

ROOM PROCESS MONITOR - ETH



DPT52E

0.56" Bright LED Display for PV

Inbuilt RH, Temperature & DP Sensors

RS485/Ethernet Communication

Min & Max Value Monitoring

Internal Memory with Datalogging

Configurable Analog Output (4–20mA / 0–10V)

Compact design

The DPT52E is a precision instrument designed to accurately measure differential pressure (DP) and Relative Humidity and Temperature in cleanroom environments. It is equipped with advanced features to transmit digital data or a 4-20mA/0-10V output to connected indicators or data loggers, allowing for continuous monitoring of DP, Relative Humidity and Temperature levels. This ensures that room conditions are maintained in compliance with strict requirements, facilitating timely actions for optimal performance. In addition to its analog capabilities, the DPT52E supports MODBUS RTU and Ethernet TCP/IP protocols, providing seamless integration for data logging solutions. This versatility enhances its ability to meet the demands of modern cleanroom monitoring systems.

Features

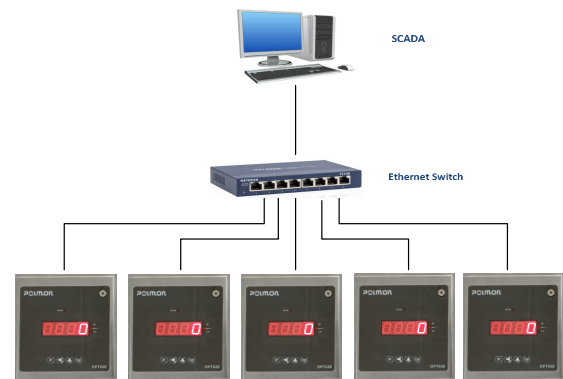
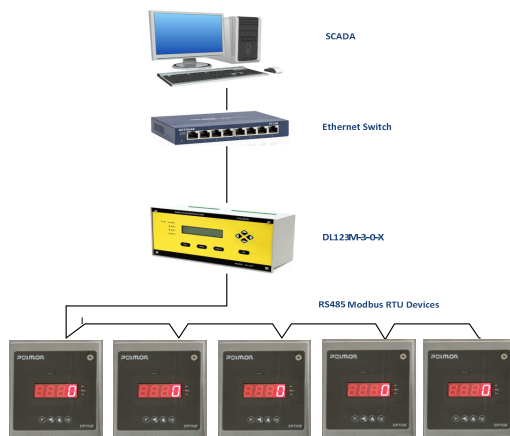
- Display with 0.56" Seven Segment Red LED Display.
- Inbuilt RH & Temperature and Digital Differential Pressure sensor
- Wide range of Input Options for Remote Communication/ Inbuilt Sensors
- Time Synchronization with PLC/SCADA/DCS/NTP
- Programmable Set points for each parameter (HI/Nor/LO) for Visual and LED and Audio Annunciation
- User configurable (enable/disable) Inbuilt Buzzer to provide audible Process value violation
- Option for Buzzer Acknowledgement and Snoozing
- Min and Max Value Monitoring
- Process Value violation display indication
- Password protected calibration & other programming modes
- Software Calibration & Ranging through soft touch tactile keypad
- User configurable (enable/disable) Inbuilt Relay (for Process Value) (1- C, NO, NC)
- AHU ON/OFF, Trip Status
- Dual door feedback
- Relay Output with Programmable Acknowledgement and Snoozing
- RS-485 MODBUS RTU Communication with Maximum of 31 devices
- Ethernet MODBUS TCP/IP Communication
- Optional 4-20mA/0-10V for single channel

- Stand-alone mode with inbuilt clock in network failure condition
- Clean Room compatible Concealed Enclosure (Depth 40 mm)
- 24VDC Supply / POE variants

Applications

- Environmental Monitoring for Clean Rooms with Synchronized Clock
- Data logging
- Pharmaceutical industry
- Blood Banks
- Horticulture
- HVAC

