

**NEW-FLOW**

**ISO 9001  
REGISTERED**

# ***NEW-FLOW***

MANUFACTURE OF MAGNETIC FLOAT LEVEL TRANSMITTER  
**LT-SERIES**  
AND CONTROL INSTRUMENTS

磁力浮球式液位傳送器操作說明書

## ***Instruction Manual***



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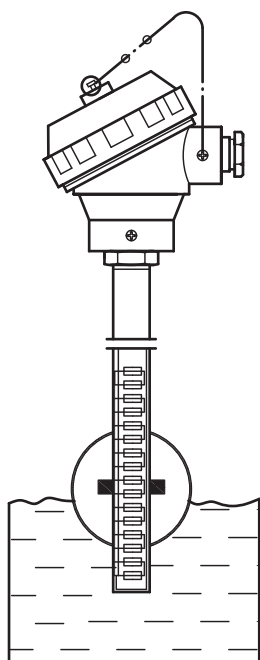
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Instruction No.: 201510/31-0-lt series

# 1.0 DESCRIPTION

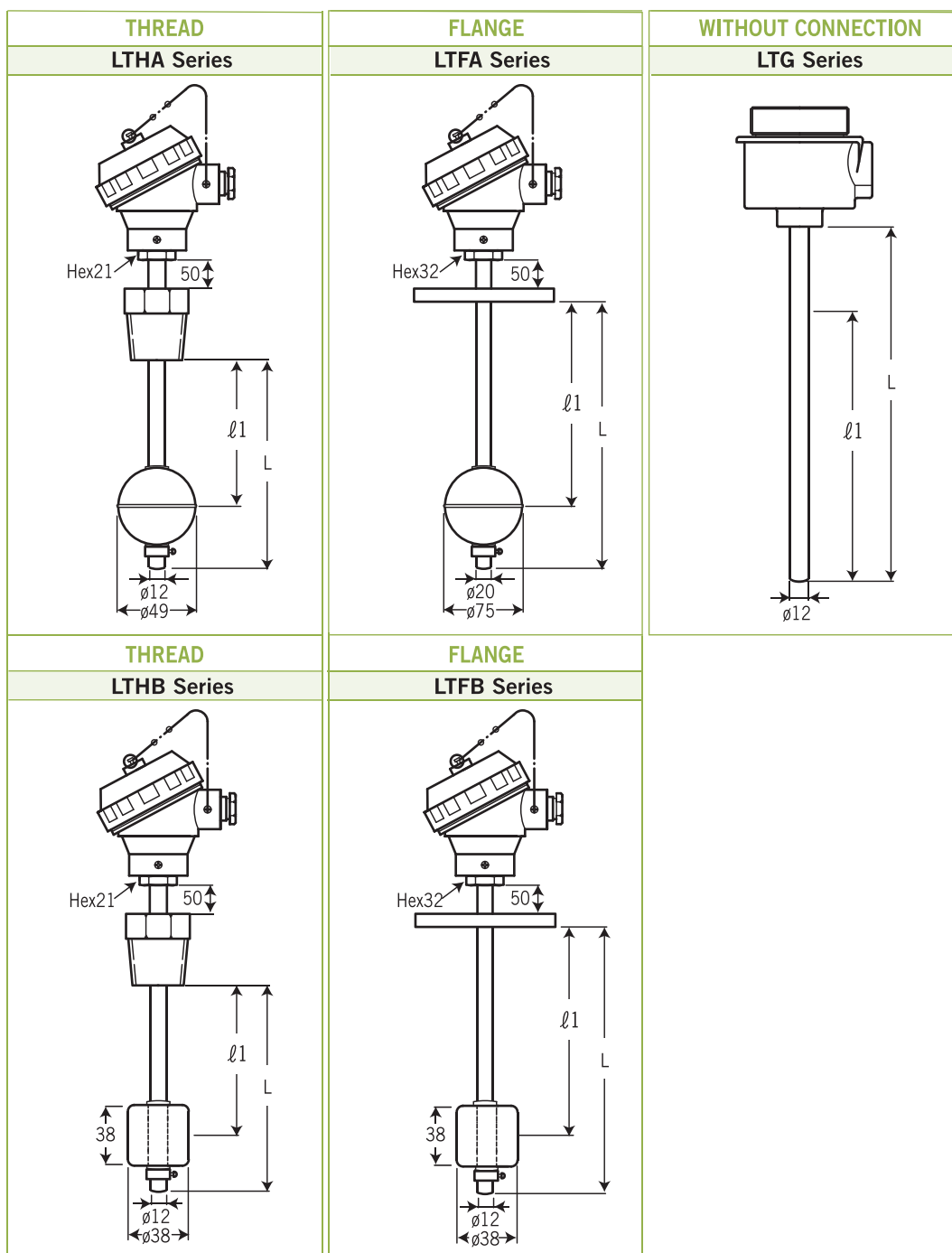
## Technical Data 技術資料

**Resolution Accuracy:**  $\pm 12\text{mm}$  standard;  $\pm 6\text{mm}$  on request  
**Material:** Wetted parts are available for SS304, SS316, PVC, PP, PVDF; others on request.  
**Output Signal:** 4~20mA DC (500~20 k $\Omega$ ) 2-wire  
**Power Supply:** 11V~30V DC  
**Enclosure Housing:** Weather Proof; Explosion Proof available  
**Max. Range:** 6000mm (SS316, SS304, PVC, PP, PVDF)  
**Limit Operating Temperature:**  $-20^{\circ}\text{C}$ ~ $+100^{\circ}\text{C}$   
**Limit Operating Pressure:** 3~30 kg/cm<sup>2</sup> (please refer to the Float Specification)  
**LCD Display:** available  
**\*HART<sup>®</sup> Communication:** available  
**Two Wire Transmitter with HART<sup>®</sup> Protocol**  
 Galvanic Isolation  
