

New

# Digital Differential Pressure Gauge / Switch / Transmitter User Manual



**ABUS TECHNOLOGIES INC.**

## WARNING

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- ❖ This manual should be passed on to the end user.
- ❖ The contents of this manual are subject to change without prior notice.
- ❖ All rights reserved.
- ❖ ABUS gives no warranty of any kind with regard to this manual, including, but not limited to, fitness for a particular purpose.
- ❖ If any question arises or errors are found, or if any information is missing from this manual, please inform your supplier or inform at [info@abustek.com](mailto:info@abustek.com).
- ❖ The specifications mentioned in this manual are limited to those for the standard type under the specified model number break-down and do not necessarily apply for customized instruments.
- ❖ Please note that changes in the specifications, construction, or component parts of the instrument may not immediately be reflected in this manual at the time of change.
- ❖ If the customer or any third party is harmed by the use of this product, ABUS assumes no responsibility for any such harm owing to any defects in the product which were not predictable, or for any indirect damages.

Although Warning hazards are related to personal injury, and Caution hazards are associated with equipment or property damage, it must be understood that operation of damaged equipment could, under certain operational conditions, result in degraded process system performance leading to personal injury or death. Therefore, comply fully with all Warning and Caution notices.

Information in this manual is intended only to assist our customers in the efficient operation of our equipment. Use of this manual for any other purpose is specifically prohibited and its contents are not to be reproduced in full or part without prior approval of Technical Communications Department, ABUS Technologies

## HEALTH AND SAFETY

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To ensure that our products are safe and without risk to health, the following points must be noted:

1. The relevant sections of these instructions must be read carefully before proceeding.
2. Warning labels on containers and packages must be observed.
3. Installation, operation, maintenance and servicing must only be carried out by suitably trained personnel and in accordance with the information given. Any deviation from these instructions will transfer the complete liability to the user.
4. Normal safety precautions must be taken to avoid the possibility of an accident occurring when operating in conditions of high pressure and/or temperature.
5. Chemicals must be stored away from heat, protected from temperature extremes and powders kept dry. Normal safe handling procedures must be used.
6. When disposing of chemicals ensure that no two chemicals are mixed.

Safety advice concerning the use of the equipment described in this manual or any relevant hazard data sheets (where applicable) may be obtained from the Company address on the back cover, together with servicing and spares information.

# CATALOGUE

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## 1. INTRODUCTION

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ABUS Technologies Inc., Digital Differential Pressure Gauge/Switch/Transmitter functions as versatile, highly repeatable pressure switches combined with a precise pressure gauge employing the time-proven design. The DDP Series Gauge / Switch / Transmitter measures and controls positive, negative or differential pressure of air and other compatible gases, that is Differential pressure for Air & Non-corrosive gases; Gauge pressure for Non-corrosive gases & Liquid. ABUS DDP series comes with latest technology and intelligent circuitry and has outmoded old-styled mechanical switch, factoring high performance stability and extended measurement range. The 4 digit digital display reduces the potential of errors in readings by eliminating parallax error commonly produced by the analogue Gauge/Switch/Transmitter.

### Applications

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- Industrial OEM Equipment
- Sugar, Fertilizer, Chemical & Cement Industries
- Power Plants, Cement Plants,
- Marine industry
- Food and Pharmaceutical industries
- Process Control Industries
- Hydraulic Machines / Systems
- Calibration Labs

## 2. PRESENTATION

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### 2.1 Features

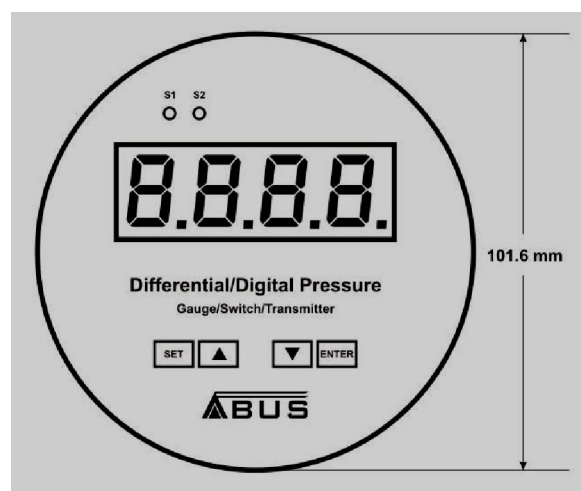
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1. Excellent for differential, negative, gauge, and absolute pressure measurement
2. Ranges from 60Pa to 42MPa.
3. Combining the functions of switch, gauge and transmitter.
4. Accuracy of 0.25% FS, without dead band
5. Ranges can be reset in the field through the reset buttons

## 2.2 Technical Parameters

<b>Media Compatibility:</b>	<i>Differential Pressure:</i>	Air and non-corrosive gases
	<i>Gauge Pressure:</i>	Non-corrosive gases / liquid
<b>Power:</b>	24 VDC and 220 VAC, 50/60 Hz.	
<b>Accuracy:</b>	0.25 % of full span (including Linearity, Hysteresis and Repeatability).	
<b>Output Signal:</b>	4~20 mA, 2-wire	
<b>Electrical Rating:</b>	10A at 120 VAC	
	6A at 240VAC, 60 Hz	
<b>Electrical Connections:</b>	Screw Terminals	
<b>Process Connections:</b>	<i>Differential Pressure:</i>	Barbed Connections
	<i>Gauge Pressure:</i>	M20 x 1.5
<b>Material:</b>	ABS housing, Brass or SS316 process connections.	
<b>Damping:</b>	1~30s adjustable.	
<b>Operating Temperature:</b>	-10°C ~ 50°C	
<b>Range Turn Down:</b>	3:1	
<b>Set Point Adjustment:</b>	Reset Buttons on face	
<b>Dimensions:</b>	4" (101.60mm) dial size.	

