



TECHNICAL GUIDANCE

HIGH ACCURACY AND HIGH RELIABILITY

Advanced technology at affordable price level !

LT-321

MAGNETOSTRICTIVE LEVEL TRANSMITTER

OUTLINE

LT-321 is a MAGNETOSTRICTIVE Level transmitter.

Level of various types of liquid is detected and converted into DC4~20mA current signal.

Compared to existing reed switch type sensors, high accuracy and high resolution can be obtained theoretically.

Internal portion of tank/ vessels and electronics are completely isolated by stainless steel guide pipe. Thus, **LT-321** is suitable for liquid level measurement in tough conditions of flammable, corrosive liquids, and also for pressurized and vacuum tanks/ vessels.

LT-321 has achieved very competitive and affordable price level thanks to its compact design.

FEATURES

- ❑ HIGH ACCURACY AND HIGH RESOLUTION
- ❑ COMPETITIVE AND AFFORDABLE PRICE LEVEL
- ❑ COMPACT DESIGN
- ❑ ANTI-CORROSIVE MATERIAL of PVC and TEFLON in addition to standard stainless steel is available for corrosive liquid applications.

APPLICATIONS

- ❑ Level measurement at drain pits, underground pits
- ❑ Level measurement and control of small size vessels

OPERATION PRINCIPLE

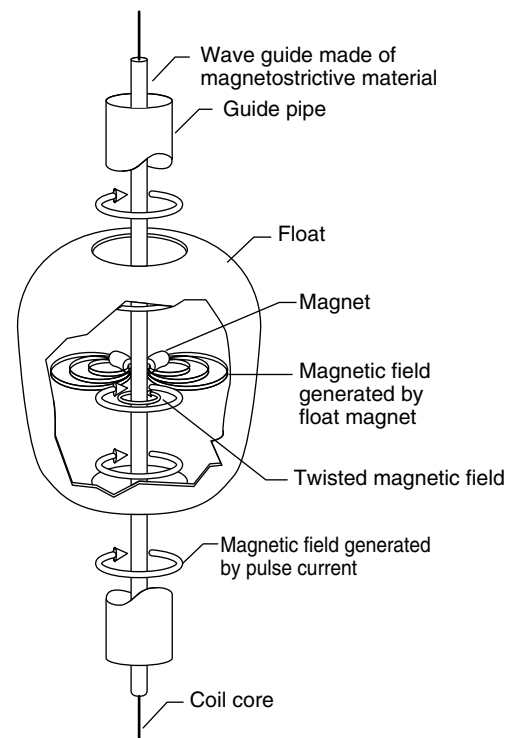
In **LT-321**, the position of float is detected by the vibration of electric pulse wave which transfers in solid body at stable sonic velocity. A low current interrogation pulse is created in the electronics and transmitted down to this wave guide which creates a magnetic field along the length of wave guide.

Then, the magnetic field which is generated by the float magnet twists the magnetic field on wave guide and generates torsional strain pulse which returns to electronics. The duration for returning such strain pulse corresponds to distance between the electronics and the position of float. By this way, the position of float (Liquid level) is detected.

In electronics, such duration of return pulse is converted into analog current and output.

