SENSE

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Loop DP Transmitters

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Features

- 2 wire, 4-20mA current loop transmitter
- Maintenance free piezoresistive silicon ceramic sensor
- High accuracy, ±0.25 %FSS
- Operating voltages 12…35 VDC
- Calibrated and temperature compensated measurements
- Output, 2 wire 4-20 mA
- Simple and fast mounting
- Smart Field Test & Calibration

Applications

- HVAC supply or extract air measuring,
- Monitoring filters and controlling fans
- Check air flow
- Measuring very low differential pressures
- Clean room applications

Ordering

sample ordering code: LDP . 4

- range: 2.500 Pa
- *Loop DP Transmitter*

model	*range - Pa*
LDP	1 ±250 2 1.000 3 ±1.000 4 2.500 5 10.000 6 6.000 7 ±6.000 8 ±10.000

Ordering Notes

1. Typical ranges stand for the maximum measuring levels
2. Each range has own 8 sub-ranges that can be selected by DIP switch
3. For your special needs, please request from info@senseandcontrol.com

Ranges & Sub-ranges

range (Pa)	*sub-ranges (Pa)*
1 ±250	-25…+25, -50…+50, -100…+100, -250…+250, 0…25, 0…50, 0…100, 0…250
2 1.000	0…100, 0…200, 0…300, 0…400, 0…500, 0…600, 0…750, 0…1.000
3 ±1.000	-250…+250, -500…+500, -750…+750, -1.000…+1.000, 0…250, 0…500, 0…750, 0…1.000
4 2.500	0…100, 0…250, 0…500, 0…750, 0…1.000, 0…1.500, 0…2.000, 0…2.500
5 10.000	0…1k, 0…2k, 0…3k, 0…4k, 0…5k, 0…6k, 0…7.5k, 0…10k
6 6.000	0…500, 0…750, 0…1.000, 0…2.000, 0…3.000, 0…4.000, 0…5.000, 0…6.000
7 ±6.000	-1k…+1k, -2k…+2k, -3k…+3k, -6k…+6k, 0…1k, 0…2k, 0…3k, 0…6k
8 ±10.000	-2.5k…+2.5k, -5k…+5k, -7.5k…+7.5k, -10k…+10k, 0…2.5k, 0…5k, 0…7.5k, 0…10k

Zeroing

1. Press ZERO button for min. 3 seconds
2. When LED turns off, zeroing is finished

General Notes

1. Observe maximum permissible cable lengths.
2. If cable runs parallel to the mains cable: Use shielded cables.
3. The cable entry always should have to be pointing downwards.
4. The data indicated under ‘Technical Data’ apply only to vertically mounted transmitters.
5. Transmitters should have to be mounted in the center of clean rooms but not near to any doors or windows.

DIP Switch

1. SW1, channel #1,2,3 selects the sub-ranges
2. SW1, channel #4 selects response time

Sub-Ranges

1. Please check the markings on enclosure for any special range

Code	LDP.1	LDP.2	LDP.3	LDP.4	LDP.5	LDP.6	LDP.7	LDP.8
Range	±250 Pa	1.000 Pa	± 1.000 Pa	2.500 Pa	10.000 Pa	6.000 Pa	± 6.000 Pa	± 10.000 Pa
	-25…25	0…100	-250…250	0…100	0…1k	0…500	-1k…1k	-2.5k…2.5k
	-50…50	0…200	-500…500	0…250	0…2k	0…750	-2k…2k	-5k…5k
	-100…100	0…300	-750…750	0…500	0…3k	0…1k	-3k…3k	-7.5k…7.5k
	-250…250	0…400	-1k…1k	0…750	0…4k	0…2k	-6k…6k	-10k…10k
	0…25	0…500	0…250	0…1.000	0…5k	0…3k	0…1k	0…2.5k
	0…50	0…600	0…500	0…1.500	0…6k	0…4k	0…2k	0…5k
	0…100	0…750	0…750	0…2.000	0…7.5k	0…5k	0…3k	0…7.5k
	0…250	0…1.000	0…1.000	0…2.500	0…10k	0…6k	0…6k	0…10k

Response Time

SW1	Response
	FAST / 1 sec.
	SLOW / 4 sec.

