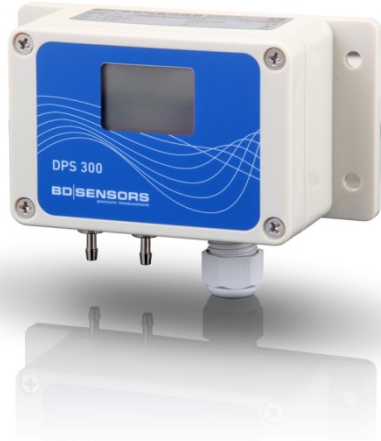


# DPS 300



## Multi Range Differential Pressure Transmitter for Gas and Compressed Air

Silicon Sensor

accuracy according to IEC 60770:  
1 % FSO BFUL

### Differential pressure

from 0 ... 1,6 mbar up to 0 ... 1000 mbar

### Output signals

3-wire: 0 ... 10 V, 0 ... 20 mA, 4 ... 20 mA

2-wire: 4 ... 20 mA (optional)

### Special characteristics

- ▶ LC-display, two-line
- ▶ adjustable ranges
- ▶ high overpressure capability
- ▶ adjustable damping
- ▶ compact form

### Optional versions



- ▶ contacts
- ▶ automatic zero adjustment  
(in preparation)
- ▶ square root extraction

The pressure transmitter DPS 300 was developed for the differential pressure measuring for dry, non aggressive gases and compressed air and can be used for several HVAC applications

The DPS 300 is a multi range transmitter with up to three adjustable ranges.

The device is equipped with a two-line LC display and can simply parameterised. Values, status of the contact and the unit are shown on the display.

### Preferred applications are

-  HVAC
-  medical

### Preferred areas of use are

-  gas, compressed air



Input pressure range							
Nominal pressure $P_N$ [mbar] (differential, gauge pressure)		1,6	4	10	40	250	1000
Adjustable to $P_N$ [mbar]		1,0	2,5	6	25	60 / 160	400 / 600
Max. static pressure [mbar]		200	200	200	345	1000	3000
Output signal / Supply							
Standard	3-wire:	0 ... 10 V / 0 ... 20 mA / 4 ... 20 mA			/	$V_S = 19 \dots 32 V_{DC}$	
Option	2-wire:	4 ... 20 mA			/	$V_S = 11 \dots 32 V_{DC}$	
Performance							
Accuracy	1,0 % FSO BFSL						
Permissible load	voltage 3-wire:	$R_{min} = 10 \text{ k}\Omega$			current 3-wire:	330 $\Omega$	
	current 2-wire:	$R_{max} = [(V_S - V_{Smin}) / 0,02 \text{ A}] \Omega$					
Influence effects	supply:	0.05 % FSO / 10 V					
	load:	0.05 % FSO / $\text{k}\Omega$					
Response time $T_{90}$	>100 ms; adjustable by potentiometer in the range of 0 msec up to 5000 msec						
Turn on time	500 ms						
Measuring rate	12,5 Hz						
Contact (optional)							
	3-wire version			2-wire version (optional)			
Number, form	2 x relay-output (NO/NC)			2 x PNP-open-collector-contact			
max. switching current	2 A			max. 125 mA resistant; short-circuit-proof			
Accuracy of switching points	$\leq \pm 2 \%$ FSO			$\leq \pm 2 \%$ FSO			
Accuracy of repeatability	$\leq \pm 0,5 \%$ FSO			$\leq \pm 0,5 \%$ FSO			
Switching frequency	5 Hz			5 Hz			
Switching cycles	$< 100 \times 10^6$			$< 100 \times 10^6$			
Thermal effects / Permissible temperatures							
Thermal error (offset and span)	0.5 % FSO / 10 K (typ.) for $P_N \leq 4 \text{ mbar}$ 0.3 % FSO / 10 K (typ.) for $P_N > 4 \text{ mbar}$						
in compensated range	0 ... 50 °C						
Permissible temperatures	medium: 0 ... 50°C electronics / environment: 0 ... 50°C storage: -10 ... 70°C						
Electrical protection							
Short-circuit protection	permanent						
Reverse polarity protection	no damage, but also no function						
Elektromagnetic protection	EMC directive: 2004/108/EG emission and immunity according to EN 61326						
Materials							
Pressure port	brass nickel plated						
Housing	ABS						
Sensor	Ceramic, silicon, epoxy, RTV						
Media wetted parts	pressure port, PVC / silicon tube, sensor						
Display							
Performance	two-line LC-Display, visible range 32.5 x 22.5 mm; 5-digit 7-segment-main display, digit size 8 mm, range of indication: $\pm 9999$ 8-digit 14-segment-additional display, digit size 5 mm; 52-segment-bargraph accuracy: 0,1% $\pm 1$ digit						
Functions	<ul style="list-style-type: none"> <li>- parameterisation of contacts</li> <li>- selection of units</li> <li>- selection of signal (linear, square root extraction)</li> <li>- cut-off-function (only with square root extraction)</li> <li>- min- / max-value</li> <li>- re calibration</li> <li>- autozeroing</li> <li>- factory setting</li> </ul>						

