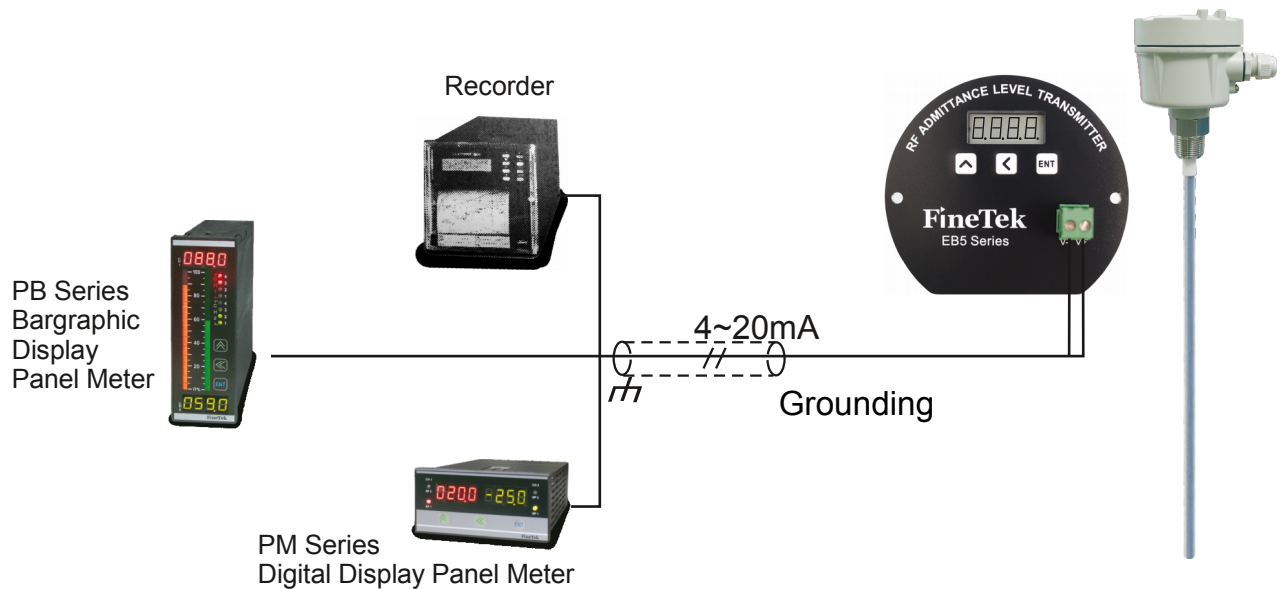
PRINCIPLE

RF Admittance Level Transmitter utilizes the capacitance formed between the sensing probe and the reference probe or the metal vessel wall to calculate the level of the medium inside the vessel according to the capacitance theory that the capacitance and vessel are proportional increased.



FEATURES

APPLICATION EXAMPLE



APPLICATION EXAMPLE

	EB5200	EB5201	EB52A0	EB52A1	EB5300	EB5301	EB53A0	EB53A1	EB5400	EB54A0
Conductive Tank	★	★	★	★	★	★	★	★	✗	✗
Non-Conductive Tank	▲	▲	▲	▲	✗	✗	✗	✗	★	★
Height of Vessel > 4m	✗	✗	✗	✗	★	★	★	★	✗	✗
Height of Vessel < 4m	★	★	★	★	—	—	—	—	★	★
	✗	★	✗	★	✗	★	✗	★	✗	✗
Dielectric Constant of Media>4	✗	✗	★	★	✗	✗	★	★	✗	★
Dielectric Constant of Media<4	★	★	—	—	★	★	—	—	★	—
Corrosive Media	✗	✗	★	★	✗	✗	★	★	✗	★
Agitator inside the vessel	▲	▲	▲	▲	✗	✗	✗	✗	—	—
★ Good ▲ Pipe shield is suggested ✗ Unsuitable — Fair										

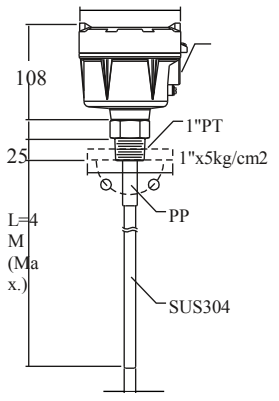
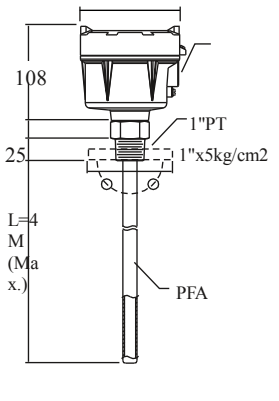
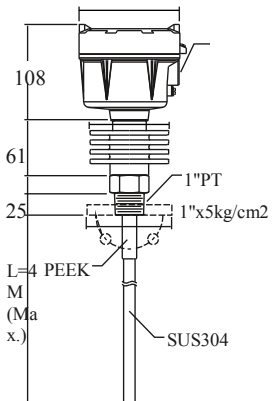
	EB5200	EB5201	EB52A0	EB52A1	EB5300	EB5301	EB53A0	EB53A1	EB5400	EB54A0
Aqueous Solution	✗	✗	★	★	✗	✗	★	★	✗	★
Oil Solution	▲	▲	✗	✗	✗	✗	✗	✗	✗	✗
Acid or Akali Solution	✗	✗	✗	✗	✗	✗	✗	✗	✗	★
Feed & Grain	★	★	✗	✗	★	★	✗	✗	✗	✗
Mining & Cement	★	★	✗	✗	★	★	✗	✗	✗	✗
★ Good ▲ Pipe shield is suggested ✗ Unsuitable										

