



EFT By-Pass Level Transmitter

(For general industries)



Innovation · Quality · Sharing

INTRODUCTION

INTRODUCTION

The By-Pass Level Indicator is installed outside of a vessel or tank. The liquid level in the tank can easily be observed from the change of the flag color.

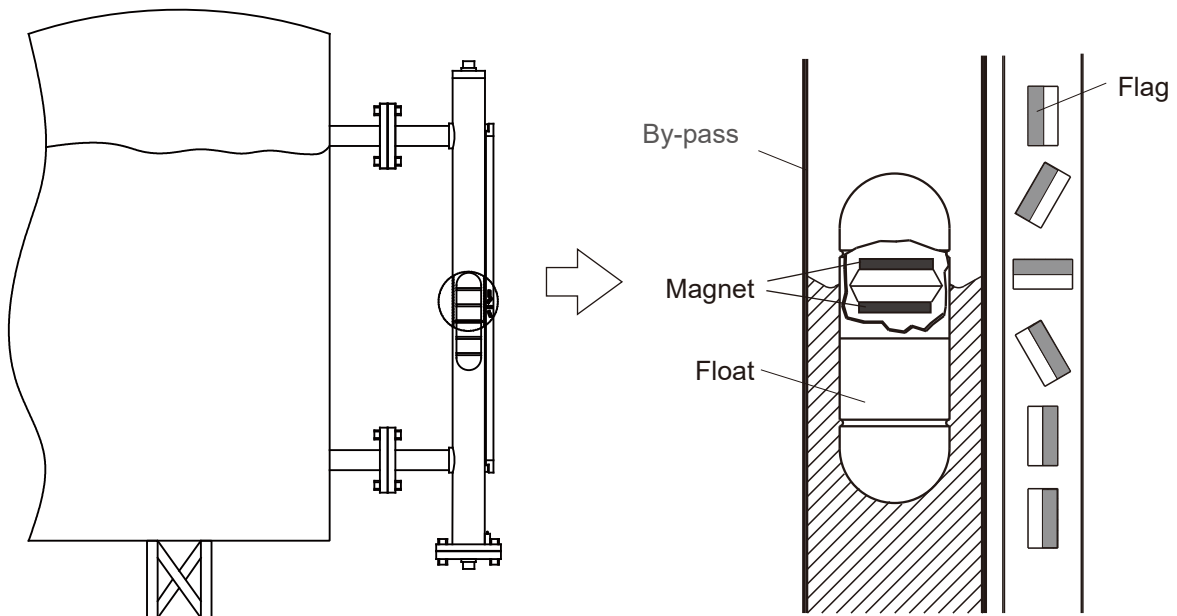
Optional devices of magnetic switch and level transducer can be added for electrical signal output and level transmitting.

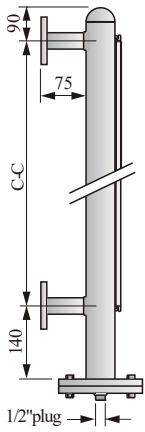
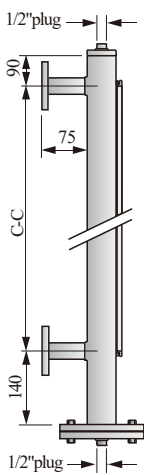
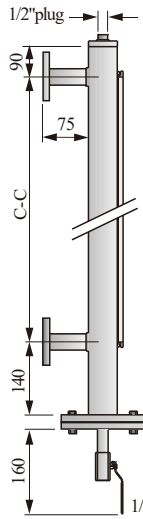
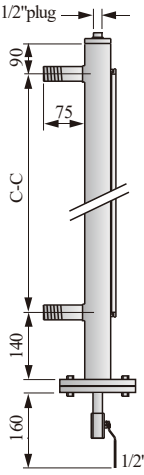
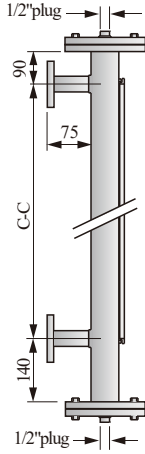
PRINCIPLE

FineTek's By-Pass indicator utilizes hydrostatic principle to show the liquid level in the tank. A float with a magnet inside rises and drops according to the liquid level change. Magnetic flags will flip as float passes through to indicate liquid level based on magnetic attraction method.

