





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/°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.

Ontional

Ontional

Standard

Performance Specifications

Darameters

Parameters	Standard	Optional	Optional	
Accuracy*(at room temp)	$\pm 1.0\%$ FS	±0.40%FS	±0.25%FS	
Non-Linearity(BFSL)	±0.97%FS	±0.37%FS	±0.20%FS	
Hysteresis	±0.20%FS	$\pm 0.10\%$ FS	±0.10%FS	
Non-Repeatability	±0.10%FS	$\pm 0.10\%$ FS	±0.10%FS	
Thermal Effects (Per °C)	±0.05%FS	±0.03%FS	±0.02%FS	
Compensated Range	0°C to 70°C			
Maximum Line Pressure	15PSI (100kPa	a)		
Overpressure	15PSI (100kPa	a) in Positive or N	legative Direction fo	r 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 posit	ions. It is not	necessary to a	djust the

^{*} 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

sensitivity.

Pressure Fittings 3/16" or 8.0mm O.D. Barbed Brass

Output Adjustment Press \triangle and ∇ buttons on the top cover or the zero button

under the small cap for 3 seconds to tare the unit Typically Air or Similar Non-conducting Gases

Enclosure PA66+30GF, 94V-0 Rated

Weight 360g

Service

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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Electrical Specifications

Voltage/Digital Output Modes

Circuit 3-Wire (+EXC, -EXC, OUTPUT), Incorrect Wiring Protection

Excitation 13-30VDC/220VAC
Output signals 0-5VDC, 0-10VDC/RS485

Output Impedance ≤5.0 OHMS

Calibrated with a 50K OHM load. Operable with a load greater than 5K OHM (0-5VDC) or 10K OHM (0-10VDC)

Current Output Mode

Circuit 2-Wire (+EXC, -EXC), Incorrect Wiring Protection

Output signal 4-20mA

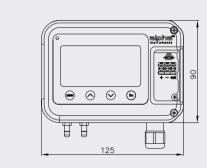
Bidirectional Output at Zero 12mA as Standard

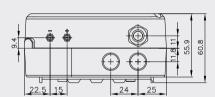
Excitation 13-30VDC (See diagram 2 for maximum loop resistance)

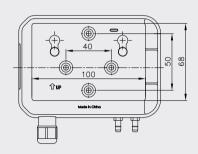
External Load 0-800 OHM

* Zero Output: Factory setting is ±0.08mA Span Output: Factory setting is ±0.08mA * Calibrated with a 24 VDC power supply and a 250 Ω load

Outline and Dimensions







LOOP RESISTANCE (OHMS)*

40 VDC

POWER SUPPLY VOLTAGE

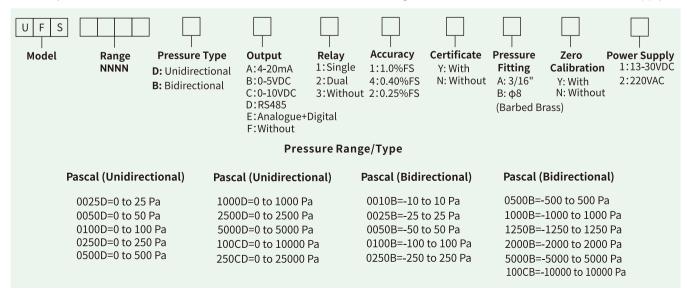
Diagram 2

DIMENSIONS ARE IN MILLIMETERS.

Diagram 1

Ordering Code

Example: UFS0050DA11YAY1 for UFS Transmitter, 0 to 50 Pa Range, Unidirectional, 4-20mA Output, Single Relay, 1.0%FS Accuracy, With Calibration Certificate, 3/16" Barbed Brass Pressure Fittings, With Zero Calibration, 13-30VDC Power Supply.



^{*} Zero Output: Factory set at ± 25 mV (0-5VDC), ± 50 mV (0-10VDC) Span Output: Factory set at ± 25 mV (0-5VDC), ± 50 mV (0-10VDC)

Advanced Settings

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

Code	Function	Instruction (Press \triangle and ∇ buttons to shift and the MENU button to confirm)
900	Combination Key Reset	ON: Enable combination key reset (Press \triangle and ∇ 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 ⁽¹⁾	Press \triangle and ∇ 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 (2)	Press \triangle and ∇ 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 ⁽³⁾	Press \triangle and ∇ 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 (4)	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	and the MENU button to save the setting
909	Relay 1 Lower Limit Return Difference	Press \triangle and ∇ buttons to adjust the return difference and the MENU button to save the setting
910	Relay 2 Upper Limit Return Difference	Press \triangle and ∇ buttons to adjust the return difference and the MENU button to save the setting
911	Relay 2 Lower Limit Return Difference	Press \triangle and ∇ 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.

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