DIELECTRIC CONSTANTS CHART

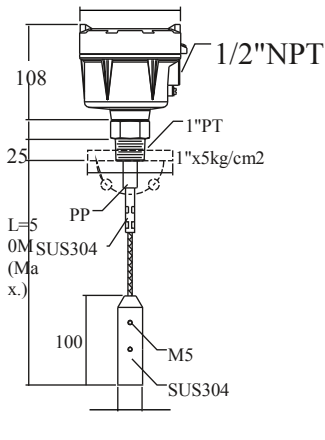
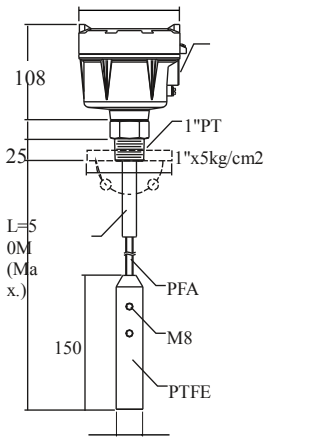
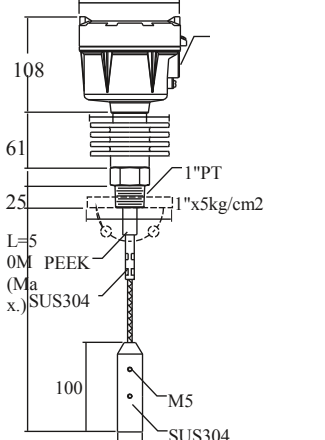
Material	Dielectric Constant	Material	Dielectric Constant	Material	Dielectric Constant	Material	Dielectric Constant
Air		Heavy Oil	2.6~3.0	Cement	4~6	Acetone	20~30
Gasoline	1.9	Grain	2.5~4.5	Butanol	11	Carbide Powder	25~30
Diesel	2.1	Corn	2.3~2.6	Ethanol	16~31	Sulfuric Acid	84
Edible Oil	2~4	Rice	3~8	Ammonia	21	Water	81

WIRING AND CAUTION

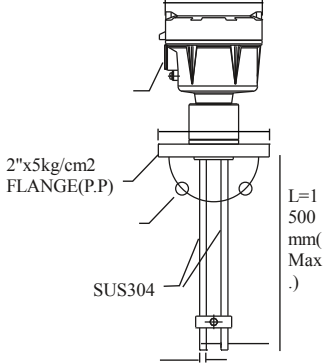
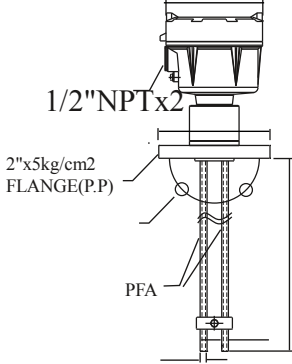
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Dimensions (unit:mm)	 <p>Suitable for middle/ small tank Media : non-conductive material low moisture material</p>	 <p>Suitable for middle/big tank Media: Dielectric Constant Media Conductive Material</p>	 <p>Suitable for middle/ small tank Media : non-conductive material low moisture material</p>
Model No.	EB5200 Rod Probe	EB52A0 Rod Coating Type	EB5201 Hi-Temp Rod Probe
Probe material	SUS304	SUS304 with PFA Coating	SUS304
Ambient temperature	-40~85BX	-40~85BX	-40~85BX
	LCD monitor: -20~85BX	LCD monitor: -20~85BX	LCD monitor: -20~85BX
Operating temperature	-40~85BX	-40~85BX	-40~200BX
Operation voltage	18~30Vdc	18~30Vdc	18~30Vdc
Analog output	4~20mA(two wire)	4~20mA(two wire)	4~20mA(two wire)
Digital output	HART(option)	HART(option)	HART(option)
Measuring range	20~2000pF	20~2000pF	20~2000pF
Accuracy			
Protection	IP65	IP65	IP65
Connection	1"PT or 1"x5kg/cm2 flange	1"PT or 1"x5kg/cm2 flange	1"PT or 1"x5kg/cm2 flange
Weight	Approx. 2.3kg(1m)	Approx. 2.3kg(1m)	Approx. 2.8kg(1m)
Operating pressure	40kg/cm2	40kg/cm2	40kg/cm2

