

EG series Magnetostrictive Level Transmitter is built based on the principle of magnetic field interaction of two different directions, which sends out a signal to determine the exact level of the medium. Therefore, even if there is a power failure and reconnection is needed, it will not affect the previous setting parameters. So there is no reconfiguration involved. Moreover, medium is not in contact with the sensing element. There will be no wear and tear to the sensing element during repeat operation.

As Magnetostrictive Level Transmitter gives direct signal output, additional output interface is not needed. As the resolution is very accurate and reliable, it will reduce the malfunction of the product. Moreover, due to the durability of the sensing element, Minimal maintenance is needed, Thus stocking for replacement parts inventory is not needed.

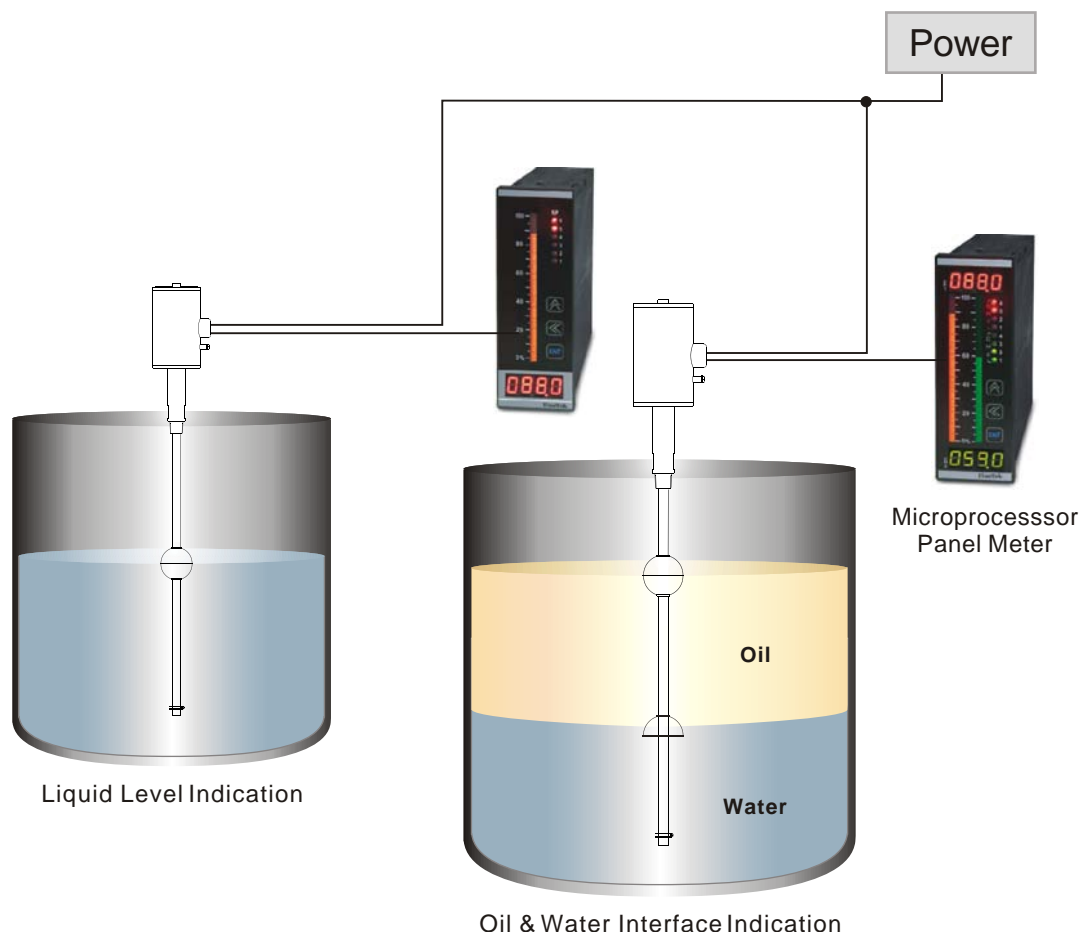
For PC connection, it enables long distance monitoring of one EG transmitter (use RS232 / RS485 communication port) or multiple EG transmitters (use RS485). (RS 232 / RS485 are optional accessories).

