

# Flow-Alert™ Flow Switches (Reed Switch)

## For Liquids / Air and Other Compressed Gases

- No mechanical linkage
- Automatically signals alarm if flow is too high or too low
- Automatically opens or closes electrical circuits
- Triggers warning lights, buzzers and other devices
- Shuts down pumps and/or other equipment to protect your operation against permanent damage
- Available from 1/4" to 1-1/2" sizes in aluminum, brass and stainless
- Installs in any position
- Easier-to-read linear scale
- No flow straighteners or special piping requirements
- Relatively insensitive to shock and vibration
- Special scales available



### SPECIFICATIONS:

#### MATERIALS:

2024 - T351 Anodized aluminum body, piston and cone  
 C360 Brass body, piston and cone  
 T303 Stainless body, 2024 - T351 Anodized aluminum piston and cone  
 (Oil, PE, WBF, & Air meters)  
 T303 Stainless body, C360 Brass piston and cone (Water meters)  
 T316 Stainless body, piston and cone

#### PETROLEUM (Oil) COMMON PARTS:

**Spider Plate:** T316 SS    **Retaining Ring:** SAE 1070/1090 Carbon Steel  
**Spring:** T302 SS    **Retaining Spring:** SAE 1070/1090 Carbon Steel  
**Fasteners:** T303 SS    **Indicator:** T400 Series Stainless  
**Pressure Seals:** Viton®    **Internal Magnet:** Teflon® Coated Alnico 8  
**Lens:** Polycarbonate    **Switch Carrier:** Aluminum  
**Enclosure Seal:** Silicone gasket    **Scale Support:** 6063 - T6 Aluminum

#### PHOSPHATE ESTER (PE) COMMON PARTS:

**Spider Plate:** T316 SS    **Retaining Ring:** SAE 1070/1090 Carbon Steel  
**Spring:** T302 SS    **Retaining Spring:** SAE 1070/1090 Carbon Steel  
**Fasteners:** T303 SS    **Indicator:** T400 Series Stainless  
**Pressure Seals:** EPR    **Internal Magnet:** Teflon® Coated Alnico 8  
**Lens:** Polycarbonate    **Switch Carrier:** Aluminum  
**Enclosure Seal:** Silicone gasket    **Scale Support:** 6063 - T6 Aluminum

#### WATER-BASED (WBF), WATER, AIR COMMON PARTS:

**Spider Plate:** T316 SS    **Retaining Ring:** T316 SS  
**Spring:** T302 SS    **Retaining Spring:** T316 SS  
**Fasteners:** T303 SS    **Indicator:** T400 Series Stainless  
**Pressure Seals:** Viton®    **Internal Magnet:** Teflon® Coated Alnico 8  
**Lens:** Polycarbonate    **Switch Carrier:** Aluminum  
**Enclosure Seal:** Silicone gasket    **Scale Support:** 6063 - T6 Aluminum

#### API OIL / AIR / CAUSTIC and CORROSIVE LIQUIDS and GASES:

**Spider Plate:** T316 SS    **Retaining Ring:** T316 SS  
**Spring:** T316 SS    **Retaining Spring:** T316 SS  
**Fasteners:** T316 SS    **Indicator:** T400 Series Stainless  
**Pressure Seals:** Viton®    **Internal Magnet:** Teflon® Coated Alnico 8  
**Lens:** Polycarbonate    **Switch Carrier:** Aluminum  
**Enclosure Seal:** Silicone gasket    **Scale Support:** 6063 - T6 Aluminum

