



Pressure Transmitter Model: LW-PS

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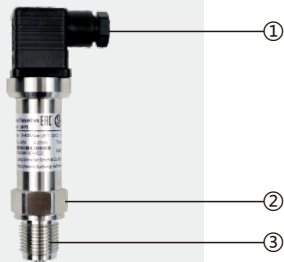
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1.Product Design Function/Signature Description

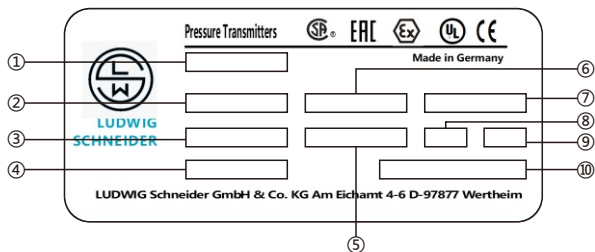
1.1 Function Description Of Pressure Transmitter Body

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- ① Electrical interface
- ② Install the hexagon
- ③ Process connection

1.2 Sign Description



- ① Model
- ② Range
- ③ Output signal
- ④ Instrument number
- ⑤ Power supply
- ⑥ Process connection
- ⑦ Accuracy
- ⑧ UB
- ⑨ OV
- ⑩ Bar coding

2. Overview

■ The universal piezoresistive pressure transmitter is a piezoresistive pressure transmitter that can be adjusted by zero-point and full-scale output developed by our company. It uses high-stability and high-reliability piezoresistive pressure sensors and high-performance transmitter-specific circuits to provide stable and reliable overall performance. It is widely used in the detection and control of fluid pressure in petroleum, chemical, electric power, hydrology and geology industries.

■ The pressure transmitters described in these operating instructions are designed and manufactured using state-of-the-art technology. All components meet stringent quality and environmental standards during production. Our management system is ISO 9001 and ISO 14001 certified.

■ These operating instructions include important instructions for operating the pressure transmitter. For safe operation, all safety instructions and operating instructions are required.

■ Please observe the current effective local accident prevention regulations and general safety regulations within the scope of use of the pressure transmitter.

■ The operating instructions are part of the pressure transmitter and must be placed close to the instrument for the technician to use at any time.

■ The technician must read and understand the operating instructions carefully before starting the operation. The manufacturer is not responsible for any damage caused by the use of the product in violation of the intended use, operation in accordance with the operating instructions, arrangement of non-qualified technicians or unauthorized alteration of the pressure transmitter.

■ The general terms and conditions contained in the sales documentation apply.

■ We reserve the right to make technical modifications.

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3.Features

Reliable performance, safe and easy to use

Short circuit protection and reverse polarity protection

Measurable gauge pressure, absolute pressure and sealed reference pressure32768—ST—X077MDIntrinsically safe products, designed to meet the

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design requirements of the national GB3836.4 ExialICT6 Flameproof products meet the design requirements of the national GB3836.2 standard

Marine products comply with the design requirements of the Rules for Classification of Sea-Going Steel Ships (2006)

4.Safety

Identification description



caveat!

... indicates a potential hazard that, if not avoided, could result in serious injury or death.



note!

... indicates a potential hazard that, if not avoided, may result in minor injury, property damage, or environmental hazard.



information

... gives useful tips, advice and information for efficient and trouble-free operation.

5.Specified Use

Pressure transmitters are used to measure pressure and convert pressure into electrical signals.

Pressure transmitters can only be used within their technical performance (eg maximum ambient temperature, material compatibility,...),

→ For more operational restrictions, see Chapter 9, "Specifications."

The product is designed and manufactured for the purposes described in this

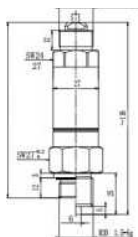
The product is designed and manufactured for the purposes described in this operating manual and should not be used in other areas.

The manufacturer is not liable for any operation that violates the intended use.

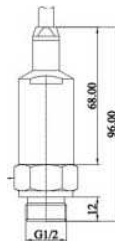
6. Malfunction

Malfunction	Reason	Solution
No output signal	Cable break	Cable break
Zero signal deviation	Exceeding overvoltage limit	Observe the permissible overvoltage limits
Zero signal deviation	Operating temperature is too high/Too low	Observe the permissible temperature
Pressure changes but the output is constant	Mechanical overload caused by overvoltage	Replace the instrument if there is still a problem please contact the manufacturer
Signal range fluctuation	EMC interference sources in the working environment, such as inverters	Shielded instrument; shielded cable removed interference source to comply with permissible temperature
Signal range fluctuation Misalignment	Operating temperature is too high/Too low	Observe the permissible temperature
The signal range becomes smaller/too small	Mechanical overload caused by overvoltage	Replace the instrument if you still have problems please contact the manufacturer