Note :Hi-Temp Wire Coating Type is available, the model is EB52A1 with PFA Coating

Dimensions (unit:mm)	 <p>Suitable for middle/ small tank Media : non-conductive material low moisture material</p>	 <p>Suitable for middle/big tank Media: Dielectric Constant Media Conductive Material</p>	 <p>Suitable for middle/ small tank Media : non-conductive material low moisture material</p>
Model No.	EB5300 Cable Type	EB53A0 Cable Coating	EB5301 Hi-Temp Cable Type
Probe material	SUS304	SUS304 with PFA Coating	SUS304
Weight material	SUS304	PTFE	SUS304
Ambient temperature	-40~85BX LCD monitor: -20~85BX	-40~85BX LCD monitor: -20~85BX	-40~85BX LCD monitor: -20~85BX
Operating temperature	-40~85BX	-40~85BX	-40~200BX
Tensile strength	2000Kgf	2000Kgf	2000Kgf
Operation voltage	18~30Vdc	18~30Vdc	18~30Vdc
Analog output	4 ~20mA(two wire)	4 ~20mA(two wire)	4 ~20mA(two wire)
Digital output	HART(option)	HART(option)	HART(option)
Measuring range	20~2000pF	20~2000pF	20~2000pF
Accuracy			
Protection	IP65	IP65	IP65
Connection	1"PT or 1"x5kg/cm2 flange	1"PT or 1"x5kg/cm2 flange	1"PT or 1"x5kg/cm2 flange
Weight	Approx. 2.3kg(1m)	Approx. 2.3kg(1m)	Approx. 2.8kg(1m)
Operating pressure	40kg/cm2		40kg/cm2

Note :Hi-Temp Wire Coating Type is available, the model is EB53A1 with PFA Coating

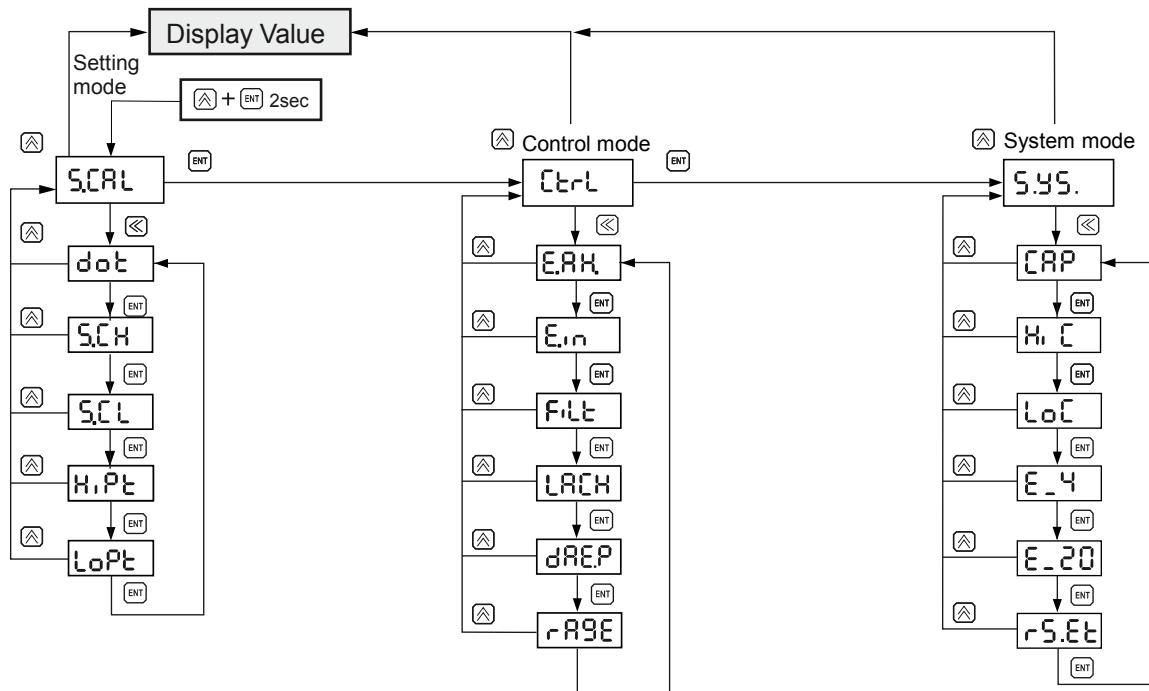
<p>Dimensions (unit:mm)</p>	 <p>Suitable for middle/ small non-conductive tank Media : non-conductive material low moisture material</p>	 <p>Suitable for middle/ small non-conductive tank Media: Conductive Material</p>
<p>Model No.</p>	<p>EB5400</p>	<p>EB54A0</p>
<p>Probe material</p>	<p>SUS304</p>	<p>SUS304 with PP / PFA Coating</p>
<p>Ambient temperature</p>	<p>-40~85BX</p>	<p>-40~85BX</p>
	<p>LCD monitor: -20~85BX</p>	<p>LCD monitor: -20~85BX</p>
<p>Operating temperature</p>	<p>-40~85BX</p>	<p>-40~85BX</p>
<p>Operation voltage</p>	<p>18~30Vdc</p>	<p>18~30Vdc</p>
<p>Analog Output</p>	<p>4 ~20mA(two wire)</p>	<p>4 ~20mA(two wire)</p>
<p>Digital output</p>	<p>HART(option)</p>	<p>HART(option)</p>
<p>Measuring range</p>	<p>20~2000pF</p>	<p>20~2000pF</p>
<p>Accuracy</p>		
<p>Protection</p>	<p>IP65</p>	<p>IP65</p>
<p>Connection</p>	<p>2"x5kg/cm2 flange</p>	<p>2"x5kg/cm2 flange</p>
<p>Weight</p>	<p>Approx. 2.3kg(1m)</p>	<p>Approx. 2.3kg(1m)</p>
<p>Operating pressure</p>	<p>5kg/cm2</p>	<p>5kg/cm2</p>

