TECHNICAL GUIDANCE

For empty detection and initial watch of level detection

MIA-LIDEC-L20-70D

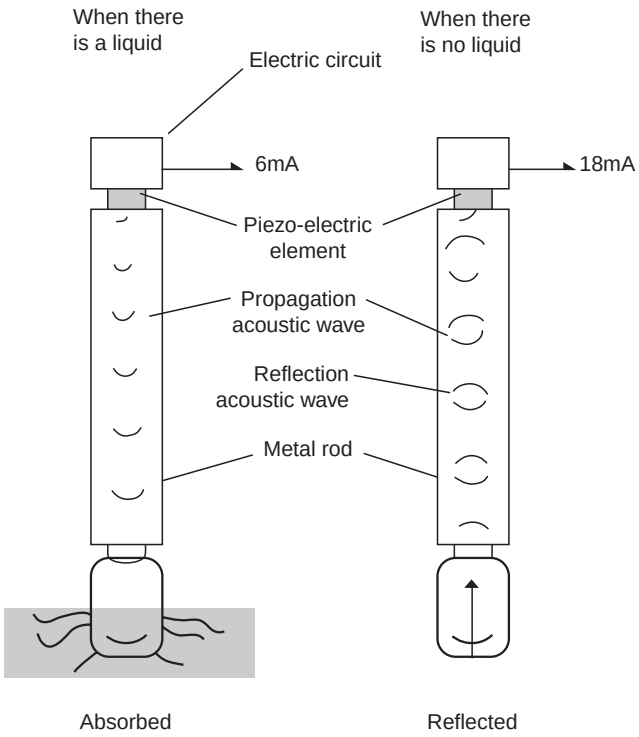
Acoustic wave type ***Dryness sensor***

GENERAL

MIA-LIDEC-L20-70D is a dryness sensor using acoustic waves.
Since the detection method of this sensor is same as a MIA-LIDEC alarm sensor which does not have a moving part, it excels in durability and reliability.
It is optimum for empty detection and initial watch of level detection.

PRINCIPLE OF OPEARTION

In MIA-LIDEC, the LIDEC sensor which generates acoustic waves by a piezo-electric element is put on the upper part, and acoustic waves are sent to a metal rod.
The head of a metal rod has a structure which makes it easy to spread acoustic waves.
When there is no liquid in the surroundings of the part at this head, the acoustic waves spread in the metal rod is reflected at the metal rod head and returns to the upper part.
If a liquid level goes up and a liquid gets to exist at the head of a metal rod, acoustic waves are spread in a liquid and absorbed, and the acoustic waves do not return to the upper part.
The circuit which distinguishes the existence of this reflective acoustic wave is established in an electric-circuit part, and the existence of the liquid in a metal rod tip position is detected. In an electric-circuit part, the existence of this reflective acoustic waves are changed into the size (6mA / 18mA) of a current signal, and alarm status is transmitted to the remote place by the signal loop of two-wire system.



FEATURE

❑ High durability and high reliability with a detection method without having moving part, and maintenance-free

❑ Anything will be detected if it is a liquid.
The adjustment by the kind of liquid is unnecessary.

❑ Even if there is remarkable liquid adhesion, it normally operates.
A high viscosity liquid is also acceptable.