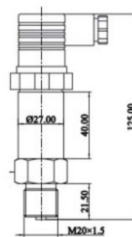
7. Dimensions



Flameproof



Cable type



Plug-in type

8. Technical Parameters

Range	-0.1MPa0MPa-0.01MPa100MPa
Overload	1.5 times full scale pressure or 110 MPa (minimum value)
Pressure type	Gauge or absolute or sealed gauge
Pressure connection	M20x1.5 external thread with waterline seal
Precision	± 0.5%FS
Long-term stability	Maximum ± 0.3%FS/year
Zero coefficient	0.1%FS/°C (≤ 100kPa); 0.05%FS/°C (> 100kPa)
Full coefficient	0.1%FS/°C (≤ 100kPa); 0.05%FS/°C (> 100kPa)
Compensation	0-50°C
Operating	-30°C~80°C intrinsic safety -10 ~ 60°C; flameproof type -20 ~ 60°C
Storage	-40°C ~ 120°C
Power supply output	11-28VDC
signal Load	4-20mA DC (second line); 0-5/10VDC (three lines)
Resistance	≤ (U-11) / 0.02 (two lines), ≥ 10k (three lines)
Shell protection	Ip65
Electrical connections	DIN43650 imported explosion-proof connector

Range and overpressure limit (gauge)							
Mpa	Range	0...0.005	0...0.01	0...0.016	0...0.025	0...0.04	0...0.06
	Overvoltage limit	0.02	0.02	0.1	0.1	0.1	0.3
	Range	0...1	0.32	0...2.5	0...4	0...6	0...10
	Overvoltage limit	0.3	0...2.5	0.5	0.8	1.2	2
	Range	0...1.6	5	0...4	0...6	0...10	0...16
	Overvoltage limit	3.2	0...40	8	12	20	32
	Range	0...25	80	0...60	0...100		
	Overvoltage limit	50	84	120	150		
InwC	Range	0...20	0...200	0...60	0...80	0...100	0...120
	Overvoltage limit	84	400	400	400	400	400
	Range	0...150	0...5	0...250	0...400		
	Overvoltage limit	400	14.5	1,200	1,200		
psi	Range	0...1	0...160	0...15	0...25	0...30	0...50
	Overvoltage limit	3	290	45	60	60	100
	Range	0...100	0...2,000	0...200	0...300	0...500	0...1,000
	Overvoltage limit	200	4,000	400	600	1,000	1,740
	Range	0...1,500	0...2,000	0...3,000	0...5,000	0...10,000	
	Overvoltage limit	2,900	4,000	6,000	10,000	17,400	

Range and overpressure limit (Absolute pressure)								
Mpa	Range	0...0.01	0...0.016	0...0.025	0...0.04	0...0.06	0...0.1	0...0.16
	Overvoltage limit	0.1	0.1	0.1	0.1	0.3	0.3	0.32
	Range	0...0.25	0...0.4	0...0.6	0...1	0...1.6	0...2.5	
	Overvoltage limit	0.5	0.8	1.2		3.2	5	
Inwc	Range	0...40	0...600	0...80	0...100	0...120	0...150	0...200
	Overvoltage limit	400	400	400	400	400	400	400
	Range	0...250	0...400					
	Overvoltage limit	1,200	1,200					
psi	Range	0...5	0...15	0...25	0...30	0...50	0...100	0...150
	Overvoltage limit	14.5	45	60	60	100	200	290
	Range	0...200	0...300					
	Overvoltage limit	400	600					

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Range and overvoltage limits (vacuum and +/- range)						
Mpa	Range	-0.0025...+0.0025	-0.005...0	-0.005...+0.005	-0.005...+0.015	-0.005...+0.02
	Overvoltage limit	±0.02	±0.02	±0.02	0.1	0.1
	Range	-0.005...+0.025	-0.01...0	-0.01...+0.01	-0.015...+0.015	-0.016...0
	Overvoltage limit	0.1	±0.02	0.1	0.1	0.1
	Range	-0.02...+0.02	-0.025...0	-0.025...+0.025	-0.03...+0.03	-0.04...0
	Overvoltage limit	0.1	0.1	0.1	0.3	0.1
	Range	-0.05...+0.05	-0.06...0	-0.1...0	-0.1...+0.06	-0.1...+0.1.5
	Overvoltage limit	0.3	0.3	0.3-	0.32	0.5
	Range	-0.1...+0.3	-0.1...+0.5	0.1...+0.9	-0.1...+1.5	-0.1...+2.4
	Overvoltage limit	0.8	1.2	2	3.2	5

