

# Pressure

## Econ-O-Trol Switch

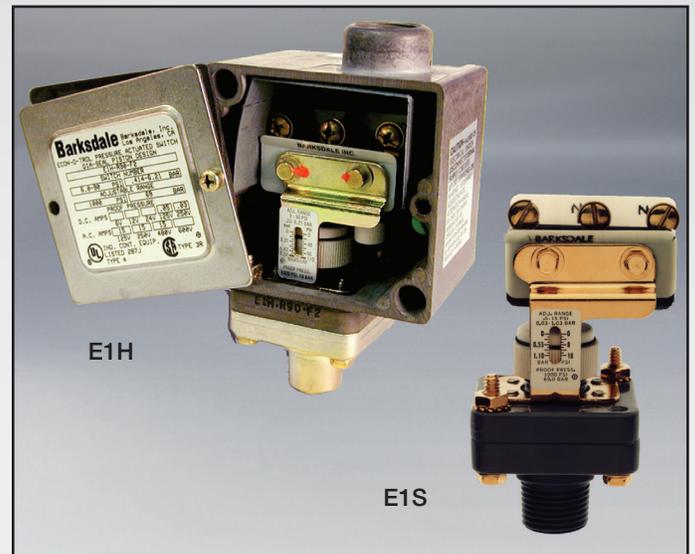
## E1S, E1H Series

### Features

- ▶ Superior resolution
- ▶ Long life
- ▶ Easy setpoint adjustment
- ▶ Ideal for pressure or vacuum applications
- ▶ NEMA 1, 3 & 4
- ▶ Stripped and housed versions available

### Applications

- ▶ Medical equipment
- ▶ Pump & compressor monitoring
- ▶ Air proving in HVAC systems
- ▶ Irrigation systems
- ▶ Engine monitoring
- ▶ Machine tools
- ▶ General industrial applications
- ▶ Metal working
- ▶ Food & beverage