## 3. DIMENSIONS



## 4. ORDERING DETAILS

TYPE				DESCRIPTION		
Product	DDP			Digital Differential Pressure		
Type		DP		For Differential Pressure		
		CP		For Compound Pressure		
		GP		For Gauge Pressure		
Dial Size		4		4" (101.60mm)		
Power Supply			A	220V AC, 50/60Hz		
			D	24V DC		
Analogue Output			N	None		
			D	4-20mA		
Digital Output			N	None		
			1	01 alarm		
			2	02 alarm		
Connections			2	M20 x 1.5		
			4	Barbed Connections		
Mounting			D	Direct bottom		
			B	Back Mounting		
Accessories			N	None		
			C	Cable 5 Meter Long		
			A	Air Filter Gauge Kit		
			W	Weather Proof Cover		
			P	Programming Keys		
Ranges	<b>Please Note:</b>  <b>DP#</b> Ranges are valid only when <b>DP type</b> is selected.  <b>CP#</b> Ranges are valid only when <b>CP type</b> is selected.  <b>GP#</b> Ranges are valid only when <b>GP type</b> is selected.			DP1	0-60 Pa	0-0.24 inch W.C.
				DP2	0-125 Pa	0-0.5 inch W.C.
				DP3	0-250 Pa	0-1.0 inch W.C.
				DP4	0-500 Pa	0-2.0 inch W.C.
				DP5	0-750 Pa	0-3.0 inch W.C.
				DP6	0-1 KPa	0-4.0 inch W.C.
				DP7	0-2 KPa	0-8.0 inch W.C.
				DP8	0-5 KPa	0-20.0 inch W.C.
				DP9	0-8 KPa	0-32.1 inch W.C.
				DP10	0-10 KPa	0-40.1 inch W.C.
				DP11	0-15 KPa	0-60.2 inch W.C.
				DP12	0-20 KPa	0-80.3 inch W.C.
				DP13	0-30 KPa	0-120.4 inch W.C.
	DP14	0-50 KPa	0-200.7 inch W.C.			
	DP15	0-100 KPa	0-401.5 inch W.C.			
	DP16	0-200 KPa	0-802.9 inch W.C.			
	DP17	0-700 KPa	0-2810.2 inch W.C.			
	CP1	125-0-125 Pa	0.5-0-0.5 inch W.C.			
	CP2	250-0-250 Pa	1.0-0-1.0 inch W.C.			
	CP3	500-0-500 Pa	2.0-0-2.0 inch W.C.			
	CP4	125-0-125 Pa	0.5-0-0.5 inch W.C.			
	CP5	250-0-250 Pa	1.0-0-1.0 inch W.C.			
	CP6	500-0-500 Pa	2.0-0-2.0 inch W.C.			
	CP7	1.25-0-1.25 Kpa	5.0-0-5.0 inch W.C.			
	GP1	0-2 MPa	0-8029.3 inch W.C.			
	GP2	0-4 MPa	0-16058.5 inch W.C.			
	GP3	0-7 MPa	0-28102.4 inch W.C.			
	GP4	0-10 MPa	0-40146.3 inch W.C.			
GP5	0-21 MPa	0-84307.2 inch W.C.				
GP6	0-35 MPa	0-140512.1 inch W.C.				
GP7	0-42 MPa	0-168614.5 inch W.C.				

**Example: DDP > DP > 4 > D > D > 1 > 2 > D > N > DP3**

## 5. SAFETY PRECAUTIONS

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1. The unit should be powered for 15 minutes before use.
2. Use in ambient temperature of 0-50°C.
3. Avoid vibrations, shock, excessive dust, corrosive chemical materials or gaseous environment.
4. Input wire should not be too long. If measured signal have to be far away from the unit, please use 2-core shielded cable.
5. Use this instrument in the scope of its specifications, otherwise fire or malfunctions may result.
6. Contact of the instrument, with organic solvents or oils should be avoided.
7. Do not turn on the power supply until all of the wiring is completed. Otherwise electrical shock, fire or malfunction may result.
8. Do not disassemble, repair or modify the instrument.
9. All connections should be tightened properly.
10. Power supply should be constant, should not be fluctuating.

## 6. WARRANTY

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ABUS provides the original purchaser of this instrument a one (1) year warranty against defects in material and workmanship under the following terms:

- The one year warranty begins on the day of shipment as stated on the sales bill.
- During the warranty period all costs of material and labor will be free of charge provided that the instrument does not show any evidence of misuse.
- For maintenance, return the instrument with a copy of the sales bill to our factory.
- All transportation and insurance costs should be covered by the owner of the equipment.
- Should any sign of electrical or mechanical shock, abuse, bad handling or misuse be evident the warranty voids and maintenance costs will be charged.