 Suitable for application in SIL 2 installations

## Dimensions 尺寸圖



**NOTE.**  
 Head Type and Float Size, please refer to the head type and float size table.



# 2.0 HEAD TYPE TECHNICAL DATA

## Head Type Technical Data 接線盒資料



HN TYPE



HP TYPE



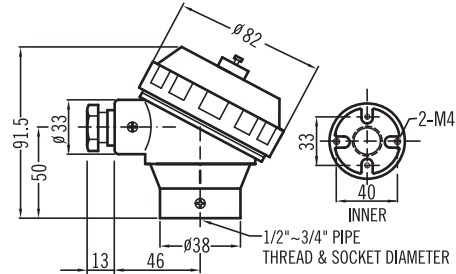
XDS TYPE



XDA TYPE

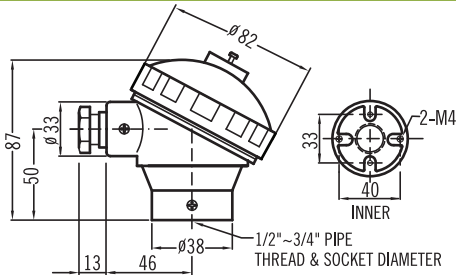
### HN Type

**Protection:** IP68  
**Material:** Aluminum Alloy  
**Weight:** 264g  
**Protection tube connection:** 1/2", 3/4" (PF, NPT, BSP), M20X1.5  
**Extension wire connection:** 1/2", 3/4" (PF, NPT, BSP), M20X1.5  
 Other specifications are available on request.



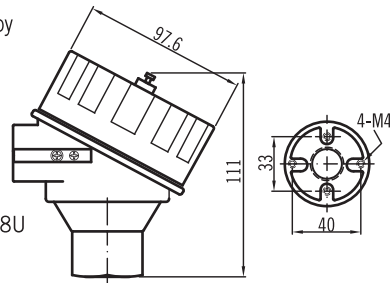
### HP Type

**Protection:** Weather Proof Type  
**Material:** Polypropylene  
**Weight:** 112g  
**Protection tube connection:** 1/2" NPT, 1/2" BSP  
**Extension wire connection:** 3/4" NPT, M20X1.5  
 Other specifications are available on request.



