



**ANFIELD**  
SENSORS INC.

The logo for ANFIELD SENSORS INC. features a stylized 'A' icon on the left, composed of a blue square and a red triangle. To the right of the icon, the word 'ANFIELD' is written in a large, bold, blue sans-serif font. Below 'ANFIELD', the words 'SENSORS INC.' are written in a smaller, blue, spaced-out sans-serif font. A thin red horizontal line is positioned between 'ANFIELD' and 'SENSORS INC.'

## ABOUT US

Anfield Sensors Inc. headquartered in Toronto, Canada, is a leading manufacturer of hydraulic and pneumatic sensors, specializing in pressure, vacuum, differential, and temperature switches/transducers. Our full product range allows us to serve various markets including industrial, mobile, food service, medical and military industries.

Our dedicated team of engineers can provide guidance in product selection and also in designing a product specifically for your application. We are driven to exceed customers' expectations in product performance and customer service.

As a full-service provider of engineered and manufactured products, we devote a significant amount of our time and resources to our research and development center in order to ensure that we continue to set industry benchmarks.

Anfield has locations in Canada and USA that can help assist with your sensor needs.

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\* UL available for certain models

### DESCRIPTION

The SPA is a miniature pressure switch with a high quality snap action micro switch. It is suitable for pneumatic, water, and any low pressure hydraulic applications. The switch is field adjustable with an allen screw and now features an optional IP67 rating for any of our flying lead options (CA and CS). Lead free brass is available for special application requirements.

### FEATURES

- Snap action pressure switch
- Factory set or field adjustable
- Compact size
- Cost effective

### APPLICATIONS

- Pneumatic system control
- Low pressure filter monitoring
- Car washes
- Gate control

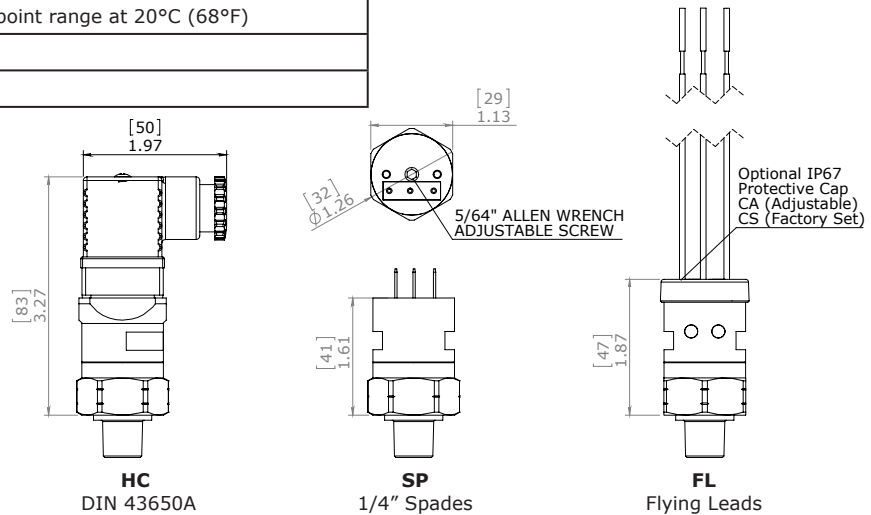
### Specifications

Electrical	5A [12/24 VDC, 125 VAC] or 3A [250 VAC] Optional: 10A or Gold Contact
Switch Type	Snap Action
Protection	DIN 43650A (18 mm): IP65 Spades: IP00 Flying Lead: IP64 Flying Lead with CA/CS: IP67
Media Temperature Range	Nitrile: -20°F to 180°F (-29°C to 82°C) Viton: 23°F to 248°F (-5°C to 120°C) HNBR: -20°F to 248°F (-29°C to 120°C) EPDM: -20°F to 248°F (-29°C to 120°C)
Ambient Temperature Range	-40°F to 180°F (-40°C to 82°C)
Mechanical Life Expectancy	1,000,000 Cycles @ 75 PSI (5.2 BAR)
Diaphragm Material	Standard: Nitrile Optional: Viton, EPDM, HNBR
Housing Material	Standard: Brass Optional: Stainless Steel
Maximum Overpressure	350 PSI (24 BAR)
Repeatability	+/- 2% of full set point range at 20°C (68°F)
Differential	6 - 20% of setting
Weight	0.26 lbs (0.12 kg)

### Pressure Range

Model	Adjustment Range	
	PSI	BAR
1	3 - 7	0.2 - 0.5
2	5 - 30	0.3 - 2.1
3	25 - 150	1.7 - 10

### Dimensions



### Wiring Code

CONTACT	FLYING LEADS	DIN 43650 TYPE	FLWF / FLWM FLCM / FLCF / FLPM / FLPF		FLDR / FLDP	
			SPDT MODEL	SPST MODEL	SPDT MODEL	SPST MODEL
COMMON	BLACK	PIN 1	PIN A	PIN A	PIN A	PIN 1
NORMALLY CLOSED	BLUE	PIN 2	PIN C	PIN B	PIN C	PIN 2
NORMALLY OPEN	RED	PIN 3	PIN B	PIN B	PIN B	PIN 2

## Ordering Information

### Field Adjustable

SPA - <sup>1</sup>2 - <sup>2</sup>2M - <sup>3</sup>C - <sup>4</sup>HC - <sup>5 (Optional)</sup>1

### Factory Preset

SPF - <sup>1</sup>30F - <sup>2</sup>2M - <sup>3</sup>C - <sup>4</sup>HC - <sup>5 (Optional)</sup>1

### 1 - Pressure Selection:

Field Adjustable - Select Model Code

Insert set point value XXX followed by: R, F, BR, or BF

Model	Adjustment Range	
	PSI	BAR
1	3 - 7	0.2 - 0.5
2	5 - 30	0.3 - 2.1
3	25 - 150	1.7 - 10

OR

Set Point	Direction	Description
XXXX	R	PSI Rising Pressure
	F	PSI Falling Pressure
	BR	BAR Rising Pressure
	BF	BAR Falling Pressure

### 2 - Thread Options:

- 2M - 1/8 NPT male
- 4M - 1/4 NPT male
- 2G - 1/8 BSPP male, G1/8
- 4G - 1/4 BSPP male, G1/4
- 4S - 7/16-20 SAE male, with O-ring seal
- 6S - 9/16-18 SAE male, with O-ring seal
- 2GT - 1/8 BSPT, R1/8
- 4GT - 1/4 BSPT, R1/4

### 3 - Circuit:

- A - SPST (Normally Open)
- B - SPST (Normally Closed)
- C - SPDT (Single Pole Double Throw : Normally Open and Normally Closed)

