

MAGNETIC LEVEL GAUGE M-SERIES

The M series magnetic level gauge, level switch consists of an un-magnetic chamber, magnetic float and with a built-in magnet strips, a vertical chamber connected a tank with two end. The float rises or falls in the chamber. It turns to the indicative strips to provide a indication of the tank level. This series also provide accessories such as switch and measuring sensor with converter turn to a 4~20mA (2-wires) DC output signal. To provide a liquid level control function.

Technical Data

Application for Chemical and Petrol Chemical process, Boilers and other industries.

Connection: From ½" to 3" flange type, JIS, ANSI, DIN rating available; special size on request

Pressure Limited:

5 kg/cm² for Plastic chamber type (PVC, PP);

7 kg/cm² for Plastic chamber type (PVDF);

20 kg/cm² for Metal chamber type (Stainless Steel), and up to 50 kg/cm² on request;

Special option: up to 100 kg/cm² for Titanium float

Temperature Limited:

0~50°C for Plastic chamber type (PVC, PP);

-30~100°C for Plastic chamber type (PVDF);

-20~150°C for Metal chamber type (Stainless Steel);

-20~300°C for Metal chamber type (Stainless Steel) on request (for this special type, if your operating temperature is ≥250°C, the Sp.Gr. must be ≥0.8)

Center to Center Length: maximum 5500mm

Accuracy: ±4mm (Transmitter type: standard ±12mm; and ±6mm on request)

Indicating Case Material: SS304 standard;

or SS304+PC (Hermetically Sealed) for protection class IP68 on request

Indicating Strips Material: Plastic (PBT); Brass w/painting available;

the colors are Red & White (standard), and other colors option available

Switch Track Material: Aluminum

Indicating Float Material: Aluminum

Specific Gravity: for standard type: 500~2900 kg/m³ (for special type with high temp. ≥250°C, the Sp.Gr. must be ≥800kg/m³)

Indicating Gauge Orientation Adjustable

Chamber Size: ø50 or ø60mm

HART® Communication: Available

Two Wire Transmitter with HART® Protocol:

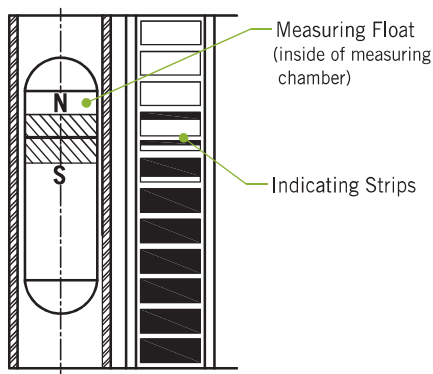


–Galvanic Isolation

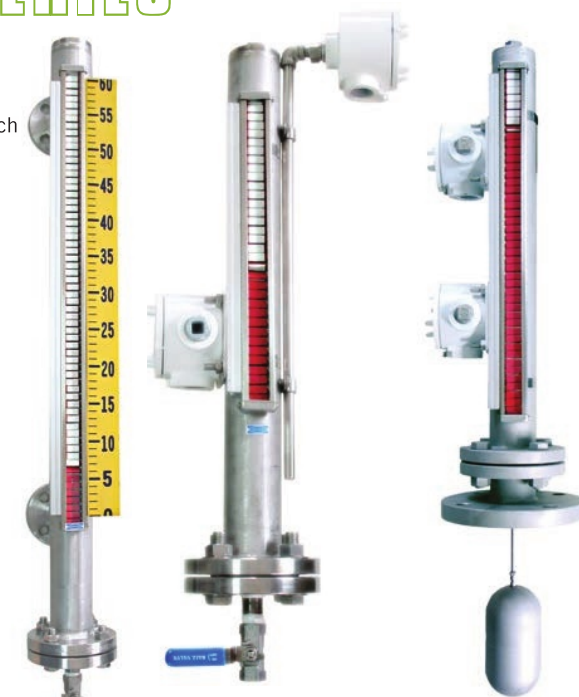
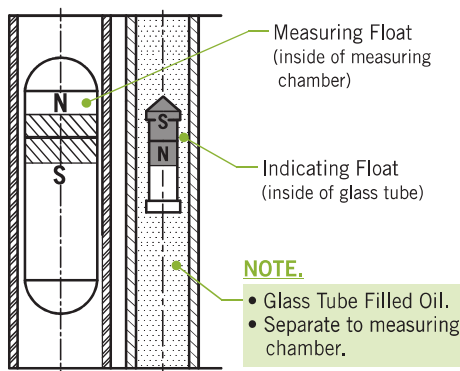
–Suitable for application in SIL 2 installations