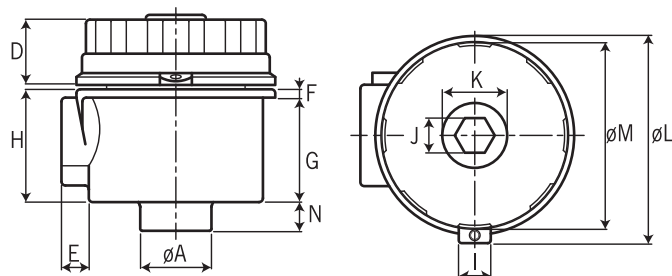
### XDS / XDA Type

**Material:** XDS-SS316; XDA-Aluminum alloy  
**Weight:** XDS-1278 g; XDA-460 g  
**Protection tube connection:** 1/2" PF, 3/4" PF, 1/2" NPT, 3/4" NPT, 1/2" BSP, 3/4" BSP, G 1/2", G 3/4", M20x1.5, M24x1.5, M25x1.5  
**Extension wire connection:** M20x1.5, M25x1.5, 1/2" NPT, 3/4" NPT  
**EC certificate no.:** BSI 07 ATEX 1532458U  
**ATEX directive code:** II 2 G D  
**Standard code:** Ex d IIC T6, Ex tD A21 T100°C IP68  
**FM Approvals:** XP/II/1/ABCD/T6; DIP/II,III/1/EFG/T6; Type 4X  
 Explosionproof for Class I, Division 1, Groups A,B,C and D; and dust-ignitionproof for Class II, III Division 1, Groups E,F and G, hazardous (classified) locations; indoor / outdoor (NEMA Type 4X).



### CS / CA Type

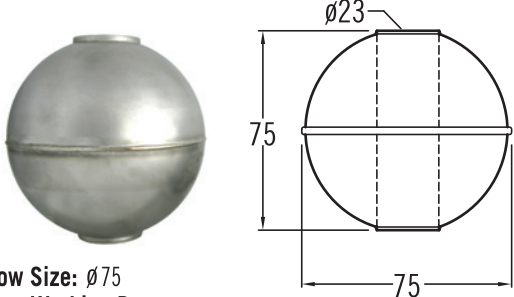
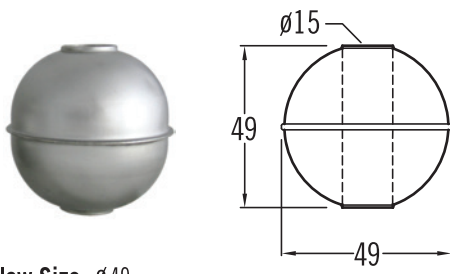
**Protection:** Ex II 2 GD Ex d IIB+H2 Gb T6 Ex tb IIIC Db T85°C; IP68  
**Material:** CS-SS316; CA-Aluminum Alloy  
**Extension Wire Connection:** Female 1/2", 3/4" PF, NPT and BSP available

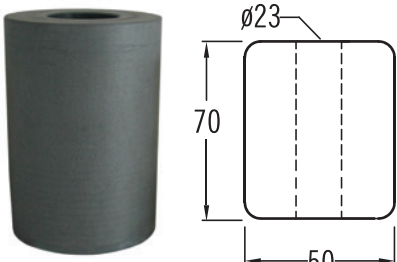
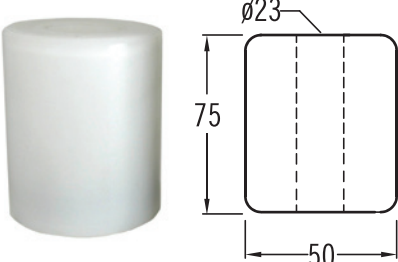
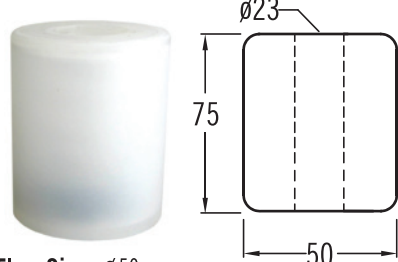