FEATURES

- ★ High performance.
- ★ Absolute position output
- ★ Prompt response time.
- ★ High stable & high reliable.
- ★ Multi output selection.
- ★ Easy installation & no periodic maintenance
- ★ High resolution & high accuracy protection rating.
- ★ Durable structure with IP66.

APPLICATION

- Natural gas liquid medium.
- Pharmaceutical / beverages
- Water Dam / barrier.
- Water / Wastewater Treatment.
- Chemical Process.
- Crude oil / Oil industry.
- Normal liquid environment.



OPERATING PRINCIPLE

Magnetostrictive Transmitter measures the accurate medium (D) by calculating the time travel of signal formed by two different magnetic field. One magnetic field comes from the float ball, and the other comes from the current pulse given by the waveguide tube.

When the pulse signal is reversed back to the waveguide coil, the transmitter will calculate the float ball (liquid level) based on the time interval and travel speed the pulse signal between the two magnetic field.

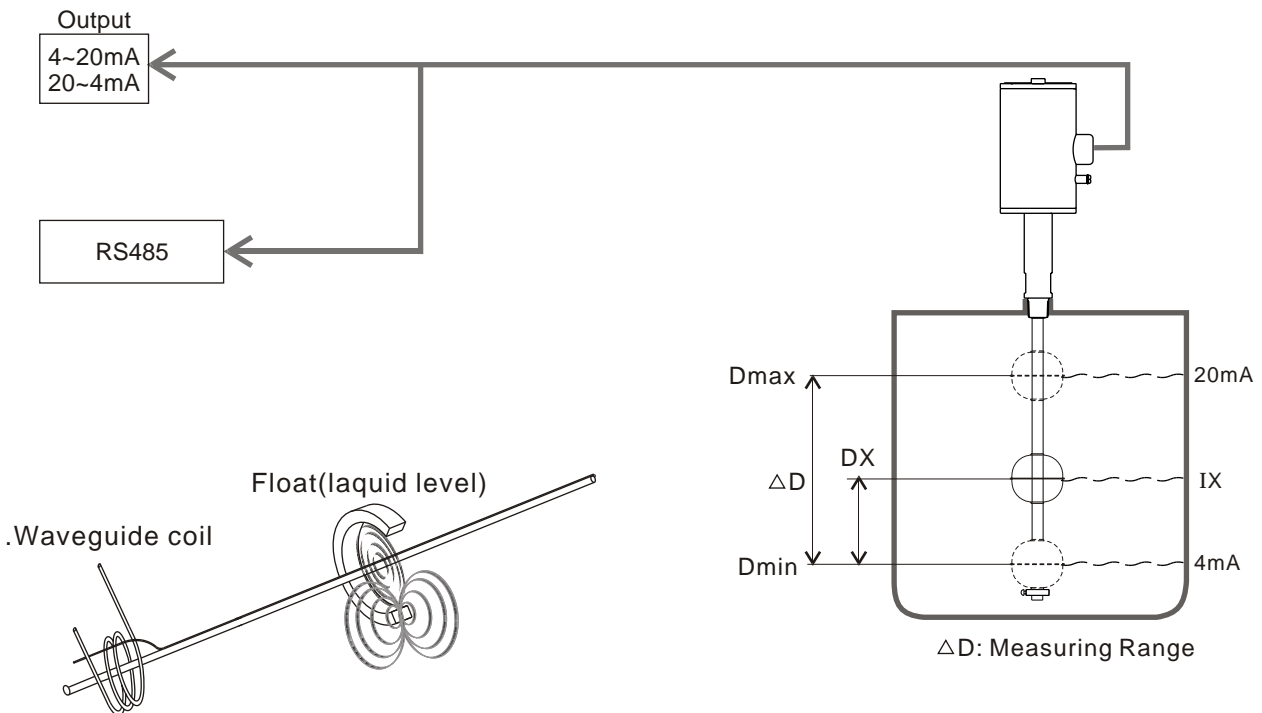
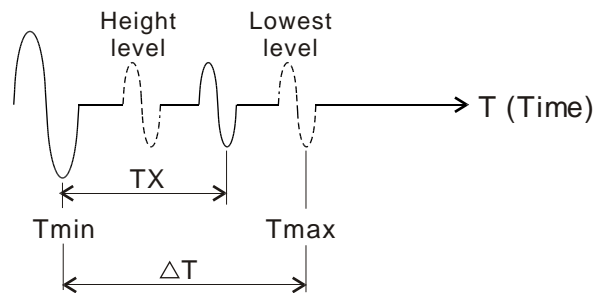
This action is continuous and timely. The change float position will be detected promptly with absolute signal output.

