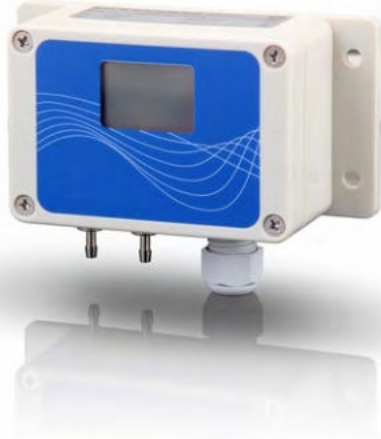


# IDPS 300



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

Silicone Sensor

accuracy according to IEC 60770:  
0.5% FSO BFSL

### Differential pressure

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

### Output signals

3-wire: 0 ... 10 V, 0 ... 20 mA  
(0 ... 5 V, 4 ... 20 mA switchable)  
2-wire: 4 ... 20 mA (optional)

### Special characteristics

- ▶ adjustable ranges
- ▶ high overpressure capability
- ▶ adjustable damping
- ▶ compact form

### Optional versions



- ▶ LC-display, two-line
- ▶ automatic zero adjustment
- ▶ contacts  
(only in combination with display)
- ▶ square root extraction  
(only in combination with display)

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

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

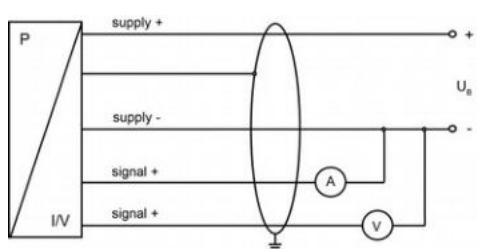
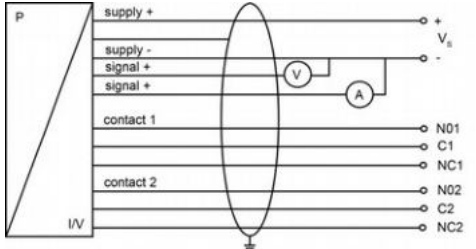
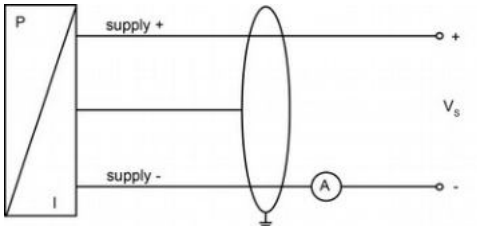
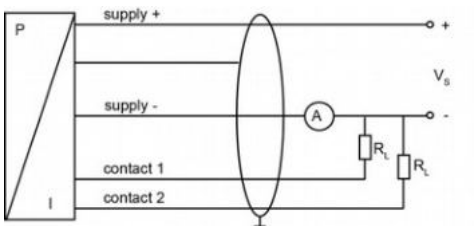
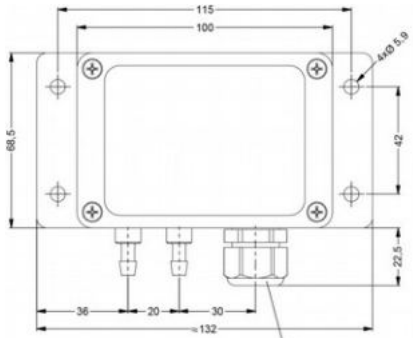
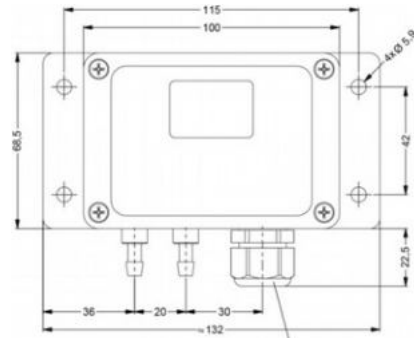
### Preferred applications are

-  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	
Nominal pressure $P_N$ symmetric (differential pressure) [mbar]	$\pm 1.6$	$\pm 4$	$\pm 10$	$\pm 40$	$\pm 250$	$\pm 1000$	
Max. static pressure [mbar]	200	200	200	345	1000	3000	
Output signal / Supply							
Standard	3-wire:	switchable on:			0 ... 10 V / 0 ... 20 mA	$V_S = 19 \dots 32 V_{DC}$	
					0 ... 5 V / 4 ... 20 mA	$V_S = 24 \dots 32 V_{DC}$	
					with automatic zero adjustment:	$V_S = 24 \dots 32 V_{DC}$	
Option	2-wire:	4 ... 20 mA			$V_S = 11 \dots 32 V_{DC}$		
		with automatic zero adjustment:			$V_S = 24 \dots 32 V_{DC}$		
Performance							
Accuracy	for $P_N \geq 6$ mbar: $\leq \pm 0,5\%$ FSO BFSL			for $P_N < 6$ mbar: $\leq \pm 1\%$ FSO BFSL			
Permissible load	voltage 3-wire:	$R_{min} = 10 \text{ k}\Omega$		current 3-wire:		330 $\Omega$	
	current 2-wire:	$R_{max} = [(V_S - V_{S min}) / 0,02 \text{ A}] \Omega$					
Influence effects	supply:	0.05 % FSO / 10 V			load: 0.05 % FSO / 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						
Long term stability	$\leq \pm 0,5\%$ FSO / year at reference conditions, for $P_N < 6$ mbar $\leq \pm 0,2\%$ FSO / year at reference conditions, for $P_N \geq 6$ mbar						
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			
switching current	max. 2 A			max. 125 mA resistant; short-circuit-proof			
switching voltage	max. 220 V <sub>DC</sub> ; max. 250 V <sub>AC</sub>						
switching capacity	max. 60 W						
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 x 10 <sup>6</sup>			< 100 x 10 <sup>6</sup>			
Thermal effects / Permissible temperatures							
Thermal error (offset and span)	$\leq \pm 0.5\%$ FSO / 10 K (typ.) for $P_N < 6$ mbar			$\leq \pm 0.3\%$ FSO / 10 K (typ.) for $P_N \geq 6$ 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						
Electromagnetic protection	EMC directive: 2014/30/EU emission and immunity according to EN 61326						
Materials							
Pressure port	brass nickel plated						
Housing	ABS						
Sensor	Ceramic, silicone, epoxy, RTV						
Media wetted parts	pressure port, PVC / silicon tube, sensor						
Display (optional)							
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>						

Miscellaneous		
Current consumption	2-wire: max. 22 mA (during automatic zero adjustment: +23 mA)	3-wire: max. 30 mA
Weight	Approx. 200 g	
Ingress protection	IP 54	
Installation position	vertical <sup>1</sup>	
<sup>1</sup> The devices are calibrated in a vertical position with 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)	
Electrical connections (conductor cross-section)		
without ferrule	1.5 mm <sup>2</sup>	
with ferrule	1 mm <sup>2</sup>	
Pin configuration		
Standard	cable gland M16x1,5	
Electrical connections	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		
3-wire-system (current / voltage)		3-wire-system (current / voltage) with 2 contacts
		
2-wire-system (current)		2-wire-system (current) with 2 contacts
		
Dimension (in mm)		
standard		option
		
IDPS 300 without display		IDPS 300 with display