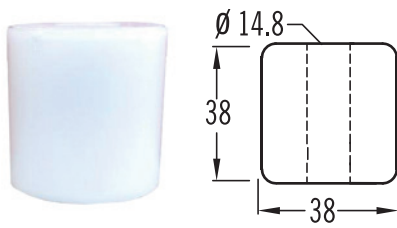
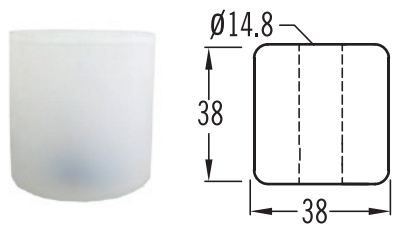
Type	Dimensions											
	øA	D	E	F	G	H	I	J	K	øL	øM	N
CS	34.7	33	13.8	4.2	52.8	57	13.5	17.5	32.8	102.8	94.5	14.5

# 3.0 FLOAT SPECIFICATION

## Float Specification 浮球規格

ø75x75mm(SUS316)	ø49x49mm(SUS316)
 <p> <b>Flow Size:</b> ø75  <b>Max. Working Pressure:</b> 30 kg/cm<sup>2</sup>  <b>Working S.G.:</b> ≥ 0.68  <b>The Guide Tube Size:</b> ø20  <b>Material:</b> SUS316  <b>Limited Operating Temperature:</b> -20 ~ 140°C         </p>	 <p> <b>Flow Size:</b> ø49  <b>Max. Working Pressure:</b> 30 kg/cm<sup>2</sup>  <b>Working S.G.:</b> ≥ 0.68  <b>The Guide Tube Size:</b> ø12  <b>Material:</b> SUS316  <b>Limited Operating Temperature:</b> -20 ~ 140°C         </p>

ø50x70mm(P.V.C)	ø50x75mm(PVDF)	ø50x75mm(P.P)
 <p> <b>Flow Size:</b> ø50  <b>Max. Working Pressure:</b> 3 kg/cm<sup>2</sup>  <b>Working S.G.:</b> ≥ 0.7  <b>The Guide Tube Size:</b> ø18  <b>Material:</b> P.V.C  <b>Limited Operating Temperature:</b> 0~70°C         </p>	 <p> <b>Flow Size:</b> ø50  <b>Max. Working Pressure:</b> 5 kg/cm<sup>2</sup>  <b>Working S.G.:</b> ≥ 0.8  <b>The Guide Tube Size:</b> ø20  <b>Material:</b> PVDF  <b>Limited Operating Temperature:</b> 0~120°C         </p>	 <p> <b>Flow Size:</b> ø50  <b>Max. Working Pressure:</b> 3 kg/cm<sup>2</sup>  <b>Working S.G.:</b> ≥ 0.7  <b>The Guide Tube Size:</b> ø21  <b>Material:</b> P.P  <b>Limited Operating Temperature:</b> 0~60°C         </p>

ø 38x38mm (P.P)	ø 38x38mm (PVDF)
 <p> <b>Flow Size:</b> ø 38  <b>Max. Working Pressure:</b> 3 kg/cm<sup>2</sup>  <b>Working S.G.:</b> ≥ 0.7  <b>The Guide Tube Size:</b> ø12, SS316  <b>Material:</b> P.P  <b>Limited Operating Temperature:</b> 0~60°C         </p>	 <p> <b>Flow Size:</b> ø 38  <b>Max. Working Pressure:</b> 3 kg/cm<sup>2</sup>  <b>Working S.G.:</b> ≥ 0.7  <b>The Guide Tube Size:</b> ø12,SS316  <b>Material:</b> PVDF  <b>Limited Operating Temperature:</b> 0~60°C         </p>

