

# SPECIFICATIONS



***Differential pressure transmitters series DPC3500-R6-V  
(0 – 10 V)***

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# 1. Introduction

The subject of this document is the characteristics of the transmitter functionality differential pressure transmitter based on the Honeywell pressure sensor ABP series, with analogue output in 0 - 10 V standard, with a selectable measuring range by means of a 5-position DIPSWITCH.

CAUTION: Before starting the unit, please read the content of this document.

## 1.1. Functions

- differential pressure measurement
- sensor offset zeroing function
- LED unit status indication

## 1.2. Characteristics

The primary function of the DPC3500-R6-V series transmitters is to measure differential pressure values. The values measured by the Honeywell ABP series integrated sensor are then recalculated and averaged in the microcontroller and output as a 0-10V analogue signal.

# 2. Technical data

## 2.1. General parameters

<b>Power</b>	
- DC	DC 24V (20...30V)
- AC	AC 24V (21.5...26.5V)
<b>Current consumption</b>	
- minimum <sup>1)</sup>	9.0 mA
- typical <sup>2)</sup>	11.0 mA
- maximum <sup>3)</sup>	22.0 mA
<b>LED signaling</b>	0.2 Hz
<b>Installation connector</b>	screwed in 5.00mm raster ( $\leq 2.5\text{mm}^2$ )
<b>Dimensions</b>	112 x 84 x 31 (L x H x W)
<b>Weight</b>	approx. 100 g.
<b>Mount <sup>4)</sup></b>	wall mounted
<b>Degree of protection</b>	IP65
<b>Operating environment</b>	dust-free, air, neutral gases
<b>Operating temperature</b>	-20°C ÷ 50°C
<b>Storage conditions</b>	
- temperature	-40°C ÷ 85°C
- relative humidity	20 ÷ 60 %RH

1) Average current consumption of the device under the following conditions: no transmission; unloaded analog output; 24V DC power supply;

2) Average current consumption of the device under the following conditions: transmission of 10 queries per second; transmission rate 9600 b/s; simultaneous reading of 20 registers; bus terminating resistors 2 x 120Ω; analog output set to 10V and loaded with 10kΩ resistance; 24V DC power supply;

3) Maximum instantaneous current consumption under conditions: analogue output with 1kΩ resistance; signaling LED always on; other conditions as in 2);

4) The unit must be installed by qualified personnel;

## 2.2. Differential pressure measurement parameters

<b>Sensor type</b>	ABP
<b>Measuring range</b>	max 6000 Pa

<b>Resolution</b>	12 bits
<b>Accuracy:</b>	
- within 0 ÷ 50°C	±0,5 % of range
- within -20 ÷ 85°C	unspecified
<b>Sampling rate</b>	100 Hz

### 3. Installation

#### 3.1. Security

- The unit must be installed by qualified personnel!
- All connections must be made according to the wiring diagrams shown in this specification!
- Check all electrical connections before starting up!

