



## DPT7S10

### Differential Pressure Transmitter



Digital  
Measurement



Temperature  
Compensated



Stable



Robust



Accurate



PC based  
Configuration

Masibus Differential Pressure Transmitter is designed for highly accurate differential pressure measurement and signal conditioning for a wide range of industrial, pharmaceutical and building automation applications. DPT7S10 is most technologically advanced transmitters in the market measuring differential pressure with field selectable range.

DPT7S10 transmitter senses very low pressures of air and non-combustible, compatible gases and sends a standard 4 to 20mA output signal or send a signal values on modbus. DPT7S10 transmitter is available in wall mount for both loop and aux powered to suite various industrial environments. Transmitter provides linear output signals proportional to differential pressure input.

DPT7S10 transmitter provides  $\pm 2\%$  of FS accuracy and having sensor with fully calibrated and linearized output. All these devices provide high performance in a compact and lightweight design.

DPT7S10 is a programmable, microcontroller-based, 2-wire, differential pressure transmitter. It features an IP65 enclosure and an LCD display. DPT7S10 can be easily configured for pressure unit, unidirectional or bi-directional, range, output type (4~20 / 20~4 mA), zero and span values of input as well as output etc. Loop powered 4-20 mA DC output signals can be fed as input to remote display, recorder, controller or PLC/DCS over a long distance.

#### Features

- Wide loop supply voltage range from 10VDC to 36VDC
- Custom built LCD 4-digit display
- Configurable unit measurement in mmWC / Pa
- Available in compact and lightweight design for easy and simple wall mount installation
- Configurable by front keypad (Available in device with display)
- Password protected calibration mode and front keypad provides easy and quick calibration (Available in device with display)
- PC based software for configuration, calibration & monitoring
- Linearized analog 4-20mA signal output
- High reliability and long-term stability
- High accuracy and fully digital programmable transmitter
- Advanced digital differential pressure sensor technology
- Isolated RS485 communication with aux powered model

#### Applications

- Ideal for HVAC application
- Building automation
- Pharmaceutical labs/industry
- Pressure monitoring in clean rooms
- Research laboratories
- Data acquisition, analysis and processing
- Valve and damper control
- Fan, blower and filter monitoring
- Oven pressurization

# TECHNICAL SPECIFICATIONS

Input		Communication	
Input Type	Differential pressure	Model	Loop powered      Aux. powered
Measurement Range	Pa: +/- 100, 250, 500, 1000 or unidirectional mmWC: +/- 10, 25, 50, 100 or unidirectional	Interface	TTL      RS485
Accuracy	Pa : +/- 0.5% Span +/- 2 Pa mmWC: +/- 0.5% Span +/- 0.2 mWC (including: general accuracy, temperature drift, linearity, hysteresis, and repetition error)	Protocol	Modbus RTU
Resolution	0.1 / 1 selectable in measured units	Baud Rate	4800, 9600, 19200 bps
Response Time	2 sec	<b>Power Supply</b>	
Thermal Effects	Temperature compensated across the full spectrum of capability	Loop Powered Model	10 to 36V VDC with reverse polarity protection
Overpressure	Proof pressure: +/- 10 kPa Burst pressure: +/- 20 kPa	Aux Powered Model	18 to 36 VDC with reverse polarity protection <1W power consumption
Zero Point Calibration	Manual by front keypad (Available in device with display) / PC based software	<b>Isolation</b>	
Digital Filter	0 to 100 Sec	Aux Powered Model	1000Vrms for 1 minute between supply and RS485 output
<b>Display &amp; Keys</b>		<b>Physical</b>	
Process Value	4 digit, 7-segment 0.39" LCD	Mounting	Wall mount
Keys	Push button: ENT, ESC, INC for configuration and calibration	Weight	~350 gms
<b>Output (for Loop Power Model)</b>		Enclosure Dimension (in mm)	80mm(H) x 82mm(W) x 55mm(D)
No. of Output	1	Enclosure Material	ABS
Signal	4-20mA (Direct or reverse user configurable)	IP (Ingress Protection)	IP-65
Accuracy	±0.1% of FS	Cable Entry Gland	PG 7
Temperature co-efficient	≤100 ppm	Cable Terminal Type	2.5 mm <sup>2</sup> , AWG 14 wire, screw type
Load	Rload = (Loop supply voltage – 10) / 0.021) Ohm	Tubing	PVC
Sensor Break Output	≤3.6 or ≥21mA	<b>Environmental</b>	
		Operating Temperature	0 to 60°C
		Storage Temperature	-10° to 70°C
		Humidity	20% to 95% RH (Non-condensing)
		Warm up Time	Approx. 15 min.

## Ordering Code for DPT7S10

Model	Power	Display	Measuring Range
DPT7S10	X	X	X
L	Loop	Y Yes	1 -500 to 500 Pa
A	Aux.	N* No	2 -1000 to 1000 Pa

\*In aux power version, only with display model is available modbus available in aux power version only

### Cable Accessory for Loop Power Model (Extra Cost)

Part No.	Description
TT7SCC	Configuration Cable