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MODEL EOS-2

EOS

TACTILE END OF STROKE PNEUMATIC AND HYDRAULIC SENSOR

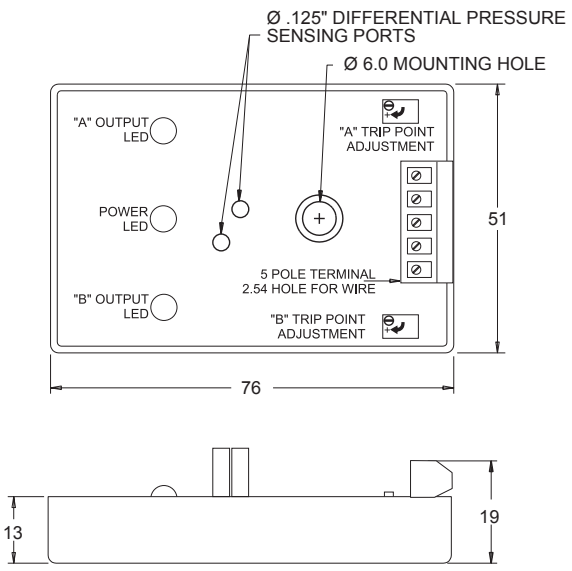
General Description

The Canfield Connector EOS differential pressure switch is a compact device used in place of proximity switches to sense the end of stroke and/or clamping pressure of a linear actuator. Sensing the pressure on the exhaust and pressure side of the double acting cylinder enables the EOS to determine when the end of stroke is reached. The end of stroke is determined based on pressure, not proximity. Trip points are adjustable based on forces applied by the actuator. This unit is especially useful in applications with inconsistent size work pieces, clamping, staking, swaging, welding or where electronic magnetic proximity devices do not work as well. The EOS can replace proximity devices on applications where these devices are used to sense end of stroke. Installation is easier than standard proximity devices and cylinders can be made of any material. Cylinders need not incorporate any magnetic pistons or special flanged end caps.

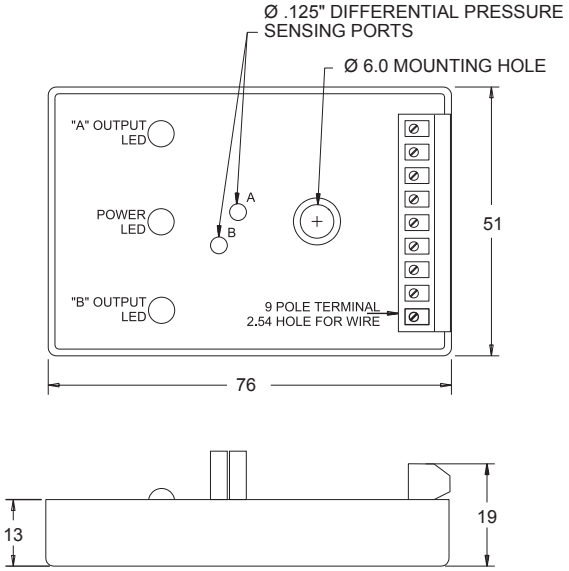
Dimensional Data

ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED

On-Board Adjust



Off-Board Adjust



Technical Data

- Supply Voltage Range: 12 - 30 VDC / 24-48, 120 VAC
- Supply Current: 20 mA max.
- Current Output: .5 Amps AC / DC
- Analog Output: 3-5 VDC (4V @ 0 PSI) 5 mA max.
- Sensing Range: 0 to 100 PSI
- Response Time: 10 ms
- Repeatability: 0.1 PSI
- Hysteresis: 4 PSI max.
- Max. Pressure: 200 PSI
- Adjustability: 0.1 PSI
- Temperature Range: -25° to +85°C
- Enclosure Material: ABS, Epoxy
- Flame Rating: (UL94) V-O
- Media Compatibility: Liquids and gas compatible with glass, ceramic, silicone, RTV and nickel

How It Works

Refer to Schematic (***Figure 1)*** and Graph (***Figure 2***).

1.) Four way valve shifts switching pressure from port “A” to port “B”.

2.) Pressure builds in line “B” and drops in line “A” until cylinder load / friction are overcome.

3.) Dependent upon the response time and valve flow, “B” line pressure exceeds “A” line pressure.