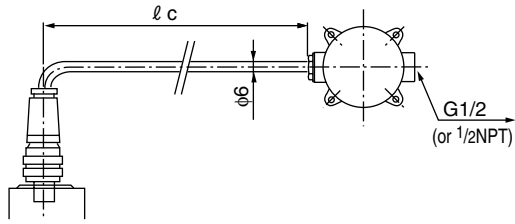


Flame proof version

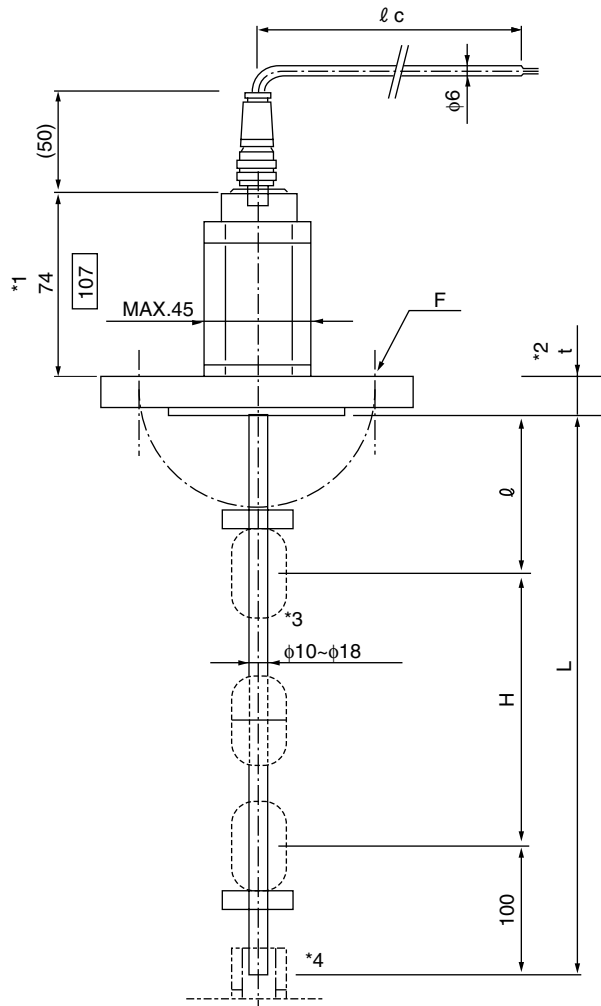


DIMENSION

LT-321W- □□-□□-1/2 (Supplied with terminal box)

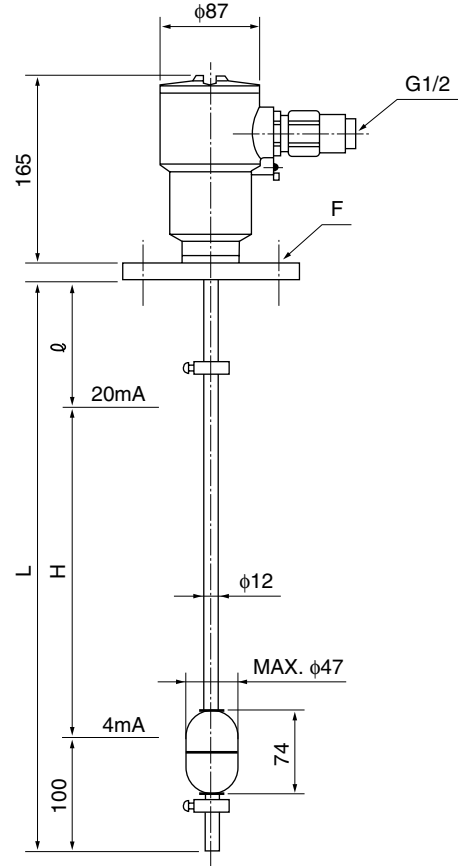


LT-321W- □□-□□-0 (Supplied without terminal box)



- *1 : *1 dimension will be 107 for PVC version
- *2 : *2 is equal to normal standard flange thickness.
t= t+10mm for PFA version
- *3 : Diameter of guide pipe may differ depending on material and length of L.
- *4 : Bottom piece to avoid guide pipe swinging will be optionally provided. Consult factory for details.

LT-321E- □□-□□-0



FLOAT AVAILABILITY

Different types of float are ready to cover wide density, anticorrosivity and pressure range. The minimum connection flange size depends on the size of float. Refer to the following table for the availability of float and connection flange size.

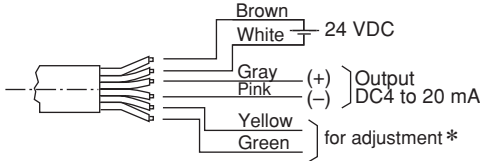
In case the nozzle's internal diameter is smaller than float diameter (od), the float is to be removed from guide pipe and reinstalled in tank during installation.