APPLICATIONS AND FEATURES

- Simple structure, reliable operation, and durable construction. Various optional accessories are available for easier control.
- A level transmitter and magnetic switches can be installed or adjusted at any time without shutting down the equipment.
- In the event of a power failure, the local magnetic switches remain unaffected and maintain high accuracy.
- Add different color of flag per 10cm that can be recognized easily.
- Suitable for wastewater treatment, marine applications, generator equipment, and boilers.



Metal Standard Type				
EFT-□□□-A1C	EFT-□□□-B1C	EFT-□□□-B1G	EFT-□□□-B2G	EFT-□□□-C1C
				

SPECIFICATIONS

Model No.	EFT-□□□-A1C	EFT-□□□-B1C	EFT-□□□-B1G	EFT-□□□-B2G	EFT-□□□-C1C
Description					
Top end	Cap	Flat top with 1/2" plug			Dual flanges with 1/2" plug
Bottom end	Dual flanges with 1/2" plug		Dual flanges with 1/2" drain valve		Dual flanges with 1/2" plug
Bottom flanges	ϕ100*12t				
Connecting	1/2"/ 3/4"/ 1"x10kg/cm² (flange)			1/2"/ 3/4"/ 1"PT (screw)	1/2" / 3/4" /1" x10kg/cm² (flange)
C-C Distance	Min. 150mm; Max. 2000mm				
Operation pressure	20kg/cm²				
Operation temperature	SUS304: 140°C SUS316: 140°C				
Chamber	ϕ50.8mm				
Float type	N1				
Material	SUS304 / SUS316				
Flag indicator	EFB-0750 (140°C)				
Ruler	Option				