Network Architecture

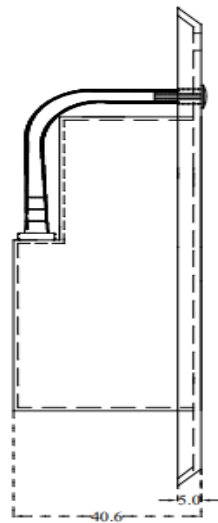
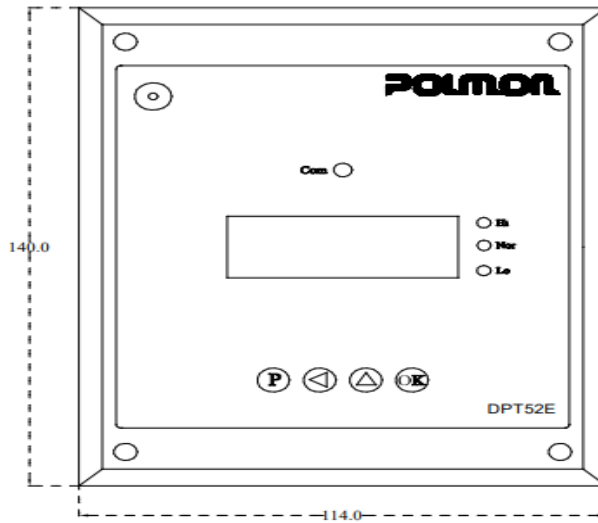


Specifications			
Technical			
Model No	DPT52E		
Input Type	Inbuilt DP Sensor	Inbuilt RH Sensor	Inbuilt Temperature Sensor
No.of Units	7	1	1
No. of channels	1	1	1
Display	LED display for PV CH1:4 digit 0.56" seven segment (Red), Red LED with Hi and Lo LED Indication. CH2:4 digit 0.56" seven segment (Red), Red LED with Hi and Lo LED Indication.(Optional)		
Measurement	DP	RH	Temperature
Measurement Range	DP : ±100mmWC / -1000 to 1000 Pascal ±12.5mmWC/-125 to 125 Pascal	RH: 0 to 100% RH,	Temp: 5.0 to 60.0°C
Input Accuracy	DP:Range ±125 Pa/ ± 12.5mmWC:±1.25% of Reading ± 2 count Range ±1000 Pa/ ± 100.0mmWC: ±1.5% of	RH: ±2% for range 10 to 90% & ±4% for remaining.	Temp: ±0.3°C for the range 5.0 to 60.0°C & ±0.4°C for remaining
Resolution	DP: 0.1 mmWC / 1 Pa	RH: 1%	Temp: 0.1°C
Response time	DP: 1second	RH & Temp: Typically 12 seconds	
Output	Default: - Relay (1 - NO, NC) Output 1: - Communication (RS-485 MODBUS RTU) / (Ethernet MODBUS TCP/IP). Output 2: - Current O/P (4-20mA@500 Q load), Voltage O/P (0-10v), Software Selectable for a Single Channel (Optional)		
Output Accuracy	± 0.25% of FSR		
Digital Inputs	2 (AHU ON/OFF, Trip OR Dual Door status) (Optional)		
Clock Accuracy	Depends on PLC/SCADA/DCS time, ±2 minutes/year (Stand alone mode)		
Synchronization	Depends upon PLC/SCADA/DCS/NTP		
Buzzer	In built Buzzer provided to beep in set values violated condition with user configurable Snooze option		
Keypad	Tactile Keys		
Calibration	Software (Through Keypad)		
Power Supply			
Power supply	20-36Volt AC/DC, 300mA POE(48V,15Watt)		
Physical			
Enclosure	SS316 Face plate with Flush mount MS back box		
Dimensions (LxWxD)	140x114x40mm		
Mounting	Brick Wall, Modular Wall and On Wall (Order Optional Accessories)		
Terminals	2.5 Sq.mm Screw Terminal		
Environmental			
Operating Temperature	5-50°C		
Humidity	10-95%RH, Non-Condensing		