### General Specifications\*

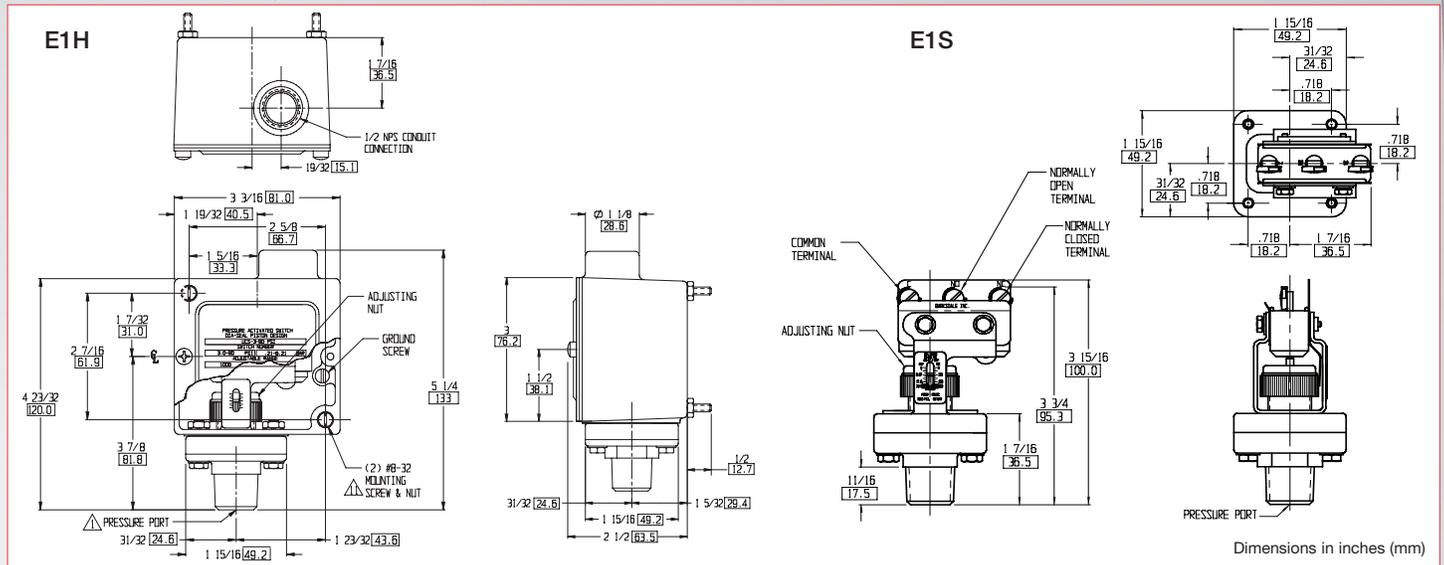
<b>Accuracy:</b>	± 2% of the adjustable range	<b>Temperature Range:</b> Operating:	-20° to +165°F (-29 to +74°C)
<b>Switch:</b> Type:	Single pole double throw (SPDT) snap action; single circuit	<b>Adjustment Setpoint:</b> Positive Pressure:	Turn self locking adjustment nut clockwise to increase setpoint; counterclockwise to decrease setpoint.
Rating:	Class H limit switch: 10 amps @ 125/250 VAC; 3 amps @ 480 VAC; 0.5 amps @ 24 VDC (standard).	Vacuum:	Turn self locking adjustment nut counterclockwise to increase setpoint, clockwise to decrease setpoint (towards 30" Hg).
<b>Wetted Parts:</b> Process Fitting:	Anodized aluminum (standard)	Adjustable Deadband (Optional):	Turn small self locking adjustment nut on limit switch counterclockwise to increase differential. As the differential is increased, the setpoint is also increased. Balance one adjustment against the other to obtain the desired setpoint.
Seals & Diaphragms:	Buna-N (standard)	<b>Options:</b>	-Plastic cover (stripped models only) -NEMA 4X enclosure (housed models only) -Cleaned for oxygen service -Manual reset -Adjustable deadband
Enclosure:	Anodized aluminum (housed models)	<b>Shipping Weight:</b> Housed models:	1.5 lbs. approx.
<b>Electrical Connection:</b> Stripped Models:	Screw terminals	Stripped models:	0.75 lbs. approx.
Housed models:	Screw terminals via 1/2" NPT female conduit connection	<b>Wiring Diagram</b>	
<b>Enclosure Ratings:</b> Stripped models:	NEMA 1	<b>Pressure</b>	
Housed models:	NEMA 4 & IP65	<b>Vacuum</b>	
<b>Pressure Connection:</b> Stripped models:	1/2" NPT external with 1/8" NPT internal		
Housed models:	1/4" NPT female		
<b>Approvals:</b> UL:	Stripped models: UL recognized component (UR) Housed models: UL listed. File No. E42816		
CSA:	All models and modifications shown are CSA listed under Guide 380-W-1.16, Class 3231, File LR22355		
PED (European):	Compliant to PED 97/23/EC		

\* See product configurator for additional options.

# Econ-O-Trol Switch

# E1S, E1H Series

## Technical Drawing



## Product Configurator

Example **E1H** **-H** **500** **-P6**

### Base Configuration

E1S	Stripped models
E1H	Housed models

### Limit Switch<sup>1</sup>

-B	10 amps @ 125/250/480 VAC; 2 amps @ 600 VAC; 0.05 amps @ 125 VDC; 0.03 amps @ 250 VDC
-H	10 amps @ 125/250 VAC; 3 amps @ 480 VAC (standard)
-M	10 amps @ 125/250 VAC; 3 amps @ 480 VAC; 0.5 amps @ 125 VDC; 0.25 amps @ 250 VDC
-R <sup>2</sup>	15 amps @ 125/250/480 VAC; 0.05 amps @ 125 VDC; 0.03 amps @ 250 VDC <b>ADJUSTABLE DEADBAND</b>
-G <sup>3</sup>	10 amps @ 125/250/480 VAC; 2 amps @ 600 VAC; 0.4 amps @ 125 VDC; 0.2 amps @ 250 VDC <b>MANUAL RESET</b> (Available only with housed version). Requires -RD option.
-GH	1 amp @ 125 VAC; gold contact