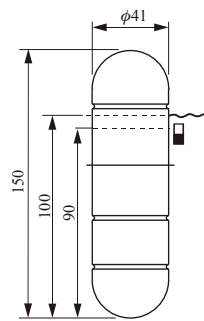
FLOAT SPECIFICATIONS

METAL FLOAT

Code	Order Code	Operation Temp.(°C)	Max.Pressure (kg/cm ²)	Dimension (mm)	S.G.	Water Immersion Line	Material	Weight(g)
N1	FLTBM1F-1MB4115001	150	20	OD41*150	0.75	100	SUS316	115

~~~~ Water Immersion location.

■ The Magnet location.

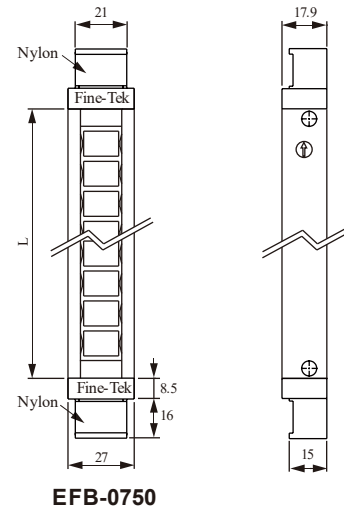


Code: N1

# FLAG DISPLAY

## Model No. EFB-0750

1. Housing material: SUS 304
2. Flag Material: Engineering plastic
3. Flag Color : Red / White; Green / White
4. Cover Material : Engineering plastics
5. Operation Temp. : -20~140°C
6. Standard Unit : 50mm

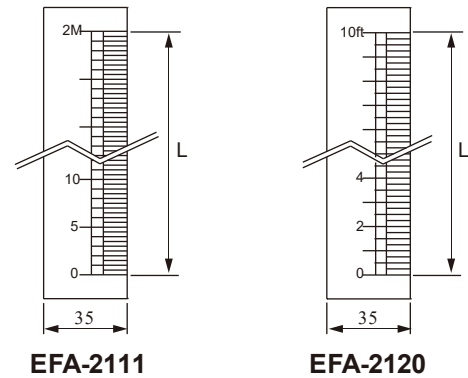


# RULER

## Model No. EFA-2111 (unit: cm L Type)

## Model No. EFA-2120 (unit: inch)

1. Dimension: 35(W)x1.5(T)xL
2. Material : SUS 304
3. Color: Black word
4. Operation Temp. : -20~350°C
5. Length: 2M

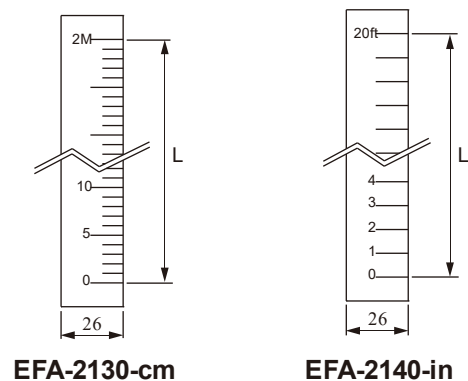


## Model No. EFA-2130-cm (unit: cm)

## Model No. EFA-2140-in (unit: inch)

1. Dimension: 26(W)x3(T)xL
2. Material: Plastic
3. Color: Red word
4. Operation Temp. : -20~80°C
5. Length: 2M

\* Custom-made scale is available.

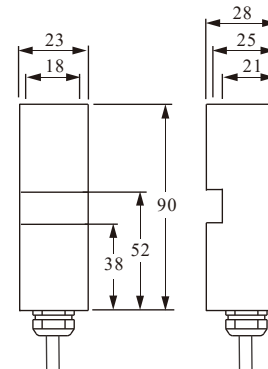


# MAGNETIC SWITCH

## [ ECONOMY TYPE ]

### Model No. EFB-1220/1230

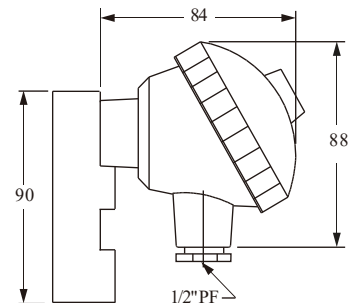
1. Contact Element : Reed Switch
2. Switch Form : EFB-1220, SPDT Hold type  
EFB-1230, SPDT Normal type
3. Contact Capacity : 1A /30W / 200Vdc /240Vac
4. Housing Material : Aluminum
5. Operation Temp. : -20~200°C
6. Protection : IP67
7. Cable Length : 1M (Silicon Cable)
8. Color code of wires : Black- COM; brown-NC; blue-NO  
Yellow /green-GND



## [ STANDARD TYPE ]

### Model No. EFB-1250/1260

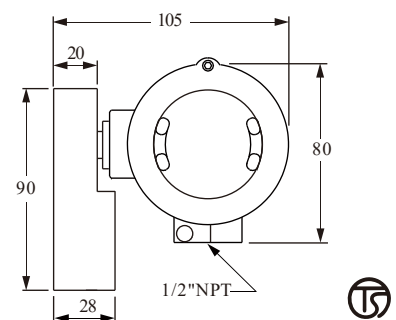
1. Contact Element : Reed switch
2. Switch Form : EFB-1250, SPDT Hold type  
