
Tank Mounted Level Transmitter

Model : L72S (Stainless steel silicon cell)
L74S (Capacity ceramic cell)

WISE
SENSOR

Advantages

- Capacitive ceramic measuring sensor
- Highly accurate Piezoresistive silicon measuring sensor
- Measuring ranges from 500mmH₂O to 35 kgf / cm²
- Excellent accuracy and long term stability
- Extremely high over-pressure limit
- High accuracy level measurement with temperature stability

Applications

The hydrostatic level transmitters can be used for a wide range of industrial applications for tank level measurement.

- Continuous level measurement in tanks, vessels, sumps or pits(liquid)
- Water and sewage treatment
- Process control for food and beverage industries
- Chemical and petrochemical industries



L72S / L74S

Descriptions

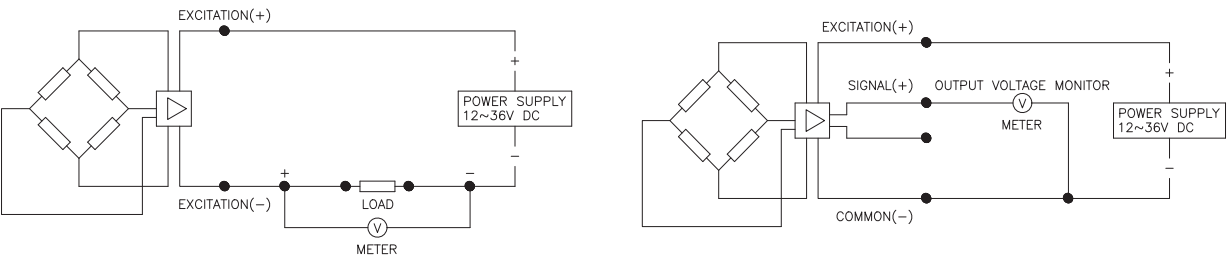
L700 series level transmitters provide reliable measurement and control of the process level by sensing the hydrostatic pressure in a tank. The transmitter incorporates a capacitive or piezoresistive diaphragm sensor coupled to a proven design, and is 316L stainless steel on all wetted parts and is repairable. Additional, an optional LED display allows the user an at-a-glance reading without the expense of additional gauges or digital meter. A compact and mass optimized design with a choice of corrosion resistant materials together with a wide variety of standard process connection options, makes it the ideal choice for simple application in many industries. The transmitter has a water resistant, stainless steel housing for complete protection from harsh environments and its 4~20mA current output is ideal for remote monitoring of both primary and secondary process variables. It has been designed as an advanced device for measuring level pressure of water and liquids in industrial applications. The pressure to be measured acts through thin corrosion resistant stainless steel 316L diaphragm on a silicon measuring element. The pressure transmitting medium is silicon oil. The measuring element contains diffused piezoresistive resistors which are connected into a Wheatstone bridge. The output signal of this bridge is temperature compensated and converted into a standardized current or voltage output signal.

Specification

Input		
Model	L72S	L74S
Technolog	Piezoresistive siliconpressure sensor	Capacitive ceramic pressure sensor
Pressure ranges	0~0.05 to 35 kgf / cm ² relative pressure	0~0.025 to 35 kgf / cm ² relative pressure
	0~1 to 35 kgf / cm ² absolute	0~0.2 to 35 kgf / cm ² absolute pressure
Pressure reference	Relative	
Overload	3x full scale without damage	
Output		
output signal	4~20mA DC or 1~5V DC	
	Other signal available on request	
Local display	LED 4 digit	
Electrical Specification		
Excitation voltage	24V DC (12~36V DC), 85~260V AC (optional)	
Load resistance max @ 24V	500Ω at 24V	
Influence of excitation	0.01% FSO/V	
Power ripple	≤ 500mV P-P	
Reverse polarity	Protected	
Shock resistance	No change in performance after 10Gs for 11ms	
Vibration	0.1G (1m / s / s) maximum	
Response time (10~90%)	≤ 2 milliseconds	
Adjustment	± 10% FSO / zero and span	
Performance Specification		
Accuracy	≤± 0.25% FSO	≤± 0.2% FSO
Non-linearity	± 0.100% FSO typical	± 0.15% FSO typical
Repeatability	± 0.015% FSO typical	± 0.10% FSO typical
Pressure hysteresis	± 0.010% FSO typical	± 0.10% FSO typical
Long term stability	± 0.3% FSO over 6 month	Max. annual error ± 0.3% FSO
Cutoff frequency (-3 d B)	≤ 2KHz	
Reference temperature	35°C	25°C
Operating temperature range	-40~125°C	
Compensated temperature range	0~82°C	-20~80°C
Thermal sensitivity shift	≤± 0.2% FSO typical	≤± 0.05% FSO typical
Thermal zero shift	≤± 0.2% FSO typical	≤± 0.10% FSO typical
Thermal hysteresis	≤± 0.1% FSO typical	≤± 0.10% FSO typical
Physical Specification		
Process connection	Flange mounting (ANSI, DIN, JIS)	
	Chemical sealed with Clamp, Flange, etc.	
	Other process connections available on request	
Process media	Gases and liquids compatible with	
Materials wetted by process	Diaphragm : Stainless steel 316	Diaphragm : ceramic Al2 O3, 96%
	O-ring : VITON, HNBR, ect.	
	Housing: Aluminum Die - casting	
Enclosure rating	IP65	
Influence of mounting position	Under 0.5 kgf / cm ² , mounted vertically	
Weight	Approx. (1500g)	
Options	Remote sealed diaphragm	