### Options

-E1	Plastic cover (E1S models only) (Not UL approved)
-FX	NEMA 4X enclosure (E1H models only)
-RD <sup>3</sup>	<b>Manual reset</b> (must select class G limit switch)
-Z1	Cleaned for oxygen service
-Sxxx	Factory preset (consult factory)

### O-Ring/Diaphragm Material

Blank	Buna-N
-T <sup>6</sup>	Teflon
-V	Viton® diaphragm

### Pressure Range

	Adjustable Range				Approx. Deadband <sup>4</sup> (Actuation Value) psi (bar)	Proof Pressure psi (bar)		
	Decreasing - psi (bar)		Increasing - psi (bar)					
	Min	Max	Min	Max				
<b>VAC<sup>5</sup></b>	.5" Hg	29" Hg	3.0" Hg	30" Hg	.3 - 2.5" Hg	30 psi	Fixed Deadband	
<b>15</b>	.5 (.03)	14.2 (.98)	.6 (.04)	15 (1)	.1 - 1.2 (.01 - .08)	1000 (67)		
<b>90</b>	3 (.2)	82 (5.5)	3.5 (.2)	90 (6)	.5 - 8 (.03 - .5)	1000 (67)		
<b>250</b>	10 (.7)	230 (15)	11 (.7)	250 (17)	1 - 20 (.07 - 1.3)	1000 (67)		
<b>VAC<sup>5</sup></b>	1" Hg	30" Hg	Must select class R limit switch. Consult sales drawing for deadband charts				Adjustable Deadband	
<b>15</b>	1 (.07)	15 (1)						30 psi
<b>90</b>	6 (.4)	90 (6)						1000 (67)
<b>250</b>	15 (1)	250 (17)						1000 (67)
<b>500</b>	35 (2.3)	500 (33)						1000 (67)

### NOTES:

- Consult sales drawing for specific deadband values
- To increase differential, turn small, self-locking adjusting nut counter-clockwise
- Add -LC suffix at end of -G -RD (manual reset) models for UL approval as limit controls (No UL without -LC suffix). -LC is not available in range 500.
- Deadband values indicated when used with the "H" limit switch
- Vacuum models are provided with 1/2" NPT External, 1/8" NPT Internal "Combo" fitting only on E1S models
- Not available on vacuum models
- Not available in range 500
- "-BR" models have a proof pressure of 500 psi
- Plastic fittings have a proof pressure of 400 psi

### Pressure Connection

Blank	E1S version: 1/8" int & 1/2" ext NPT; E1H version: 1/4" NPT female
-P4	1/4" NPT female (available on E1S only - not available on PLS version)
-P6	1/8" int & 1/2" ext NPT (E1H models only)
-F1	Impregnated fitting (not UL or CSA approved)
-F2	Nickel plated fitting
-BR <sup>6,7,8</sup>	Brass fitting: 1/8" int & 1/2" ext NPT (for E1S models or with -P6 option) Max adjustable pressure: 250 psi
-BR <sup>6,7,8</sup>	Brass fitting: 1/4" NPT (for E1H models or with -P4 option) Max adjustable pressure: 250 psi
-P6-PLS <sup>7,9</sup>	Polysulfone 40% glass filled; 1/8" - 1/2" NPT (E1H Only). Max adjustable pressure: 250 psi.
-PLS <sup>7,9</sup>	Polysulfone 40% glass filled; 1/8" - 1/2" NPT (E1S Only). Max adjustable pressure: 250 psi.