### 4 - Electrical Termination:

- HC - DIN 43650A - connector type (only available in SPDT option)
- HN - DIN 43650A 1/2" NPT Conduit (only available in SPDT option)
- FL - Flying Lead 18" long, 18 AWG
- FLWF - Flying Lead Weatherpack connector, female, Tower, 10" long leads
- FLWM - Flying Lead Weatherpack connector, male, Shroud, 10" long leads
- FLDP - Flying Lead Deutsch connector, plug, 10" long leads
- FLDR - Flying Lead Deutsch connector, receptacle, 10" long leads
- FLCM - Flying Lead Metripack, male, 150 series, 10" long leads
- FLCF - Flying Lead Metripack, female, 150 series, 10" long leads
- FLPM - Flying Lead Metripack, male, 280 series, 10" long leads
- FLPF - Flying Lead Metripack, female, 280 series, 10" long leads
- SP - 1/4" Spade

### 5 - Options (Omit if not required):

- 1 - Viton® Diaphragm
- 2 - EPDM Diaphragm
- 3 - 316 Stainless Steel Housing
- 4 - HNBR Diaphragm
- 6 - Lead Free Brass
- 7 - Gold Contact, Snap Action Microswitch @ 20 mA/12 VDC (minimum set point 5 psi)
- 8 - 10 amp, Snap Action Microswitch @ 10(2) 125 VAC (inductive), 6(2) 250 VAC (inductive) , (minimum set point 5 psi)
- 20 - Seal Adjustment Screw
- OC - Oxygen Cleaned
- SR - Snubber
- CA - IP67 rated protective cover with a removable plug (For adjustable switches SPA flying lead model)
- CS - IP67 rated protective cover (For factory set switches, SPF flying lead model)



Note: Please see page 61 for other available options



\* UL available for certain models

## DESCRIPTION

The SMA pressure switch is ideal for many hydraulic and pneumatic applications. It utilizes a proven piston/diaphragm design to provide excellent accuracy and high proof pressures with zero leakage. Any flying leads are available with IP67 rating "CA" & "CS" option, making it an exceptional product for outdoor environments.

## FEATURES

- Snap action micro switch
- Factory set or field adjustable
- Diaphragm/piston design for longevity
- Wide adjustment range
- High proof pressures

## APPLICATIONS

- Hydraulic system control
- Material handling equipment
- Lubrication systems
- Garbage compactors

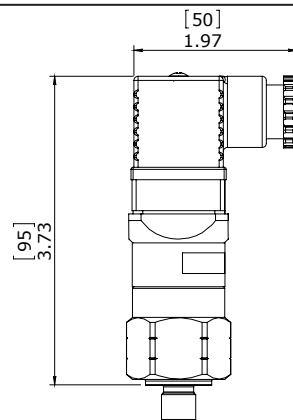
## Specifications

Electrical	5A [12/24 VDC, 125 VAC] or 3A [250 VAC] Optional: 10A or Gold Contact
Switch Type	Snap Action
Protection	DIN 43650A (18 mm): IP65 Spades: IP00 Flying Lead: IP64 Flying Lead with CA/CS: IP67
Media Temperature Range	Nitrile: -20°F to 180°F (-29°C to 82°C) Viton: 23°F to 248°F (-5°C to 120°C) HNBR: -20°F to 248°F (-29°C to 120°C) EPDM: -20°F to 248°F (-29°C to 120°C)
Ambient Temperature Range	-40°F to 180°F (-40°C to 82°C)
Mechanical Life Expectancy	1,000,000 Cycles @ 1000 PSI (69 BAR)
Diaphragm Material	Standard: Nitrile Optional: Viton, EPDM, HNBR
Housing Material	Zinc Plated Steel (Optional Stainless Steel)
Maximum Overpressure	9000 PSI (620 BAR) 4700 PSI (324 BAR) for SMA-3 model
Repeatability	+/- 2% of full set point range at 20°C (68°F)
Differential	7 - 30% of setting
Weight	0.37 lbs (0.17 kg)

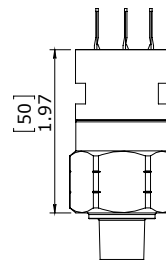
## Pressure Range

Model	Adjustment Range	
	PSI	BAR
3	10 - 35	0.7 - 2.4
4	30 - 120	2.0 - 8.0
5	75 - 300	5.2 - 21
6	300 - 1200	21 - 83
7	1000 - 3000	69 - 207
8	2000 - 5000	138 - 345

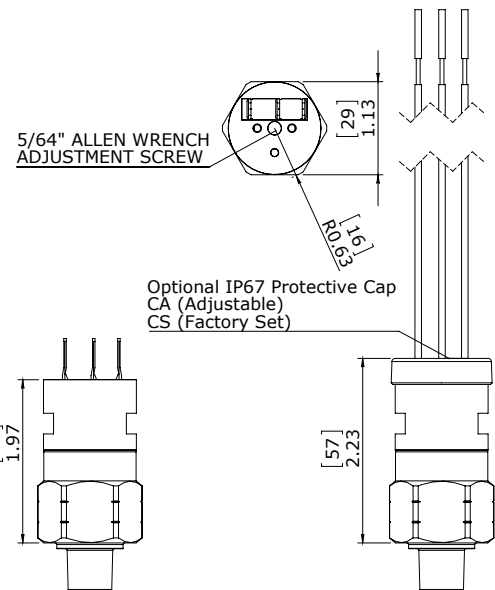
## Dimensions



HC  
DIN 43650A



SP  
1/4" Spades



FL  
Flying Leads

## Wiring Code

CONTACT	FLYING LEADS	DIN 43650 TYPE	FLWF / FLWM FLCM / FLCF / FLPM / FLPF		FLDR / FLDP	
			SPDT MODEL	SPST MODEL	SPDT MODEL	SPST MODEL
COMMON	BLACK	PIN 1	PIN A	PIN A	PIN A	PIN 1
NORMALLY CLOSED	BLUE	PIN 2	PIN C	PIN B	PIN C	PIN 2
NORMALLY OPEN	RED	PIN 3	PIN B	PIN B	PIN B	PIN 2

## Ordering Information

### Field Adjustable

**SMA** - <sup>1</sup>**4** - <sup>2</sup>**2M** - <sup>3</sup>**C** - <sup>4</sup>**HC** - <sup>5 (Optional)</sup>**1**

### Factory Preset

**SMF** - <sup>1</sup>**30F** - <sup>2</sup>**2M** - <sup>3</sup>**C** - <sup>4</sup>**HC** - <sup>5 (Optional)</sup>**1**

## 1 - Pressure Selection:

Field Adjustable - Select Model Code

Insert set point value XXXX followed by: R, F, BR, or BF

Model	Adjustment Range	
	PSI	BAR
<b>3</b>	10 - 35	0.7 - 2.4
<b>4</b>	30 - 120	2.0 - 8.0
<b>5</b>	75 - 300	5.2 - 21
<b>6</b>	300 - 1200	21 - 83
<b>7</b>	1000 - 3000	69 - 207
<b>8</b>	2000 - 5000	138 - 345