Principle

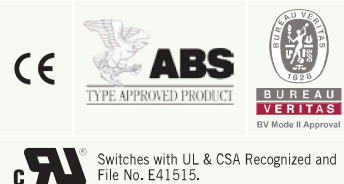
■ Indicating Strips Type ■



■ Indicating Float Type ■

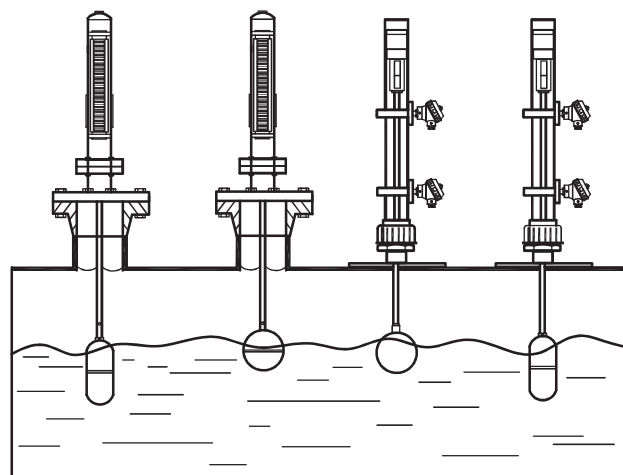


Approvals:

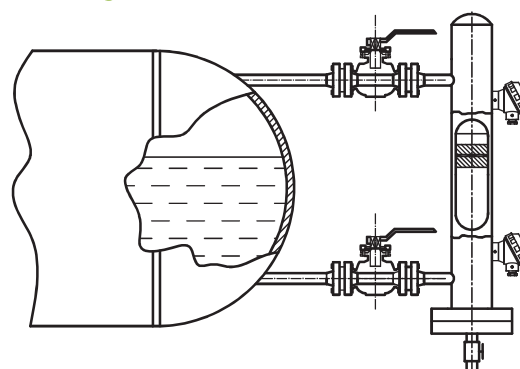


Installation

(A) Top Mounting



(B) Side Mounting



Switch Function

Micro Switch Type

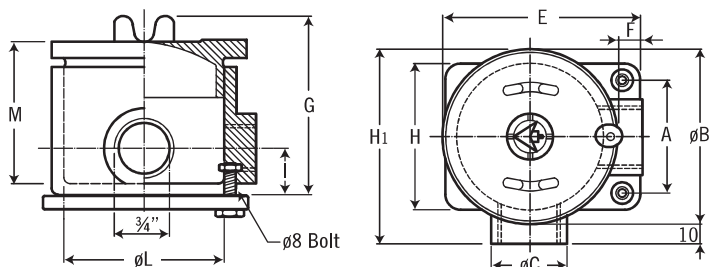
Type: MS-1: Weather Proof Type, IP66

MWS: Explosion Proof Type, (Taiwan Explosion Proof Certification): Ex d IIB + H2 T6 Gb

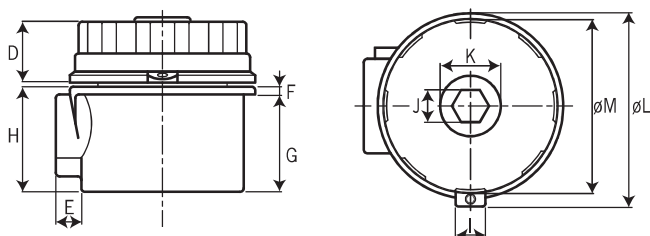
Case Housing Material: Aluminum alloy for MS-1 & MWS. (SS316 for MWS available)

Micro Switch: 1 x SPDT ; 2 x SPDT (one setting point) available

Rating: 3A/250VAC, 5A/125VAC, 4A/30VDC



Type	Dimensions unit:mm											Terminal Block (on request)
MS-1	A	øB	øC	E	F	G	H	H1	I	øL	M	4x4 mm²
	68	100	38	110	13	80	92	100	24	88	68	



Type	Dimensions unit:mm										
MWS	D	E	F	G	H	I	J	K	øL	øM	
	33	13.8	4.2	52.8	57	13.5	17.5	32.8	102.8	94.5	



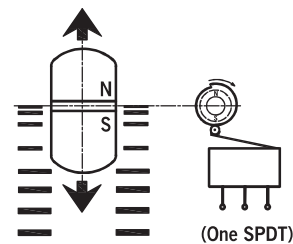
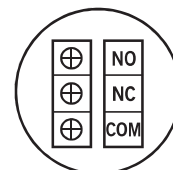
MS-1



