EPA/EPF Adjustable High Pressure Switches

Performance Parameters

Model	Adjustment Range PSI	Adjustment Range Bar	Avg. Differential	Model	Adjustment Range PSI	Adjustment Range Bar	Avg. Differential
1	1.5-30	0.10-2.0	Less than 10% of Actuation Point	3	300-2500	20-170	Less than 10% of Actuation Point
1A	14.5-200	1.0-14		4	3000-6000	207-414	
2	125-600	8-40		5	500-3500	35-240	

ELECTRICAL:

100VA/42VDC

Gold contacts may be required for less than 12 VDC and 20 milliamp

WETTED MATERIAL:

Diaphragm: Buna-N (standard)

(optional EPDM, KAPTON®, VITON® Low Temperature Nitrile)

Housing: Zinc-Nickel Plated Steel

(optional Steel - Electroless Nickel Plated, 316 Stainless Steel)

PROTECTION:

Exposed Terminals - IP00

Flying Leads & Deutsch Integral - IP69

REPEATABILITY:

± 3% of full set point range at 21°C

Ambient Temperature

SWITCH TYPE:

Creep Action

MECHANICAL LIFE:

1,000,000 cycles

TEMPERATURE RANGE:

BUNA-N: -26℃~110℃

EPDM: -23℃~121℃

KAPTON®: -40℃~110℃

VITON®: -18℃~150℃

(® Registered Trademark of DuPont)

Low Temp Nitrile: -40℃~110℃

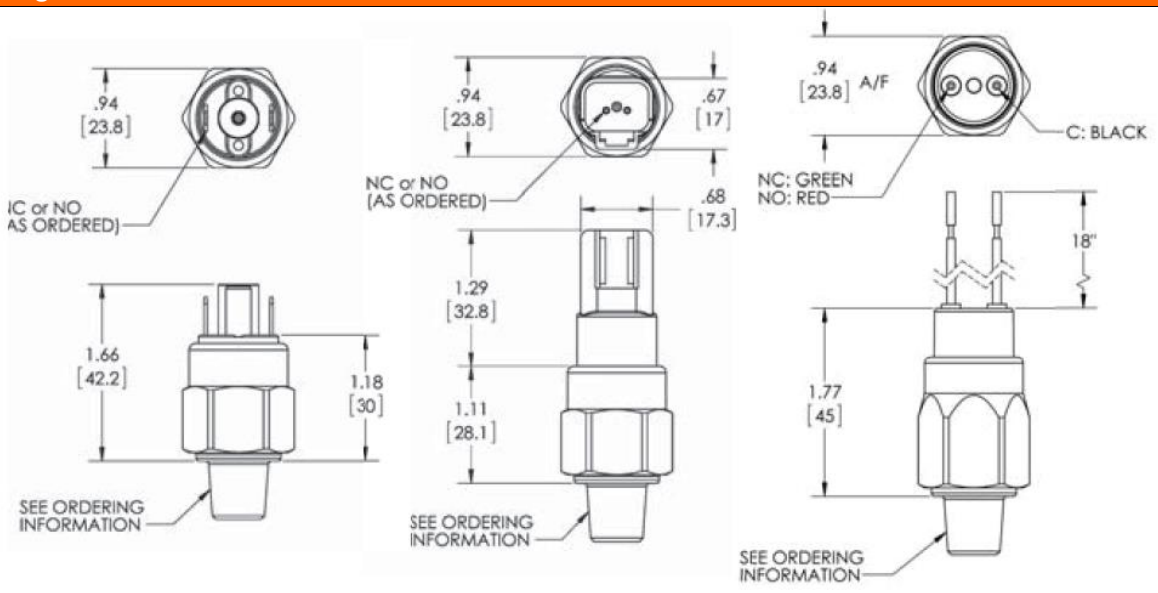
MAXIMUM OVERPRESSURE:

9000 PSI (620 Bar)

WEIGHT:

