



... the level & gas people

ISO-9001 : 2008 CERTIFIED COMPANY

INTRODUCTION:

Series 40L Level Indicators are laterally to be flanged to the tank for communication of level of liquids and liquefied gases in open and closed tanks. These can be used when Instruments with high resistance to pressure and temperature are required or if sight glasses or similar indicating parts for reasons of safety cannot be used. This measuring system is preferred because there is a safe pressure and gas tight separation between measuring and indicating parts. Magnetic level indicators can be either side mounted or top mounted. These instruments are suitable for a wide range of applications for the Chemicals, Pharmaceutical Industries, Petrochemical Industries, Refineries, Oil and Fuel Tanks etc. The float cage is flanged to the tank & the level is indicated through a float, which consists of a Permanent magnet. The floats are available in various materials like 304SS, 316SS, Titanium, PVC etc.

PRINCIPLE OF OPERATION:

These models consist of Bi-coloured magnetic rollers/flappers equipped with small rod magnets, which are rotated one after another at an angle of '180°' by the directed field of the Permanent magnet inside the float. In addition, Level sensing elements can be fixed directly to the float cage, so that simultaneously liquid level is electrically measured through smart transmitter with output of 4-20mA. It is possible to connect Level indicating Meters and set point Relays at any distance for control and display purpose. The magnetic Level transmitters can also be supplied with HART PROTOCOL. Moreover, it is possible to attach bistable Magnetic Switches to the Magnetic Level Indicator in order to get switching at any desired liquid level.

SPECIFICATIONS OF MAGNETIC LEVEL INDICATOR

Float Cage material	:	304SS, 316SS, PVC/PP
Max. center to center distance (Single Pcs.)	:	4 meters, (2 meter for PVC/PP)
Connecting flanges	:	According to DIN or ANSI B16,5
Rated Pressure/Temp.	:	a) 150Kg/cm ² /450 ^o C for SS cage b) 10Kg/cm ² /100 ^o C for PVC cage
Min. SG / Max. SG	:	0.5 / 2.0 (Lower SG on request)
Interface Reading	:	Yes
Scale	:	In SS, Graduation as per request
Indicating length	:	100% for SS & 75% for PVC/PP
Alarm (adjustable)	:	a) Micro Switch b) Bistable Reed Switch
Measuring Accuracy	:	± 10mm
Roller / Flapper Misbehavior	:	2 Roller / Flapper-300mm
Transmitter	:	a) With HART & Display b) Without HART & Without Display



Bi - Colour Magnetic Level Indicator

MAGNETIC TRANSMITTER

Magnetic Transmitter is based on True-and-True Measurement technology, where precise accuracy and digital commination not required. It is use for continuos Liquid and interface level indication. The sensor probe consists of a series of resistors and switches. The change in resistance caused by the magnetic float in the level gauge is converted to a 4-20mA signal proportional to level.

SPECIFICATIONS OF MAGNETIC TRANSMITTER (HART Protocol)

Sensor Probe

Max. Transmitter length	: 6 meter
Resolution	: 20mm std.
Transmitter tube	: Stainless Steel
Max. Operating Temp.	: 250°

Transmitter

Supply Input	: 9 to 36V dc
output	: 4-20mA for load up to 600 ohms
Transmitter Housing	: General purpose/Weather Proof/ Explosion Proof
Amb. Temp.	: 55°



Bi - Colour Magnetic Level Indicator With Transmitter

CONTACT ALARM SWITCH

Alarm Switch are non-invasive alarm switches that clamp to the gauge chamber and are magnetically actuated by the float through the chamber wall. It is to adjust the set point or service the switch at any time without interrupting the process. They are also easily added after gauge installation. All switches may be wired for rising of or falling level and NC or NO operation.

SPECIFICATIONS OF CONTACT ALARM SWITCH

1) Micro Switch type (M/S)	: SPDT/DPDT
Switch Enclosure	: i) Weather proof IP66 ii) FLP certified for groups IIA, IIB & IIC
Minimum separation	: 100 mm
Rating	: 5A, 230V AC/ 0.5A, 110V dc
Max. Temp.	: 200°
2) Reed Switch type (R/S)	: Bistable
Switch Enclosure	: General purpose Housing
Minimum Separation	: 50 mm
Rating	: 5A, 230V AC/ 0.5A, 110V dc
Max. Temp.	: 150°
Contacts	: SPDT



Bi - Colour Magnetic Level Indicator With SWITCH

NON FROSTING TYPE MAGNETIC LEVEL INDICATOR

These Non Frosting Magnetic Level Indicators are used for protecting the frost at extremely low temperature applications, thereby you can obviously visible the flapper color to indicate the liquid Level.