Note:Min. Connection is 2" flange

Dimensions (unit:mm)			
	Suitable for middle/ small tank Media : non-conductive material low moisture material	Suitable for middle/big tank Media: Dielectric Constant Conductive Material	Suitable for middle/ small tank Media : non-conductive material low moisture material
Model No.	EB5500 Anti-wave tube Type	EB55A0 Anti-wave tube Type	EB5501 Hi-Temp Anti-wave tube Type
Probe material	SUS304	SUS304 with PFA Coating	SUS304
Ambient temperature	-40~85BX LCD monitor: -20~85BX	-40~85BX LCD monitor: -20~85BX	-40~85BX LCD monitor: -20~85BX
Operating temperature	-40~85BX	-40~85BX	-40~200BX
Operation voltage	18~30Vdc	18~30Vdc	18~30Vdc
Analog output	4~20mA(two wire)	4~20mA(two wire)	4~20mA(two wire)
Digital output	HART(option)	HART(option)	HART(option)
Measuring range	20~2000pF	20~2000pF	20~2000pF
Accuracy			
Protection	IP65	IP65	IP65
Connection	1"PT or 1"x5kg/cm2 flange	1"PT or 1"x5kg/cm2 flange	1"PT or 1"x5kg/cm2 flange
Weight	Approx. 2.3kg(1m)	Approx. 2.3kg(1m)	Approx. 2.8kg(1m)
Operating pressure	40kg/cm2		40kg/cm2

Note :Hi-Temp Wire Coating Type is available, the model is EB55A1 with PFA Coating

CALIBRATION & SETUP



A: A B: b C: C D: d E: E F: F G: G H: H I: I J: J
 K: k L: l M: M N: n O: O P: P Q: Q R: r S: S T: t
 U: u V: v W: W X: X Y: y Z: z

Main Menu	Sub-Menu	Range	Default	Description	
S.CAL	dot	0~3		Decimal point setting	
	S.CH	-1999~9999	100.0	20mA corresponding display value	
	S.CL	-1999~9999		4mA corresponding display value	
	H.Pt	-1999~9999	100.0	Value for high point (Hipt).	
	LoPt	-1999~9999		Value for low point (Lopt).	
Ctrl	E.AH	SAVE,RSET BACK	SAVE	Memory for max & mini value during operation. SAVE: Save value into Eeprom RSET: Clean present value and memory BACK: Go back to sub-menu	
	E.in	SAVE,RSET BACK	SAVE		
	Filt	Lo,MID,HI	LO		Software Filter
	LACH	ON, OFF	OFF		Output latch
	dREP	1~60sec			Refresh time
	r.AGE	HI,Lo	HI		Measuring range
S.YS.	CAP	0~9999		Capacity Value	
	Hi C	0~9999	2200	High point Capacity Value	
	LoC	0~9999	200	Low point Capacity Value	
	E_4	-1999~9999		4mA fine turn	
	E_20	-1999~9999		20mA fine turn	
	r.S.Et			Load default	

Note 1: The setting of Hipt, Lopt please refer to calibration procedures on the manual

Note 2: The output will latch when display is 110% or -10%

Note 3: Re-Calibration is necessary if measuring range is changed



EB 5 2 H

ORDER NO. _____

MATERIAL _____

Metal Probe 0: SUS304 6: SUS316
 Plastic Coated Probe A: PFA

TEMPERATURE RESISTANCE _____

0: Standard (max.85°C)
 1: Hi-Temp Type (max.200°C)