0.07 kg

Drawing



Ordering Information

EPA	-*2	-*R	-4M	-A	-FL	-*1
Model	Set Point	Direction	Port Size	Circuit	Terminal	Options
EPA- Field Adjustable EPF- Factory Set	See Above Adjustment Ranges *Model EPF Specify Set Point Required	R-PSI Rising F-PSI Falling BR-Bar Rising BF-Bar Falling *Omit for Model EPA	2M-1/8 NPT 4M-1/4 NPT 2G-1/8 BSPP 4G-1/4 BSPP (undercut for an o-ring seal) 4GS-1/4 BSPP (no undercut) 4S-7/16×20 SAE MALE 6S-9/16×18 SAE MALE M10-M10×1* M12-M12×1.5* *Consult Factory for Specials	A-SPST/NO B-SPST/NC	SP-1/4"x1/32" Spade TS-6-32 Terminal Screws FL-18" Flying Leads FLL-Advise additional length of leads if required FLWTF-Weatherpack Tower Female FLWTM-Weatherpack Tower Male FLWSF-Weatherpack Shroud Female FLWSM-Weatherpack Shroud Male DI-Deutsch Integral	*-Omit If Standard 1-VITON® Diaphragm 2-EPDM Diaphragm 3-KAPTON® Diaphragm * * Ranges 1A & 2 Only 15 - Low Temp Nitrile Dia 4-316 SS Housing 4A-Steel-Electroless Nickel Plated 5-Spiral Restrictor 6-Oxygen Cleaned 7-Gold Contacts

DEFINITIONS AND TERMINOLOGY

ACCURACY, (REPEATABILITY) **-** Accuracy is the maximum allowable set point deviation of a single pressure or temperature switch under one given set of environmental and operational conditions.

ACTUATION AND DEACTUATION POINT **-** The actuation point (sometimes called set point) is the exact point at which the electrical circuit controlled by the switching element is opened (or closed) on increasing pressure or temperature. The deactuation point is the opposite at which the electrical circuit is closed (or opened) on decreasing pressure or temperature.

DEAD BAND **-** The dead band sometimes referred to as "differential" or "hysteresis" is the change in pressure between actuation and deactuation set points.

PRESSURE SWITCH **-** An instrument that upon the increase or decrease of a pressure or vacuum, opens or closes one or more electrical switching elements at a predetermined actuation point (setting).

PRESSURE SENSING ELEMENT **-** That portion of pressure switch that is in contact with and moves as a result of a change in pressure of the medium. The most common type of pressure sensing elements are diaphragms, accordion bellows, bourdon tubes, and pistons.

SINGLE POLE DOUBLE THROW (SPDT) SWITCHING ELEMENT **-** A SPDT switching element has one normally open, one normally closed and one common terminal. Three terminals mean that the switch can be wired with the circuit either normally open (N/O) or normally closed (N/C).

NORMALLY CLOSED SWITCHING ELEMENT (NC) **-** Is one in which the terminals are wired so that current can flow through the switching element until pressure is applied to open the electrical circuit.

NORMALLY OPEN SWITCHING ELEMENT (NO) **-** Is one in which the terminals are wired so that no current can flow through the switching element until the pressure is applied to close the electrical circuit.

PRESSURE, PROOF **-** Proof Pressure is the maximum pressure which can be applied to any switch without causing permanent degradation.

Circuit Definitions

Form A - SPST - NO

Single Pole - Single Throw Normally Open

Form B - SPST - NC

Single Pole - Single Throw Normally Closed

Form C – SPDT

Single Pole - Double Throw

Standard Electrical Circuit

Wire Color	DIN 43650 Number	C Circuit
Black	1	Common
Green	2	N. Closed
Red	3	N. Open

Wotian Pressure Switches are sealed, vibration resistant and ruggedly built to provide a reliable protection for automatic control of equipment and processes. They are designed for direct or remote mounting and offer a quality product at a competitive price.

Setting **-** The set point of each switch is preset at the factory as follows:

• Field adjustable series - bottom of range

• Factory set series - at the desired set point

The switches can be ordered for operation with either rising or falling temperature, vacuum or pressure. Reset of the microswitch is automatic and depends upon the dead band or differential of the particular model.