EFB-1260, SPDT Normal type
3. Contact Capacity : 1A /30W / 200Vdc /240Vac
4. Housing Material : Aluminum
5. Operation Temp. : -20~150°C(max. 250°C)
6. Protection : IP65



## [ ENCLOSURE EXPLOSION-PROOF TYPE ]

### Model No. EFB-1300/1310

1. Contact Element : Reed switch
2. Switch Form : EFB-1300, SPDT Hold type  
EFB-1310, SPDT Normal type
3. Contact Rating : 1A /30W / 200Vdc /240Vac
4. Housing Material : Aluminum(TS);SUS316(Nepsi)
5. Operation Temp. : -20~85°C (max. 250°C)
6. Protection : IP65
7. Certification : Ex d IIC T3~T6 Gb
8. Explosion-proof cable conduit is optional.

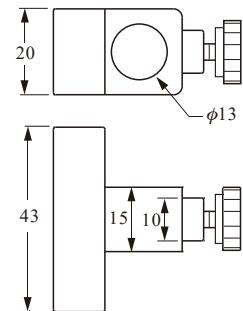


# MAGNETIC SWITCH

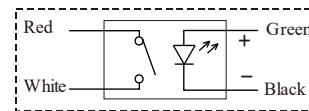
## [ ADJUSTABLE TYPE ]

### Model No. EFB-14□□

1. Contact Element : Reed Switch
2. Switch Form : EFB-1400, SPST NO    Hold type  
                  EFB-1410, SPST NO    Normal type  
                  EFB-1420, SPDT      Hold type  
                  EFB-1430, SPDT      Normal type  
                  EFB-1440, SPST NO    Hold type (side lead wire)  
                  EFB-1450, SPST NO    Hold type (LED display)
3. Contact Rating : 1A /30W / 200Vdc /240Vac
4. LED Power : 24Vdc K20%(for EFB-1450)
5. Housing Material : PP
6. Operation Temp. : 20~140°C
7. Protection : IP67
8. Cable Length : 2M (PVC Cable)
9. Contact wiring :  
    Red: COM, White : NO (EFB-1400/ 1410/ 1440 / 1450)  
    Black: COM, Red : NC, White: NO (EFB-1420 / 1430)



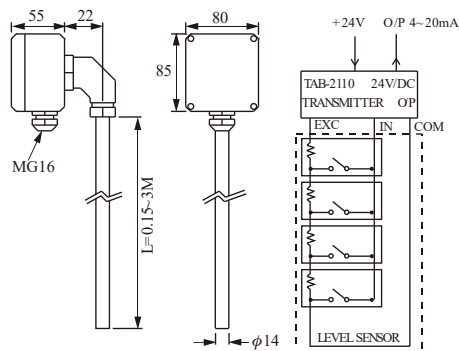
EFB-1450 Wiring



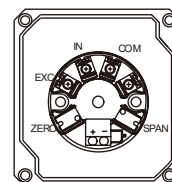
# LEVEL TRANSDUCER

**TYPE: FGX100□□-A6G000000□□□□□0000□00□□□□□**

1. Housing material : PC(IP65) 85(W)x80(H)x55(D)
2. Tube :  $\phi 14\text{mm}$  /  $\phi 17.2$   
SUS 304 or SUS 316
3. Resolution : 6.35mm、12.7mm