COMMUNICATION _____

H: HART

CONNECTING _____

Dimension	Specification
	M --- 5kg/cm ²
	N --- 10kg/cm ²
	O --- 150 Lbs
	P --- 300 Lbs
	W --- PN10
	X --- PN16
	Y --- PN25
	Z --- PN40
	Q --- PT
	R --- PF(G)
	T --- BSP
	U --- NPT
	V --- GAS
	S --- others

PROBE LENGTH (Unit: mm) _____

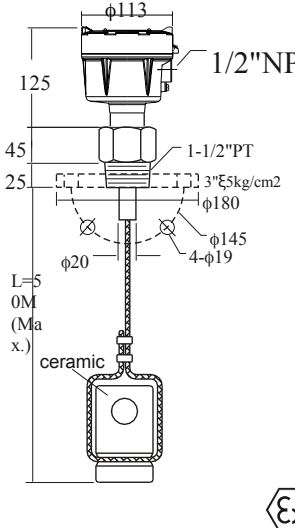
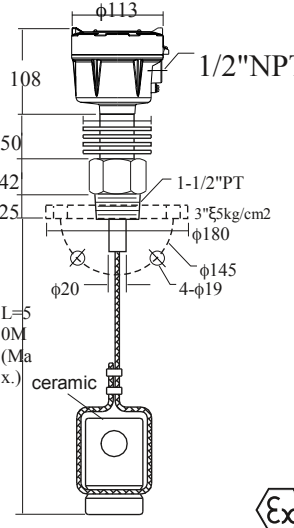
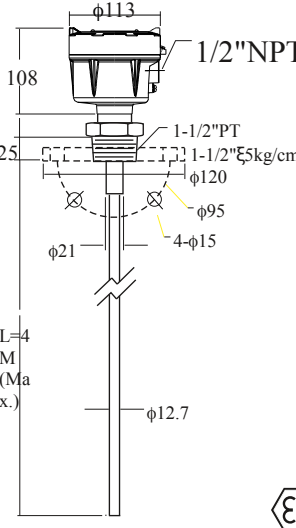



0500: below 500mm
 1000: 501~1000mm
 1500: 1001~1500mm

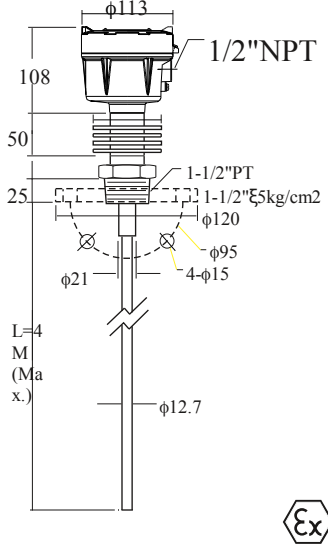

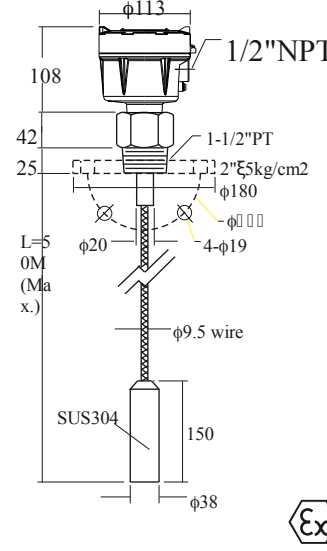

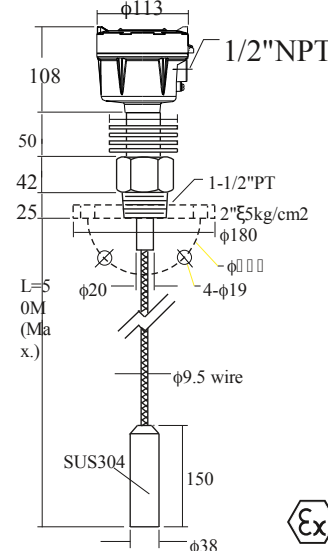

⋮

※ 500mm per Unit
 ※ Use English letter as first code for probe length over 10m.
 A150 represents 15m, A200 represents 20m



* Tolerance of the total product length is ±5mm
 * Characteristics, specifications and dimensions are subject to change without notice.
 * Please contact your nearest distributing office for further informations.