MWS

TD0400TJ
工電(2016)第00114號
(ITRI)2017第07-00105號

Wire Drawing



(Two SPDT)

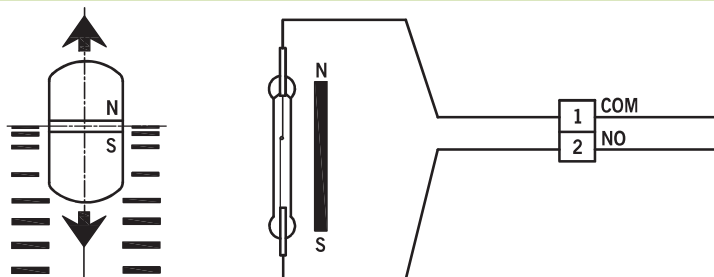
NC	6
NO	5
COM	4
NC	3
NO	2
COM	1

Option: 2 SPDT switch on request

Reed Switch Type (SPST)

Alarm Switch: Form A N.O. Type Bistable Switch

Rating: AC 125V 0.5A / DC 100V 10W /
Max. DC 250V < 40mA



Transmitter Type

Potentiometer I/P

Output Signals: 4~20mA DC,

Load resistance R_L (max)=(V_s-10) x 50K Ω (2-wire)

Input Range: 100 Ω to 45K Ω (3-wire)

Output Adjustment Range: Zero adjustment 0~15%

Accuracy: $\pm 0.1\%$ F.S (at 23°C)

Linearity: $\pm 0.1\%$ F.S

Supply Voltage: 10~30V DC

Temp. Coefficient: $\pm 0.02\%$ / °C

Operating Temp.: -5~+70 / °C

Operating Humidity: 0~90% RH

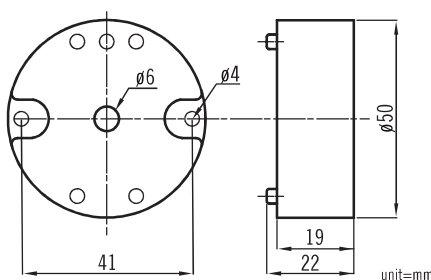
Terminal: DIN Type

Installation: Head and Wall Mounting

Case Material: Nylon 6 resin (Black)

Weight: about 50 grams

Dimensions

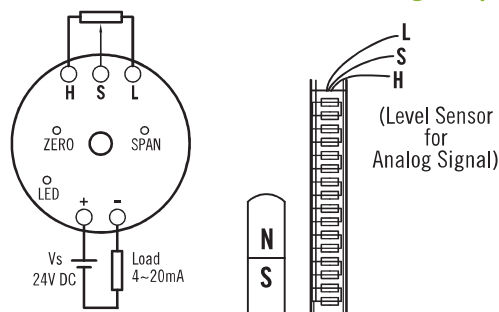


*HART® Communication: Available
Two Wire Transmitter with HART® Protocol
- Galvanic Isolation
- Suitable for application in SIL 2 installations