4. Output : 4~20mA two-wire
5. Power : 12~36Vdc
6. Measuring Range : 0.15~2M
7. Ambient Temp. : -10~80°C

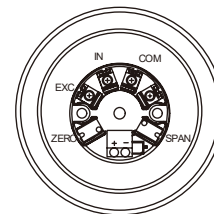
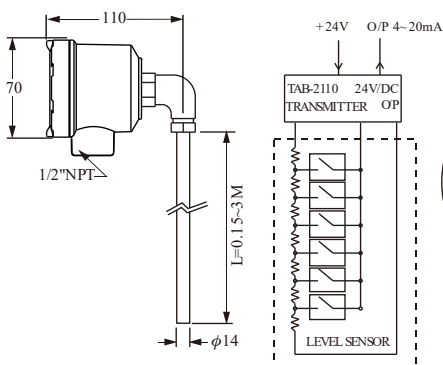


**Terminal Arrangement**



**TYPE: FGX100□□-A6N000000□□□□□0000□00□□□□□**

1. Housing material : SUS316  
Ex d IIB T3 or T4 or T5 or T6 Gb
2. Tube :  $\phi 14\text{mm}$  /  $\phi 17.2$   
SUS 304 or SUS 316
3. Resolution : 6.35mm、12.7mm
4. Output : 4~20mA two-wire
5. Power : 12~24Vdc
6. Measuring Range : 0.15~2M
7. Ambient Temp. : -10~80°C
8. Explosion-proof cable conduit is optional.



## MODEL NUMBER / ORDER CODE COMPARISON TABLE

| Model Number   | Order Code                         |
|----------------|------------------------------------|
| FG7□NSS4S3□□□□ | FGX100□□-A6N000000CMA2B0000B00□□□□ |
|                | FGX100□□-A6N000000CMB2B0000B00□□□□ |
| FG7□NSS7S3□□□□ | FGX100□□-A6N000000CMA2D0000B00□□□□ |
|                | FGX100□□-A6N000000CMB2D0000B00□□□□ |
| FG7□NSS4S3□□□□ | FGX100□□-A6N000000EMA2B0000B00□□□□ |
|                | FGX100□□-A6N000000EMB2B0000B00□□□□ |
| FG7□NSS7S3□□□□ | FGX100□□-A6N000000EMA2D0000B00□□□□ |
|                | FGX100□□-A6N000000EBB2D0000B00□□□□ |

# ORDER INFORMATION

FGX1 0 0 <sup>⑦</sup> <sup>⑧</sup> - A6 <sup>⑪</sup> 0 0 0 0 0 0 <sup>⑱</sup> <sup>⑲</sup> <sup>⑳</sup> <sup>㉑</sup> <sup>㉒</sup> 0 0 0 0 B 0 0 <sup>㉓</sup> <sup>㉔</sup> <sup>㉕</sup> <sup>㉖</sup>

## ⑦ ⑧ Certification

00: None  
1C: ATEX-Ex d  
5C: TS-Ex d  
B0: DNV.GL  
C0: ABS  
E0: BV  
F0: LR  
G0: CR

## ⑪ Terminal Housing

G: PC (IP65)  
N: SUS304 or 316

## ⑱ Resolution

C: 6.35mm  
E: 12.7mm

## ⑲ ㉑ Probe material

MA: SUS 304  
MB: SUS 316

## ㉑ ㉒ Probe diameter

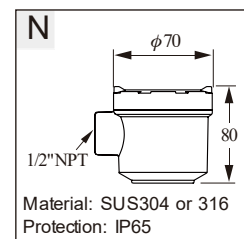
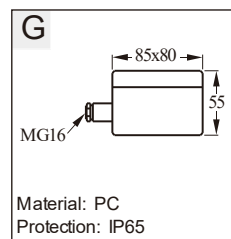
2B:  $\phi$ 14.0mm  