Switch Protection **-** Standard switches offer excellent protection and long life in most applications. They are also sealed for weatherproof protection. The corrosion-resistant materials in the wetted areas and the standard nitrile diaphragm are suitable for most media. Where required the switches are available with VITON®, KAPTON®, EPDM or Low Temperature Nitrile diaphragms and, in some cases, optional steel, brass or stainless steel housings and wetted areas.

Mechanism **-** Where the pressure switch is subject to higher pressure, either dynamic or static, of over 700 psi, the diaphragm operating mechanism includes an O-ring cushion which absorbs the slight operation motion required while preventing extrusion of the diaphragm material into the piston-to-cylinder clearance.

Gold Contacts **-** May be required for applications where less than 12VDC and 20 Milliamps

Appendix 2: Electrical Configuration

			
FL Flying Leads	SP “A”or“B” Circuit 1/4” Spades	SP “C” Circuit 1/4” Spades	TS 6-32 Terminal Screws
			
H DIN 43650A Male Half Only	HC DIN 43650A Cable Clamp	HN DIN 43650A 1/2” Conduit	HC11A, B, C & D DIN 43650A Lighted DIN
			
HCC DIN w/36” Cable	HCM DIN 43650C	HCM.A, B, C & D DIN 43650C Lighted DIN	MDP2 Deutsch DT06-2S 2 Pin Mating Plug
			
WTF/WTM Weather Pack Tower 2 Pin Male or Female Pins	WSF/WSM Weather Pack Shroud 2 Pin Male or Female Pins	WTF3/WTM3 Weather Pack Tower 3 Pin Male or Female Pins	WSF/WSM3 Weather Pack Shroud 3 Pin Male or Female Pins

Appendix 3: Material Compatibility

Media	Buna	EPDM	Viton
Acetic Acid		*	
Acetone		*	
Acetylene	*		
Air	*		
Alcohols	*		
Alkalies (Weak)	*		
Alkalies (Strong)		*	
Ammonia(Anhydrous)	*		
Ammonia(Hydroxide)		*	
Asphalt			*
Automotive Oils	*		
Beer	*		
Benzene			*
Boric Acid	*		
Brake Fluid		*	
Bunker Oil	*		
Butane	*		
Butyl Cellosolve		*	
Carbon Dioxide	*		
Carbon Monoxide	*		
Cellube		*	
Chiorobenzene			*
Citric Acid	*		
Coke Oven Gas			*
Coolant	*		
Diesel Fuels	*		
Di-Ester Lube （MIL-L-7808）			*
Dowtherm A&E		*	
Ethanol	*		
Ether		*	
Ethylene	*		
Ethylene Glycol	*		
Freon 11,12,112,114	*		
Freon 22		*	
Fyrquel		*	
Fuel Oil	*		
Gasoling	*		
Glycerin	*		
Helium	*		
Hexane	*		

Media	Buna	EPDM	Viton
Hydraulic Oil(PET Base)	*		
Hydrocarbons	*		
Hydrogen	*		
Hydrogen Sulphide		*	
Isopropanol		*	
JP-3-6	*		
Kerosene	*		
LPG	*		
Lube Oil(PET Base)	*		
Methanol	*		
MEK		*	
Mineral Oil	*		
Motor Oils	*		
Naptha		*	
Natural Gas	*		
Nitric Acid		*	
Nitrogen	*		
Cleum Spirits			*
Oxygen	*		
Ozone		*	
Crude Oil	*		
Phosphoric Acid			*
Propane	*		
Propanol	*		
Pydraul		*	
Shell Iris 902	*		
Silicone Greases	*		
Silicone Oils	*		
Skydrol 500 & 7000		*	
Soap Solutions	*		
Steam Below 320°F		*	
Stoddard Solvent	*		
Sulfuric Acid			*
Tolulene			*
Transmission Fluid	*		
Trisodium Phosphate	*		
Turpentine	*	*	
Water to 220°F (104°C)	*		
Water to 302°F (150°C)		*	

Contact us

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