OR

Set Point	Direction	Description
XXXX	<b>R</b>	PSI Rising Pressure
	<b>F</b>	PSI Falling Pressure
	<b>BR</b>	BAR Rising Pressure
	<b>BF</b>	BAR Falling Pressure

## 2 - Thread Options:

- 2M** - 1/8 NPT male
- 4M** - 1/4 NPT male
- 2G** - 1/8 BSPP male, G1/8
- 4G** - 1/4 BSPP male, G1/4
- 4S** - 7/16-20 SAE male, with O-ring seal
- 4SLN** - 7/16-20 SAE male, with O-ring seal, adjustable
- 6S** - 9/16-18 SAE male, with O-ring seal
- M10** - M10 X 1.0 male, with O-ring seal (ISO 6149-2)
- M12** - M12 X 1.5 male, with O-ring seal (ISO 6149-2)

## 3 - Circuit:

- A** - SPST (Normally Open)
- B** - SPST (Normally Closed)
- C** - SPDT (Single Pole Double Throw : Normally Open and Normally Closed)

## 4 - Electrical Termination:

- HC** - DIN 43650A - connector type (only available in SPDT option)
- HN** - DIN 43650A 1/2" NPT Conduit (only available in SPDT option)
- FL** - Flying Lead 18" long, 18 AWG
- FLWF** - Flying Lead Weatherpack connector, female, Tower, 10" long leads
- FLWM** - Flying Lead Weatherpack connector, male, Shroud, 10" long leads
- FLDP** - Flying Lead Deutsch connector, plug, 10" long leads
- FLDR** - Flying Lead Deutsch connector, receptacle, 10" long leads
- FLCM** - Flying Lead Metripack, male, 150 series, 10" long leads
- FLCF** - Flying Lead Metripack, female, 150 series, 10" long leads
- FLPM** - Flying Lead Metripack, male, 280 series, 10" long leads
- FLPF** - Flying Lead Metripack, female, 280 series, 10" long leads
- SP** - 1/4" Spade



## 5 - Options (Omit if not required):

- 1** - Viton® Diaphragm
- 2** - EPDM Diaphragm
- 3** - 316 Stainless Steel Housing
- 4** - HNBR Diaphragm
- 7** - Gold Contact, Snap Action Microswitch @ 20 mA/12 VDC
- 8** - 10 amp, Snap Action Microswitch @ 10(2) 125 VAC (inductive), 6(2) 250 VAC (inductive)
- 20** - Seal Adjustment Screw
- OC** - Oxygen Cleaned
- SR** - Snubber
- CA** - IP67 rated protective cover with a removable plug (For adjustable switches SMA flying lead model)
- CS** - IP67 rated protective cover (For factory set switches, SMF flying lead model)

Note: Please see page 61 for other available options



\* UL available for certain models

### DESCRIPTION

A miniature pressure switch with high proof pressures ideal for mobile and other harsh applications. It is a well sealed design that offers ingress protection up to IP68 when paired with the flying lead option. It is offered with a variety of mechanical and electrical terminations for easy integration.

### FEATURES

- Creep / Blade contact switch
- Diaphragm/piston combination
- High ingress protection
- Compact body
- Gold contact available

### APPLICATIONS

- Industrial tools
- Garbage trucks
- Brake pressure switch

### Specifications

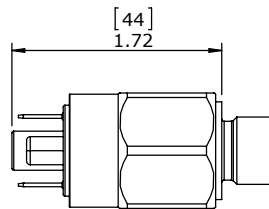
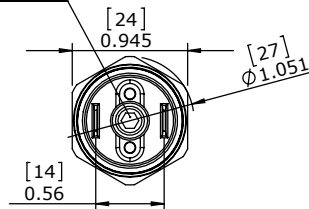
Electrical	100 VA, 42 VDC, Max 4A Optional: Gold Contact
Switch Type	Blade Contact
Protection	Exposed Terminals - IP00 (IP68 Available)
Media Temperature Range	Nitrile: -20°F to 180°F (-29°C to 82°C) Viton: 23°F to 248°F (-5°C to 120°C) HNBR: -20°F to 248°F (-29°C to 120°C) EPDM: -20°F to 248°F (-29°C to 120°C)
Ambient Temperature Range	-40°F to 248°F (-40°C to 120°C)
Mechanical Life Expectancy	1,000,000 Cycles @ 1000 PSI (69 BAR)
Diaphragm Material	Standard: Nitrile Optional: Viton, EPDM, HNBR
Housing Material	Zinc Plated Steel
Maximum Overpressure	9000 PSI (620 BAR)
Repeatability	+/- 3% of full set point range at 20°C (68°F) SKBA-1 model, +/- 1.5 psi
Weight	0.16 lbs (0.07 kg)

### Pressure Range

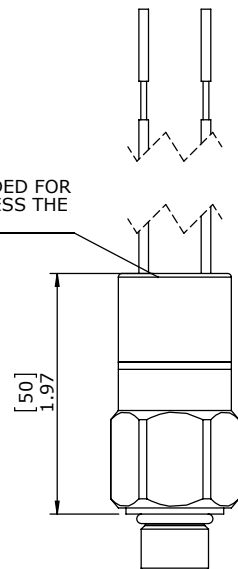
Model	Adjustment Range	
	PSI	BAR
1	5 - 20	0.3 - 1.4
2	20 - 120	1.4 - 8.2
3	90 - 250	6.2 - 17
4	250 - 950	17 - 65
5	700 - 1900	48 - 131
6	1000 - 3000	69 - 206

### Dimensions

1/8" ALLEN WRENCH  
ADJUSTMENT SCREW



**SP**  
1/4" Spades



**FL**  
Flying Leads

IP68 CAP IS STANDARD WITH  
FLYING LEADS OPTION

A REMOVABLE PLUG IS PROVIDED FOR  
ADJUSTABLE MODELS TO ACCESS THE  
ADJUSTMENT SCREW

### Wiring Code

CONTACT	FLYING LEADS	FLWF / FLWM WEATHERPACK	FLDR / FLDP DEUTSCH RECEPTACLE / PLUG
COMMON	BLACK	PIN A	PIN 1
NORMALLY CLOSED	BLACK	PIN B	PIN 2
NORMALLY OPEN	BLACK	PIN B	PIN 2



## Ordering Information

### Field Adjustable

**SKBA** - <sup>1</sup>**2** - <sup>2</sup>**2M** - <sup>3</sup>**B** - <sup>4</sup>**SP** - <sup>5 (Optional)</sup>**1**

### Factory Preset

**SKBF** - <sup>1</sup>**30F** - <sup>2</sup>**2M** - <sup>3</sup>**B** - <sup>4</sup>**SP** - <sup>5 (Optional)</sup>**1**