Chamber Size – DN 50 with SCH 10S, 20S, 40S ETC

Flange Rating – 150LB-900LB Material – SS304, SS316.SS316L, TITANIUM, MONEL ETC

Max Working Temperature – (-200 to +150 Deg Cel)

Specific Gravity – Min 0.34

JACKET TYPE MAGNETIC LEVEL INDICATOR

These Jacketing Magnetic Level Indicators are used for very highly congealable ebullient Fluids. The Principle is in flow a steam for congealable liquids and cold water for ebullient Liquids through the inside of the Jacket Pipe.

Chamber Size – DN 50 with SCH 10S, 20S, 40S ETC

Jacket Pipe – DN 65

Jacket MOC - 304SS

Flange Rating – 150LB-600LB

Material – SS304, SS316.SS316L, TITANIUM, MONEL ETC

Max Working Temperature –400 Deg Cel)

Specific Gravity – Min 0.34

INSULATION

Insulation is recommended when indicators are to be used under extreme temperature conditions. Factory Installed Removable insulation Blankets are available. Fiber Glass Material and Foam Glass Insulations are used for the Various Applications.

HEAT TRACING

Various Varieties of the electrical and steam heat tracing options are available. Heat Tracing is used for the freeze Protection to maintain the process temperature of the molten materials. It can also be made as per the requirement of the customer requirement.

OPTIONAL SCALE

Vautomat magnetic level indicators have the stainless steel scale with Graduation in Feet & Inches, inches only, MM, CM, Percentage, Negative and Positive, Decimal Feet, Volumetric Options.

SPECIAL REQUIREMENTS AND TESTING

All Materials are supported by the MTR, available on request. Both NACE MR-0175 and MR-0103 are available. All Peripherals are ANSI B31.1/B31.3 Compliant.

Further Testing such as PMI, XRAY, Dye Penetration, Hydrotesting, H2 Compliance, DP Test, Radiography, HIC Compliance, NACE Compliance, IBR, Approved Weld Procedures and Welder Certifications are available on request.

ORDERING INFORMATION

40L- I II III IV V VI VII VIII IX X XI XII

INDICATION

BICOLOR ROLLER/FLAPPER..... R
 DRAG / FOLLOWER MAGNET D

MOUNTING

SIDE/SIDE..... S
 TOP INTERNAL..... I
 TOP BOTTOM..... B

MATERIAL OF CAGE

304SS..... M
 316SS..... N
 PVC..... O
 OTHERS..... P

PROCESS CONNECTION

1/2" 150# (SIDE/SIDE)..... 1
 1/2" 300# (SIDE/SIDE)..... 2
 1 150# (SIDE/SIDE)..... 3
 1 300# (SIDE/SIDE)..... 4
 4" 150# (TOP INTERNAL)..... 5
 6" 150# (TOP INTERNAL)..... 6
 OTHERS..... 0

ADJUSTABLE ALARM SWITCH

WEATHER PROOF(M/S)..... W
 EX PROOF (M/S)..... E
 WEATHER PROOF BUT NOT CERTIFIED (R/S)..... G
 NOT PROVIDED U

SWITCH TYPE

SPDT (M/S)..... A
 DPDT(M/S)..... B
 BISTABLE REED SWITCH (R/S)..... C
 NOT PROVIDED..... U

SWITCH QUANTITY

NO. OF SWITCHES..... 0 to 10

TRANSMITTER (DIGITAL DISPLAY IN 4½ DIGITS ON PCB ONLY)

WITH HART PROTOCOL..... H
 WITHOUT HART PROTOCOL..... O
 NOT PROVIDED..... U

TRANSMITTER HOUSING

WEATHER PROOF..... W
 EXPLOSION PROOF..... E
 GENERAL PURPOSE..... G
 NOT PROVIDED..... U

STRIP MATERIAL

Aluminum..... A
 SS316..... S

FLOAT MATERIAL

PP..... P
 Titanium..... T
 SS316..... S
 SS316L..... L
 OTHERS..... O

SPECIAL FEATURES

Drain Valve..... D
 Vent Valve..... V
 Heat Tracing..... H
 Frost Shield..... F
 Steam Jacketing..... S
 IBR..... I

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