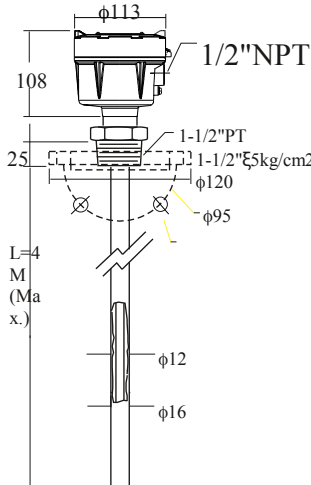



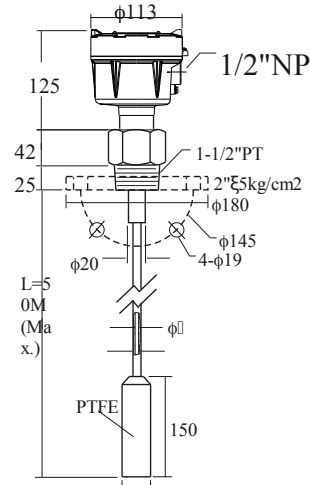


EXPLOSION PROOF TYPE

Dimensions (unit:mm)	 <p>Diagram of EB1710 Wire Probe showing dimensions: top diameter $\phi 113$, 1/2" NPT, 125, 45, 25, 1-1/2" PT, 3" $\epsilon 5\text{kg/cm}^2$, $\phi 180$, $\phi 20$, $\phi 145$, 4-$\phi 19$, L=5.0M (Max.), ceramic.</p>	 <p>Diagram of EB1711 Hi-Temp Wire Probe showing dimensions: top diameter $\phi 113$, 1/2" NPT, 108, 50, 42, 25, 1-1/2" PT, 3" $\epsilon 5\text{kg/cm}^2$, $\phi 180$, $\phi 20$, $\phi 145$, 4-$\phi 19$, L=5.0M (Max.), ceramic.</p>	 <p>Diagram of EB1720 Rod Probe showing dimensions: top diameter $\phi 113$, 1/2" NPT, 108, 25, 1-1/2" PT, 1-1/2" $\epsilon 5\text{kg/cm}^2$, $\phi 120$, $\phi 95$, $\phi 21$, 4-$\phi 15$, L=4M (Max.), $\phi 12.7$.</p>
	Suitable for non-conductive material and big tank. 	Suitable for non-conductive material and big tank. 	Suitable for non-conductive material and middle-size tank. 
Model No.	EB1710 Wire Probe	EB1711 Hi-Temp Wire Probe	EB1720 Rod Probe
Probe material	SUS304	SUS304	SUS304/316
Weight material	CERAMIC	CERAMIC	—
Ambient temperature	-20~70BX	-20~70BX	-20~70BX
Operating temperature	-40~80BX	-40~200BX	-40~80BX
Tensile strength	2000Kgf	2000Kgf	—
Operation voltage	12~36Vdc	12~36Vdc	12~36Vdc
Output current			
Measuring range	0~5000pF	0~5000pF	0~5000pF
Accuracy	A1%FS (25BC)	A1%FS (25BC)	A1%FS (25BC)
Protection	IP65	IP65	IP65
Connection			
Weight	Approx. 3.7kg(1M)	Approx. 4.2kg(1M)	Approx. 2.3kg(1M)
Operating pressure	40kg/cm2	40kg/cm2	40kg/cm2

<p>Dimensions (unit:mm)</p>	 <p style="text-align: right;"></p>	 <p style="text-align: right;"></p>	 <p style="text-align: right;"></p>
<p>Model No.</p>	<p>Suitable for non-conductive material and middle-size tank. EB1721 Hi-Temp Rod Probe</p>	<p>Suitable for non-conductive material and big tank. EB1730 Wire Probe</p>	<p>Suitable for non-conductive material and big tank. EB1731 Hi-Temp Wire Probe</p>
<p>Probe material</p>	<p>SUS304/316</p>	<p>SUS304</p>	<p>SUS304</p>
<p>Weight material</p>	<p>————</p>	<p>SUS304</p>	<p>SUS304</p>
<p>Ambient temperature</p>	<p>-20~70BX</p>	<p>-20~70BX</p>	<p>-20~70BX</p>
<p>Operating temperature</p>	<p>-40~200BX</p>	<p>-40~80BX</p>	<p>-40~200BX</p>
<p>Tensile strength</p>	<p>————</p>	<p>2000Kgf</p>	<p>2000Kgf</p>
<p>Operation voltage</p>	<p>12~36Vdc</p>	<p>12~36Vdc</p>	<p>12~36Vdc</p>
<p>Output current</p>	<p>————</p>	<p>————</p>	<p>————</p>
<p>Measuring range</p>	<p>0~5000pF</p>	<p>0~5000pF</p>	<p>0~5000pF</p>
<p>Accuracy</p>	<p>A1%FS (25BC)</p>	<p>A1%FS (25BC)</p>	<p>A1%FS (25BC)</p>
<p>Protection</p>	<p>IP65</p>	<p>IP65</p>	<p>IP65</p>
<p>Connection</p>	<p>1-1/2"x5kg/cm2 flange or 1-1/2"PT screw</p>	<p>2"x5kg/cm2 flange or 1-1/2"PT screw</p>	<p>2"x5kg/cm2 flange or 1-1/2"PT screw</p>
<p>Weight</p>	<p>Approx. 2.8kg(1M)</p>	<p>Approx. 2.3kg(1M)</p>	<p>Approx. 2.8kg(1M)</p>
<p>Operating pressure</p>	<p>40kg/cm2</p>	<p>40kg/cm2</p>	<p>40kg/cm2</p>