# 4.0 TRANSMITTER & HART TYPE

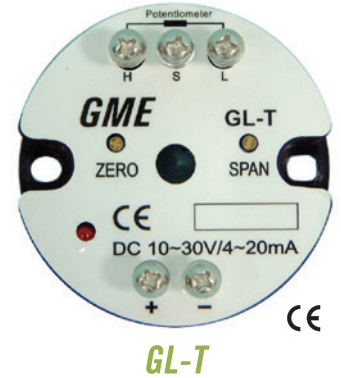
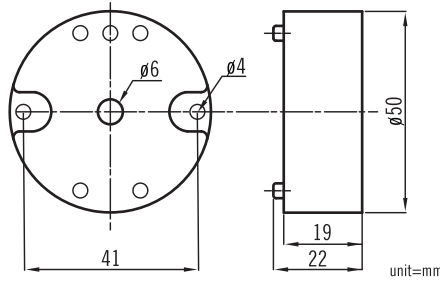
## Transmitter & HART Type 傳送器及HART技術規格

### 4~20mA TRANSMITTER TYPE / 4~20mA 傳送器

**Potentiometer I/P**

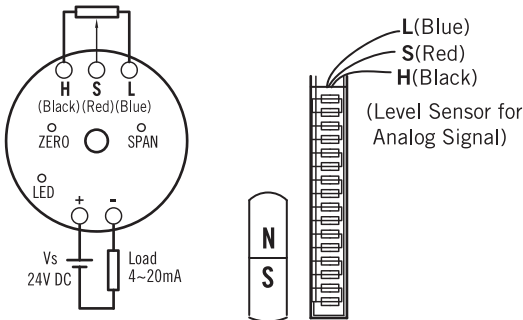
- Output Signals:** 4~20mA DC,  
Load resistance  $R_L$  (max)=( $V_s-10$ )x50Ω (2-Wire)
- Input Range:** 100Ω to 45KΩ (3-Wire)
- Output Adjustment Range:** Zero adjustment 0~15%
- Accuracy:** ±0.1% F.S (at 23°C)
- Linearity:** ±0.1% F.S
- Supply Voltage:** 10~30V DC
- Temp. Coefficient:** ±0.02%/°C
- Operating Temp.:** -5 ~ +70°C
- Operating Humidity:** 0~90% RH
- Terminal:** DIN type
- Installation:** Head and wall mounting
- Case Material:** Nylon 6 resin (Black)
- Weight:** about 50 grams

**Dimensions**



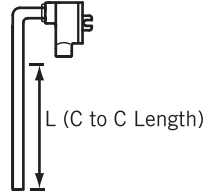
**GL-T**

**Sketch Terminal & Level Indicating Strip**



**Level Sensor Unit**

Model: GL-T-S-T-R-L  
(C to C Length)



**Features**

- ISO 9001 and CE certificate
- High immunity to external noise
- LED indication and DC power polarity protection
- High reliability, lasting durability and low cost

**Application**

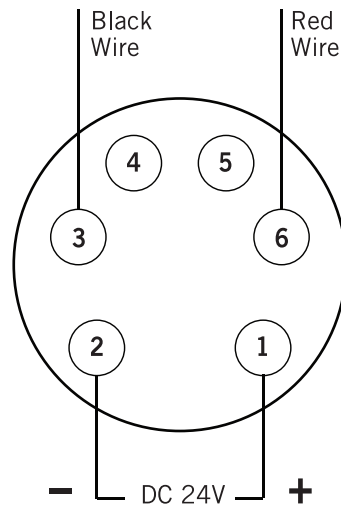
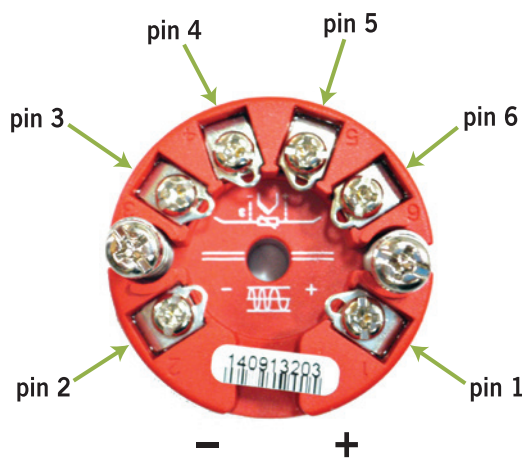
- Position of valve, damper and other devices

