

## 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
- ▶ Water & sewage treatment facilities
- ▶ Pulp & Paper Mills
- ▶ Metal working
- ▶ Food & beverage
- ▶ Steel mills

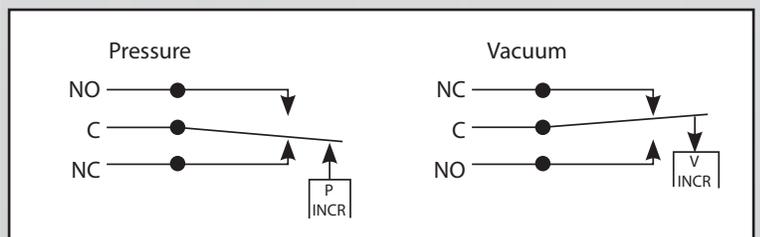


### General Specifications\*

Accuracy:	± 2% of the adjustable range
Switch: Type:	Single pole double throw (SPDT) snap action; single circuit
Rating:	Class H limit switch: 10 amps @ 125/250 VAC; 3 amps @ 480 VAC; 0.5 amps @ 24 VDC (standard).
Wetted Parts: Process Fitting:	Anodized aluminum (standard)
Seals & Diaphragms:	Buna-N (standard)
Enclosure:	Anodized aluminum (housed models)
Electrical Connection: Stripped Models:	Screw terminals
Housed models:	Screw terminals via 1/2" NPT female conduit connection
Enclosure Ratings: Stripped models:	NEMA 1
Housed models:	NEMA 4 & IP65
Pressure Connection: Stripped models:	1/2" NPT external with 1/8" NPT internal
Housed models:	1/4" NPT female
Approvals: 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

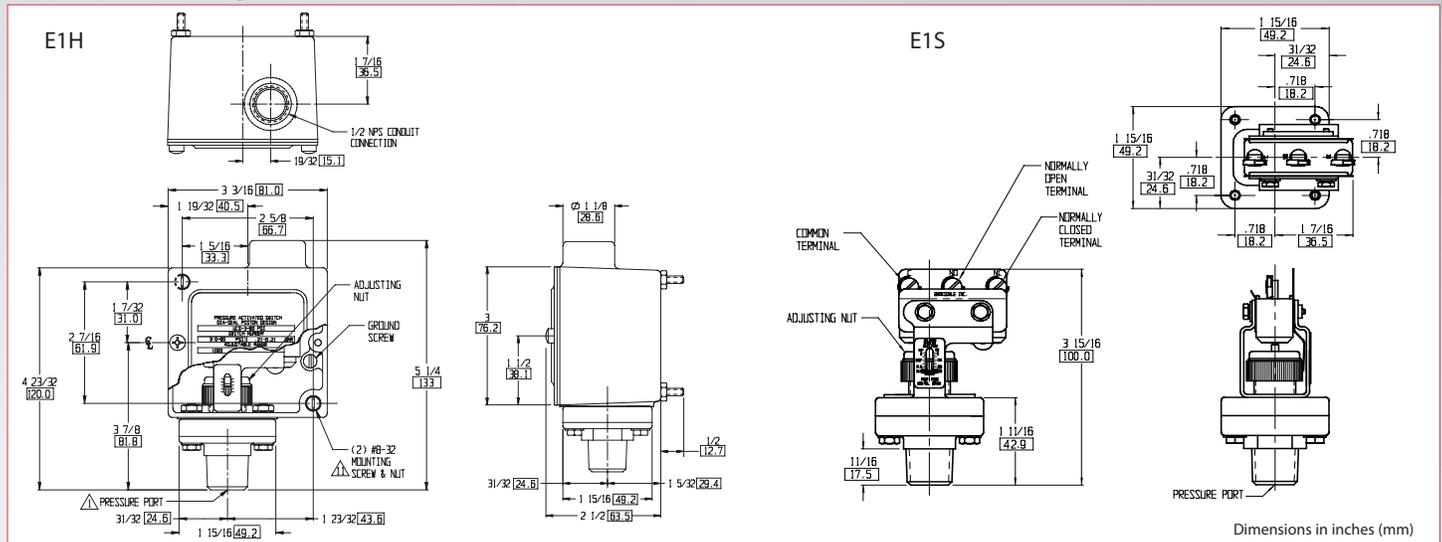
Temperature Range: Operating:	-20° to +165°F (-29 to +74°C)
Adjustment Setpoint: Positive Pressure:	Turn self locking adjustment nut clockwise to increase setpoint; counterclockwise to decrease setpoint.
Vacuum:	Turn self locking adjustment nut counterclockwise to increase setpoint, clockwise to decrease setpoint (towards 30" Hg).
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.
Options:	-Plastic cover (stripped models only) -NEMA 4X enclosure (housed models only) -Manual reset -Adjustable deadband
Shipping Weight: Housed models:	1.5 lbs. approx.
Stripped models:	0.75 lbs. approx.