## 1 - Pressure Selection:

Field Adjustable - Select Model Code

Insert set point value XXX followed by: R, F, BR, or BF

Model	Adjustment Range	
	PSI	BAR
<b>1</b>	5 - 20	0.1 - 1.4
<b>2</b>	20 - 120	1.4 - 8.2
<b>3</b>	90 - 250	6.2 - 17
<b>4</b>	250 - 950	17 - 65
<b>5</b>	700 - 1900	48 - 131
<b>6</b>	1000 - 3000	69 - 206

OR

Set Point	Direction	Description
XXXX	<b>R</b>	PSI Rising Pressure
	<b>F</b>	PSI Falling Pressure
	<b>BR</b>	BAR Rising Pressure
	<b>BF</b>	BAR Falling Pressure

## 2 - Thread Options:

- 2M** - 1/8 NPT male
- 4M** - 1/4 NPT male
- 2G** - 1/8 BSPP male, G1/8
- 4G** - 1/4 BSPP male, G1/4
- 4S** - 7/16-20 SAE male, with O-ring seal
- 6S** - 9/16-18 SAE male, with O-ring seal
- M10** - M10 X 1.0 male (to be used with seal ring or crush washer, not supplied)
- M12** - M12 X 1.5 male (to be used with seal ring or crush washer, not supplied)

## 3 - Circuit:

- A** - SPST (Normally Open)
- B** - SPST (Normally Closed)

## 4 - Electrical Termination:

- FL** - Flying Lead 18" long, 18 AWG, IP68 cap is standard with this option
- FLWF** - Flying Lead Weatherpack connector, female, Tower, 10" long leads
- FLWM** - Flying Lead Weatherpack connector, male, Shroud, 10" long leads
- FLDP** - Flying Lead Deutsch connector, plug, 10" long leads
- FLDR** - Flying Lead Deutsch connector, receptacle, 10" long leads
- SP** - 1/4" Spade

## 5 - Options (Omit if not required):

- 1** - Viton® Diaphragm
- 2** - EPDM Diaphragm
- 4** - HNBR Diaphragm
- 7** - Gold Contact, 0.4 VA, 30 VDC
- 20** - Seal Adjustment Screw
- 30** - Rubber Boot - Removable (Excludes IP68 Cap if selected)
- OC** - Oxygen Cleaned
- SR** - Snubber
- UL** - UL Recognized requires factory consultation for specific ordering details



Note: Please see page 61 for other available options



\* UL available for certain models

### DESCRIPTION

One of the smallest pressure switches in the market offering an integrated Deutsch receptacle. Plug in a mating Deutsch DT06-2S plug for an instant solution to the constant water spray present in mobile applications.

### FEATURES

- Creep / Blade contact switch
- Diaphragm/Piston combination
- Integrated Deutsch receptacle
- Gold contact available

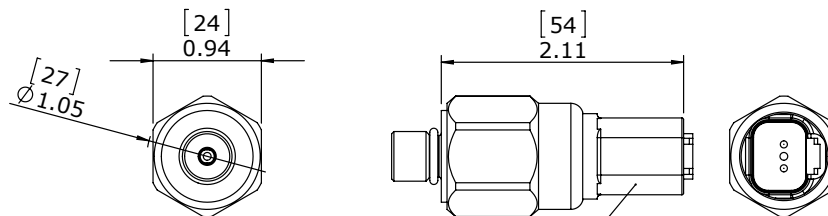
### APPLICATIONS

- Mobile equipment
- Street sweepers
- Cement trucks
- Aerial booms

Specifications	
Electrical	100 VA, 42 VDC, Max 4A Optional: Gold Contact (0.4VA, 30VDC)
Switch Type	Blade Contact
Protection	IP67
Mating Connector	DT06-2S
Media Temperature Range	Nitrile: -20°F to 180°F (-29°C to 82°C) Viton: 23°F to 248°F (-5°C to 120°C) HNBR: -20°F to 248°F (-29°C to 120°C) EPDM: -20°F to 248°F (-29°C to 120°C)
Ambient Temperature Range	-40°F to 248°F (-40°C to 120°C)
Mechanical Life Expectancy	1,000,000 Cycles @ 1000 PSI (69 BAR)
Diaphragm Material	Standard: Nitrile Optional: Viton, EPDM, HNBR
Housing Material	Zinc Plated Steel (Optional Stainless Steel)
Maximum Overpressure	9000 PSI (600 BAR)
Repeatability at 20°C (68°F)	5 psi to 14.5 psi = +/- 1.5 psi 12.5 to 145 psi = +/- 5 psi 146 to 350 psi = +/- 11 psi 351 to 1000 psi = +/- 30 psi 1001 to 2175 psi = +/- 65 psi
Weight	0.15 lbs (0.06 kg)

Pressure Range	
Set Point	
PSI	BAR
5 - 2175	0.3 - 150

### Dimensions



Wiring Code	
CONTACT	DEUTSCH RECEPTACLE
COMMON	PIN A
NORMALLY CLOSED	PIN B
NORMALLY OPEN	PIN B

DT04-2P, 2 POLE RECEPTACLE MATING; DT06-2S, 2 POLE PLUG

## Ordering Information

**Factory Preset** SKDF - <sup>1</sup>**30F** - <sup>2</sup>**2M** - <sup>3</sup>**B** - <sup>4</sup>**DR** - <sup>5 (Optional)</sup>**1**

### 1 - Pressure Selection

Insert set point value XXX followed by: R, F, BR, or BF

Set Point	Direction	Description
XXXX	<b>R</b>	PSI Rising Pressure
	<b>F</b>	PSI Falling Pressure
	<b>BR</b>	BAR Rising Pressure
	<b>BF</b>	BAR Falling Pressure

### 2 - Thread Options:

- 2M** - 1/8 NPT male
- 4M** - 1/4 NPT male
- 2G** - 1/8 BSPP male, G1/8
- 4G** - 1/4 BSPP male, G1/4
- 4S** - 7/16-20 SAE male, with O-ring seal
- 6S** - 9/16-18 SAE male, with O-ring seal
- M10** - M10 X 1.0 male (to be used with seal ring or crush washer, not supplied)
- M12** - M12 X 1.5 male (to be used with seal ring or crush washer, not supplied)

### 3 - Circuit:

- A** - SPST (Normally Open)
- B** - SPST (Normally Closed)

### 4 - Electrical Termination:

- DR** - Integrated Deutsch Receptacle - Mates with DT06-2S

### 5 - Options (Omit if not required):

- 1** - Viton® Diaphragm
- 2** - EPDM Diaphragm
- 4** - HNBR Diaphragm
- 7** - Gold Contact, 0.4 VA, 30 VDC
- 20** - Seal Adjustment Screw
- OC** - Oxygen Cleaned
- SR** - Snubber
- UL** - UL Recognized requires factory consultation for specific ordering details



Note: Please see page 61 for other available options



### DESCRIPTION

The SLBA / SLBF pressure switch is designed with a teflon coated polyimide diaphragm allowing for exceptional use in harsh temperatures with minimal effect to the set point. This switch is ideal for low pressure applications under 500 psi.

