

#### Description



## Submersible level transmitter

MP633 Submersible level transmitter is designed for dealing with the most severe demanding level measurement conditions. The sensor adopts the most advanced micro-processor technology with comprehensive linear error compensation and temperature error compensation to assure the highest precision of measuring result. The probe adopts full potting condensation-preventing technology, safe and reliable dual-seal design and fully welding technology with solid stainless steel body to assure long term stability and permanent air tightness. Signal transmitting module adopts transient voltage resistance protective circuits to assure operation regularly even under the harsh surge voltage environment. The seal of the cable adopts intensive cone plug sealing design to assure the long working life even under large mechanical load conditions during the installation and long-term use. MP633 Submersible level transmitter is the optimal choice to satisfy all of high demand level measuring applications.

#### Main parameters

Pressure types	Gauge pressure
Measuring range	1mH <sub>2</sub> O - 200mH <sub>2</sub> O, Please refer to the ordering information chapter
Output signal	4-20mA, 4-20mA+HART, 0.5-4.5VDC Modbus-RTU/RS485, others
Reference accuracy	±0.2% URL, ±0.5% URL



Test standard: GB/T28474 / IEC60770  
Zero based-calibration span, Linear output, Silicon oil filling, 316L stainless steel isolated diaphragm.

#### Environment condition

Items	Operational condition
Working temperature	-10-70°C
Storage temperature	-30-80°C
Media temperature	-10-70°C
Protection class	IP 68
Dangerous condition	ExiaIICT4(GYB16.1963X)*

\*Only for 4-20mA output

#### Ambient temperature effects

Within the range - 20-80 °C total impact	±0.2%URL/10k
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#### Technical Specifications

Signal output	4-20mA	4-20mA+HART*	0.5-4.5VDC	0.5-4.5VDC(ratiometric output)	RS485
Power supply	10-30VDC	10.5/16.5-55VDC	6-15VDC	5VDC	5VDC/9-30VDC
Allowed current	≤20.8mA		≤3.5mA		≤7mA
Load resistance(Ω)	<(U-10)/0.0208	<(U-10.5)/0.0208**	≥5k, recommend 100k		/
Transmission distance	<1000m		<5m		<1200m
Power consumption	≤500mW(20.8mA output@24VDC)		≤17.5mW(0.5-4.5VDC output@5VDC)		≤168mW(RS485 output@24VDC)

\*For this output type, the load resistance value in communication is 250Ω

\*\*The load resistance value 0-2119Ω is in nominal working condition, 250-600Ω is for HART communication

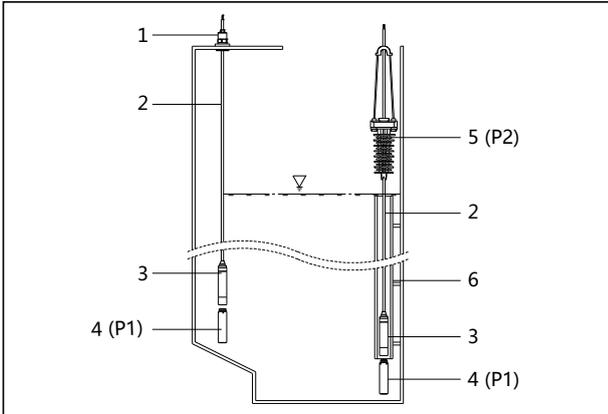
#### CE

Certificate organization	ISET
License scope	LMP633 series submersible level transmitter
Mark	CE
EMC instruction	2014/30/EU
Standard	EN61326-1: 2013
Registration number	IT021353LG161207

#### Factory certificate

Certification organization	Intertek
Quality management system	ISO9001-2008
Scope of certification	Design and production of pressure transmitter
Registration number	110804039

