



## ADJUSTABLE DIFFERENTIAL PRESSURE SWITCHES AFS SERIES

### DESCRIPTION

The **AFS Series Adjustable Differential Pressure Switches** are general-purpose, airflow-proving switches designed for HVAC and building automation applications. The AFS Series can be used to sense positive, negative, or differential air pressure. The diaphragm and calibration spring are housed in a plated enclosure with a removable metal guard protecting the set point screw and snap action switch terminals. Electrical connections are made through a 7/8" diameter opening in the metal guard that accepts a 1/2" conduit connection. Air sampling connections accept 1/4" OD rigid or semi rigid tubing. The **Model AFS-460** features a manual reset button to close the switch following actuation. For low current applications use **Model AFS-405** with gold contacts.

### FEATURES

- *Adjustable set point*
- *For static or differential pressure*
- *15A switch rating*
- *Manual reset (Model AFS-460)*
- *Gold contacts (Model AFS-405)*
- *UR, CSA, FM approved*
- *Two-year warranty*



### APPLICATIONS

- *Proving fan status*
- *Monitoring filter for excess pressure drop*
- *Monitoring duct static pressure*
- *Proving air flow*
- *Monitoring damper status*

### SPECIFICATIONS

#### Setpoint range AFS-145, -222, -405

0.05" to 12.0" W.C.  
(12.5 to 2989 Pa)

**AFS-262** 0.05" to 2.0" W.C.  
(12.5 to 498 Pa)

**AFS-460** 0.4" to 12.0" W.C.  
(99.3 to 2989 Pa)

**AFS-460-DSS** 2.0" to 12.0" W.C.  
(498 to 2989 Pa)

#### Switch differential, AFS-145, -222, -262, -405

Progressive, increasing from  
approximately 0.02" W.C.  
(5.0 Pa) @ min set point to  
approximately 0.8" W.C.  
(199 Pa) @ max set point

#### Contacts

**AFS-145, -222, -262, -405**

SPDT

**AFS-460** SPST N.C.

**AFS-460-DSS** 2-SPST N.C.

#### Electrical rating AFS-145, -222, -262, -405

300 VA pilot duty @ 115-277 VAC  
15A non-inductive, 277 VAC, 60 Hz

**AFS-460** 15A @ 125-277 VAC  
1/4 HP @ 125 VAC  
1/2 HP @ 250 VAC  
1/2A @ 125 VDC

**Overpressure** 0.5 psig (3.5 kPa)  
**Operating temp** -40° to 180°F (-40° to 82°C)  
**Pressure**

**connections** Ferrule and nut compression for  
1/4" OD tubing. (**Model AFS-145**  
has 1/8" NPTF)

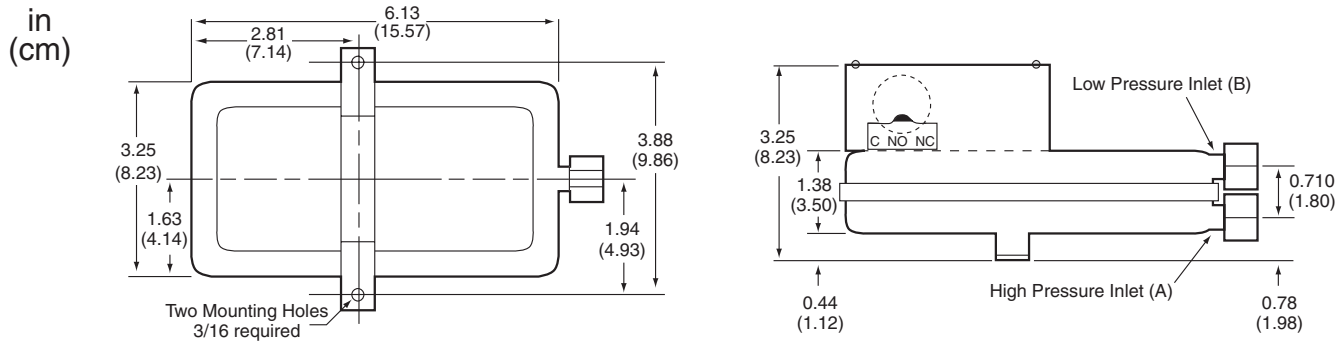
#### Life expectancy AFS-145, -222, -262, -405

100,000 cycles min @ 0.5 psig  
(3.5 kPa) max pressure each cycle  
and at max electrical load  
**AFS-460** 6000 cycles

**Agency approvals** UL recognized, CSA, CE, FM.  
(Models **AFS-405, -460** do not  
have FM approval.)

**Weight** 1.2 lb (0.54 kg)  
**Warranty** 2 years

## DIMENSIONS



## OPERATION

Select a mounting location that is free from vibration. The switch must be mounted with the diaphragm in any vertical plane in order to obtain the lowest specified operating setpoint. Avoid mounting with the sample line connections in the up position. Surface mount via the two 3/16" diameter holes in the integral mounting bracket.

The Model **AFS-460-DSS** has a lead switch (A) and a lag switch (B). The lead switch trips according to the setpoint knob and the lag switch trips after the lead switch. If dual-switch simultaneous operation is required, order (not stocked at Kele) **AFS-460-136** (120 VAC power) or **AFS-460-137** (24 VAC power).

Locate sampling probe a minimum of 1-1/2 duct diameters downstream from the air source. Install the sampling probe as close to the center of the airstream as possible.

Refer to the Dimensions drawing to identify the high pressure inlet (A) and the low pressure inlet (B), and connect the sample lines as follows:

### Positive Pressure Only

Connect the sample line to (A);  
(B) remains open to the atmosphere.

### Negative Pressure Only

Connect the sample line to (B);  
(A) remains open to the atmosphere.

### Two Negative Samples

Connect the higher negative sample to (B);  
Connect the lower negative sample to (A).

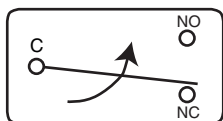
### Two Positive Samples

Connect the higher positive sample to (A);  
Connect the lower positive sample to (B).

### One Positive and One Negative Sample

Connect the positive sample to (A);  
Connect the negative sample to (B).

## WIRING



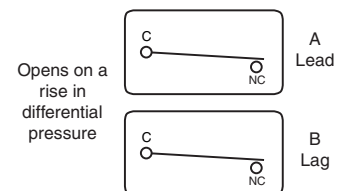
Action on a rise in differential pressure

**AFS-145, -222, -262, -405**



Opens on a rise in differential pressure

**AFS-460**



**AFS-460-DSS**

## ORDERING INFORMATION

MODEL	DESCRIPTION
<b>AFS-145</b>	Differential pressure switch 0.05" to 12" w.c. (12.5 to 2989 Pa), 1/8" NPT(F)
<b>AFS-222</b>	Differential pressure switch 0.05" to 12" w.c. (12.5 to 2989 Pa)
<b>AFS-262</b>	Differential pressure switch 0.05" to 2" w.c. (12.5 to 498 Pa)
<b>AFS-405</b>	Differential pressure switch 0.05" to 12" w.c. (12.5 to 2989 Pa), gold contacts
<b>AFS-460</b>	Manual reset differential pressure switch, 0.4" to 12" w.c. (99.3 to 2989 Pa)
<b>AFS-460-DSS</b>	Manual reset differential pressure switch with two SPST switches
<b>NOTE: Add suffix -C for Kele calibrated units to fit your application (please specify setpoint)</b>	

### RELATED PRODUCTS

#21121	Duct impact tube
A-301-K, A-302-K, A-345-K	Static pressure tip