### FEATURES

- Silver nickel alloy contacts
- Minimal temperature effect
- Vented internal system
- Compact body

### APPLICATIONS

- Oil pressure switch
- Fuel pressure switch
- Boost pressure switch

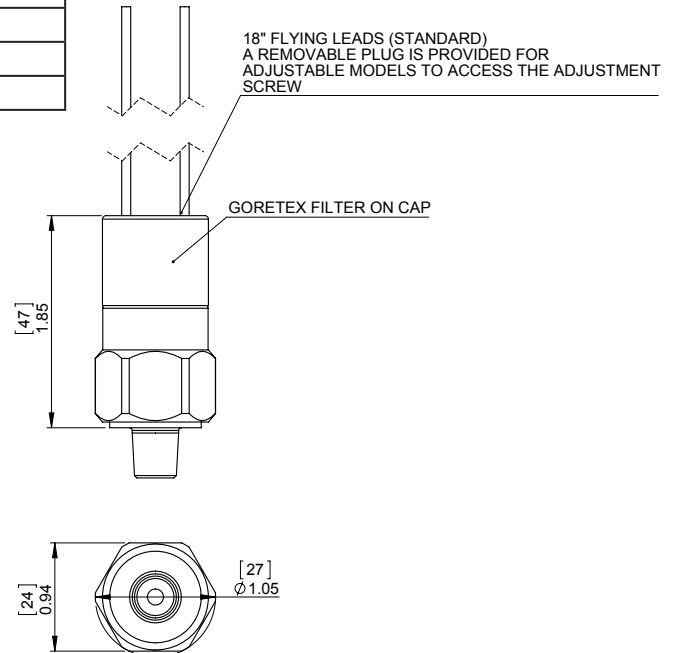
### Specifications

Electrical	100 VA, 42 VDC, Max 4A Optional: Gold Contact (0.4VA, 30VDC)
Switch Type	Blade Contact
Protection	IP68
Media Temperature Range	-40°F to 230°F (-40°C to 110°C)
Ambient Temperature Range	-40°F to 248°F (-40°C to 120°C)
Mechanical Life Expectancy	1,000,000 Cycles @ 75 PSI (5.2 BAR)
Diaphragm Material	Teflon coated polyimide
Housing Material	Brass
Seals	EPDM
Maximum Overpressure	500 psi (34 BAR)
Repeatability	+/- 3% of full set point range at 20°C (68°F)
Weight	0.16 lbs (0.07 kg)

### Pressure Range

MODEL	ADJUSTMENT RANGE	
	PSI	BAR
1	2 - 20	0.1 - 1.4
2	20 - 60	1.4 - 4.2
3	50 - 130	3.5 - 9.0

### Dimensions



### Wiring Code

CONTACT	FLYING LEADS	FLWF WEATHERPACK	FLDR / FLDP DEUTSCH RECEPTACLE / PLUG
COMMON	BLACK	PIN A	PIN 1
NORMALLY CLOSED	BLACK	PIN B	PIN 2
NORMALLY OPEN	BLACK	PIN B	PIN 2

## Ordering Information

### Field Adjustable

SLBA - <sup>1</sup>1 - <sup>2</sup>2M - <sup>3</sup>A - <sup>4</sup>FL - <sup>5</sup>2 - <sup>6 (Optional)</sup>7

### Factory Preset

SLBF - <sup>1</sup>30F - <sup>2</sup>2M - <sup>3</sup>A - <sup>4</sup>FL - <sup>5</sup>2 - <sup>6 (Optional)</sup>7

### 1 - Pressure Selection:

Field Adjustable - Select Model Code

MODEL	ADJUSTMENT RANGE	
	PSI	BAR
1	2 - 20	0.1 - 1.4
2	20 - 60	1.4 - 4.2
3	50 - 135	3.5 - 9.0

OR

Insert set point value XXXX followed by: R, F, BR, or BF

Set point	Direction	Description
XXXX	<b>R</b>	PSI Rising Pressure
	<b>F</b>	PSI Falling Pressure
	<b>BR</b>	BAR Rising Pressure
	<b>BF</b>	BAR Falling Pressure

### 2 - Thread Options:

2M - 1/8 NPT male

### 3 - Circuit:

- A - SPST (Normally Open)
- B - SPST (Normally Closed)

### 4 - Electrical Termination:

- FL - Flying Lead 18" long, 18 AWG, IP68 cap is standard with this option
- FLWF - Flying Lead Weatherpack connector, female, Tower, 10" long leads
- FLWM - Flying Lead Weatherpack connector, male, Shroud, 10" long leads
- FLDP - Flying Lead Deutsch connector, plug, 10" long leads
- FLDR - Flying Lead Deutsch connector, receptacle, 10" long leads
- FLCM - Flying Lead Metripack, male, 150 series, 10" long leads
- FLCF - Flying Lead Metripack, female, 150 series, 10" long leads
- FLPM - Flying Lead Metripack, male, 280 series, 10" long leads
- FLPF - Flying Lead Metripack, female, 280 series, 10" long leads

### 5 - Seal Material:

2 - EPDM Seal

### 6 - Options (Omit if not required):

- 7 - Gold Contact, 0.4VA, 30 VDC
- SR - Snubber



Note: Please see page 61 for other available options



### DESCRIPTION

The SWA is a compact designed pressure switch ideal for OEM applications. It is available with WRAS approved EPDM diaphragm for potable water use. Features a high quality snap action micro switch for years of trouble free operation. Lead free brass is now available for special application requirements.

### FEATURES

- Very Compact
- Factory set or field adjustable
- Internally vented option
- WRAS approved EPDM diaphragms available

### APPLICATION

- Water pressure boost pumps
- Filter monitoring

\* UL available for certain models

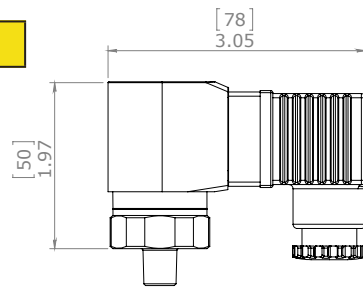
### Specifications

Electrical	5A [12/24 VDC, 125 VAC] or 3A [250 VAC] Optional: 10A or Gold Contact
Switch Type	Snap Action
Protection	DIN 43650A (18 mm): IP65 Spades: IP00 Flying Leads: IP64 Flying Lead with CA/CS - IP67
Media Temperature Range	Nitrile: -20°F to 180°F (-29°C to 82°C) Viton: 23°F to 248°F (-5°C to 120°C) HNBR: -20°F to 248°F (-29°C to 120°C) EPDM: -20°F to 248°F (-29°C to 120°C)
Ambient Temperature Range	-40°F to 180°F (-40°C to 82°C)
Diaphragm Material	Standard: Nitrile Optional: Viton, EPDM, HNBR
Housing Material	Standard: Brass Optional: Stainless Steel
Maximum Overpressure	250 PSI (17 BAR)
Repeatability	+/- 2% of full set point range at 20°C (68°F)
Weight	0.14 lbs (0.062 kg)