### HART® Protocol / HART® 傳送器

**HART® Communication:** Available

**Two Wires Transmitter with HART® Protocol:**

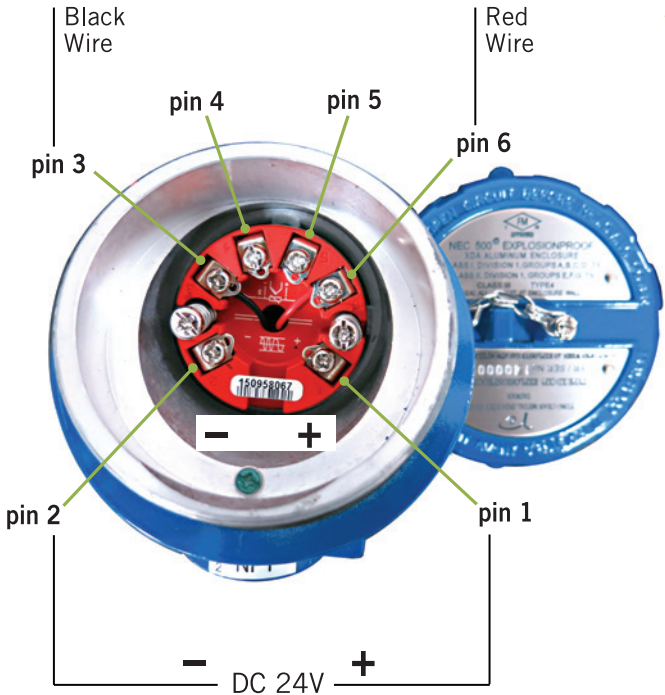
- Galvanic Isolation
- Suitable for Application in SIL2 Installations





## 5.0 HART TYPE WIRING DIAGRAM


### HART® Wire Diagram HART®接線方式說明



**■ HART® Wiring for Normal Housing Case / 一般接線盒接線方式 ■**

**Power:** Loop Power  
**Wiring:** The two wires (Black and Red wire), which connects the internal sensor is no difference between positive and negative, connects to 3, 6 pin separately.