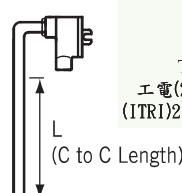
GL-T

Sketch Terminal & Level Indicating Strip



Level Sensor Unit

Model: LTG



TD0400TJ
工電(2016)第00298號
(ITRI)2017第07-00184號

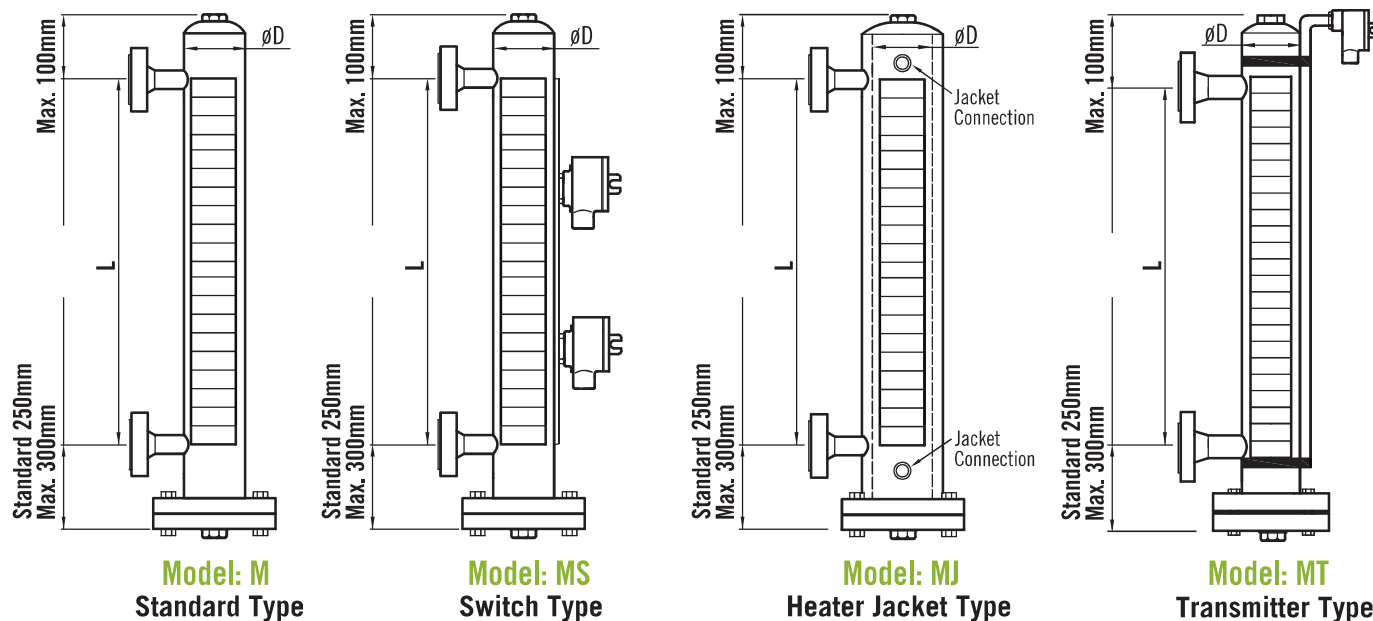
Features

- 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

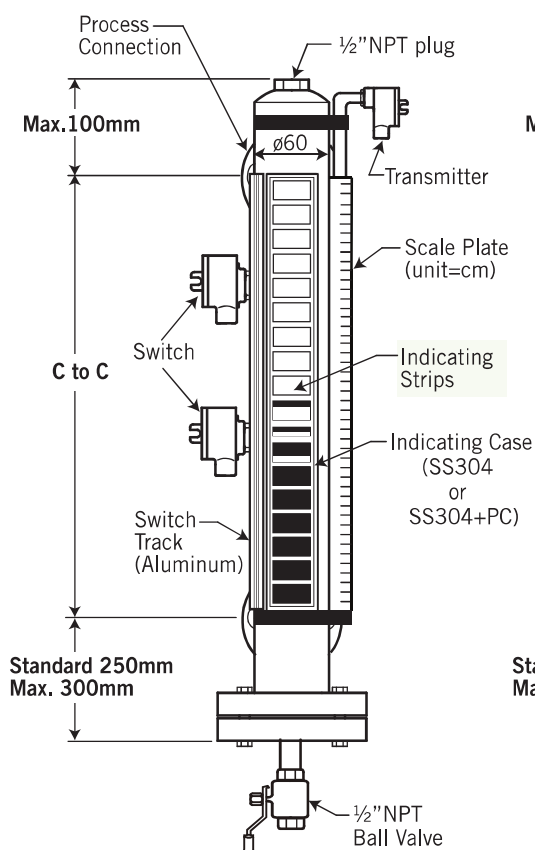
- Position of valve, damper and other devices

M Standard Type—Side Mounting Series (*D=ø50 or ø60mm available*)