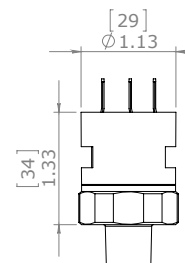
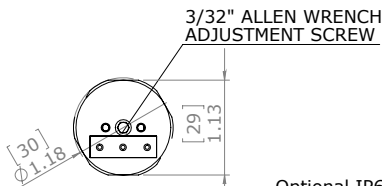
### Pressure Range

Model	Adjustment Range	
	PSI	BAR
1	7 - 21	0.5 - 1.5
2	15 - 35	1.0 - 2.4
4	30 - 100	2.1 - 6.9

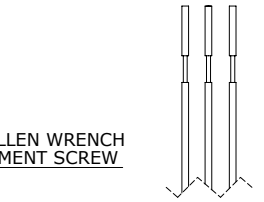
### Dimensions



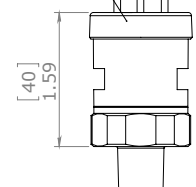
**HCR**  
Right angled DIN  
43650A



**SP**  
1/4" Spades



Optional IP67  
Protective Cap  
CA (Adjustable)  
CS (Factory Set)



**FL**  
Flying Leads

### Wiring Code

CONTACT	FLYING LEADS	DIN 43650 TYPE	FLWF / FLWM FLCM / FLCF / FLPM / FLPF		FLDR / FLDP	
			SPDT MODEL	SPST MODEL	SPDT MODEL	SPST MODEL
COMMON	BLACK	PIN 1	PIN A	PIN A	PIN A	PIN 1
NORMALLY CLOSED	BLUE	PIN 2	PIN C	PIN B	PIN C	PIN 2
NORMALLY OPEN	RED	PIN 3	PIN B	PIN B	PIN B	PIN 2

## Ordering Information

### Field Adjustable

**SWA** - <sup>1</sup>**2** - <sup>2</sup>**2M** - <sup>3</sup>**C** - <sup>4</sup>**FL** - <sup>5 (Optional)</sup>**1**

### Factory Preset

**SWF** - <sup>1</sup>**30F** - <sup>2</sup>**2M** - <sup>3</sup>**C** - <sup>4</sup>**FL** - <sup>5 (Optional)</sup>**1**

### 1 - Pressure Selection:

Field Adjustable - Select Model Code

Insert set point value XXX followed by: R, F, BR, or BF

Model	Adjustment Range	
	PSI	BAR
<b>1</b>	7 - 21	0.5 - 1.5
<b>2</b>	15 - 35	1.0 - 2.4
<b>4</b>	30 - 100	2.1 - 6.9

OR

Set Point	Direction	Description
XXXX	<b>R</b>	PSI Rising Pressure
	<b>F</b>	PSI Falling Pressure
	<b>BR</b>	BAR Rising Pressure
	<b>BF</b>	BAR Falling Pressure

### 2 - Thread Options:

- 2M** - 1/8 NPT male
- 4M** - 1/4 NPT male
- 2G** - 1/8 BSPP male, G1/8
- 4G** - 1/4 BSPP male, G1/4

### 3 - Circuit:

- A** - SPST (Normally Open)
- B** - SPST (Normally Closed)
- C** - SPDT (Single Pole Double Throw : Normally Open and Normally Closed)

### 4 - Electrical Termination:

- HCR** - 90 Degree DIN 43650A - connector type - (only available in SPDT option)
- FL** - Flying Lead 18" long, 18 AWG
- FLWF** - Flying Lead Weatherpack connector, female, Tower, 10" long leads
- FLWM** - Flying lead Weatherpack connector, male, Shroud, 10" long leads
- FLDP** - Flying Lead Deutsch connector, plug, 10" long leads
- FLDR** - Flying Lead Deutsch connector, receptacle, 10" long leads
- FLCM** - Flying Lead Metripack, male, 150 series, 10" long leads
- FLCF** - Flying Lead Metripack, female, 150 series, 10" long leads
- FLPM** - Flying Lead Metripack, male, 280 series, 10" long leads
- FLPF** - Flying Lead Metripack, female, 280 series, 10" long leads
- SP** - 1/4" Spade

### 5 - Options (Omit if not required):

- 1** - Viton® Diaphragm
- 2** - EPDM Diaphragm
- 3** - 316 Stainless Steel Housing
- 4** - HNBR Diaphragm
- 6** - Lead Free Brass
- 7** - Gold Contact, Snap Action Microswitch @ 20 mA/12 VDC (minimum set point 11 psi / 0.78 Bar)
- 8** - 10 amp, Snap Action Microswitch @ 10(2) 125 VAC (inductive), 6(2) 250 VAC (inductive) (minimum set point 11 psi / 0.78 Bar)
- 20** - Seal Adjustment Screw
- OC** - Oxygen Cleaned Switches
- SR** - Snubber
- CA** - IP67 rated protective cover with a removable plug (For adjustable switches, SWA flying lead model)
- CS** - IP67 rated protective cover (For factory set switches, SWF flying lead model)



Note: Please see page 61 for other available options



### DESCRIPTION

A robust pressure switch with full metal stops for demanding applications. Features a heavy steel body providing high proof pressures as well as an outstanding burst pressure rating. Excellent for hydraulic applications that may see system pressure shock.

### FEATURES

- Snap action micro switch
- Factory set or field adjustable
- Full metal stops
- High proof pressure