Série SA Détecteur capacitif

PTB PROOF No.09 ATEX 1004  II 2G Ex d IIB T3~T6
 II 2D Ex tD A21 IP65 T80BC ~T190BX

<p>Dimensions (unit:mm)</p>	 <p>EB1740__PVDF Coating  EB1742__PP Coating  EB1743__FEP Coating  Suitable for conductive/ corrosive material and middle-size tank (weight can be fixed at the bottom of tank)</p>	 <p>EB1752__PP Coating  EB1753__FEP Coating  Suitable for conductive/ corrosive material and big tank.(weight can be fixed at the bottom of tank)</p>
<p>Model No.</p>	<p>EB1740/42/43 Anti-Corrosion Wire Probe EB1752/53 Anti-Corrosion</p>	
<p>Probe material</p>	<p>SUS304+Coating</p>	<p>SUS304+Coating</p>
<p>Weight material</p>	<p>—————</p>	<p>SUS304+PTFE</p>
<p>Ambient temperature</p>	<p>-20~70BX</p>	<p>-20~70BX</p>
<p>Operating temperature</p>	<p>-40~80BX</p>	<p>-40~80BX</p>
<p>Tensile strength</p>	<p>—————</p>	<p>2000Kgf</p>
<p>Operation voltage</p>	<p>12~36Vdc</p>	<p>12~36Vdc</p>
<p>Output current</p>	<p>—————</p>	<p>—————</p>
<p>Measuring range</p>	<p>0~5000pF</p>	<p>0~5000pF</p>
<p>Accuracy</p>	<p>A1%FS (25BC)</p>	<p>A1%FS (25BC)</p>
<p>Protection</p>	<p>IP65</p>	<p>IP65</p>
<p>Connection</p>	<p>1-1/2"x5kg/cm2 flange or 1-1/2"PT screw</p>	<p>2"x5kg/cm2 flange or 1-1/2"PT screw</p>
<p>Weight</p>	<p>Approx. 2.3kg(1M)</p>	<p>Approx. 2.3kg(1M)</p>
<p>Operating pressure</p>	<p>40kg/cm2</p>	<p>40kg/cm2</p>



EB

ORDER NO. _____

CONNECTING _____

Dimension	Specification
	M --- 5kg/cm ²
	N --- 10kg/cm ² U --- NPT
	O --- 150 Lbs V --- GAS
	P --- 300 Lbs S --- others
	W--- PN10
	X --- PN16
	Y --- PN25
	Z --- PN40
	Q --- PT
	R --- PF(G)
	T --- BSP

PROBE LENGTH (UNIT: mm) _____

- 0500: below 500mm
- 1000: 501~1000mm
- 1500: 1001~1500mm

⋮

- ※ 500mm per Unit
- ※ Use English letter as first code for probe length over 10m.
A150 represents 15m, A200 represents 20m

* Tolerance of the total product length is K5mm
 * Characteristics, specifications and dimensions are subject to change without notice.
 * Please contact your nearest distributing office for further informations.

1. Please choose Two Rod Probe type for non conductive tank (Fig.1), or install a concentric circles metal pipe shield with vent hole at the top outside the probe (Fig. 2)