System connection for 2-wire transmitter

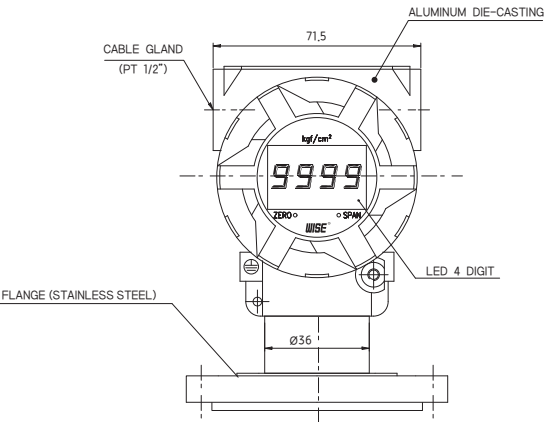
System connection for 3-wire transmitter



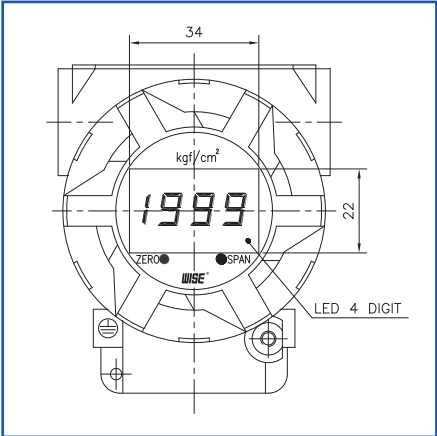
Dimension (mm)