2D:  $\phi$ 17.2mm

## ㉓ ㉔ ㉕ ㉖ Length(C-C)

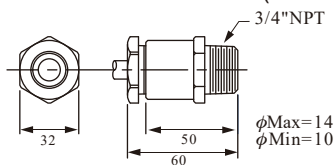
| Code      | Probe Length |
|-----------|--------------|
| 0150~2000 | 150mm~2000mm |

## ACCESSORIES

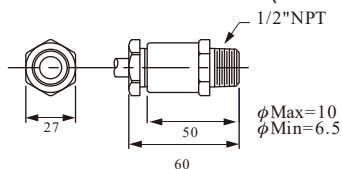
Cable Conduit — Ex d IIC  
Material: Washer — NBR  
Body— Copper alloy(3/4"NPT)  
Nickel plated(1/2"NPT)



HP415-A23100MH01(29-1104)



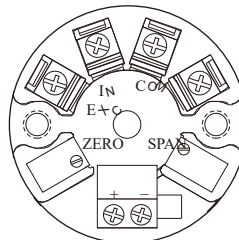
HP415-A23000MG01(29-1108)



# TRANSDUCER & TRANSDUCER WIRING DIAGRAMS

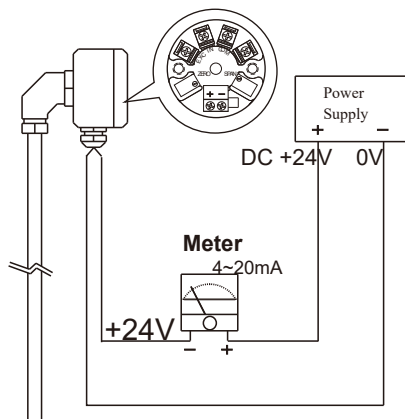
## Model No.: TAB-2110 Transducer

1. Power Supplyr : 12~36Vdc
2. Output Current : Loop power 4~20mA
3. Load Resistance :  $R_L(\text{Max})=50(V_s-8)$
4. Operation Temperature : -40~80 °C
5. Ambient Humidity : 0~80 RH
6. Accuracy :  $\pm 0.1\%(25^\circ\text{C})$
7. Temperature Effect : 0.01%F.S./°C
8. Adjustment Range : Span Ajustment 20% FS  
Zero Ajustment 5% FS

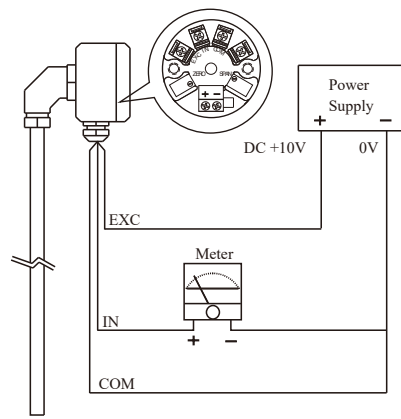


### TRANSDUCER WIRING DIAGRAMS

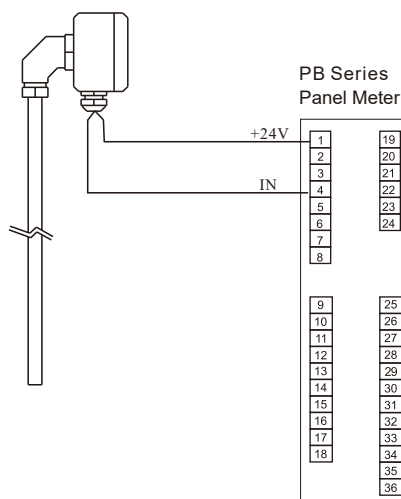
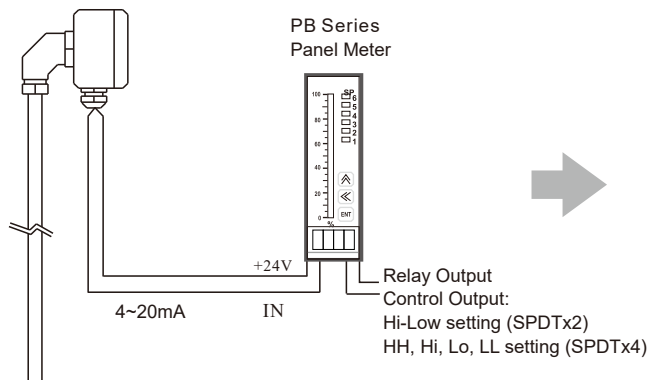
- 2-wire level transducer (resistance output) connected with analog meter for level monitoring.



- 3-wire level transducer (4~20mA output) connected with 4~20mA analog meter for level monitoring.

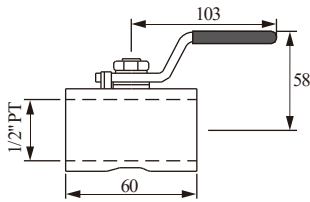


- 2-wire level transducer (4~20mA output) connected with digital meter (PB-Series) for level control.



# BALL VALVE

## Metal Thread Type



|   |               |                      |
|---|---------------|----------------------|
| 1 | Body Material | SUS316               |
| 2 | Working Temp. | 150°C                |
| 3 | Connection    | 1/2"PT               |
| 4 | Working Pres. | 20kg/cm <sup>2</sup> |

## ORDER INFORMATION

MT1 1 1-

⑥ **Model**

B: Ball Valve

⑦ **Connection type**