### Wiring Diagram



\* See product configurator for additional options.

## Technical Drawing



## Product Configurator

Example **E1H** -H 250 -P6 -PLS

### Base Configuration

- E1S** Stripped models
  - E1H** Housed models
- \*Highlighted options represent those most frequently used. Select these common options for improved availability. (5/21)

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

- H** 10 amps @ 125/250 VAC; 3 amps @ 480 VAC (standard)
- R<sup>3</sup>** 15 amps @ 125/250/480 VAC; 0.05 amps @ 125 VDC; 0.03 amps @ 250 VDC ADJUSTABLE DEADBAND
- G<sup>4</sup>** 10 amps @ 125/250/480 VAC; 2 amps @ 600 VAC; 0.4 amps @ 125 VDC; 0.2 amps @ 250 VDC MANUAL RESET (Available only with housed version). Requires -RD option.

### Options

- FX** NEMA 4X enclosure (E1H models only)
- RD<sup>4</sup>** Manual reset (must select class G limit switch)
- Sxxx** Factory preset (consult factory)

### O-Ring/Diaphragm Material

- Blank** Buna-N
- V** Viton® diaphragm

### Pressure Range

	Adjustable Range				Approx. Deadband <sup>5</sup> (Actuation Value) psi (bar)	Proof Pressure psi (bar)	
	Decreasing - psi (bar)		Increasing - psi (bar)				
	Min	Max	Min	Max			
VAC <sup>6</sup>	.5" Hg	29" Hg	3.0" Hg	30" Hg	.3 - 2.5" Hg	30 psi	Fixed Deadband
15	.5 (.03)	14.2 (.98)	.6 (.04)	15 (1)	.1 - 1.2 (.01 - .08)	1000 (67)	
90	3 (2)	82 (5.5)	3.5 (.2)	90 (6)	.5 - 8 (.03 - .5)	1000 (67)	
250	10 (.7)	230 (15)	11 (.7)	250 (17)	1 - 20 (.07 - 1.3)	1000 (67)	
500	25 (1.7)	472 (31)	29 (2)	500 (33)	4 - 28 (.3 - 1.9)	1000 (67)	
VAC <sup>6</sup>	1" Hg	30" Hg	Must select class R limit switch. Consult sales drawing for deadband charts			30 psi	Adjustable Deadband
15	1 (.07)	15 (1)				1000 (67)	
90	6 (.4)	90 (6)				1000 (67)	
250	15 (1)	250 (17)				1000 (67)	
500	35 (2.3)	500 (33)				1000 (67)	

### Pressure Connection (Material Option)

- Blank** Anodized Aluminum (standard)
- F2** Nickel plated fitting
- BR<sup>7,8,9</sup>** Brass fitting (Max adjustable pressure: 250 psi)
- PLS<sup>7,8,10</sup>** Polysulfone 40% glass filled; for 1/8" NPT Internal with 1/2" NPT external thread type only. (Max adjustable pressure: 250 psi)

### Pressure Connection (Thread Type)

- E1S (Stripped models)**
  - Blank** 1/8" NPT Internal with 1/2" NPT External Threads (standard) (not available with -SS option)
  - P4** 1/4" NPT Internal Threads (Not available with -PLS option)
- E1H (Housed models)**
  - Blank** 1/4" NPT Internal Threads (standard) (Not available with -PLS option)
  - P6** 1/8" NPT Internal with 1/2" NPT External Threads (Not available with SS)

NOTES:  
<sup>1</sup> Consult sales drawing for specific deadband values  
<sup>2</sup> To increase differential, turn small, self-locking adjusting nut counter-clockwise  
<sup>3</sup> 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.  
<sup>4</sup> Deadband values indicated when used with the "H" limit switch  
<sup>5</sup> Vacuum models are provided with 1/2" NPT External, 1/8" NPT Internal "Combo" fitting only on E1S models. Vacuum switches have terminals in the orientation: C-NC-NO.  
<sup>6</sup> Not available with -R limit switch  
<sup>7</sup> Not available in range 500  
<sup>8</sup> -BR" models have a proof pressure of 500 psi  
<sup>9</sup> -PLS" models have a proof pressure of 400 psi  
<sup>10</sup> -PLS" models have a proof pressure of 400 psi