### APPLICATIONS

- Industrial equipment
- Scissor lifts
- Presses
- Cranes

### Specifications

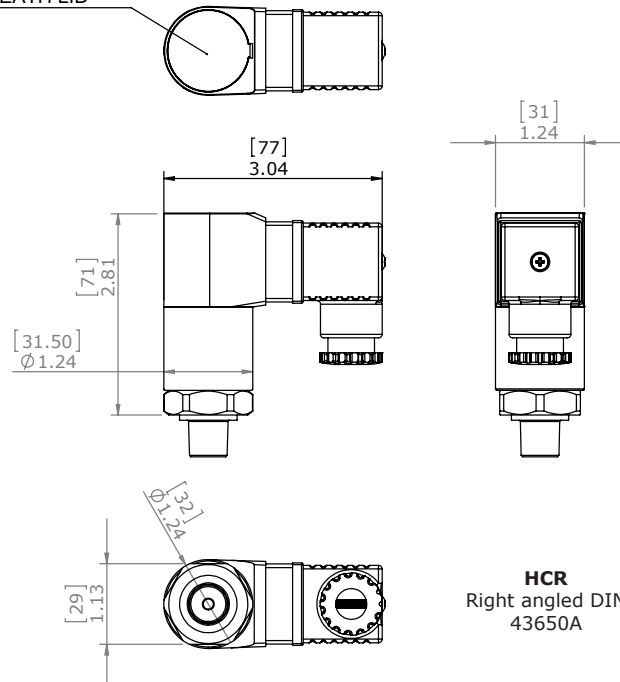
Electrical	5A [12/24 VDC, 125 VAC] or 3A [250 VAC] Optional: 10A or Gold Contact
Switch Type	Snap Action
Protection	DIN 43650A (18 mm): IP65
Media Temperature Range	Nitrile: -20°F to 180°F (-29°C to 82°C) Viton: 23°F to 248°F (-5°C to 120°C) HNBR: -20°F to 248°F (-29°C to 120°C) EPDM: -20°F to 248°F (-29°C to 120°C)
Ambient Temperature Range	-40°F to 180°F (-40°C to 82°C)
Mechanical Life Expectancy	1,000,000 Cycles @ 1000 PSI (69 BAR)
Diaphragm Material	Standard: Nitrile Optional: Viton, EPDM, HNBR
Housing Material	Zinc Plated Steel (Optional Stainless Steel)
Maximum Overpressure	12000 PSI (827 BAR)
Repeatability	+/- 2% of full set point range at 20°C (68°F)
Differential	7 - 30 % of setting
Weight	0.69 lbs (0.31 kg)

### Pressure Range

Model	Adjustment Range	
	PSI	BAR
2	15 - 75	1.2 - 5.2
3	50 - 150	3.4 - 10
4	150 - 650	10 - 44
5	500 - 1750	34 - 120
6	1500 - 6000	103 - 413

### Dimensions

1/8" ALLEN WRENCH  
ADJUSTMENT SCREW  
UNDERNEATH LID



### Wiring Code

CONTACT	DIN 43650 TYPE
COMMON	PIN 1
NORMALLY CLOSED	PIN 2
NORMALLY OPEN	PIN 3

**HCR**  
Right angled DIN  
43650A



## Ordering Information

<b>Field Adjustable</b>	<b>SDCA</b>	-	<sup>1</sup> <b>2</b>	-	<sup>2</sup> <b>4M</b>	-	<sup>3</sup> <b>C</b>	-	<sup>4</sup> <b>HCR</b>	-	<sup>5 (Optional)</sup> <b>1</b>
<b>Factory Preset</b>	<b>SDCF</b>	-	<sup>1</sup> <b>50F</b>	-	<sup>2</sup> <b>4M</b>	-	<sup>3</sup> <b>C</b>	-	<sup>4</sup> <b>HCR</b>	-	<sup>5 (Optional)</sup> <b>1</b>

### 1 - Pressure Selection

Field Adjustable - Select Model Code

Insert set point value XXX followed by: R, F, BR, or BF

Model	Adjustment Range	
	PSI	BAR
<b>2</b>	15 - 75	1.2 - 5.2
<b>3</b>	50 - 150	3.4 - 10
<b>4</b>	150 - 650	10 - 44
<b>5</b>	500 - 1750	34 - 120
<b>6</b>	1500 - 6000	103 - 413

OR

Set Point	Direction	Description
XXXX	<b>R</b>	PSI Rising Pressure
	<b>F</b>	PSI Falling Pressure
	<b>BR</b>	BAR Rising Pressure
	<b>BF</b>	BAR Falling Pressure

### 2 - Thread Options:

- 4M** - 1/4 NPT male
- 4MF** - 1/4 NPT female
- 4G** - 1/4 BSPP male, G1/4
- 4GF** - 1/4 BSPP female, G1/4
- 4S** - 7/16-20 SAE male, with O-ring seal

### 3 - Circuit:

- C** - SPDT (Single Pole Double Throw)

### 4 - Electrical Termination:

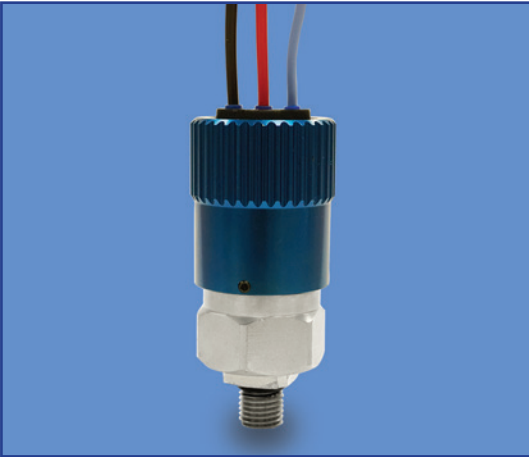
- HCR** - 90 Degree DIN 43650A PG9/PG11
- HNR** - 90 Degree DIN 43650A 1/2" NPT Conduit

### 5 - Options (Omit if not required):

- 1** - Viton® Diaphragm
- 2** - EPDM Diaphragm
- 3** - 316 Stainless Steel Process Connection
- 4** - HNBR Diaphragm
- 7** - Gold Contact, Snap Action Microswitch @ 20mA/12VDC
- 8** - 10 amp, Snap Action Microswitch @ 10(2) 125 VAC (inductive), 6(2) 250 VAC (inductive)
- 20** - Seal Adjustment Screw
- OC** - Oxygen Cleaned Switches
- SR** - Snubber



Note: Please see page 61 for other available options



**DESCRIPTION**

The KAPS/KAPF is a piston pressure switch featuring an external adjustment knob to easily adjust set point. The switch is IP67 rated, enabling high performance in most outdoor conditions. It is excellent for hydraulic applications requiring long cycle life.

**FEATURES**

- Snap action micro switch
- Factory set or field adjustable
- Full metal stops
- High proof pressure

**APPLICATIONS**

- Industrial equipment
- Scissor lifts
- Presses
- Cranes

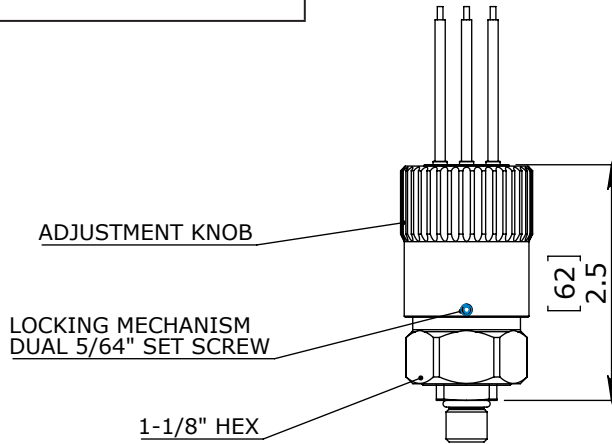
**Specifications**

Electrical	5A [12/24 VDC, 125 VAC/250 VAC] Optional: 10A or Gold Contact
Switch Type	Snap Action
Protection	IP67
Media Temperature Range	Nitrile: -20°F to 180°F (-29°C to 82°C) Viton: 23°F to 248°F (-5°C to 120°C) HNBR: -20°F to 248°F (-29°C to 120°C) EPDM: -20°F to 248°F (-29°C to 120°C)
Ambient Temperature Range	-40°F to 180°F (-40°C to 82°C)
Mechanical Life Expectancy	1,000,000 Cycles @ 2500 PSI (172 BAR)
Piston Seal	HNBR
Housing Material	Zinc Plated Steel
Maximum Overpressure	15000 PSI (1034 BAR)
Repeatability	+/- 2% of full set point range at 20°C (68°F)
Differential	6 - 25 % of setting
Weight	0.44 lbs (0.2 kg)