In both cases, FAST or SLOW,
- output is mean of latest 10 measurements.

Output is updated:
- every 0.1 second in FAST mode
- every 0.4 second in SLOW mode

Accessories

Probes and tubes are not included to DP transmitters pack.
Probes and Tubes can be ordered individually or as sets depending on your needs.

Probes	SDP.PR1	probe, 80mm immersion length, 6mm tubing diameter
	SDP.PR2	probe, 120mm immersion length, 6mm tubing diameter
Tubes	SDP.HS1	tube, PVC, 5mm inner diameter, 8mm outer diameter
	SDP.HS2	tube, silicone, 4mm inner diameter, 7mm outer diameter, longer service-life
Sets	SDP.PS11	2x 80mm probe, 2mt PVC tube
	SDP.PS12	2x 80mm probe, 2mt silicone tube
	SDP.PS21	2x 120mm probe, 2mt PVC tube
	SDP.PS22	2x 120mm probe, 2mt silicone tube

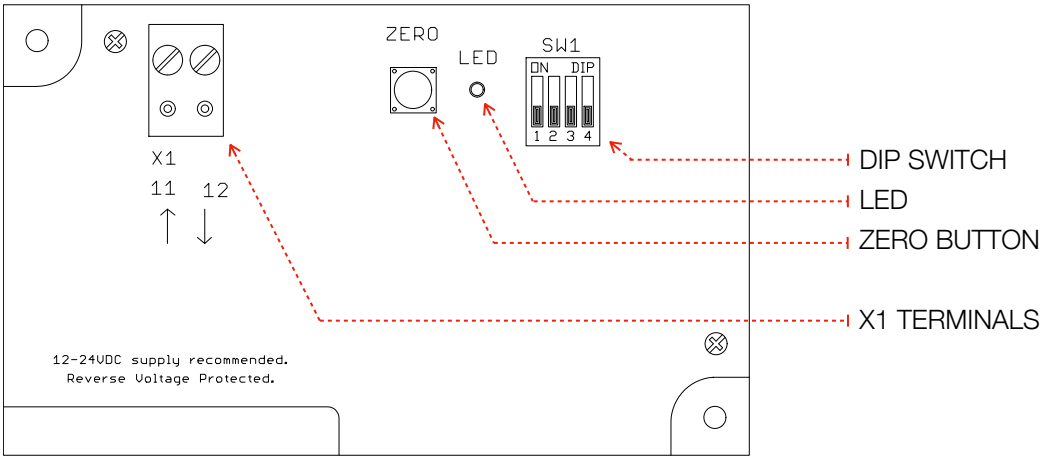
Technical Data

Electrical	Power Supply	DC 12…35 V
	Power Consumption	< 1 W
Outputs	Current Output	4…20 mA, 2-wire, loop powered
	Resolution	10 bit
General Data	Sensing Element	Piezoresistive silicon ceramic sensor
	Media	Air or non-aggressive gasses
	Operating Temperature	-25 …+70°C
	Storage Temperature	-40 …+85°C
	Tubing	Silicone
Resolution	1 / ± 250 Pa	1 pascal
	2 / 1.000 Pa	1 pascal
	3 / ± 1.000 Pa	1 pascal
	4 / 2.500 Pa	1 pascal
	5 / 10.000 Pa	1.5 pascal
	6 / 6.000 Pa	1 pascal
	7 / ± 6.000 Pa	1 pascal
	8 / ± 10.000 Pa	1.5 pascal
Accuracy	all models	±0.25 %FSS
Working Pressure	all models	37.500 pascal
Over Pressure	all models	100.000 pascal
Burst Pressure	all models	200.000 pascal
Connections	Terminals	Pluggable screw terminal
	Cable	maximum 1.5mm2
	Cable Gland	M16
	Pressure Connection	⌀ 6 mm
Protection	all models	IP54 or NEMA 3S
Standards	EMC Directive	EN 61326-1
	CE Conformity	CE 2020-3
Dimensions	nett	109.5 x 92.5 x 34.0 mm
	packed	113.0 x 96.0 x 38.0 mm
Weight Net	basic models	95 gr.
Weight Packed	basic models	110 gr.