Range and overvoltage limits (vacuum and +/- range)						
Inwc	Range	-10...+10	-20...0	-20...+20	-40...0	-40...+40
	Overvoltage limit	±80	±80	±80	±80	±80
	Range	-50...+50	-60...0	-75...+75	-80...0	-100...0
	Overvoltage limit	400	400	400	400	400
	Range	-100...+100	-120...0	-125...+125	-50...0	-200...+200
	Overvoltage limit	400	400	1,200	400	1,200
	Range	-250...0				
	Overvoltage limit	1,200				
psi	Range		-30 inHg...0	-30 inHg...15	-30 inHg...+30	-30 inHg...+60
	Overvoltage limit	3	45	60	60	150
	Range	-30 inHg ...+100	-30 inHg...+160	-30 inHg...+200	-30 inHg...+30	
	Overvoltage limit	250	350	450	600	

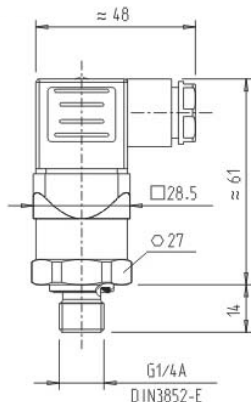
Technical Parameters		
Vacuum protection	Yes (reference overvoltage limit)	
Output signal	See product label	
Load	Current (2-wire system)	$\leq (\text{Power}-8\text{V})/0.02\text{A}$
	Voltage (3-wire system)	>Maximum output signal /1 mA
	Ratio meter (3-wire system)	>10k
Power supply	See product label	
Total energy consumption	Current (2-wire system)	Maximum current signal 25mA
	Voltage (3-wire system)	8mA
	Ratio meter (3-wire system)	8mA

Specifications		
Non-repetitive	Ranges $\leq 0.01\text{MPa}$: $\leq \pm 0.2\%\text{FS}$; Range $> 0.01\text{MPa}$: $\leq \pm 0.1\%\text{FS}$	
Signal to noise ratio	$\leq \pm 0.3\%$ of range	
Temperature error at 0...80°C	Normal: $\leq \pm 1\%\text{FS}$; Maximum: $\leq \pm 2.5\%\text{FS}$	
Reference condition	Ambient temperature	15...251
	Environmental pressure	860...1.060mbar
	Humidity	45...75%r.h.
	Power supply	DC24 V
	Installation location	According to actual needs
Stable schedule	Range $\geq 0.04\text{MPa}$: $< 4\text{ms}$; Range $\geq 5\text{kPa}$: $\leq 1\text{min}$	
On time	Range $\geq 0.04\text{MPa}$: $< 15\text{ms}$; Range $\geq 5\text{kPa}$: $\leq 1\text{min}$	
Protection level	The degree of protection only takes effect when the docking plug is inserted	
	Hessmann connector DIN 175301-803 A	IP65
	Hessmann connector DIN 175301-803 C	IP65
	Round aviation joint M12x 1	IP67
	Cable output	IP67
Impact resistance	500 g (IEC 60068-2-27, mechanical)	-40g at 40°C, 100g
Service life	Measuring range $> 0.01\text{MPa}$: 100 million load cycles	
	Measuring ranges $\leq 0.01\text{MPa}$: 10 million load cycles	
Short circuit resistance	S+vs.0V	
Reverse polarity protection	U _B VS.0V	
	Non-polarity reverse connection protection for products with ratio output signals	

Specifications		
Insulation voltage	DC 500V	
Wetted parts	Range < 1 Mpa	316L stainless steel
	Range < 1 Mpa	316L stainless steel and PH steel
	Range $\leq 0 \dots 2.5$ MPa abs.	316L stainless steel
Non-liquid parts	316L stainless steel, HNBR, PA, polyurethane cable	
Pressure transmission medium	Range < 0...1 MPa gauge pressure	Synthetic oil
	Range $\leq 0 \dots 2.5$ MPa gauge pressure	Synthetic oil
	Range > 0...1 MPa gauge pressure	Dry measurement unit
CE certification	Pressure equipment directive	
	EMC Directive, Electromagnetic Radiation (Group 1, Class B) and Immunity (Industrial Applications) Standards	

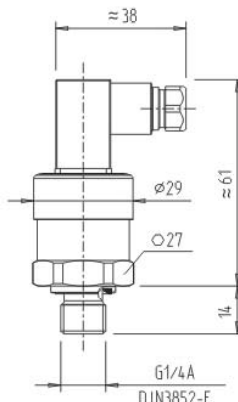
9.Size (mm)