# DPS 300

Differential Pressure Transmitter

Technical Data

Miscellaneous																			
Current consumption	2-wire: max. 22 mA 3-wire: max. 30 mA (during automatic zero adjustment: +23 mA)																		
Ingress protection	Approx. 200 g																		
Weight	IP 54																		
Installation position	vertical <sup>1</sup>																		
<sup>1</sup> The devices are calibrated in a vertical position with the pressure port down. If this position is changed on installation there can be slight deviations in the zero point.																			
Mechanical connections (dimensions in mm)																			
Standard	Ø 6,6 x 11 (for flex. tubes Ø 6)																		
Option	Ø 4,4 x 10 (for flex. tubes Ø 4)																		
Pin configuration																			
Standard	cable gland M16x1,5																		
Electrical connections	<table border="1"> <thead> <tr> <th></th> <th>3-wire</th> <th>2-wire</th> </tr> </thead> <tbody> <tr> <td>supply +</td> <td>VS +</td> <td>VS +</td> </tr> <tr> <td>supply -</td> <td>VS -</td> <td>VS -</td> </tr> <tr> <td>signal + (only for 3-wire)</td> <td>Iout / Vout</td> <td>-</td> </tr> <tr> <td>contact 1</td> <td>C1 / NO1 / NC1</td> <td>S1</td> </tr> <tr> <td>contact 2</td> <td>C2 / NO2 / NC2</td> <td>S2</td> </tr> </tbody> </table>		3-wire	2-wire	supply +	VS +	VS +	supply -	VS -	VS -	signal + (only for 3-wire)	Iout / Vout	-	contact 1	C1 / NO1 / NC1	S1	contact 2	C2 / NO2 / NC2	S2
	3-wire	2-wire																	
supply +	VS +	VS +																	
supply -	VS -	VS -																	
signal + (only for 3-wire)	Iout / Vout	-																	
contact 1	C1 / NO1 / NC1	S1																	
contact 2	C2 / NO2 / NC2	S2																	
Wiring diagram																			
<p>3-wire-system (current / voltage)</p>	<p>3-wire-system (current / voltage) with 2 contacts</p>																		
<p>2-wire-system (current)</p>	<p>2-wire-system (current) with 2 contacts</p>																		
Dimension (in mm)																			
<p>standard</p> <p style="text-align: center;">DPS 300</p>																			

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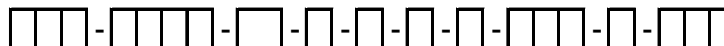
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**BDSENSORS**  
pressure measurement

## Ordering code DPS 300

DPS 300



<b>Pressure</b>													
	differential pressure	8	1	5									
	gauge pressure	8	1	6							consult		
<b>Input [mbar]</b>													
	1.6				0	0	1	6					
	4.0				0	0	4	0					
	10				0	1	0	0					
	40				0	4	0	0					
	250				2	5	0	0					
	1000				1	0	0	1					
	customer				9	9	9	9			consult		
<b>Output</b>													
	3-wire: 0 ... 10 V, 0 ... 20 mA, 4 ... 20 mA									3Z			
	2-wire: 4 ... 20 mA									1			
	customer									9	consult		
<b>contact</b>													
	without									0			
	2 contacts									B			
<b>Accuracy</b>													
	1 % FSO									G			
<b>Display</b>													
	LC display									C			
	customer									9	consult		
<b>Front foil</b>													
	BD SENSORS									1			
	neutral									N			
	customer									9	consult		
<b>Mechanical connection</b>													
	Ø6.6 x 11 (for flex. tubes Ø6)									Y	0	0	
	Ø445 x 10 (for flex. tubes Ø4)									Y	0	2	
										9	9	9	
<b>Pressure port</b>													
	brass nickel plated									M			
	customer									9	consult		
<b>Special version</b>													
	standard										0	0	0
	automatic zeroing										6	0	0
	square-root extraction										6	0	5
	customer										9	9	9

This document contains product specification; properties are not guaranteed. Detailed information about options are defined in the datasheet. Subject to change without notice.

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