Unit Conversions

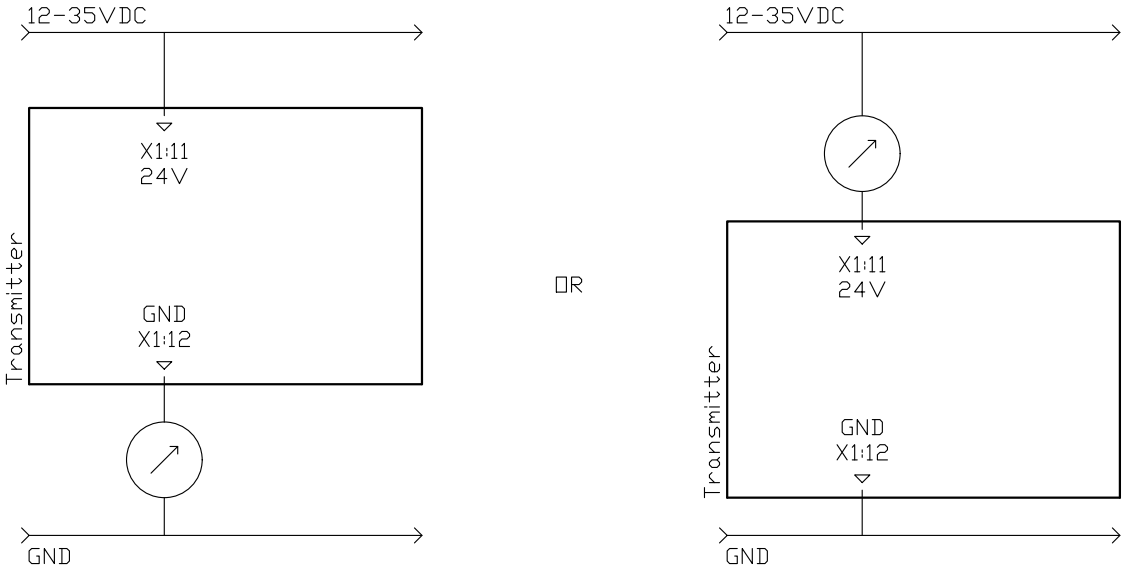
1.000 Pa = 1 kPa = 10 mbar = 4 inchWC = 102 mmWC = 0,145 ps

Transmitter Hardware



ZERO	Normal Mode Test Mode Calibration Mode	press min. 3 sec. for setting ZERO enter/next parameter and finally exit enter/next parameter and finally exit
LED	Normal Mode	blinks periodically
SW 1	# 1-2-3 # 4	sub-range selection for DP 1, see page 3 response time selection, see page 3
X1 Terminals	**11 -** IN **12 -** OUT	12…35 Vdc ground for power and reference for outputs

Electrical Connections



Caution : We kindly advise using shielded cables

Test & Calibration Process

1. Unpower the unit and wait for 5 seconds
2. Set DIP Switch as below

Test Mode

Calibration Mode

3. Press ZERO Button and keep pressing
4. Power the unit
5. You have an output between 3.60-3.90 mA
6. Leave ZERO Button
7. You are now reading min. out for 4mA set
8. You can change the DIP Switch positions for increasing or decreasing the output
9. When you are OK, press ZERO Button for passing next parameter
10. You are now reading mid. out for 12mA set
11. You can change the DIP Switch positions for increasing or decreasing the output
12. When you are OK, press ZERO Button for passing next parameter
13. You are now reading max. out for 20mA set
14. You can change the DIP Switch positions for increasing or decreasing the output
15. When you are OK, press ZERO Button for exiting the Test/Calibration Mode
16. You are now in Normal Mode
17. If you entered in Calibration Mode, your parameters changed as your sets
    If you entered in Test Mode, your parameters did not change
18. Please check the DIP Switch positions for Normal Mode

Please refer to below switch positions for testing or calibration

no change

no change

- 1 step

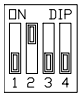
+ 1 step

- 2 step

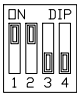
+ 2 step

- 3 step

+ 3 step

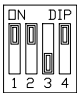


- 4 step



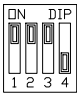
+ 4 step

- 5 step



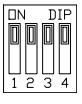
+ 5 step

- 6 step



+ 6 step

- 7 step



+ 7 step

Drawings