DIN 175301-803 A PG9 Right AngleElbow, lp65



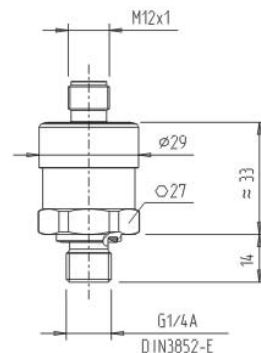
Weight: about 80g

DIN 175301-803C Right angle elbow,lp65



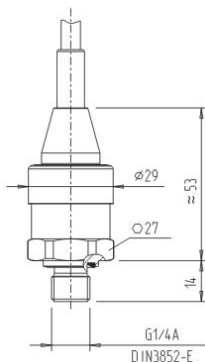
Weight: about 80g

With M12 X 1 round aviation joint



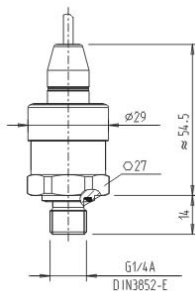
Weight: about 80g

With standard cable straight out, unshielded



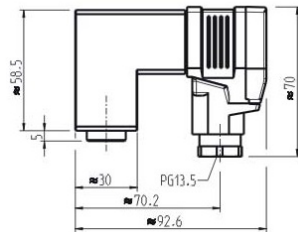
Weight: about 80g

Straight out cable with OEM cable, unshielded cable

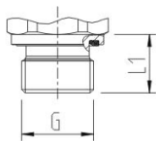


Weight: about 80g

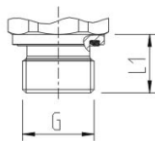
With type A Hessman connector and flange connection



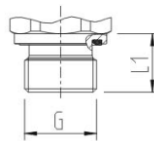
Weight: about 80g



G	L1
G $\frac{3}{4}$ A DIN 3852-E	14
G $\frac{1}{2}$ A DIN 3852-E	17
M14x1.5	14

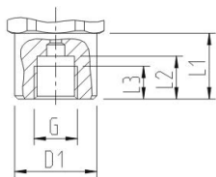


G	L1
G $\frac{3}{4}$ B EN 837	13
G $\frac{1}{2}$ B EN 837	16
G $\frac{1}{2}$ B EN 837	20
M20x1.5	20



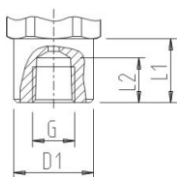
G	L1
7/16-20 UNF BOSS	12.85

Internal thread

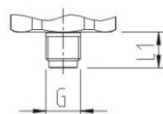


G	L1	L2	L3	D1
G $\frac{1}{4}$ EN 837	20	13	13	$\varnothing 25$

Internal thread

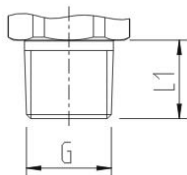


G	L1	L2	D1
$\frac{1}{4}$ NPT	20	13	$\varnothing 25$



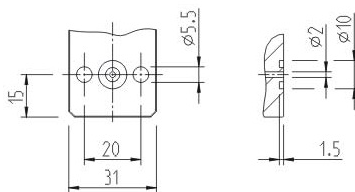
G	L1
G $\frac{1}{4}$ B EN 837	10

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G	L1
NPT	10
NPT	13
NPT	19
R $\frac{3}{4}$	13
R	15
R $\frac{1}{2}$	19
PT	13
PT	15
PT	19

G	L
G $\frac{1}{4}$ Internal thread with flange connection	See the drawings for detailed dimensions



10.Wiring Definition

Foot number	Definition
1	Power supply
2	Negative power supply

11.The Cable Type

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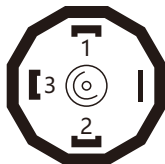
Cable color	Two wire system	Three wire system
The black line	Positive power supply: +V	Positive power supply: +V
The red line	Signal: + OUT	Output positive: +OUT
The blue line	Empty	Common end: GND
The yellow line	Grounding	Grounding

12.Plug-In Type

Pins	Two wire system	Three wire system
1	Positive power supply: +V	Positive power supply: +V
2	Signal: + OUT	Common end: GND
3	Empty	Output positive: +OUT

13.Hertzmann type

Pin	Two wire system	Three wire system
1	Positive power supply: +V	Positive power supply: +V
2	Signal: + OUT	Common end: GND
3	Empty	Output positive: +OUT
GND	Grounding	Grounding





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