電源: 迴路電源  
 接線: 連接內部sensor的兩條線(黑線及紅線), 無正負極的區別, 分別接至3, 6 pin。



**■ HART® Wiring for LCD Display Housing Case / LCD顯示接線盒接線方式 ■**

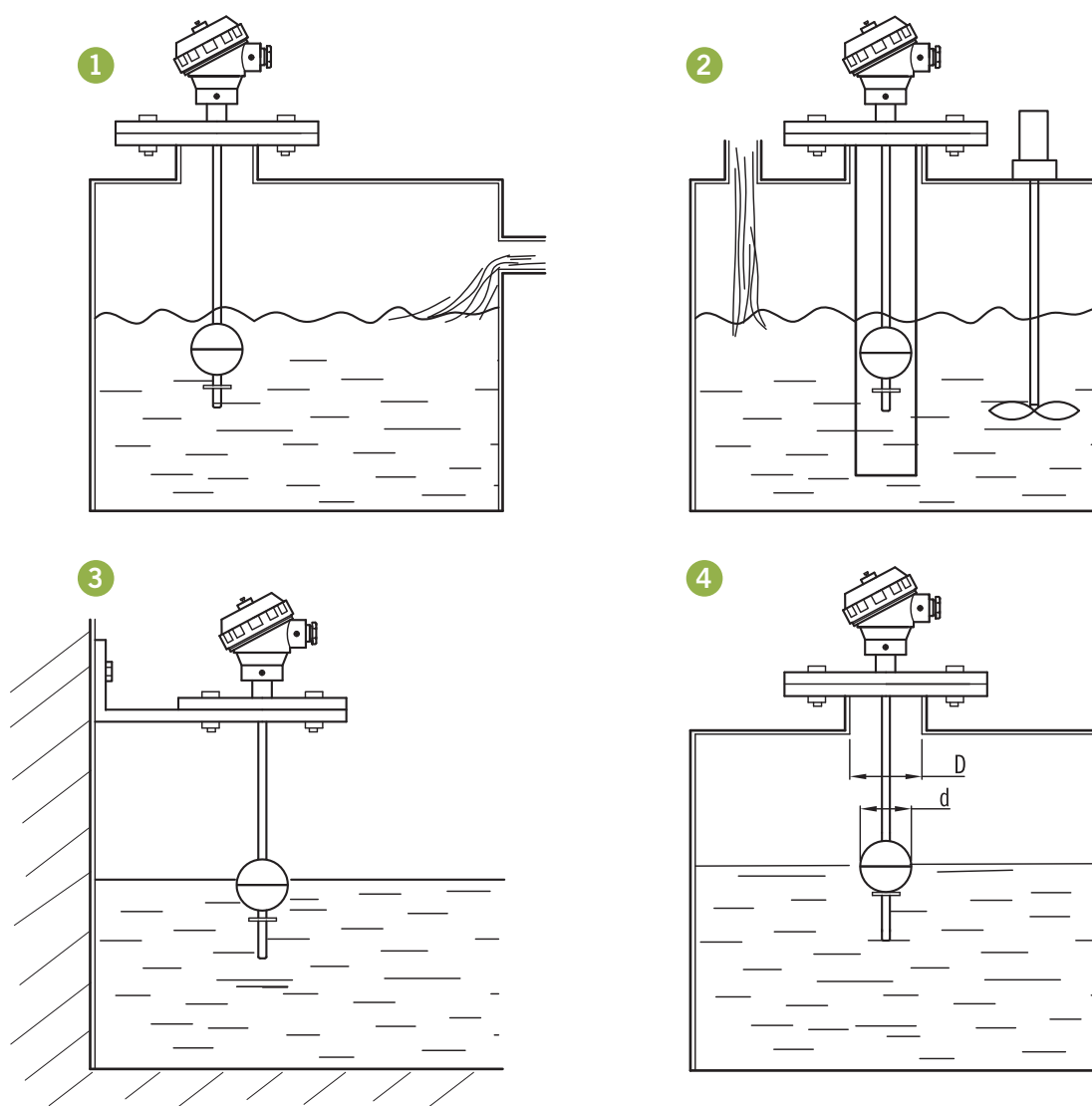
**Power:** DC 24V  
**Wiring:** The two wires (Black and Red wire), which connects the internal sensor is no difference between positive and negative, connects to 3, 6 pin separately.

**CN2:** Connects to 1, 2 pin.  
 Black wire: Negative (-) / Red wire: Positive (+)

電源: DC 24V  
 接線: 連接內部sensor的兩條線(黑線及紅線), 無正負極的區別, 分別接至3, 6 pin。  
 接點CN2: 連接至1, 2 pin。  
 黑線: 負極(-) / 紅線: 正極(+)

## 6.0 INSTALL METHOD

### Install Method 安裝方式



1. To avoid vibrating float to trigger the transmitter near the water inlet causing by the fluctuation of water level, therefore, please install the level transmitter as far away from the water inlet as possible.  
為了避免液位變動時造成浮球振動而觸發在入口端附近的傳送器，因此，請將液位傳送器盡量安裝於距離水的入口端越遠越好。
2. Level transmitter installed in a mixing tank or a water tank which the water level fluctuate greatly, an anti-wave pipe shall be installed to prevent faulty action of the switch due to water level fluctuation.  
若液位傳送器安裝於液位起伏非常大的混合桶槽或水桶槽，那麼必需加裝「防波管」來防止因液位的變動而造成訊號錯誤的情形。
3. When the level transmitter installs in the open style tank, please note that it is sure to install the L support fixed on the level transmitter body.  
當液位傳送器安裝於開放式桶槽時，請加裝一組L型支架來固定傳送器的本體，如圖面所示。
4. Please note that the insdie dimensions (D) of nozzle shall be bigger than the diameter of float (d).  
請注意噴嘴的內徑(D)必需大於浮球的外徑(d)。



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