Other products made from titanium are available. Contact us for further details.

| Model code | Float material | Min. dia. | Inside diameter of float | Min. required flange size | Min. density (g/cm ³) | Max. Op. Press. (MPa) |
|------------|----------------|--------------------------------|--------------------------|---------------------------|-----------------------------------|-----------------------|
| 1 (S.D) | SUS316L | MAX. φ 47mm | φ 17.7mm | 50A | 0.8 | 1.0 |
| 2 | SUS316 | φ 60mm | φ 15mm | 65A | 0.7 | 0.2 |
| 3 | | φ 70mm | | 80A | 0.65 | 0.133 |
| 4 | SUS316L | φ 87mm | φ 14.9mm | 100A | 0.84 | 2.0 |
| 5 | PVC | φ 60mm | φ 20mm | 65A | 0.85 | 0.066 |
| 6 | — | — | — | — | — | — |
| 7 | PFA tube (NBR) | φ 68.2mm | φ 19mm | 80A | 0.85 | 0.2 |
| 8 | — | — | — | — | — | — |
| Z | Other | Contact us for further details | | | | |

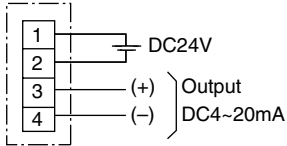
WIRING

CAUTION: Wrong wiring may result in breakage of circuit boards.



* Usually not used. Be careful not to be short-circuited. Otherwise, it may cause abnormality.

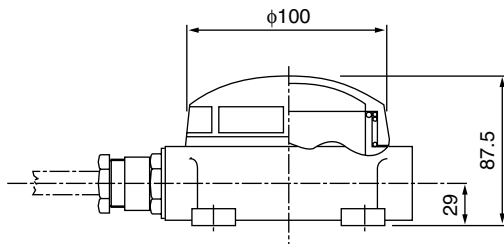
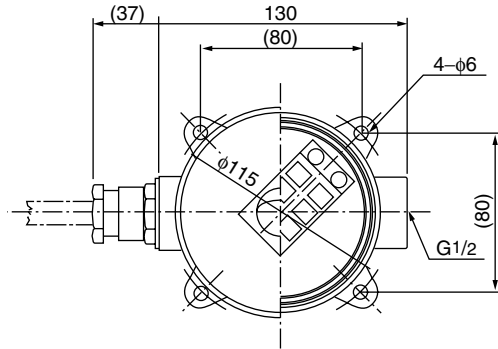
LT-321W- □□-□□-0 (Supplied without terminal box)



LT-321W- □□-□□-1/2 (Supplied with terminal box)

LT-321E (Flame proof)

Dimension of optional terminal box



ORDERING INFORMATION

Specify the following for order and/or inquiry:

1. Model code

LT-321 □-□□-□□-□□□□-□□□□-□□

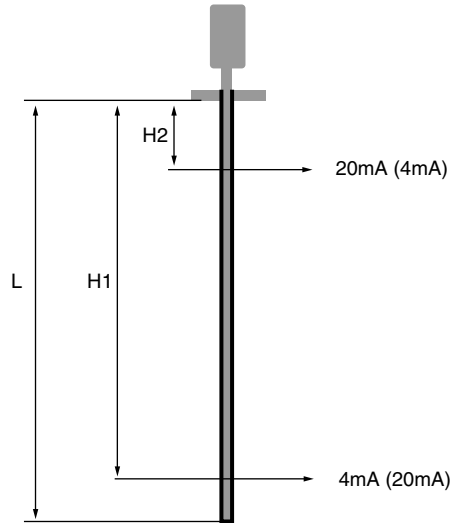
2. Dimension

Guide pipe length (L) _____ mm

4mA output point (H1) _____ mm

20mA output point (H2) _____ mm

Note: if H₂>H₁ is specified, output will be reversed.



NB: H₂ and H₁ are to include gasket thickness.

3. Other instructions if any

PRECAUTIONS FOR USE

- When there is the flow in the liquid, there may be the malfunctions and damage caused by the stirring machine etc. Install an inner chamber.
- It is not suitable to use under such operating conditions as the liquid freezes, congeals or sticks.

* Specification is subject to change without notice.

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