Possible assemblies

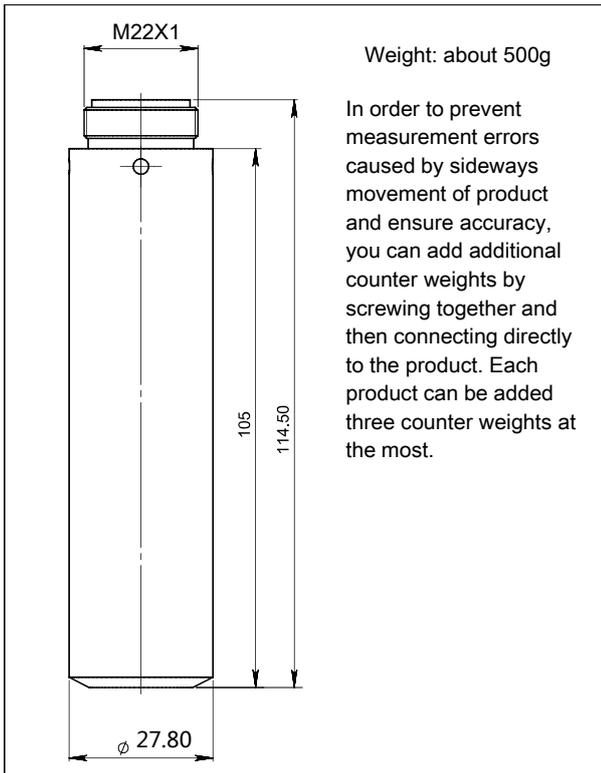


- 1.Thread connection(P3)
- 2.Cable
- 3.Level transmitter
- 4.Counter weight( P1)\*
- 5.Cable clamp(P2)
- 6.Protective sleeve

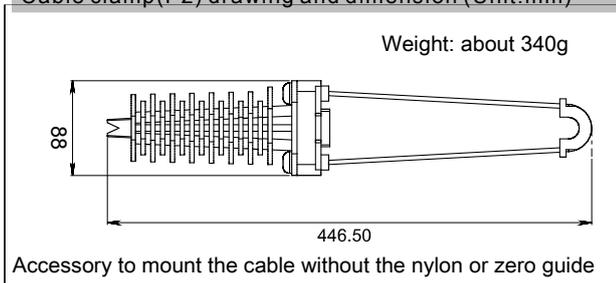
\* The measurement results should consider the height error of counter weight and sensing diaphragm to the bottom of measured medium

Disclaimer: all the data used in the product description is not legally binding. Relevant technical details may be changed due to further improve

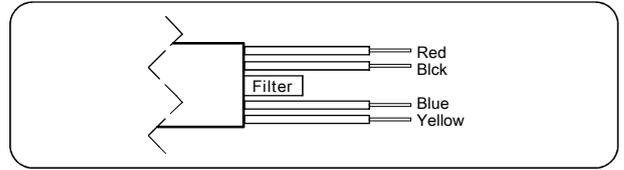
Counter weight drawing and dimension(P1)(unit:mm)



Cable clamp(P2) drawing and dimension (Unit:mm)



