



## FDU Filter Display Unit

The Filter Display Unit FDU can measure/ display differential pressure for up to three Filters using inbuilt sensors and is designed to give fast & accurate display of differential pressure across the Filters.

FDU has up to 3 dedicated 4-digit seven segment, 0.56" Red LED displays to display PRE, FINE and HEPA Filters readings.

FDU has an inbuilt buzzer for audible alarm on Filter set point exceedance, the Filter display also blinks on set point exceedance for operator's attention. It has RS485 communication port with MODBUS-RTU protocol for interfacing with PLC/DCS/SCADA systems. It has two digital inputs to indicate the AHU ON-OFF/TRIP status.

The unit comes with free utility software for configuration and calibration.

FDU is a cost effective replacement for analog mechanical pressure gauges.

### Features

- Micro-controller based 3 Filter differential pressure Indicator
- Up to 3, 0.56", 4-digit Red LED Filter displays.
- Software programmable Filter ranges
- 3 programmable Hi/Lo alarms with Audio/visual annunciation
- RS485/MODBUS RTU communication for PLC, SCADA, etc
- Built in AHU OFF/TRIP status LED indications via digital inputs
- AHU OFF/TRIP soft status Available on Modbus
- Free utility software for configuration and calibration

### Applications

- HVAC Filter condition monitoring

# TECHNICAL SPECIFICATIONS

Input		Power Supply	
<b>Integral Sensor input</b>		Voltage	
No. of Inputs	Up to 3	85 - 265V AC, 50/60 Hz / 100-300V DC optional 18-36V DC	
Input type	Integral Differential Pressure sensor	Power consumption	<3VA
Measurement range	±1000 Pa or unidirectional ± 100 mmWC or unidirectional	<b>Isolation (Withstanding voltage)</b>	
Accuracy	± 2% of F.S	<ul style="list-style-type: none"> <li>Between primary terminals* and secondary terminals**: At least 1500 V AC for 1 minute</li> <li>* Primary terminals indicate power terminals</li> <li>** Secondary terminals indicate Input &amp; Communication port</li> </ul>	
Resolution	Selectable 0.1/1 in measured units	<b>Insulation resistance:</b> 20MΩ or more at 500 V DC between power terminals and grounding Terminal	
Response Time	3 sec		
<b>Digital input</b>			
No. of Digital i/p	2		
Input Type	Potential free Contacts		
Purpose	AHU On-Off/Trip status		
Display & Keys		Physical	
Filter Readings	0.56", 4-digit 7 segment Red LED, up to 3 dedicated Displays	Enclosure Dimension	160(H) x 210(W) x 80(D) in mm
Status Indication	10 Red LEDs for alarm, AHU status and communication	Weight Approx.	<1kg
Keys	Acknowledgement	Enclosure material	M.S. Powder Coated
<b>Output</b>		Enclosure Protection	IP20
Buzzer	In-built Buzzer for alarm set point exceedance	Terminal Cable Size	2.5mm <sup>2</sup>
<b>Communication</b>		Environmental	
Interface	RS485 (2 Wire)	Humidity	20% to 95% RH (Non-Condensing)
Protocol	Modbus-RTU	Warm-up Time	Approx. 15 minutes
Baud rate	9600, 19200, 38400 bps	Ambient temperature	0 to 55°C
<b>Parameters:</b>		Storage Temperature	0 to 80°C
Filter Readings	Read only		
Set points	Read & write from the Master		

## ORDERING CODE

Model	Measuring Range						Power supply
	Integral Sensor-1		Integral Sensor-2		Integral Sensor-3		
<b>FDU</b>	<b>X</b>		<b>X</b>		<b>X</b>		<b>XX</b>
	1	125 Pa	N	None	N	None	U1 85-265V AC/ 100-300V DC
	2	250 Pa	1	125 Pa	1	125 Pa	U2 18-36V DC
	3	500 Pa	2	250 Pa	2	250 Pa	
	4	1000 Pa	3	500 Pa	3	500 Pa	
	5	12.5 mmWC	4	1000 Pa	4	1000 Pa	
	6	25.0 mmWC	5	12.5 mmWC	5	12.5 mmWC	
	7	50.0 mmWC	6	25.0 mmWC	6	25.0 mmWC	
	8	100.0 mmWC	7	50.0 mmWC	7	50.0 mmWC	
			8	100.0 mmWC	8	100.0 mmWC	