#### 3.2. Unit design

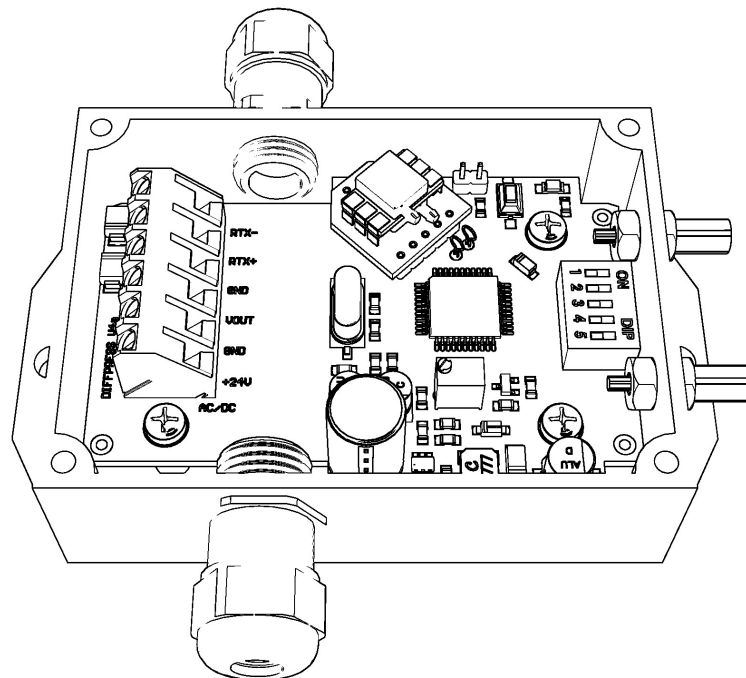


Figure 1. View of PCB.

### 3.3. Description of Connections

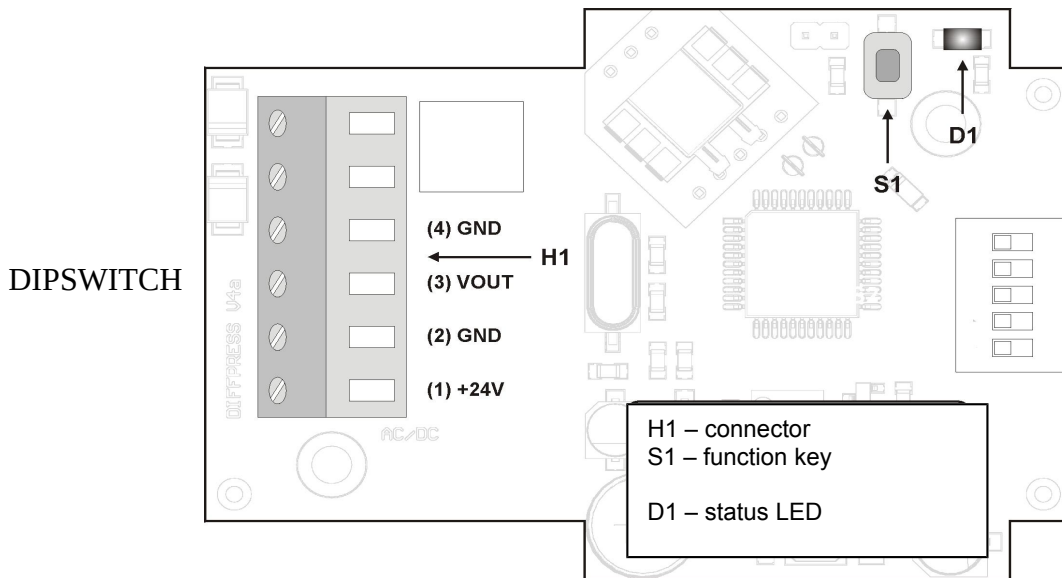


Figure 2. Transmitter leads description.

### 3.4. Offset zeroing

#### Zero button:

Before calibrating (zeroing) the offset, the output range must be set beforehand and both connectors must have the same pressure (you may disconnect both hoses). To trigger the zeroing process, press and hold S1 button for approximately 3 seconds until D1 starts flashing. The calibration time is counted from the moment the button is released and it takes about 7 seconds. Calibration process is indicated by the blinking of D1 LED. After correct calibration the device should indicate zero differential pressure.

### 3.5. Guidelines

- Use shielded cables when working in a highly noised environment.
- Connect the cable screed to the nearest PE point on the power supply side.

Measuring ranges (after selecting a range, switch off the power supply and switch on again to load the settings by the microcontroller):

DIPSWITCH position	Measuring range
All OFF	0 : 3500 Pa
1 - ON	0 : 2500 Pa
2 - ON	0 : 1500 Pa
3 - ON	0 : 1000 Pa
4 - ON	0 : 500 Pa
5 - ON	0 : 100 Pa