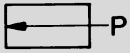


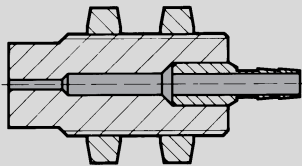
# Non-Contact Pneumatic Sensors

## Air Barrier Sensors

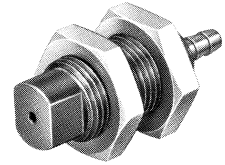
### Sender for Air Barrier Type SML-40-S



The sender nozzle may also be used as a back pressure sensor in combination with a separate air supply throttling system, (for example, Y-PK-3-D). See SD-2 setup shown on page 188.

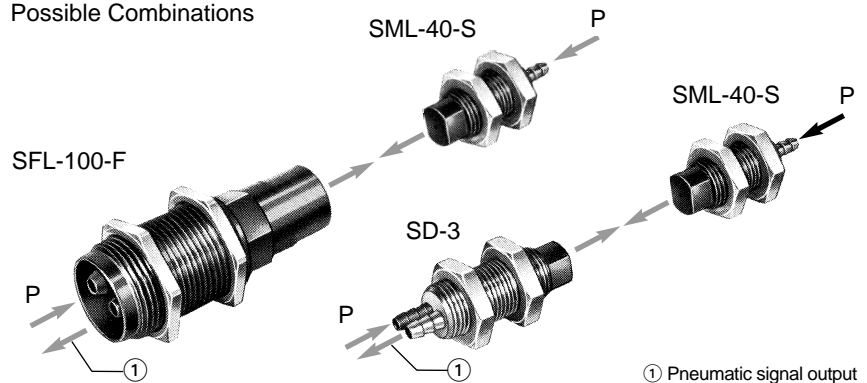


SML-40-S



The sender is used with receiver SFL-100-F (see page 202) or back pressure end stop SD-3 (see page 188) to set up an air barrier sensing arrangement (see illustrations on page 184). The sender nozzle produces a fine, stable flow of air, generating a dynamic pressure in the receiver. If an object interferes with the air flow, the receiver signal pressure decreases. For this combination, optimal sense range between the receiver and sender nozzle is 0.8-1.5 in / 20-40 mm. Air flowing from the two nozzles must be directed so that the critical point lies in front of the receiver orifice. For sensing ranges greater than 2 in / 50 mm, the flow of the receiver must be reduced by upstream throttling; for smaller sensing ranges, that of the sender must be reduced. The corresponding values are shown in the graph on page 201.

Possible Combinations



① Pneumatic signal output

| Order Number                         | Part No./Type | 7442 SML-40-S                            |
|--------------------------------------|---------------|--|
| Medium                               |               | Compressed air (filtered, unlubricated)  |
| Mounting                             |               | M12 x 1 threaded with mounting nuts      |
| Mounting Hole Diameter               |               | 0.5 in / 12.5 mm                         |
| Connection                           |               | Barbed fitting for 3/16 in / 3 mm tubing |
| Orifice Size                         |               | 0.1 in / 2.5 mm                          |
| Supply Pressure Range at P*          |               | 1.5 to 6 psi / 0.1 to 0.4 bar            |
| Signal Pressure Range at A           |               | See graph, next page                     |
| Air Consumption at 1.5 psi / 0.1 bar |               | 0.22 SCFM / 6.3 l/min                    |
| Max. Nozzle Range                    |               | 2 in / 50 mm (no upstream throttling)    |
| Ambient Temperature                  |               | -40 to 212°F / -40 to 100°C†             |
| Design                               |               | Nozzle, no moving parts                  |
| Material                             |               | Housing: Al, brass                       |
| Weight                               |               | 0.033 lb / 0.015 kg                      |

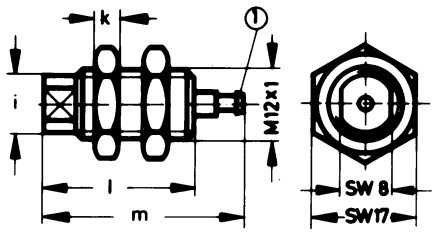
\* 14 to 140°F / -10 to 60°C

† Depending on tubing used

# Non-Contact Pneumatic Sensors

## Dimensions and Mounting Hardware

Type SML-40-S

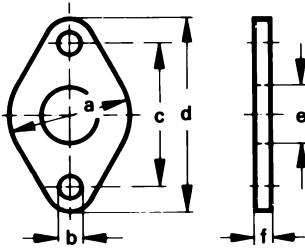


### Dimensions

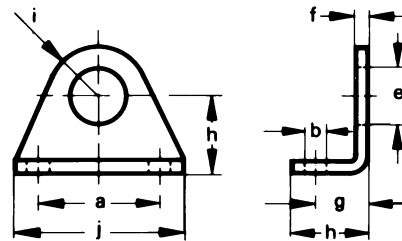
|                     |                     |
|---------------------|---------------------|
| a 0.99 in / 25 mm   | h 0.63 in / 16 mm   |
| b 0.18 in / 4.5 mm  | i 0.39 in / 10 mm   |
| c 1.18 in / 30 mm   | j 1.38 in / 35 mm   |
| d 1.58 in / 40 mm   | k 0.16 in / 4 mm    |
| e 0.48 in / 12.1 mm | l 1.02 in / 26 mm   |
| f 0.12 in / 3 mm    | m 1.36 in / 34.5 mm |
| g 0.43 in / 11 mm   |                     |

① Barbed fitting for 3/16 in / 3 mm tubing  
SW = wrench size, mm

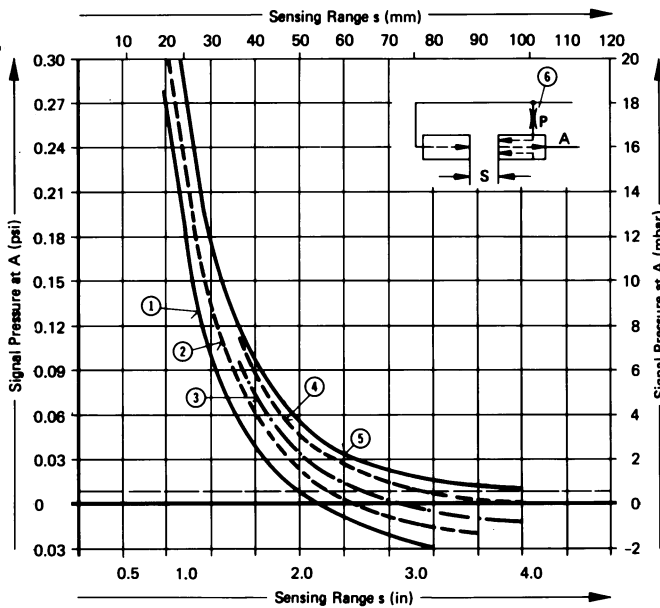
Flange Mount  
Order Number 5129 FBN-8/10



Foot Mount  
Order Number 5123 HBN-8/10-1



Signal Pressure versus Sensing Range  
(at 2 psi / 150 mbar Supply Pressure, SML-40-S and SD-3).



- ① No Upstream Throttling
- ② Upstream Throttling, Diameter 0.019 in / 0.5 mm
- ③ Upstream Throttling, Diameter 0.016 in / 0.4 mm
- ④ Upstream Throttling, Diameter 0.012 in / 0.3 mm
- ⑤ P Blocked
- ⑥ Upstream Throttling