

Low differential pressure transducers

Models XLdp1, XLdp2, XLdp3

Capacitive sensor with micro machined silicon diaphragm

Accuracy 0,25 %, 0,5 % and 1 % F.S.



Features

- Protection IP65
- High overpressure limits
- Extreme high resolution
- Excellent long term stability
- High shock and vibration resistance
- Very low pressure ranges

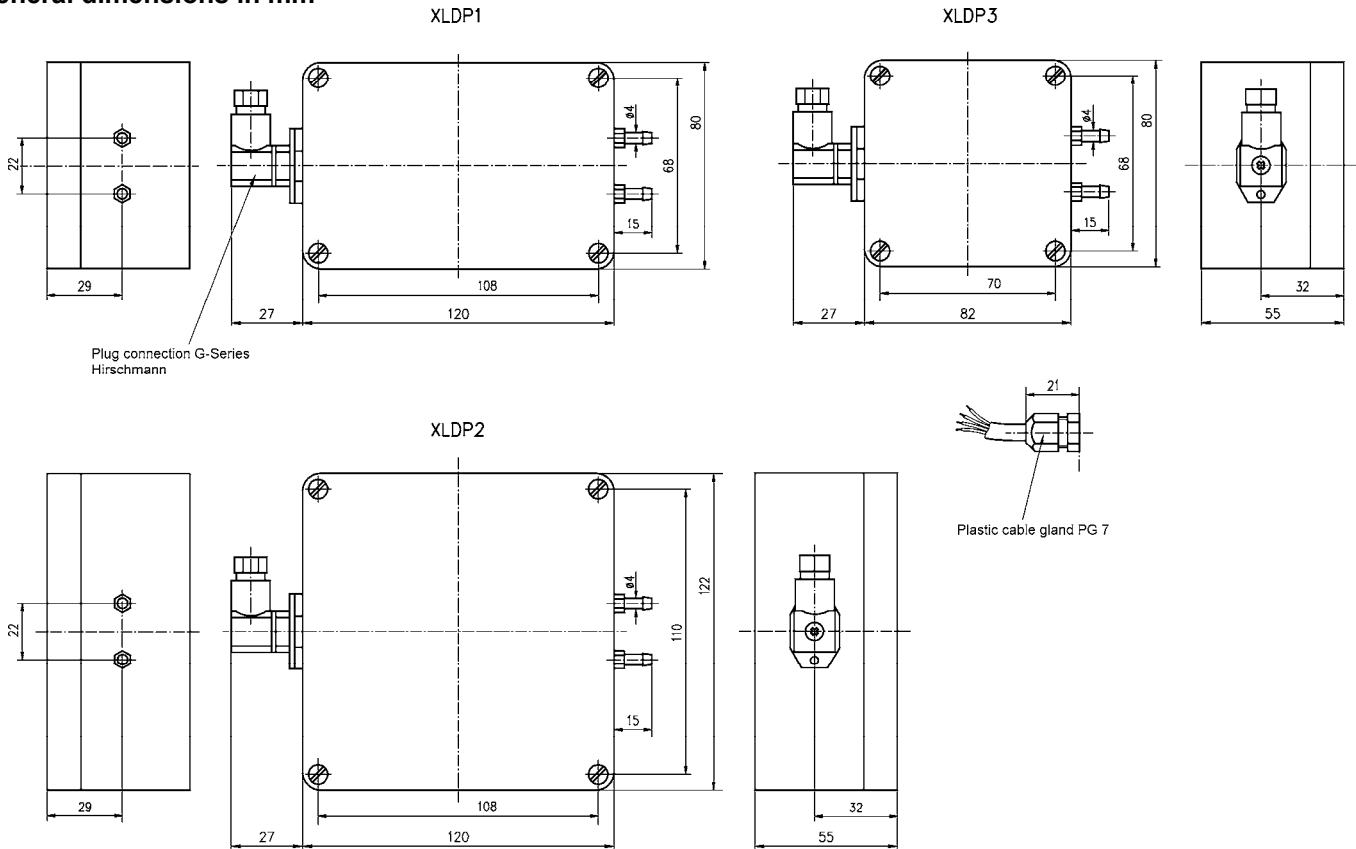
Ranges

0 ... 0,25 mbar up to 0 ... 500 mbar

±0,125 mbar up to ±250 mbar

Technical specifications	XLdp1	XLdp2	XLdp3
Measuring principle	Differential Si-glass/aluminum capacitor with single crystal silicon diaphragm		
Range unidirectional in mbar	0,25 0,5 1,0 2,5 5 10 25 50 100 125 ¹⁾ 250 ²⁾ 500 ²⁾		
directional in mbar	±0,125 ±0,25 ±0,5 ±1,25 ±2,5 ±5 ±12,5 ±25 ±50 ±62,5 ¹⁾ ±125 ²⁾ ±250 ²⁾		
Overpressure in bar	¹⁾ not for XLdp1, ²⁾ only XLdp1		
Proof, differential/burst single side/static single side	1/3,5/7	0,7/1,7/1,7	0,35/1,7/1,7
Pressure type	Differential gauge, vacuum and compound		
Process connection	Ø4 mm dual barbed, bore Ø3 mm, (others on request)		
Medium	Clean and dry air, non conducting and non corrosive gases		
Material			
Pressure connection	Brass, nickel plated, others on request		
Sensor	Silicon, aluminum, glass		
Case	ABS, grey color		
Power supply, reversed polarity protected	12 ... 36 VDC	12 ... 36 VDC, 13 ... 36 VDC (4-20 mA)	12 ... 36 VDC
Output signal	4-20 mA (2-wire) 1-5/6 VDC (3-wire) 0-5 VDC (3-wire) ±2,5 VDC (3-wire) ±5 VDC (3-wire)	4-20 mA (2-wire) 1-5/6 VDC (3-wire)	4-20 mA (2-wire) 1-5/6 VDC (3-wire) 0-5 VDC (3-wire) 0-10 VDC (3-wire)
Maximum loop resistance for 4 ... 20 mA	≤ (U _B - 12 V) / 0,022 A	≤ (U _B - 13 V) / 0,022 A	≤ (U _B - 12 V) / 0,022 A
Supply current	Max. 3 mA for VDC output, 20 mA for 4 ... 20 mA output signal		
Accuracy according DIN 16 086 (terminal point)	0,25 % or 0,5 %	0,25 % or 0,5 %	1,0 %
Repeatability	0,03 % for 0,25 % accuracy, 0,05 % for 0,5 % accuracy and 0,1 % for 1,0 %		
Electrical resolution	1x10 ⁻⁴ F.S.		
Response time (10 ... 90 %)	250 ms (others on request)		250 ms
Warm up time	1 sec	10 sec	15 sec
Permissible			
