

## Safety Rated, SIL 3 Capable Three-In-One Pressure Device Switch, Gauge and Transducer



The new Staset® Gen 3 series is a SIL 3 capable pressure switch, transducer and gauge, 3 in 1 product. Available in pressure ranges up to 3000 psi, Staset® Gen 3 was designed with versatility in mind. The transducer output can be configured with voltage or current output options. The switch output utilizes full analog circuitry and is ISO13849 PLe and IEC61508 SIL 3 capable. The highly readable OLED display indicates sensed pressure and is available for various pressure units. Constructed using 316L stainless steel for all wetted surfaces, Staset® Gen 3 offers excellent compatibility with a wide range of media.

### Features

- New smaller form factor for easier system integration
- Wider pressure range options
- New cable with tighter bend radius for ease of routing
- Highly readable OLED display
- 0-10 VDC (standard)  
Optional 0-5 VDC, 0.5-5.5 VDC
- Status LED
- 316L SS wetted surfaces
- 5 million minimum cycle life
- Switch output utilizes 100% analog circuitry
- Factory set switch points
- RoHS and REACH Compliant
- SIL 3 Capable
- UL and CE Recognized
- CE Marked

### Three-In-One

Replace your Switch, Gauge and Transducer with a single device significantly reducing cost and eliminating potential leak paths!

Switch



+

Gauge



+

Transducer



=

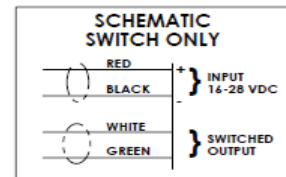
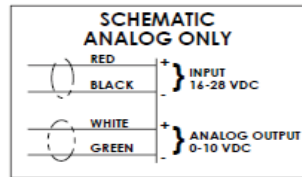
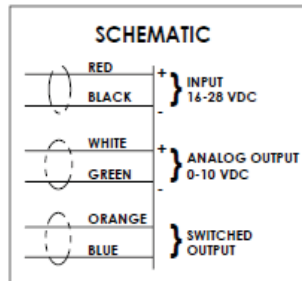


# MODEL CHART

Model	Type	Range/Unit	Proof	Burst
EA15/EG15	Absolute/Gauge	0-770 Torr/15 psig	22.5 psia/psig	30 psia/psig
EA30/EG30	Absolute/Gauge	0-1500 Torr/30 psig	45 psia/psig	60 psia/psig
EA100/EG100	Absolute/Gauge	100 psia/psig	150 psia/psig	200 psia/psig
EA300/EG300	Absolute/Gauge	300 psia/psig	450 psia/psig	600 psia/psig
EA1000/EG1000	Absolute/Gauge	1000 psia/psig	1500 psia/psig	2000 psia/psig
EA3000/EG3000	Absolute/Gauge	3000 psia/psig	4500 psia/psig	6000 psia/psig

PRESSURE	OFF	or	ON
	ON	or	OFF
	OFF	or	ON

WINDOW MODE OPERATION



## “Window” Mode

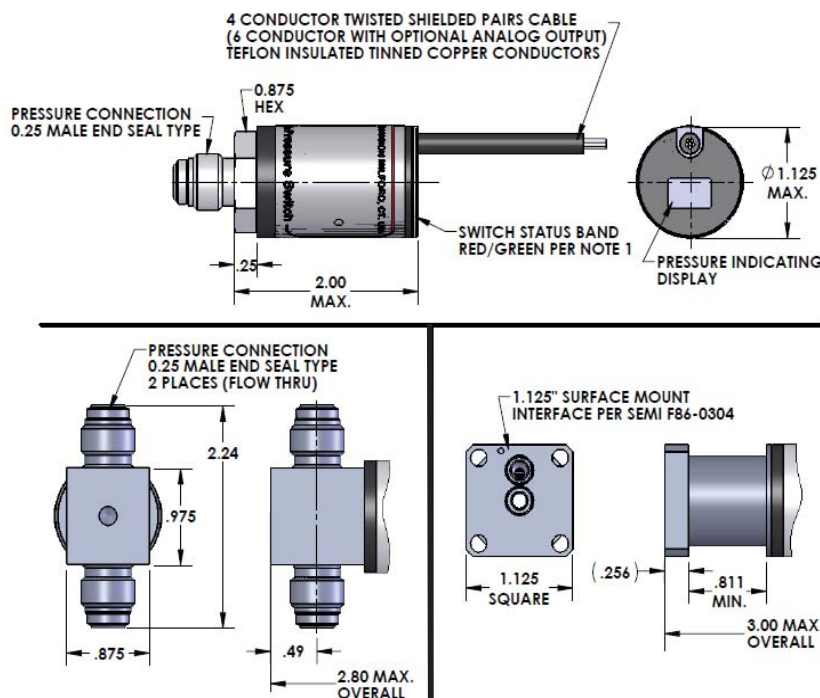
The window mode allows for the output to be in one state (open or closed) while inside a band, and change state outside of the band. The higher and lower pressure set points must be defined, along with whether the switch is to be open or closed inside the band (deadband does not apply). For instance, a typical callout will be “switch closed between 50 psia and 20 psia”.