TRANSFER EQUATION

The relation of D & 4~20mA output

$$\frac{IX-4}{(20-4)mA} = \frac{DT-TX}{\Delta T} = \frac{DX}{\Delta D}$$

$$\Rightarrow IX = \frac{16DX}{\Delta D} + 4mA \text{ (The relative current)}$$



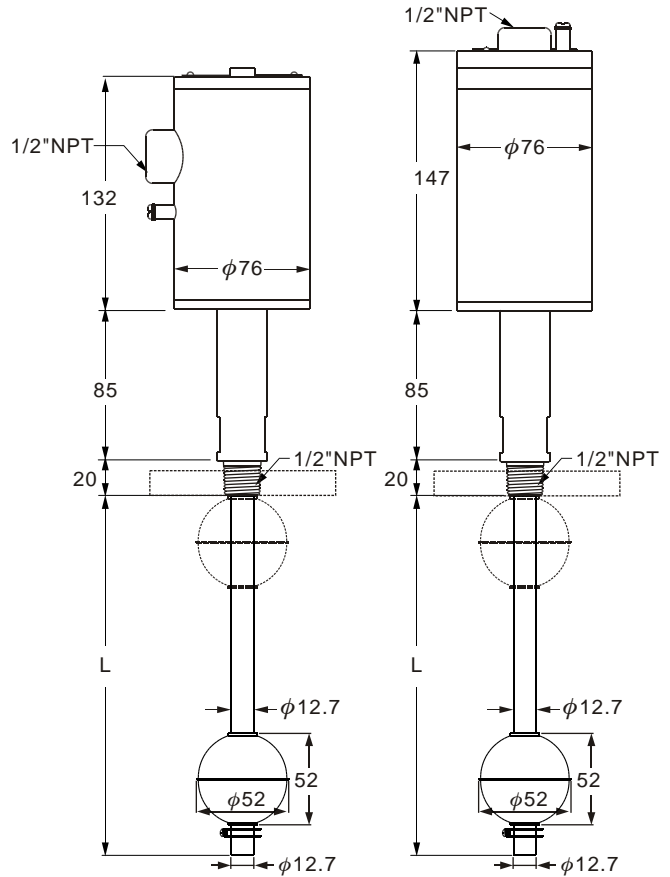
SPECIFICATIONS-EG17 EXPLOSION PROOF SERIES

NEPSI PROOF No.GYJ081243 Ex d IIB T4~T6

SPECIFICATIONS

- Measuring Range: 500~3000mm
- Linearity: 0.1% FS
- Repeatability: 0.01% FS
- Operation pressure: 30BAR
- Ambient temp.: -10°C ~ 55°C
- Operation temp.: -20°C ~ 70°C
- Temp. Accuracy: ± 1.5°C
- Output: 4~20mA (Maximum Load 600W)
- Digital Output: RS485
- Power supply: 24Vdc ± 20%
- Power consumption: ≤ 80mA (One Float)
≤ 160mA (Two Float)
- Enclosure: IP65
- Housing Material: SUS304 (SUS316 optional)
- Connection: Screw 1/2" PT (by order)
If installing directly (without removing float), the dimension of connection must be bigger than the external radius of the float (> 1-1/2")
- Wetted Material: SUS304 (SUS316 option)
- ※ Also combine with Panel Meter series of our company.