❑ Each classification-societies authorization
Intrinsically safe construction

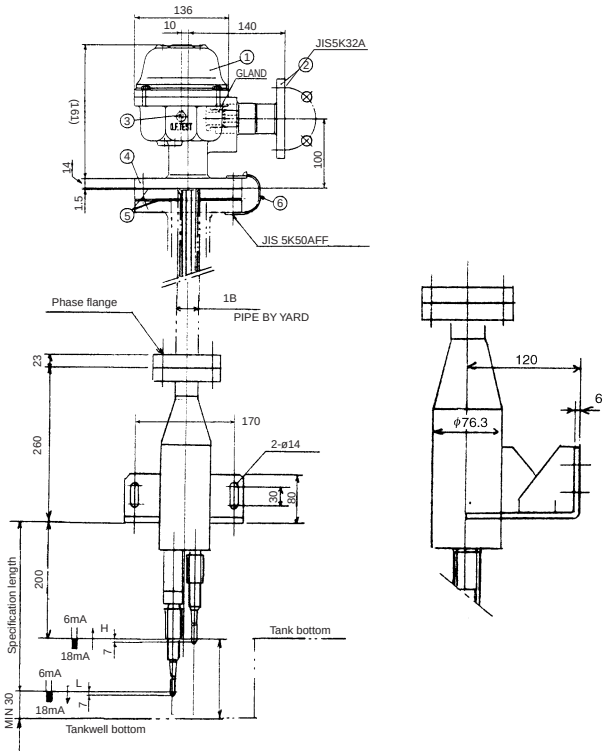
❑ With the test facility of operation by a magnet.
Operation check can be performed easily.

❑ Fail safe design.
An alarm output is carried out not only at the time of a level alarm, but also at the time of power cut, a substrate trouble and a piezo-electric element trouble.
It can be used without anxiety.

STANDARD SPECIFICATION

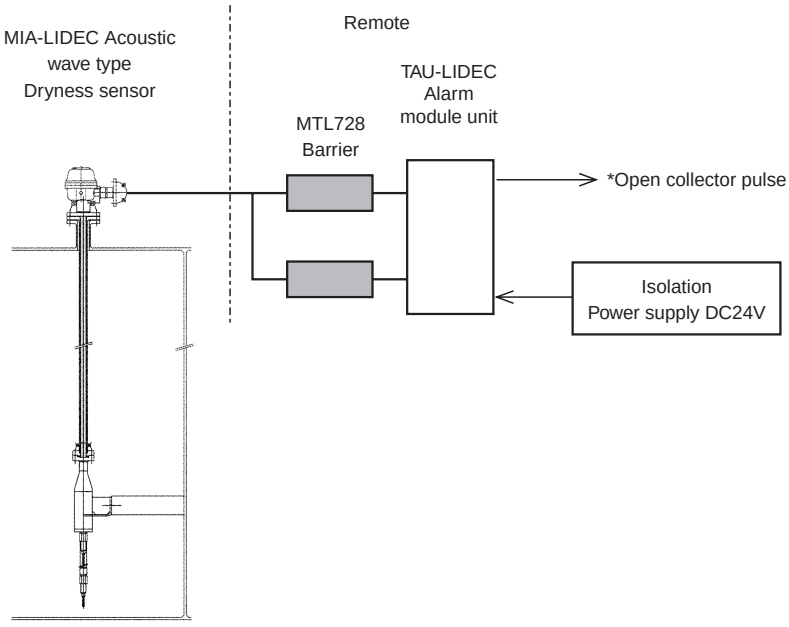
- Measuring object: Liquid
- Usage: Liquid detection
  For empty detection and initial watch of level detection
- Type: 1) Separate type sensor 1 point (L≧15m)
  2) Separate type sensor 2 points (L≧15m)
- Power supply: DC18 to 28V, 2-wire
- Output: Without liquid 18mA
  With liquid 6Ma
- Construction: Water tight (IP66 equivalent)
- Explosion: Intrinsically safe EExia Ⅱ CT6
- Installation: Standard : Separate type JIS5K 50A Flange
  Integrated type : Tank bottom or tank side installation
  Special : Other flange
- Electric connection: Standard : JIS5K 32A Flange
- Confirmation function of operation
  Standard equipment
- Material: Sensor : SUS316L
  Wetted parts : SUS304, SUS316 or SUS316L
  Installation flange : SUS304, SUS316 or SUS316L
  Housing of electric part : SCS14

EXTERNAL DIMENSION



The above-mentioned outline drawing is the sensor for 2 points of empty detection and initial watch.

SYSTEM CONFIGURATION



*Transistor C2235
PW Max. 900mV
Ice Max. 0.8A
Vce Max. 120V
Input at 18mA "ON"
Input at 6mA "OFF"

* Specification subject to change without notice

ISO 9001 Certified
JQA-2172

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