**THREADS:** SAE J1926/1, NPTF ANSI B2.2, BSPP ISO1179

**TEMPERATURE RANGE:** -20 to 240 °F (-20 to 116 °C)

#### PRESSURE RATING:

##### Aluminum / Brass Operating:

**Liquids** - 3,500 psi/241 bar max. with a 3:1 safety factor.

**Gases** - 1,000 psi/69 bar max. with a 10:1 safety factor.

**For High Cycle Applications:** see page 7

##### Stainless Steel Operating:

**Liquids** - 6,000 psi/414 bar max. (5,000 psi/345 bar max. for 3/4" to 1-1/2" series) with a 3:1 safety factor.

**Gases** - 1,500 psi/103 bar max. with a 10:1 safety factor.

**For High Cycle Applications:** see page 7

**ACCURACY:** ±2% of full scale

**REPEATABILITY:** ±1%

#### PRESSURE DROP REFERENCE TABLE:

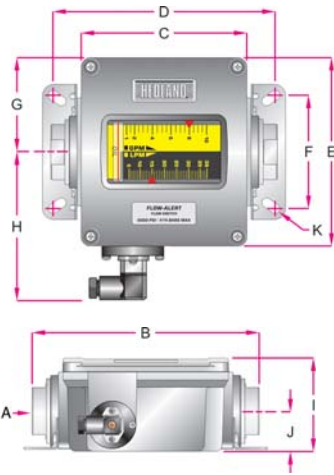
	FLUID TYPE							
	Oil	PE	WBF	Water	API Oil	Caustic & Corrosive Liquids	Air/Caustic & Corrosive Gases	Air
50% / 100% Pressure Drop	p. 10	p. 16	p. 22	p. 28	p. 32	p. 32	p. 34	p. 36
Pressure Drop Chart	p. 55	p. 56	p. 57	p. 58	p. 59	p. 58	p. 59	p. 60

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 Viton is a registered trademark of DuPont Dow Elastomers

# Flow-Alert™ Flow Switches (Reed Switch)

## For Liquids / Air and Other Compressed Gases

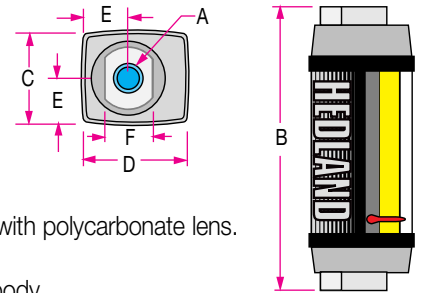
### DIMENSIONS:



A	B	C	D	E	F	G	H	I	J	K
NOMINAL PORT SIZE	LENGTH in (mm)	LENGTH in (mm)	LENGTH in (mm)	WIDTH in (mm)	WIDTH in (mm)	WIDTH in (mm)	WIDTH in (mm)	DEPTH in (mm)	OFFSET in (mm)	HOLE DIA. in (mm)
1/4 (SAE 6)	6.6 (168)	5.27 (134)	6.41 (163)	6.00 (152)	3.23 (82)	3.00 (76)	4.20 (107)	2.94 (75)	1.51 (38)	.31 (8)
1/2 (SAE 10)	6.6 (168)	5.27 (134)	6.41 (163)	6.00 (152)	3.23 (82)	3.00 (76)	4.20 (107)	2.94 (75)	1.51 (38)	.31 (8)
3/4 (SAE 12)	7.2 (183)	5.27 (134)	7.04 (179)	6.00 (152)	3.60 (91)	3.00 (76)	4.20 (107)	2.94 (75)	1.27 (32)	.31 (8)
1 (SAE 16)	7.2 (183)	5.27 (134)	7.04 (179)	6.00 (152)	3.60 (91)	3.00 (76)	4.20 (107)	2.94 (75)	1.27 (32)	.31 (8)
1-1/4 (SAE 20)	12.2 (310)	10.68 (271)	11.65 (296)	7.63 (194)	4.84 (123)	3.82 (97)	5.02 (128)	4.50 (114)	2.20 (56)	.31 (8)
1-1/2 (SAE 24)	12.2 (310)	10.68 (271)	11.65 (296)	7.63 (194)	4.84 (123)	3.82 (97)	5.02 (128)	4.50 (114)	2.20 (56)	.31 (8)

### DIMENSIONS:

A	B	C	D	E	F
NOMINAL PORT SIZE	LENGTH in (mm)	WIDTH in (mm)	DEPTH in (mm)	OFFSET in (mm)	FLATS in (mm)
1/4 (SAE 6)	4.8 (122)	1.68 (43)	1.90 (48)	.84 (21)	.88 (22)



### ENCLOSURE:

**Material:** Anodized and epoxy powder-coated aluminum with polycarbonate lens.

**Seals:** Silicone gasket between enclosure and lens.

Viton® O-rings between enclosure and flow meter body.

