

# UFS Series Low Differential Pressure Transmitter

alpha 阿尔法  
微差压传感器 · From USA



The UFS series are low-range differential pressure transmitters with capacitive sensors. Each unit features a patented stainless steel diaphragm sensor and a plastic enclosure, which meets the NEMA 4/IP65 requirement. The unique design provides excellent corrosion resistance, repeatability, and long-term stability.

The series can sense differential or gauge pressure. Multiple output modes are offered for both unidirectional and bidirectional pressure ranges. All units are temperature compensated from 0°C to 70°C. The thermal effect is less than  $\pm 0.05\%FS/^{\circ}C$ . The highest accuracy is  $\pm 0.25\%FS$  at room temperature.

The powerful enclosure allows the series to be applied in both indoor and outdoor applications.

## Performance Specifications

Parameters	Standard	Optional	Optional
Accuracy*(at room temp)	$\pm 1.0\%FS$	$\pm 0.40\%FS$	$\pm 0.25\%FS$
Non-Linearity(BFSL)	$\pm 0.97\%FS$	$\pm 0.37\%FS$	$\pm 0.20\%FS$
Hysteresis	$\pm 0.20\%FS$	$\pm 0.10\%FS$	$\pm 0.10\%FS$
Non-Repeatability	$\pm 0.10\%FS$	$\pm 0.10\%FS$	$\pm 0.10\%FS$
Thermal Effects (Per $^{\circ}C$ )	$\pm 0.05\%FS$	$\pm 0.03\%FS$	$\pm 0.02\%FS$
Compensated Range	0°C to 70°C		
Maximum Line Pressure	15PSI (100kPa)		
Overpressure	15PSI (100kPa) in Positive or Negative Direction for all Ranges		
Long Term Stability	$\pm 0.5\%FS/YR$		
Warm-up Shift	$\pm 0.1\%FS$		
Position Effect	Each unit is calibrated in the vertical position. For best accuracy, adjust the zero of the unit if it is mounted in other positions. It is not necessary to adjust the sensitivity.		

\* RSS of Non-Linearity, Hysteresis, and Non-Repeatability

## Environmental and Physical Specifications

Operating Temperature	0°C to 70°C
Storage Temperature	-40°C to 80°C
Electrical Connections	Pluggable Terminal Block and PG-9 Cable Gland
Pressure Fittings	3/16" \ or 8.0mm O.D. Barbed Brass
Output Adjustment	Press $\Delta$ and $\nabla$ buttons on the top cover or the zero button under the small cap for 3 seconds to tare the unit
Service	Typically Air or Similar Non-conducting Gases
Enclosure	PA66+30GF, 94V-0 Rated
Weight	360g
Installation	See Diagram 1 for Outline and Dimensions

## Applications:

- HVAC and VAV Control
- Medical Instruments and Equipments
- Environmental Pollution Control
- Clean and Isolation Rooms
- Power Plant Air Flow Monitor and Control
- Textile Machinery
- Gas Pipe Air Flow Monitor and Control
- Furnace Air Flow Control
- Mine Air Flow Monitor and Control

## Features:

- 220VAC Power Supply Optional
- Multiple Pressure Fittings/ Output Modes
- Dual Relays Optional
- Field Selectable English or Metric Ranges
- Configurable Intermediate Ranges
- Filter Coefficient Adjustable
- Audible and Visual Alarm
- RS485
- Easy Zero Calibration
- Backlit LCD Display
- Airflow and Air Velocity Functions
- CE Compliant
- Meet RoHS Requirements
- Pressure Ranges as Low as 10 Pa only

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## Advanced Settings

While keeping the unit running, press  $\triangle$  and  $\nabla$  buttons on the top cover three times in turn to access the advanced settings

Code	Function	Instruction (Press $\triangle$ and $\nabla$ buttons to shift and the MENU button to confirm)
900	Combination Key Reset	ON: Enable combination key reset (Press $\triangle$ and $\nabla$ buttons simultaneously for 3 secs) OFF: Disable combination key reset
901	Temperature/ Percent of Pressure Range	ON: Show the temperature on the bottom right of the screen OFF: Show the percent of pressure range on the bottom right of the screen
902	Audible and Visual Alarm	ON: Enable audible and visual alarm OFF: Disable audible and visual alarm
903	Overpressure Alarm Delay Time <sup>(1)</sup>	Press $\triangle$ and $\nabla$ buttons to adjust the delay time (s) and the MENU button to save the setting

### 904-911 (For Voltage/Digital Output Modes only)

904	Backlit LCD Display	ON: Turn on the backlight, OFF: Turn off the backlight
905	Frequency of Auto-zero <sup>(2)</sup>	Press $\triangle$ and $\nabla$ buttons to adjust the frequency (h) and the MENU button to save the setting When the frequency is 0, the function is disabled
906	Auto-zero Time after Overpressure Recovery <sup>(3)</sup>	Press $\triangle$ and $\nabla$ buttons to adjust the time (s) and the MENU button to save the setting When the time is 0, the function is disabled
907	Relay Return Difference <sup>(4)</sup>	ON: Manual Setting OFF: Default Setting (5% of the Upper and Lower Limit Difference of the Relay)

### When 907 is OFF, 908-911 codes are automatically hidden

908	Relay 1 Upper Limit Return Difference	Press $\triangle$ and $\nabla$ buttons to adjust the return difference and the MENU button to save the setting
909	Relay 1 Lower Limit Return Difference	Press $\triangle$ and $\nabla$ buttons to adjust the return difference and the MENU button to save the setting
910	Relay 2 Upper Limit Return Difference	Press $\triangle$ and $\nabla$ buttons to adjust the return difference and the MENU button to save the setting
911	Relay 2 Lower Limit Return Difference	Press $\triangle$ and $\nabla$ buttons to adjust the return difference and the MENU button to save the setting

Note: (1). When the pressure is out of range and lasts for a certain time, the alarm will be triggered.  
For example: When the delay time is set at 30 secs, the alarm will be triggered after being overpressured for 30 secs.

(2). The auto-zero is performed after a certain period of operation.  
For example: When the frequency of auto-zero is set at 720 hours( a month), the function will be triggered per 720 hours( a month).

(3). After recovering from overpressure for a certain time, the unit will be reset automatically.  
For example: When the time is set at 30 secs, the unit will be reset after recovering from overpressure for 30 secs.

(4). The absolute value of the difference between the forward direction pressure and the backward direction pressure.