## Compound Gauge Feature

The compound gauge feature allows the full scale pressure range to be programmed to display 15 psi vacuum. The analog output option is over the full scale range.

For EA100D Model, unit is programmed to display 15 psi vacuum to 85 psi pressure.

For EA300 Model, unit is programmed to display 15 psi vacuum to 285 psi pressure.



## SPECIFICATIONS\*

<b>Pressure Sensor</b>	Piezo resistive strain gauge isolated from process media by a rugged 2 mil, 316L stainless steel diaphragm, non-silicon oil fill.
<b>Construction</b>	Wetted material – 316L stainless steel per SEMI F20, pressure compartment welded leak tight to a $1 \times 10^{-9}$ atm cc/sec
<b>Switch Output</b>	Galvanic isolated SPST (Form A) solid state relay rated for 0.5 amps, normally open or normally closed, factory set to pressure value reference in model chart
<b>Deadband</b>	Factory set to any value from 1% to 98% full scale
<b>Switching Response Time</b>	10 ms max
<b>Switch Output Rating</b>	0.25 amps AC or DC continuous, 0.4 amps peak, 50 V maximum
<b>Switch Point Accuracy</b>	0.4% full scale rms at $22 \pm 5^\circ\text{C}$ . This includes: linearity, hysteresis, zero offset, span, and long term drift. Temperature coefficient (zero and span): 0.017% full scale/ $^\circ\text{C}$
<b>Switch Point Repeatability</b>	0.25% repeatability
<b>Status LED</b>	User defined green or red for open or closed condition.
<b>Temperature Range</b>	Ambient Operating: 0 to $60^\circ\text{C}$ (32 to $140^\circ\text{F}$ ) Ambient Non-operating: $-40$ to $70^\circ\text{C}$ ( $-40$ to $158^\circ\text{F}$ ) Media Operating: 0 to $80^\circ\text{C}$ (32 to $176^\circ\text{F}$ )
<b>Input Power</b>	16 to 28 VDC, 30 mA maximum. Reverse polarity protected
<b>Fail Safe</b>	Upon power loss, contacts will default to the open state
<b>Life</b>	5 million cycles minimum
<b>System Pressure Display</b>	3 digit OLED display of system pressure with 0.25% FS accuracy at $22^\circ\text{C}$ of zero span with a TC of 0.017% FS/ $^\circ\text{C}$ .
<b>Pressure</b>	Proof: 1.5x Full Scale Burst: 2.0x Full Scale
<b>Analog Outputs**</b>	0 to 10 VDC, 0-5 VDC, 0.5 to 5.5 VDC standard. User defined outputs available up to 10 VDC FS. Output accuracy is 0.25% with a thermal coefficient of 0.004% FS/ $^\circ\text{F}$ . Zero stability is 0.01% per year.

\*All specification subject to change. Consult factory for latest specifications.

\*\*Custom ranges available.

# HOW TO SPECIFY

Create a part description by using the system below. The part description will follow this format:

Type	Setting Range	Display	Closing Pressure	Opening Pressure	Units	Pressure Connection	Electrical Connection	Lead Length	0-5 VDC Output
EG	100	D	C26	O25	P	FM	L	24	V1

	CODE	DESCRIPTION	EGN	100	D	C26	O25	P	FM	L	24	A
<b>Type</b>	EA	Absolute Pressure										
	EG	Gauge Pressure										
<b>Setting Range</b>	15	See Model Chart										
	30											
	100											
	300											
	1000											
	3000											
<b>Display</b>	-	No LCD Display										
	D	LCD Display										
<b>Closing Pressure (Increasing or Decreasing)</b>												
<b>Opening Pressure (Increasing or Decreasing)</b>												
<b>Units</b>	P	PSI										
	T	Torr (mmHg for gauge)										
	K	Kpa or Mpa (depending on range)										
	B	Bar										
<b>Pressure Connection</b>	VM	¼ Male End Seal Type (standard)										
	FM	Flow-through Type/Male End Seal Type, both ends										
	SC	1 ½" Surface Mount C Seal per SEMI F86-0304										
<b>Electrical Connection</b>	L	Free Leads (standard)										
	C	Crimp-type Connector (Amp MR Series Standard)										
<b>Lead Length (Specify in inches - 24" is standard)</b>												
<b>Analog Output</b>	V1	0-10 VDC										
	V2	0-5 VDC										
	V3	0.2-5.2 VDC										
	-	No Analog Output										
<b>Option WM</b>												
		"Window" operating mode (Opening and Closing pressures become upper and lower limit of window; specify whether contact is closed inside or outside the window). See detailed description for example.										

The specified example denotes a 100 psig Staset® switch with LCD display. The switch closes on increasing pressure at 26 psig and opens on decreasing pressure at 25 psig. The switch utilizes a flow through design with ¼ male end seal type connection. The electrical interface consists of 24" free leads. A 0-5 VDC analog output is provided.

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