**Connection:** 4-pin (Protection Class IP65)

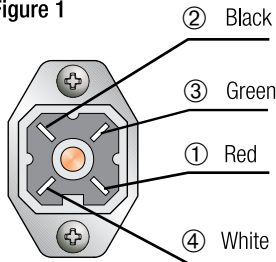
**Fastener:** T303 SS

**Rating:** NEMA 12 & 13 (IP65)

### ELECTRICAL SPECIFICATIONS:

Adjustable Flow-Alert™ signal: single (1) or double (2) reed switch, pre-wired single-pole, single-throw (SPST-NO) normally open; or single-pole, single-throw (SPST-NC) normally closed. UL recognized and CSA certified with high or low flow limit setting, adjustable over the entire flow measuring range.

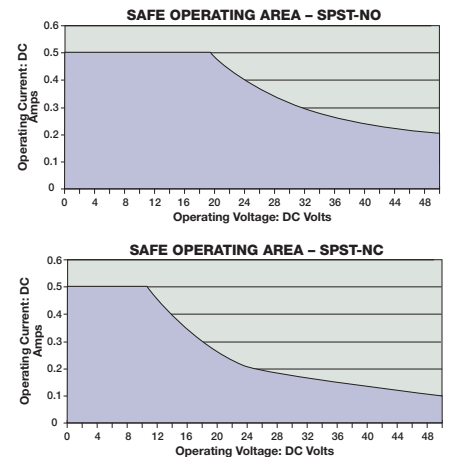
Figure 1










### Electrical Circuitry:

The flow switch is supplied with 15 feet of shielded, 4-wire #22 AWG PVC jacketed cable, color coded as follows: ① Red, ② Black for single (1) Reed Switch, and ③ Green, ④ White for double (2) Reed Switch.

Contact Form	SPST-NO	SPST-NC
<b>ELECTRICAL SPECIFICATIONS</b>		
Contact Rating	10 Watts Max	5 Watts Max
Voltage, Switching	50 Vdc Max	50 Vdc Max
Current (resistive), Switching	0.500 A Max	0.500 A Max
<b>OPERATING SPECIFICATIONS</b>		
Contact Resistance, Initial	0.100 Ω Max	0.100 Ω Max
Operating Temperature	-20 to 240 °F (-20 to 116 °C)	-20 to 240 °F (-20 to 116 °C)



**NOTE:** Weights for all sizes can be found on page 73.

	<b>FLOW-ALERT OIL</b> Ordering Info <b>46</b>		<b>FLOW-ALERT PE</b> Ordering Info <b>47</b>		<b>FLOW-ALERT WBF</b> Ordering Info <b>48</b>		<b>FLOW-ALERT WATER</b> Ordering Info <b>49</b>
	<b>FLOW-ALERT API OIL and Caustic and Corrosive Liquids</b> Ordering Info <b>50</b>		<b>FLOW-ALERT AIR and Caustic and Corrosive Gases</b> Ordering Info <b>51</b>		<b>FLOW-ALERT AIR</b> Ordering Info <b>52</b>		