1: Thread Type

**Connection**

⑧ ⑨

A5: 1/2"  
D6: DN15

⑩ ⑪

Thread  
01: PT male  
02: PT female  
03: PF male  
04: PF female  
05: BSP male  
06: BSP female  
07: NPT male  
08: NPT female

⑫ ⑬ **Connection material**

MA: SUS304  
MB: SUS316

# OPTIONS

As shown below the optional accessories can be installed on to a By-Pass Level Indicator to monitor and control the level of the liquid.

## A. Flag Indicator

- 1) Economy Type : EFB-0750 series

## C. Magnetic Switch

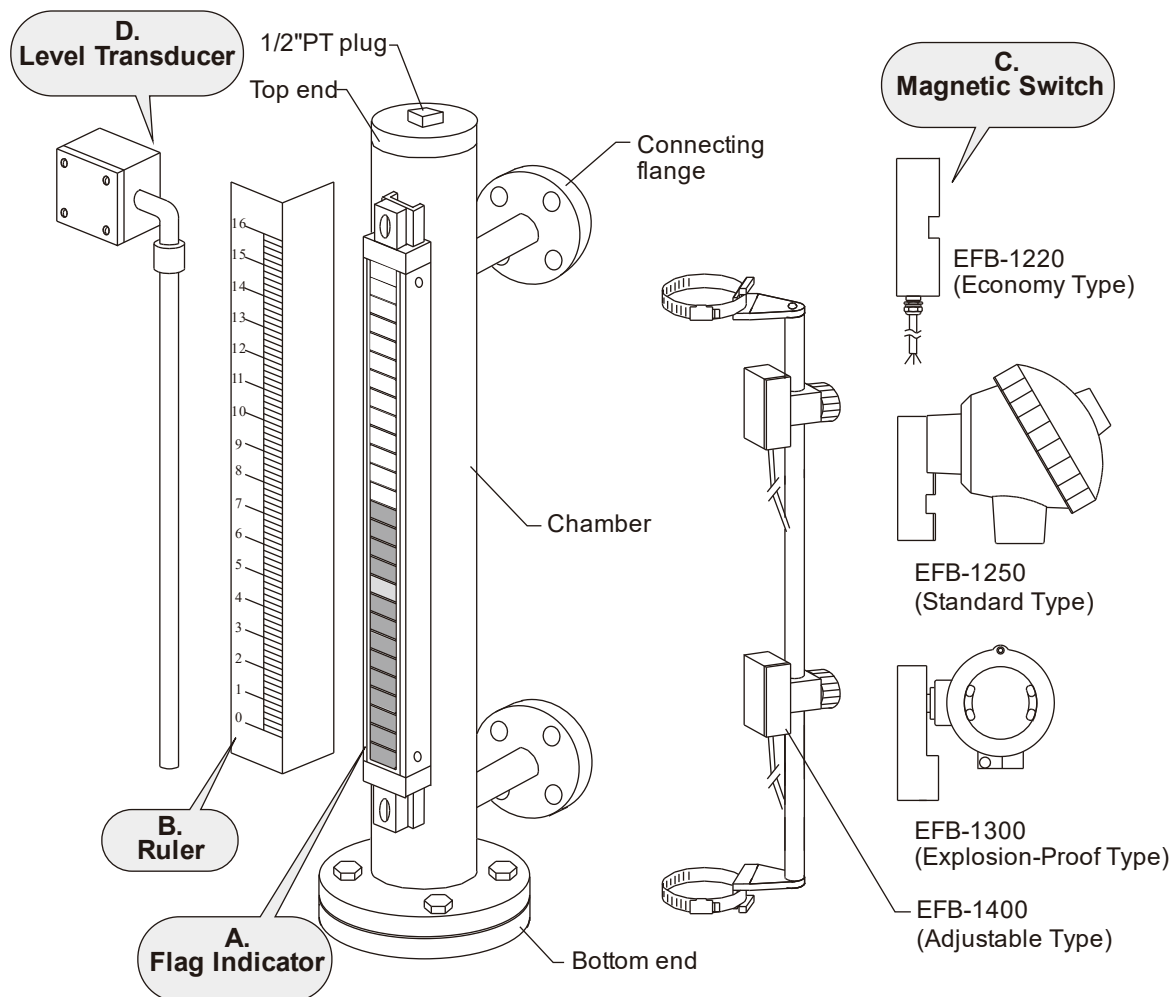
- 1) Economy Type : EFB-1220 series
- 2) Standard Type : EFB-1250 series
- 3) Explosion-proof Type : EFB-1300 series
- 4) Adjustable Type : EFB-1400 series

## B. Ruler

- 1) Stainless ruler (metric) : EFA-2110/2111(L Type)
- 2) Stainless ruler (imperial) : EFA-2120
- 3) Plastic ruler (metric) : EFA-2130
- 4) Plastic ruler (imperial) : EFA-2140

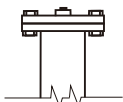
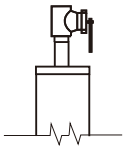
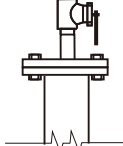
## D. Level Transducer

- 1) 3-wire standard
- 2) 2-wire standard
- 3) 3-wire explosion proof
- 4) 2-wire explosion proof
- 5) 2-wire reversible

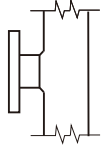
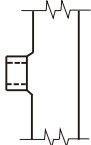


# ORDER INFORMATION

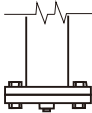
## Top End Type

|                                                                                   |                                                                                   |                                                                                    |
|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|
| <b>A</b> Cap                                                                      | <b>B</b> Flat top+Plug                                                            | <b>C</b> Dual flanges+Plug                                                         |