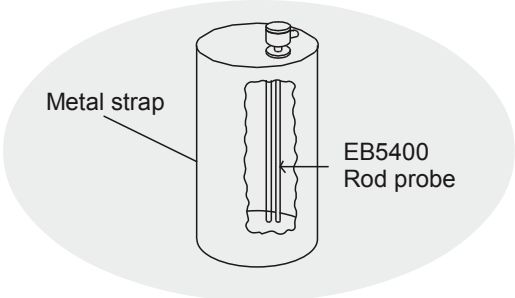


Fig. 1

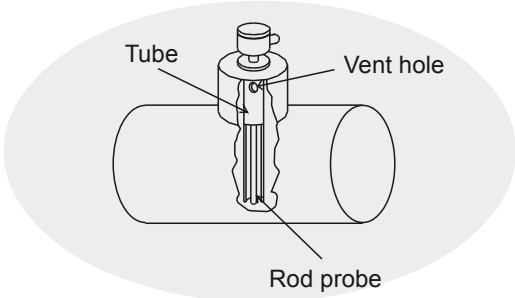


Fig. 2

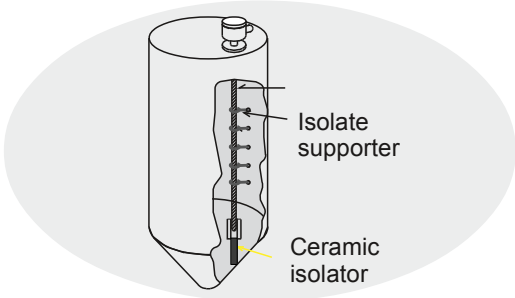


Fig. 3

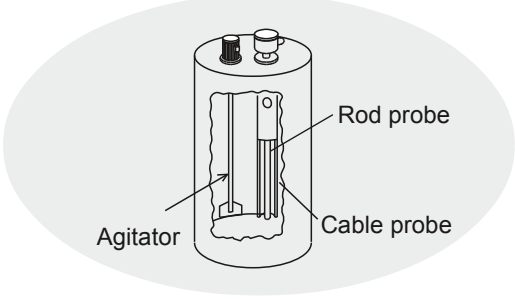
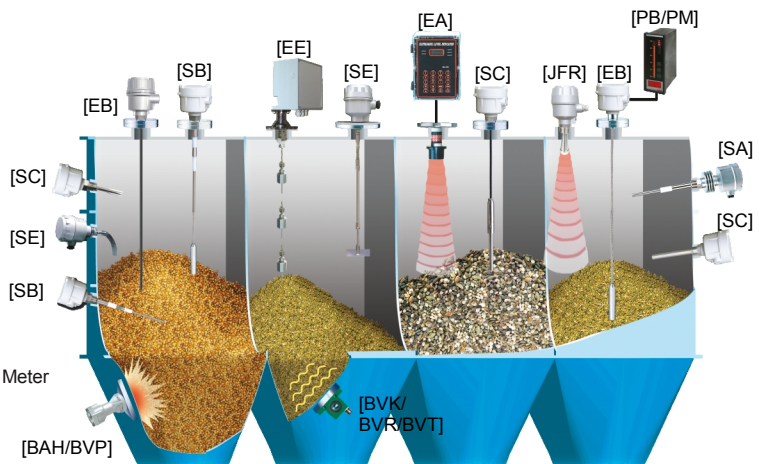
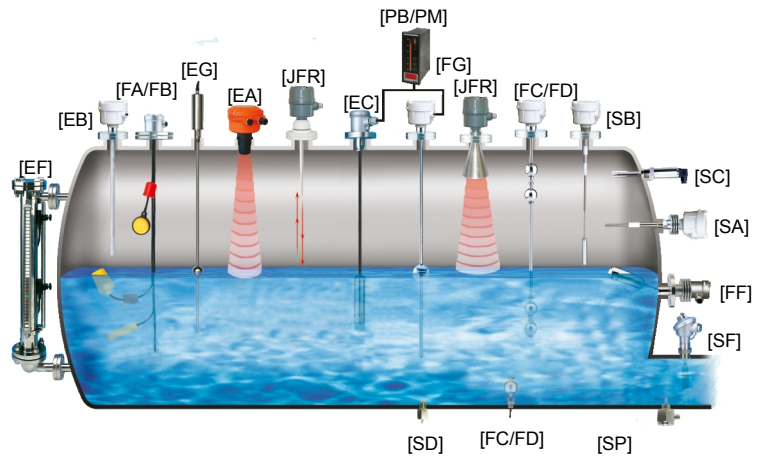


Fig. 4

EXAMPLES-OF-TANK-MOUNTING

- [FC/FD] Mini Float/Magnetic Float Level Switch
- [FG] Magnetic Float Level Transmitter
- [FF] Side Mounting Float Switch
- [FA/FB] Cable Float Level Switch
- [SP] Thermal Dispersion Flow Switch
- [SF] Paddle Flow Switch
- [SD] Optical Level Switch
- [SE] Rotary Paddle Level Switch
- [SA] Capacitance Level Switch
- [EC] Pressure Level Transmitter
- [SC] Vibrating Probe Level Switch
- [SC] Tuning Fork Level Switch
- [EB] RF-Capacitance Level Transmitter
- [SB] RF-Capacitance / Admittance Level Switch
- [EG] Magnetostrictive Level Transmitter
- [EF] By-Pass Level Transmitter
- [MEF] Mini By-Pass Level Transmitter
- [EA] Ultrasonic Level Transmitter
- [JFR] FMCW Radar Level Transmitter
- [EE] Electromechanical Level Measuring System
- [ED] Speed Monitor
- [SRT/SRS] Conveyor Belt Misalignment Switch & Safety Cable Pull Switch
- [PB/PM] Microprocessor Based Bargraphic Display Scaling Meter
- [BRD/AE] Valve and Controller for Dust Collector System
- [BAH/BVP] Air Hammer
- [BVK/BVR/BVT] Pneumatic Vibrator



TeleMetrix

TELEMETRIX SAS
79, RUE DE LA GARE
BP118
FR-78370 PLAISIR

Tel. (+33) (0) 972 11 00 03
Fax (+33) (0) 972 11 00 03
www.direct-mesure.fr
contact@direct-mesure.fr

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