DIMENSIONS

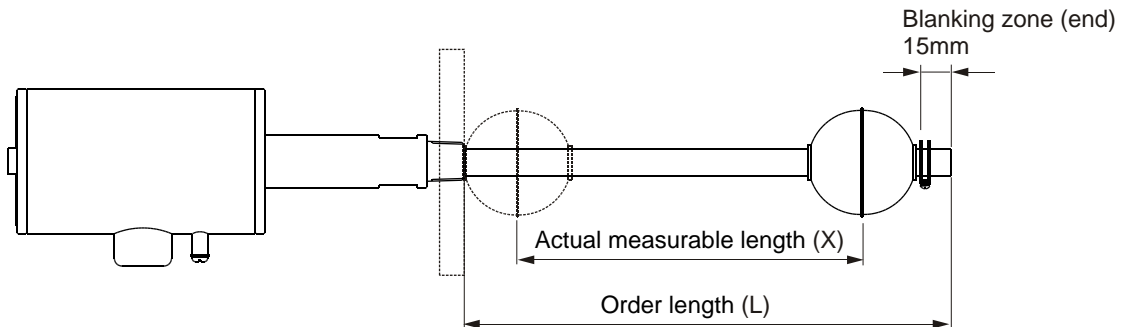


(Unit: mm)

DETERMINE THE LENGTH DURING ORDERING INSTRUCTION

Please refer below diagram for actual length of stem and the measurable length of the stem:

$$\begin{aligned}
 \text{Order length (L)} &= \text{Actual measurable length (X)} + \text{Length of float} + \text{Blanking zone (end)} \\
 &= X + 52 + 15 \\
 &= 67 + X (\text{mm})
 \end{aligned}$$



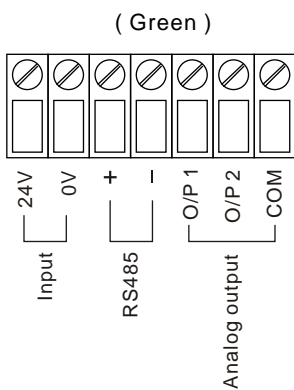
INSTALLATION RECOMMENDATION

- ⊙ Power supply is 24VdcK20%。
- ⊙ This product will be calibrated before shipment. It is recommended not to change the actual measurable length.
- ⊙ Please make sure the float arrow faces toward the housing when reinstalling
- ⊙ Please do not bend the stem to ensure the measuring accuracy and performance.
- ⊙ Please do not change a different float to avoid the effect of measuring accuracy.

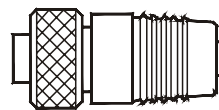
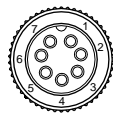
WIRING INSTRUCTION

Terminal

Wiring Diagram

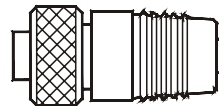
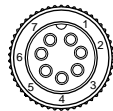


1. One Float



- ① Red Input DC+24V
- ② Black GND
- ③ Green Analog Output 4~20mA
- ④ White COM

2. Two Float or RS485 output



- ① Red Input DC+24V
- ② Brown GND
- ③ Yellow Digital Output R+ (Option)
- ④ Green Digital Output R- (Option)
- ⑤ Blue Analog Output1 4~20mA
- ⑥ Orange Analog Output2 4~20mA (Option)
- ⑦ White COM

※Standard Wire length is 1m

HOUSING OPTION

Standard	0 Side conduit with ASI connector	1 Top conduit with ASI connector	2 Side conduit with ASI connector handle	3 Side conduit with PG cable gland	4 Top conduit with PG cable gland
Explosion proof	0 Side conduit	1 Top conduit	2 Top conduit with handle	Cable Conduit EEx d IIC Material: Washer --- NBR Body --- Aluminum (3/4" NPT) Nickel plated (1/2" NPT)	
				 29-1104	 29-1108