|  |  |  |
| <b>F</b> Flat top +Control valve                                                  | <b>G</b> Dual flanges +Control valve                                              |                                                                                    |
|  |  |                                                                                    |

## Connection

|                                                                                     |                                                                                     |                                                                                      |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
| <b>1</b> flange                                                                     | <b>2</b> Screw (bolt type)                                                          | <b>3</b> Screw (nut type)                                                            |
|  |  |  |

## Bottom End Type

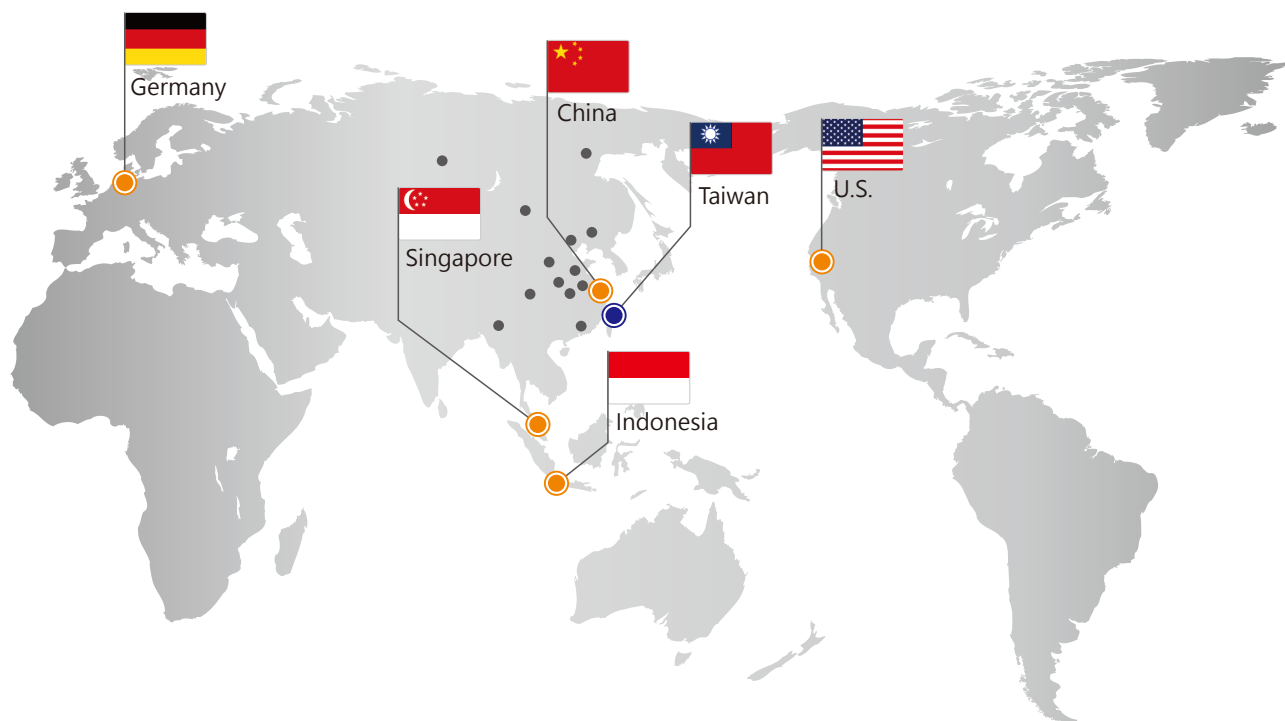
|                                                                                     |                                                                                     |  |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--|
| <b>C</b> Dual flanges+Plug                                                          | <b>G</b> Dual flanges +Control valve                                                |  |
|  |  |  |

(Next page)





# Global Network



## ■ Head Quarter

- Taiwan  
FineTek Co., Ltd. - Taipei Head Quarter  
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TEL: 65-6452-6340  
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