Operation temperature	-30 ... 80 °C		-30 ... 70 °C
Storage temperature	-40 ... 80 °C		
Compensated temperature	-18 ... 70 °C		0 ... 57 °C
Temperature influence (Ref. 20 °C in compensated range for zero and span)	±0,18 % / 10 K for 0,25 % acc., ±0,36 % / 10 K for 0,5 % acc.		±0,3 % / 10 K
Vibration influence (temporary)	< 0,2 % F.S. for 1 g and 10-130 Hz		< 0,2 % F.S. for 1 g and 10-130 Hz
Electrical connection	4 PIN angle connector according IEC 61984 1,0 m cable, vent tube, PG 7 thread joint		
Protection according EN 60 529/IEC 529	IP65 (case is ventilated over connection cable)		
Mounting /position error (Zero adjustable)	≥ 2,5 mbar < 0,1 % F.S. ≥ 0,6 mbar < 0,5 % F.S. ≥ 0,25 mbar < 0,8 % F.S.	≥ 1,27 mbar < 0,1 % F.S. ≥ 0,64 mbar < 0,25 % F.S. ≥ 0,25 mbar < 0,5 % F.S.	≥ 1,27 mbar < 0,1 % F.S. ≥ 1,27 mbar < 0,25 % F.S.
Adjustments	Zero and span ±10 % F.S.		Zero ±5 % F.S., Span ±3 % F.S.
Weight in kg	0,4		0,3
Options	Indicators		

General dimensions in mm



Rev. B

Order information

Type	Output signal	Accuracy	Range	Engineering units	Protection	Process connection	Electrical connection	Options
XLDP1	(42) 4-20 mA	(025) 0,25 %	Unidirectional 0/ 0,25	MBAR	(IP65) Protection IP65	(DN3) ø4 mm barbed, bore ø3 mm	(HM) Angle connector IEC 61984	(NH) Tagging wired
	(15) 1-5 VDC	(050) 0,50 %						
XLDP2	(16) 1-6 VDC	(050) 0,50 %	0/ 0,5				(F2) Cable connection	
	(05) 0-5 VDC							
XLDP3	(25) ±2,5 VDC	(100) 1,0 %	0/ 1				specify cable lengths in m	
	(50) ±5 VDC							
			0/ 5					
			0/ 10					
			0/ 25					
			0/ 50					
			0/ 100					
			0/ 125 ¹⁾					
			0/ 250 ²⁾					
			0/ 500 ²⁾					
			Bidirectional					
			±0,125					
			± 0,25					
			± 5,0					
			±12,50					
			± 25					
			± 50					
			±62,50 ¹⁾					
			± 125 ²⁾					
			± 250 ²⁾					
	others on request		1) not for XLdp1	kPa, mmH ₂ O, Pa				
			2) only for XLdp1	or in. H ₂ O others on request				
						others on request		

How to order

Series	Type	Output signal	Accuracy	Range	Engineering units	Protection	Process connection	Electrical connection	Option
C	XLDP1	42	050	0/10	MBAR	IP65	DN3	HM	

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