# Flow-Alert™ Flow Switches and Flow Transmitters For Petroleum Fluids

## ORDERING INFORMATION:

NOMINAL PORT SIZE	FLOW RANGE		MODEL NUMBER (see example below)			MATERIAL			OPTIONS		
	GPM	LPM	SAE	NPTF	BSPP	ALUMINUM 3500 PSI	BRASS 3500 PSI	STAINLESS	Flow-Alert 1 SWITCH / 2 SWITCH	Flow-Alert REED SWITCH	MULTIPLE OUTPUT SENSOR
1/4 SAE 6	.02 - 0.2	0.1 - 0.75	H200 * - 002 - †	H201 * - 002 - †	H202 * - 002 - †	A	B	6000 PSI S	Not Available		Not Available
	.05 - 0.5	0.2 - 1.9	H200 * - 005 - †	H201 * - 005 - †	H202 * - 005 - †						
1/4 SAE 6	0.1 - 1.0	0.5 - 3.75	H200 * - 010 - †	H201 * - 010 - †	H202 * - 010 - †	A	B	6000 PSI S	F1/F2	SEE	MR
	0.2 - 2.0	1 - 7.5	H200 * - 020 - †	H201 * - 020 - †	H202 * - 020 - †						
1/2 SAE 10	0.1 - 1.0	0.5 - 3.75	H600 * - 001 - †	H601 * - 001 - †	H602 * - 001 - †	A	B	6000 PSI S	F1/F2	SEE	MR
	0.2 - 2.0	1 - 7.5	H600 * - 002 - †	H601 * - 002 - †	H602 * - 002 - †						
	0.5 - 5.0	2 - 19	H600 * - 005 - †	H601 * - 005 - †	H602 * - 005 - †						
	1 - 10	5 - 38	H600 * - 010 - †	H601 * - 010 - †	H602 * - 010 - †						
	1 - 15	4 - 56	H600 * - 015 - †	H601 * - 015 - †	H602 * - 015 - †						
3/4 SAE 12	0.2 - 2.0	1 - 7.5	H700 * - 002 - †	H701 * - 002 - †	H702 * - 002 - †	A	B	5000 PSI S	F1/F2	OPTI	MR
	0.5 - 5.0	2 - 19	H700 * - 005 - †	H701 * - 005 - †	H702 * - 005 - †						
	1 - 10	5 - 38	H700 * - 010 - †	H701 * - 010 - †	H702 * - 010 - †						
	2 - 20	10 - 76	H700 * - 020 - †	H701 * - 020 - †	H702 * - 020 - †						
	3 - 30	10 - 115	H700 * - 030 - †	H701 * - 030 - †	H702 * - 030 - †						
1 SAE 16	0.2 - 2.0	1 - 7.5	H760 * - 002 - †	H761 * - 002 - †	H762 * - 002 - †	A	B	5000 PSI S	F1/F2	ONS	MR
	0.5 - 5.0	2 - 19	H760 * - 005 - †	H761 * - 005 - †	H762 * - 005 - †						
	1 - 10	5 - 38	H760 * - 010 - †	H761 * - 010 - †	H762 * - 010 - †						
	2 - 20	10 - 76	H760 * - 020 - †	H761 * - 020 - †	H762 * - 020 - †						
	3 - 30	10 - 115	H760 * - 030 - †	H761 * - 030 - †	H762 * - 030 - †						
	4 - 40	10 - 150	H760 * - 040 - †	H761 * - 040 - †	H762 * - 040 - †						
1-1/4 SAE 20	3 - 30	10 - 110	H800 * - 030 - †	H801 * - 030 - †	H802 * - 030 - †	A	B	5000 PSI S	F1/F2	B	MR
	5 - 50	20 - 190	H800 * - 050 - †	H801 * - 050 - †	H802 * - 050 - †						
	10 - 75	40 - 280	H800 * - 075 - †	H801 * - 075 - †	H802 * - 075 - †						
	10 - 100	50 - 380	H800 * - 100 - †	H801 * - 100 - †	H802 * - 100 - †						
	10 - 150	50 - 560	H800 * - 150 - †	H801 * - 150 - †	H802 * - 150 - †						
1-1/2 SAE 24	3 - 30	10 - 110	H860 * - 030 - †	H861 * - 030 - †	H862 * - 030 - †	A	B	5000 PSI S	F1/F2	LOW	MR
	5 - 50	20 - 190	H860 * - 050 - †	H861 * - 050 - †	H862 * - 050 - †						
	10 - 75	40 - 280	H860 * - 075 - †	H861 * - 075 - †	H862 * - 075 - †						
	10 - 100	50 - 380	H860 * - 100 - †	H861 * - 100 - †	H862 * - 100 - †						
	10 - 150	50 - 560	H860 * - 150 - †	H861 * - 150 - †	H862 * - 150 - †						

(example) H 701 A - 030 - F1 or F2



### Flow-Alert Flow Switches

F1 = Single Switch  
F2 = Double Switch

(example) H 701 A - 030 - RS1NO



### Flow-Alert Reed Switches

#### Options:

- RS1NO (reed switch one (1) normally open)
- RS2NO (reed switch two (2) normally open)
- RS1NC (reed switch one (1) normally closed)
- RS2NC (reed switch two (2) normally closed)

(example) H 701 A - 030 - MR



### Multiple Output Flow Sensor

3 Standard field selectable outputs

- 0-5 VDC
  - 0-10 VDC
  - 4-20 mA
- Flow Transmitter is factory-calibrated to provide 4 mA (0 VDC) at zero flow and 20 mA (5/10 VDC) at full flow. Optional 5-point calibration certificate available (see Price and Availability Digest for details).

NOTE: 1/4" liquid meters for .02-0.2 and .05-0.5 GPM ranges available in strap-on design for RS1NO and RS1NC only.

NOTE: For 50% and 100% flow/pressure drop information, see page 10. For detailed flow/pressure drop charts, see page 55.