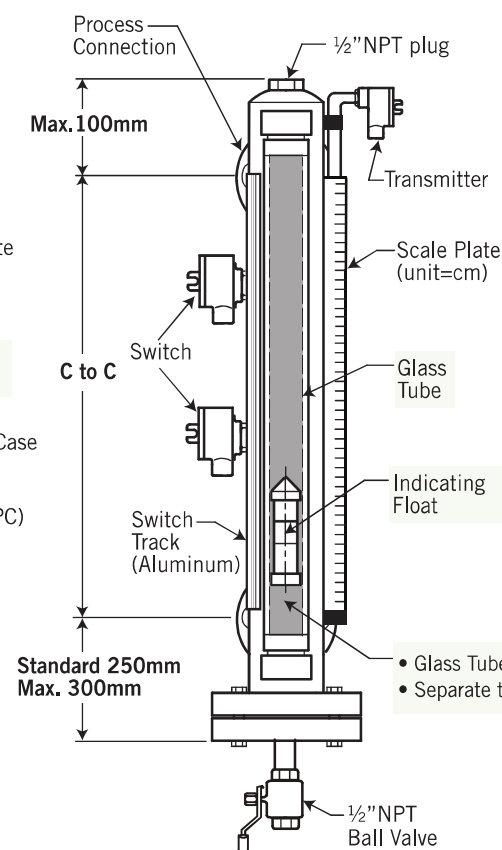


Assembly Parts Drawing

■ Strips Indicating Type ■



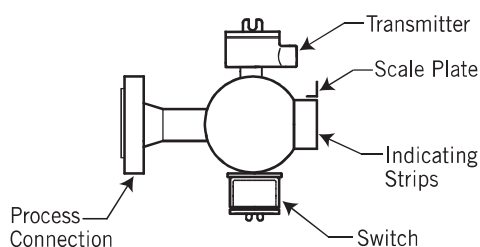
■ Float Indicating Type ■



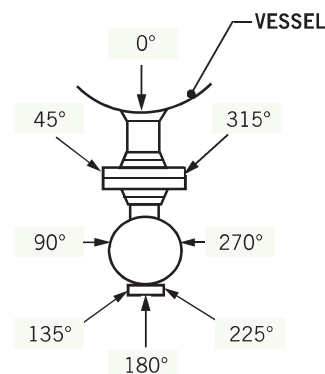
- The indicating float is sealed in the inside of the glass tube, and the inner filled with silicon oil.
- The indicating float is following with the measuring float to rise up or fall down which is based on the principle of magnetic coupling.
- This type has the advantage of a good isolation dust function.
(Ex.: The level gauge installed at the chemical field, the indicating strips will be easily dirty by air dusts or erosion by corrosion fluid to damage. And, the float indicating type can avoid this situation.)

- Glass Tube Filled Silicon Oil.
- Separate to measuring chamber.

Top View



Orientations: Reference for Element (Indicator Strips, Transmitter, Switch)



Ordering Information

M Type	Code	Model															
	M	Standard Type	MS	Switch Type				MJ	Heater Jacket Type								
	MT	Transmitter Type Indicating + 4~20mA						MTH	Indicating + HART (4~20mA)								
		Code	Connection														
		A	½"	B	¾"	C	1"	D	1½"	E	2"	F	3"	G	Option		
		Code	Connection Rating														
		(1) PTM (2) NPTM (3) JIS 10K (4) JIS 20K (5) ANSI 150# (6) ANSI 300# (7) PN16 (8) PN40 (9) Option															
		Code	Material of Wetted Parts														
		(A) SS304 (B) SS316 (C) SS316L (D) PVC (E) PP (F) PE (G) PVDF (H) Option															
		Code	Material of Indicating Case														
		(2) SS304 (3) Borosilicate Glass (only for indicating float type) (4) SS304+PC [Hermetically Sealed], Class IP68															
		Code	Material of Indicating Strips (or Float)														
		A	Plastic (PBT)				C	Brass w/painting									
		F	Aluminum Float (only for indicating float type)														
		Code	Switch Type														
		1	Reed Switch	2	Micro Switch	3	Option	O	Without Switch								
	Code	Switch Point															
	(A) 1 (B) 2 (C) 3 (D) 4 (O) Without																
	Code	Transmitter Type															
	1A	4~20mA Transmitter, Resolution Accuracy: ±12mm (standard)															
	1B	4~20mA Transmitter, Resolution Accuracy: ±6mm															
	2	Without															
	Code	Scale Plate															
	A	Yes	B	Without													
	Code	Protection Class for Switch or Transmitter Type															
	0	Without															
	1	Weather Proof, IP66															
	2	Explosion Proof (Ex. Certificate on Housing only)															
	2M	Explosion Proof: Ex d IIB + H2 T6 Gb (Model: MWS-Type Examination Certificate of Qualification)															
	2T	Explosion Proof: Ex d IIB + H2 T6 Gb (Model: LTG-Type Examination Certificate of Qualification)															
	Code	Specific Gravity															
	Please directly fill out the Sp.Gr. in the of liquid order code.																
	Code	Center to Center Length (L)															
	Please directly fill out the length you required.																
	Code	LCD Display (for MT and MTH)															
	D	With (D-1000, Ex. Type)															
	N	Without															
	Code	Setting Point & Switch Acting Functions															
	Please fill in the requested length and float rised ↑ON or fall down ↓ON. ℓ 1=___mm□ON ℓ 2=___mm□ON ℓ 3=___mm□ON ℓ 4=___mm□ON																
M Type																	Complete Ordering Code