Electrical connection

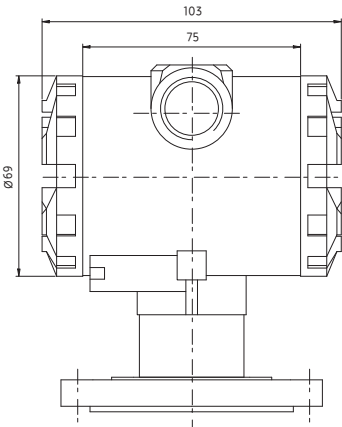
Front view



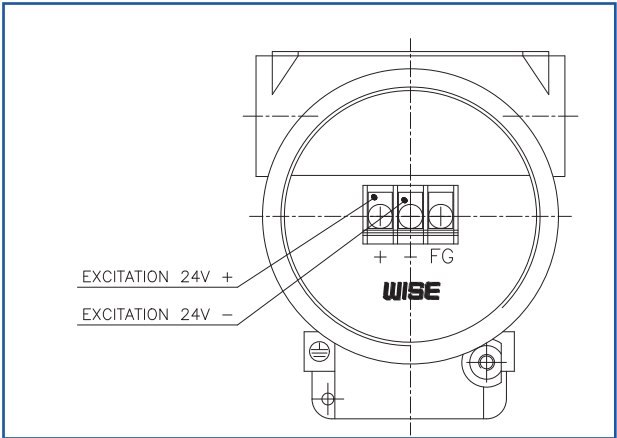
Local Display



Side view



P700 Terminal Block



Ordering Information

Tank Mounted Level Transmitter

L72S														Piezo-resistive silicon sensor
L74S														Capacitive ceramic sensor
	8													Tank side mounting version
	9													Tank bottom mounting version
		R												Relative pressure
		A												Absolute pressure
			J											Process connection : Flange per JIS
			A											Flange per ANSI
			D											Flange per DIN
			C											Clamp
			X											Other connection available on request
				XXX										Mounting size such as JIS10K80A
					01									0~500 mmH ₂ O
					02									0~700 mmH ₂ O
					03									0~1000 mmH ₂ O
					04									0~2000 mmH ₂ O
					05									0~5000 mmH ₂ O
					06					0~1 kgf / cm ² , bar		0~0.1 Mpa		
					07					0~2 kgf / cm ² , bar		0~0.2 Mpa		
					08					0~5 kgf / cm ² , bar		0~0.5 Mpa		
					09					0~10 kgf / cm ² , bar		0~1 Mpa		
					10					0~20 kgf / cm ² , bar		0~2 Mpa		
					11					0~35 kgf / cm ² , bar		0~3.5 Mpa		
					XX					Other calibration ranges available on request				
						K				calibration in kgf / cm ²				
						M				calibration in mmH ₂ O				
						A				calibration in Mpa				
						B				calibration in bar				
						X				Other units available on request				
							C			4~20mA Current output signal				
							V			1~5V Voltage output signal				
							X			Other signals available on reques				
							N			None options				
							R			Remote sealed diaphragm				
							P			Other accessories available on request				

L72S		8	R	J	JIS 10K 80A RF	1	M	C	N	Sample ordering code				
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Specifications subject to change without notice

**Submersible Depth and Level Transmitter
with Local Display**
Model : L127 (Extension Cable Type)
L727 (Explosion Proof Head Type)



Advantages

- High precision and fully submersible depth & level transmitters
- All stainless steel 316 construction
- Measuring ranges from 0.1 to 35 kgf / cm²
- 2-wire loop powered 4~20mA DC output signal
- Excellent accuracy and long term stability
- 300% proof pressure
- Excellent urethane extension cable with vented tube



L727

Applications

Any environment where reliable 4~20mA continuous level measurement in ;

- Ground and surface water monitoring
- Water supply and reservoirs controls
- Deep well measurements
- Geomorphological investigations of ground water elevation
- Well and borehole probe
- Water filtration plants and waste water treatment



L127

Descriptions

L127 / L727 series submersible depth and level transmitters with a reliable vented cable meet IP68 requirements for permanent submersion. They are specially designed for applications where access for installation is restricted and continuous level measurement of liquids in various ranges to a maximum equivalent of 350 meters of hydrostatic water pressure such as deep wells or buried storage vessels. The transmitter has a perfect water resistant, stainless steel housing for complete protection from harsh environments and its 4~20mA current output is ideal for remote monitoring of both primary and secondary process variables. The transmitters are available as absolute or relative pressure with either 2-wire current or 3-wire voltage output. The pressure to be measured acts through thin corrosion resistant stainless steel 316L diaphragm on a silicon measuring element. The pressure transmitting medium is silicon oil. The measuring element contains diffused piezoresistive resistors which are connected into a Wheatstone bridge. The output signal of this bridge is temperature compensated and converted into a standardized current or voltage output signal.