4.) Friction / load overcome, cylinder travel begins.

5.) End of stroke or clamping force begins, “B” line pressure increases and “A” line pressure decays.

6.) When the pressure differential between port “A” and “B” (B PSI - A PSI = $\Delta\pi$) increases to the preset trip output point “B” will activate.

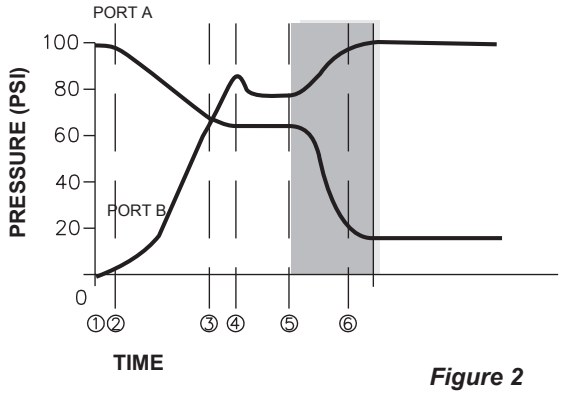


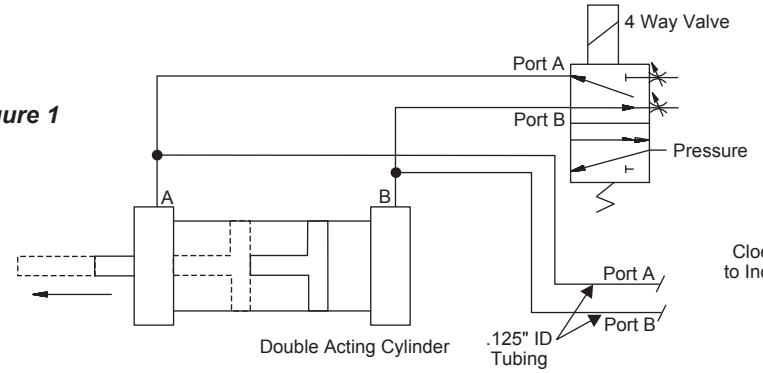
Figure 2

The sensor can be set to trip anywhere in the shaded region depending on desired clamping force and/or delay.

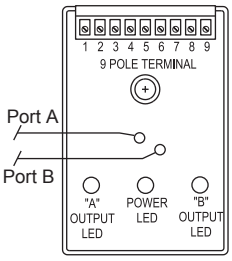
Typical Application and Installation for Remote Adjust

Connect Anywhere Between Valve and Cylinder, but for Best Sensitivity Adjustment, Connect Between Cylinder and Flow Control.

Figure 1



*Off-Board Adjust***

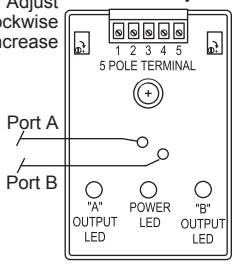


Remote Adjust Connections
Pin 1 = Remote +
Pin 2 = Remote Adjust A
Pin 3 = Output A
Pin 4 = Supply +/AC
Pin 5 = Analog Out (DC Only)
Pin 6 = Supply -/AC
Pin 7 = Output B
Pin 8 = Remote Adjustment B
Pin 9 = Remote -

A - Adjust Clockwise to Increase

On-Board Adjust

B - Adjust Clockwise to Increase



On-Board Adjust Connections
Pin 1 = Output A
Pin 2 = Supply +/AC
Pin 3 = Analog Out (DC Only)
Pin 4 = Supply -/AC
Pin 5 = Output B

Note:
Use Clean, Dry Shop Air for Best Performance

Ordering Information

E O S - 2 □ □ 0

Supply Voltage/Output Type
1 - 12-24 VDC / NPN (sinking)
2 - 12-24 VDC / PNP (sourcing)
3 - 24-48 VAC / triac *
4 - 120 VAC / triac*

Module Style
0 - With on-board adjustments
1 - With off-board adjustments

Ordering Example:

EOS-2110

12-24 VDC / NPN (sinking), with off-board adjustments

* AC voltage versions are not available with analog output.

** Customer must supply two 100k ohm potentiometers. Shielded cable is recommended for remote potentiometer hook-up.