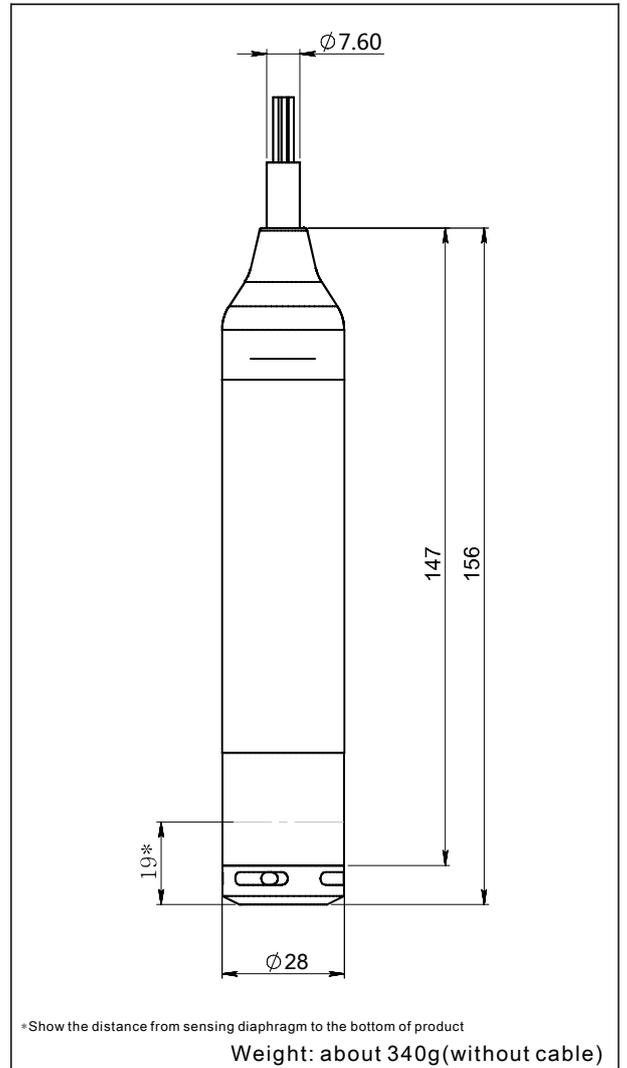
Electrical connection



Label	Two wires	Three wires	Four wires	Modbus-RTU/RS485
Red	Power+	Power+	Power+	Power+
Black	Power-	Power-	Power-	Power-
Blue		Signal+	Signal+	A+
Yellow			Signal-	B-

⚠ The reference pressure of the gauge pressure transmitter is current atmospheric pressure. Please operate with care, prevent the filter dropping off and keep it dry

Drawing and dimension (unit:mm)



Cable Weight Table

Cable material	Weight/5m(kg)
Polyurethane(PUR)	0.32
Polytetrafluoroethylen(PTFE)	0.41

## Ordering information chapter

Item	Parameters	Code	Instruction	(*) fast delivery available
	Model	MP633-NLN	Piezoresistive silicon submersible level transmitter	
Sensor	Separator	-	Detailed specifications as following	
	Pressure range code	L203G	Nominal value(URL): 2 m WC	
		L353G	Nominal value(URL): 3,5 m WC	
		L104G	Nominal value(URL): 10 m WC	*
		L204G	Nominal value(URL): 20 m WC	*
		L704G	Nominal value(URL): 70 m WC	*
		L105G	Nominal value(URL): 100 m WC	*
		L175G	Nominal value(URL): 170 m WC	*
		LXXXG	Nominal value(URL): LEVEL RANGE TO DEFINE	
	Isolated diaphragm material	S	Stainless steel, SUS316	*
	Isolated filling fluid	S	Silicon oil, process temperature: -45-205°C	*
Sensor seal	S	O-ring, FKM, process temperature: -20-200°C	*	
	F	Stainless steel welding seal		
Electrical connection	Separator	-	Detailed specifications as following	
	Electrical connection	N1	PUR cable, outer diameter: (7.5±0.2)mm	*
		N2	PTFE cable, outer diameter: (7.5±0.2)mm	
	Cable entry protector	R0	None	*
Output	Separator	-	Detailed specifications as following	
	Output signal	F	4-20mA two wire, power supply: 10-30VDC	*
		H	4-20mA+HART two wire, power supply: 16.5-55VDC	*
		5	0.5-4.5VDC three wire, power supply: 6-15VDC	
		6	0.5-4.5VDC ratiometric output three wire, power supply: 5VDC	*
		R	Modbus-RTU/RS485 four wire, power supply: 5VDC/9-30VDC	
		G	Modbus-RTU/RS485 four wire (with pressure and temperature signal), power supply: 5VDC/9-30VDC	
Probe	Separator	-	Detailed specifications as following	
	Material	4	Stainless steel, SUS304	*
		6	Stainless steel, SUS316	
	Specification	H28	Submersible probe diameter 28mm	*
Cable	Separator	-	Detailed specifications as following	
	Cable length	Ln	0 ≥ n ≤ 200, Eg. 5 m=L5, 10m = L10, 100m=L100. Allowed error range: 0-0.2m. ***TO DEFINE***	*

## Ordering information chapter

Additional options	Separator	Code	Instruction	(*) fast delivery available
	Separator	-	Detailed specifications as following	
	Fixed mounting accessory	/P1	Counter weight (To fix products in some areas of fast flow rate or medium with large density), M22*1(M), SUS304	*
		/P2	Cable clamp (To fix and support the product), PVC	
	Calibration report	/Q1	According to user requirements	*
	Approvals (multiple)	/I1	Intrinsic safety certificate, ExialICT4, NEPSI	
		/F3	CE certificate	
	Wetted parts treatment	/G1	Ungrease treatment	
/G2		Electropolishing treatment		