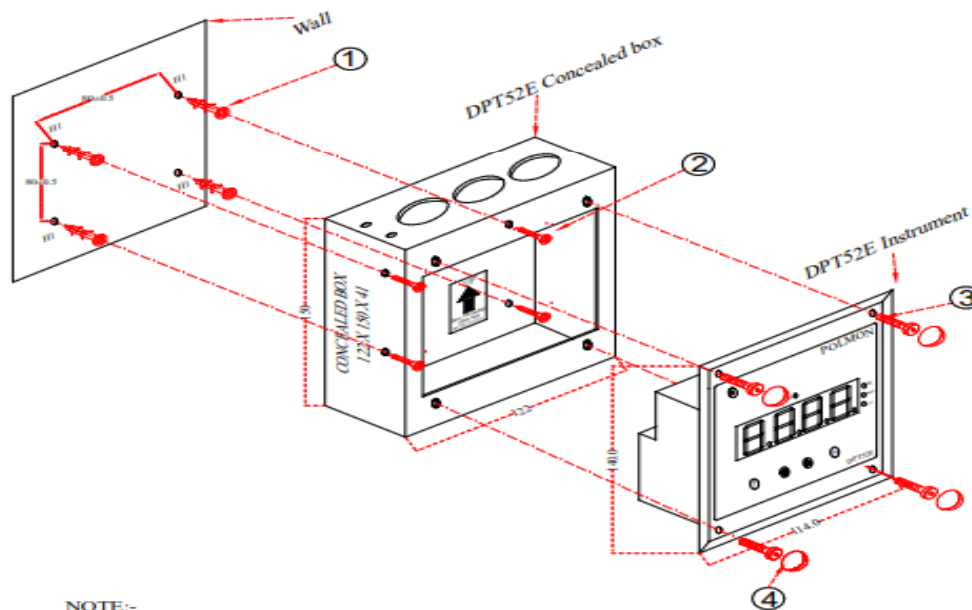
Ordering Information for DPT52E								
DPT52E	X	X	X	X	X	X	X	X
Model No	Enclosure type	Sensor Range	output1	#Output2	Power Supply	Datalogging	Digital Input	Future Use
DPT52E	R - NFLP	X - NA	X- NA	1 - NA	1 - 24V AC/DC	X - No Datalogging	X- NA	X
	F - FLP	1 - DP Inbuilt $\pm 125\text{Pascal}$	1 - Ethernet	2 - 4-20mA/0-10V (For Single LP) ##	2 - POE #	1 - Datalogging *	1- AHU On/Off, Trip	
		2- DP Inbuilt $\pm 1000\text{ Pascal}$	2 - RS485 #				2- Dual Door Status	
		3- RH & Temp Inbuilt Sensor						
		4 - Temperature Inbuilt sensor						
		5- DP Inbuilt $\pm 125\text{Pascal}$ + Temperature Inbuilt sensor						
		6- DP Inbuilt $\pm 1000\text{ Pascal}$ + Temperature Inbuilt sensor						

Note:

1. * For Datalogging PISCADA is required
2. NA=Not Applicable
3. # Power Supply-2(POE) is selected, Output 1: Option 2-RS485 is not possible.
5. ##Output 2 to be specified for RH/Temp/DP.
6. New Variant to be confirmed from R&D.

**L. SIDE VIEW****FRONT VIEW**

Mounting Drawing

**NOTE:-**

- | | | |
|----------------------------|---|-------|
| 1. Roval plugs | - | 4No's |
| 2. 1" CSK Screw | - | 4No's |
| 3. Screw M4 x 20 Cap Screw | - | 4No's |
| 4. Closing cap for Screw | - | 4No's |
| 5. H1: Hole of Ø5.0mm | - | 4No's |