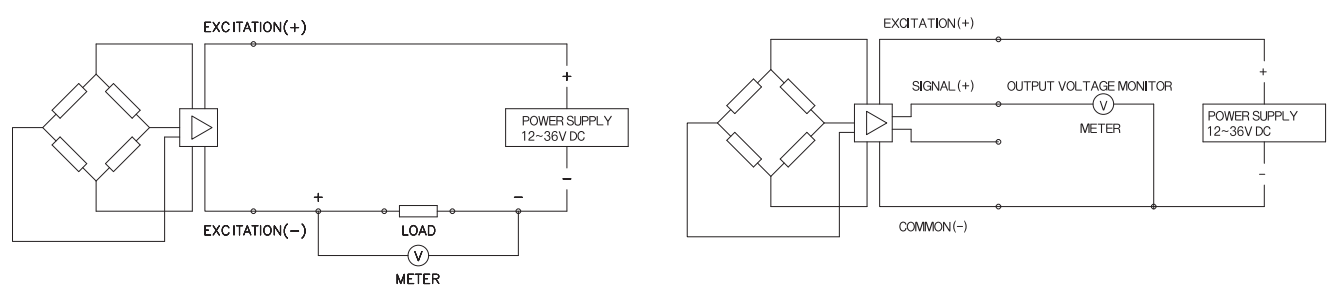
Specification

Input	
Model	L127 / L727
Technology	Piezoresistive silicon pressure sensor
Pressure ranges	0~0.1 to 35 kgf / cm ² relative pressure
	0~1 to 35 kgf / cm ² absolute pressure
Pressure reference	Gauge, absolute
Overload	3x full scale without damage
Output	
Output signal	4~20mA DC or 1~5V DC
	Other signal available on request
Electrical connection type	2-wire or 3-wire technique
Local display	LED 4 digit (Only L727)
Electrical Specification	
Excitation voltage	24V DC (12~36V DC)
Load resistance max @ 24V	500Ω at 24V
Influence of excitation	0.01% FSO/V
Power ripple	≤ 500mV P-P
Reverse polarity	Protected
Shock resistance	No change in performance after 10Gs for 11ms
Vibration	0.1G (1m / s / s) maximum
Response time (10~90%)	≤ 2 milliseconds
Adjustment	± 10% FSO / zero and span
Performance Specification	
Accuracy	≤± 0.25% FSO
Non-linearity	± 0.100 FSO typical
Repeatability	± 0.015 FSO typical
Pressure hysteresis	± 0.010 FSO typical
Long term stability	± 0.3% FSO over 6 month
Cutoff frequency (-3 d B)	≤ 2KHz
Reference temperature	35°C
Operating temperature range	-40~125°C
Compensated temperature range	0~82°C
Thermal sensitivity shift	≤± 0.2% FSO in reference to 35°C typical
Thermal zero shift	≤± 0.2% FSO in reference to 35°C typical
Thermal hysteresis	≤± 0.1% FSO in reference to 35°C typical
Physical Specification	
Process connection	PF 3/8 with removable stainless steel nose cone
	Weight or flange can be available
	Other connections available on request
Process media	Water and liquids compatible with
	Stainless steel 316
Materials wetted by process	Diaphragm : stainless steel 316L
	Housing : Aluminum die-casting terminal head
	Gasket O-ring : Viton (HNBR, CSM, etc.)
Construction of extension cable	4 core, shielded with vented tube
	ø7.7mm diameter
	Vented Polyurethane cable
	Stainless steel extension pipe version available(optional)
Enclosure rating	IP68
Weight	Approx. 400g (L127), 1900g (P727) without cable
Options	General terminal head
	Local display unit

Note : It should be installed with a support wire over 200meter depth measurement.

System connection for 2-wire transmitter

System connection for 3-wire transmitter



Dimension (mm)

Electrical connection

L127

4WIRE, VENTED TUBE & SHIELDED
07.8 URETHAN CABLE

CONSTRICED TUBE(BLACK)

47 160 113 08.4

L127 cable version

E : Excitation
S : Signal
C : Common

System Color	2-Wire	3-Wire	4-Wire
Red	E +	E +	E +
Black	E -	C -	E -
Green		S +	S +
White			S -
GND	Shielded	Shielded	Shielded

L727

103 75 080 100 #23.9

ALUMINUM DIE-CASTING

CABLE GLAND (PT 1/2")

71.5 100 100 #23.9

STAINLESS STEEL 316

#3.12K BOM RF

LED 4 080T

L727 Terminal head(pipe version)

EXCITATION 24V +

EXCITATION 24V -

FG

WISE

Ordering Information

Submersible Depth And Level Transmitter

1. Base model

L127										Extension cable
L727										Head type (With display)

2. Pressure reference

R										Relative pressure
A										Absolute pressure

3. Mounting type (Only L727)

N										Not required
A										ANSI flange
H										JIS flange
T										PT thread
F										PF thread
X										Other mounting connection available on request

4. Mounting size (Only L727)

0										Not required
1										1"
2										1/5"
3										2"
4										4"
X										Other units available on request

5. Process connection

D										Cable suspension version (standard)
N										Stainless steel extension pipe version

6. Accuracy

H										± 0.25% F.S.O
K										± 0.3% F.S.O

7. Measuring range

01					0~500 mmH ₂ O	
02					0~700 mmH ₂ O	
03					0~1000 mmH ₂ O	
04					0~2000 mmH ₂ O	
05					0~5000 mmH ₂ O	
06					0~1 kgf / cm ² , bar	0~0.1 Mpa
07					0~2 kgf / cm ² , bar	0~0.2 Mpa
08					0~5 kgf / cm ² , bar	0~0.5 Mpa
09					0~10 kgf / cm ² , bar	0~1 Mpa
10					0~20 kgf / cm ² , bar	0~2 Mpa
11					0~35 kgf / cm ² , bar	0~3.5 Mpa
xx					Other calibration ranges available on request	

8. Unit

M				Calibration in mmH ₂ O
K				Calibration in kgf / cm ²
A				Calibration in Mpa
B				Calibration in bar
X				Other units available on request

9. Output signal / Electrical connection type

C			4~20mA, DC, 2-wire output
V			1~5V DC, 3-wire output
X			Other signal available on request

10. Option (Cable length)

10			10m cable(standard)
20			20m cable
30			30m cable
50			50m cable
70			70m cable
100			100m cable
XX			Extension cable available on request

L727	R	H	2	D	H	04	M	C	10	Sample ordering code
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Specifications subject to change without notice