※ Standard cable length 1M will equipped.(Explosion proof type will not be equipped with cable)

ORDER INFORMATION-STANDARD

EG 1 - -

- 1: Standard
- 2: Plastic coated

Housing

- 0: Side conduit with ASI connector
 - 1: Top conduit with ASI connector
 - 2: Side conduit with ASI connector handle
 - 3: Side conduit with PG cable gland
 - 4: Top conduit with PG cable gland
- (Standard cable length 1M will be equipped.)

Connection BQ: 1/2"PT (std.)

3---1-1/4"(32A)	M---5kg/cm ²	Q---PT
B---1/2"(15A)	N---10kg/cm ²	R---PF
C---3/4"(20A)	O---150 Lbs	T---BSP
D---1"(25A)	P---300 Lbs	U---NPT
E---1-1/2"(40A)	W---PN 10	V---GAS
F---2"(50A)	X---PN 16	S---Others
G---2-1/2"(65A)	Y---PN 25	
H---3"(80A)	Z---PN 40	
I---4"(100A)	※ If installing directly(without removing float),the dimension of connection mustbe bigger than the external radius of the float (>1-1/2")	
J---5"(125A)		
K---6"(150A)		
S---Others		

Float 1 Please see chart below

Float 2 Please see chart below

Code	Dimension	Material	S.G.	Code	Dimension	Material	S.G.
S4	φ52x52xID15	SUS316	0.75	F3	φ45x45xID20	PP	0.65
S5	φ75x73xID19	SUS316	0.6				

SS: Special Specification
00 : No Float

Analog Output 1

- 0: No
- A: 4~20mA (Bottom~Top)
- B: 20~4mA (Bottom~Top)

Analog Output 2

- 0: No
- A: 4~20mA (Bottom~Top)
- B: 20~4mA (Bottom~Top)

Digital Output

- 0: No
- 1: RS485

Temperature SENSOR

- 0: No
- 1: One sensor in the end of the stem
- 2: One sensor at requested position

Stem Length Range

- S: 500mm~2000mm (Metal Stem:φ12.7, PP coated Stem φ17.2)
- L : 2050mm~3000mm (Metal Stem:φ16)

Note: PP coated stem only can be opted under 2M, standard metal material is SUS304

Stem Length

- 10:500~1000mm
- 15:1010~1500mm
- 20:1510~2000mm
- 25:2010~2500mm
- 30:2510~3000mm

ORDER INFORMATION-EXPLOSION PROOF

EG 17 - -

Housing _____

- 0: Side conduit
- 1: Top conduit
- 2: Top conduit with handle

Connection BQ: 1/2"PT (std.) _____

3---1-1/4"(32A)	M---5kg/cm ²	Q---PT
B---1/2"(15A)	N---10kg/cm ²	R---PF
C---3/4"(20A)	O---150 Lbs	T---BSP
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SS: Special Specification
00 : No Float

Analog Output 1 _____

- 0: No
- A: 4~20mA (Bottom~Top)
- B: 20~4mA (Bottom~Top)

Analog Output 2 _____

- 0: No
- A: 4~20mA (Bottom~Top)
- B: 20~4mA (Bottom~Top)

Digital Output _____

- 0: No
- 1: RS485

Temperature SENSOR _____

- 0: No
- 1: One sensor in the end of the stem
- 2: One sensor at requested position

Stem Length Range _____

- S: 500mm~2000mm (Metal Stem:φ12.7, PP coated Stem φ17.2)
- L :2050mm~3000mm (Metal Stem:φ16)

Note: PP coated stem only can be opted under 2M, standard metal material is SUS304

Stem Length _____

- 10:500~1000mm
- 20:1510~2000mm
- 30:2510~3000mm
- 15:1010~1500mm
- 25:2010~2500mm