**Pressure Range**

Model	Adjustment Range	
	PSI	BAR
5	350 - 1000	24 - 69
6	600 - 1600	41 - 110
7	1000 - 3200	69 - 220

**Dimensions**



**Wiring Code**

CONTACT	FLYING LEADS	FLWF / FLWM FLCM / FLCF / FLPM / FLPF		FLDR / FLDP	
		SPDT MODEL	SPST MODEL	SPDT MODEL	SPST MODEL
COMMON	BLACK	PIN A	PIN A	PIN A	PIN 1
NORMALLY CLOSED	BLUE	PIN C	PIN B	PIN C	PIN 2
NORMALLY OPEN	RED	PIN B	PIN B	PIN B	PIN 2

## Ordering Information

<b>Field Adjustable</b>	<b>KAPS</b>	-	<sup>1</sup> <b>5</b>	-	<sup>2</sup> <b>4M</b>	-	<sup>3</sup> <b>C</b>	-	<sup>4</sup> <b>FL</b>	-	<sup>5 (Optional)</sup> <b>1</b>
<b>Factory Preset</b>	<b>KAPF</b>	-	<sup>1</sup> <b>350F</b>	-	<sup>2</sup> <b>4M</b>	-	<sup>3</sup> <b>C</b>	-	<sup>4</sup> <b>FL</b>	-	<sup>5 (Optional)</sup> <b>1</b>

### 1 - Pressure Selection

Field Adjustable - Select Model Code

Insert set point value XXX followed by: R, F, BR, or BF

Model	Adjustment Range	
	PSI	BAR
<b>5</b>	350 - 1000	24 - 69
<b>6</b>	600 - 1600	41 - 110
<b>7</b>	1000 - 3200	69 - 220

OR

Set Point	Direction	Description
XXXX	<b>R</b>	PSI Rising Pressure
	<b>F</b>	PSI Falling Pressure
	<b>BR</b>	BAR Rising Pressure
	<b>BF</b>	BAR Falling Pressure

### 2 - Thread Options:

- 4M** - 1/4 NPT male
- 4S** - 7/16-20 SAE male, with O-ring seal

### 3 - Circuit:

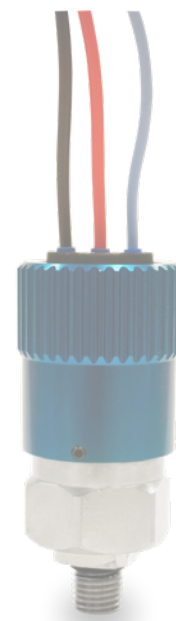
- A** - SPST (Normally Open)
- B** - SPST (Normally Closed)
- C** - SPDT (Single Pole Double Throw: Normally Open and Normally Closed)

### 4 - Electrical Termination:

- FL** - Flying Lead 18" long, 18 AWG
- FLWF** - Flying Lead Weatherpack connector, female, Tower, 10" long leads
- FLWM** - Flying Lead Weatherpack connector, male, Shroud, 10" long leads
- FLDP** - Flying Lead Deutsch connector, plug, 10" long leads
- FLDR** - Flying Lead Deutsch connector, receptacle, 10" long leads
- FLCM** - Flying Lead Metripack, male, 150 series, 10" long leads
- FLCF** - Flying Lead Metripack, female, 150 series, 10" long leads
- FLPM** - Flying Lead Metripack, male, 280 series, 10" long leads
- FLPF** - Flying Lead Metripack, female, 80 series, 10" long leads

### 5 - Options (Omit if not required):

- 1** - Viton® Seal
- 7** - Gold Contact, Snap Action Microswitch @ 20mA/12VDC
- 8** - 10 amp, Snap Action Microswitch @ 10(1.5) 125 VAC/250 VAC (inductive)



Note: Please see page 61 for other available options



### DESCRIPTION

A simple and common pressure switch utilizing a polyimide diaphragm for extended duty applications. It is used in many automotive applications for monitoring of engine functions and auxiliary devices.

### FEATURES

- Gold plated silver alloy contacts
- High current ratings
- Works well in extreme temperatures
- Very economical

### APPLICATIONS

- Oil pressure switch
- Fuel pressure switch
- Exhaust pressure switch
- Air brake switch

\* UL available for certain models

### Specifications

Electrical	Resistive	Inductive
	15 AMP - 6 VDC	1 AMP - 120 VAC
	8 AMP - 12 VDC	0.5 AMP - 240 VAC
	4 AMP - 24 VDC	
Switch Type	Blade Contact	
Protection	Terminals - IP00	
Temperature Range	-40°F to 248°F (-40°C to 120°C) Polyimide Film 14°F to 212°F (-10°C to 100°C) Polyimide Film	
Mechanical Life Expectancy	1,000,000 Cycles @ 75 PSI (5.2 BAR)	
Diaphragm Material	Standard: Polyimide Film Optional: EPDM (must be selected when in contact with water)	
Housing Material	Brass, Glass Reinforced Polyester (Optional Stainless Steel)	
Maximum Overpressure	Model 1A to 5A - 150 PSI (3.5 BAR) Model 6A to 8A - 250 PSI (17 BAR) Model 1H to 5H - 500 PSI (34 BAR)	
Weight	0.14 lbs (0.06 kg)	

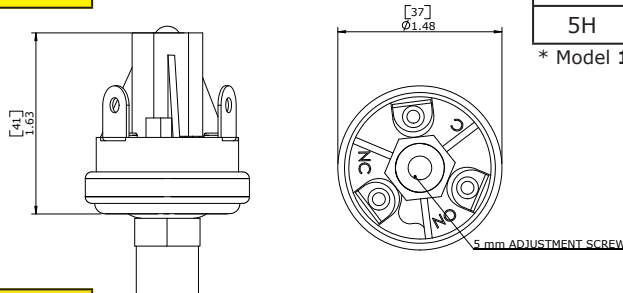
### Pressure Range

Model	Adjustment Range	
	PSI	BAR
1A	0.5 - 1.0	0.03 - 0.07
2A	1.1 - 3.0	0.08 - 0.21
3A	3.1 - 7.0	0.21 - 0.49
4A	8.0 - 13	0.55 - 0.90
5A	14 - 24	0.97 - 1.65
6A	25 - 50	1.72 - 3.45
7A	51 - 90	3.52 - 6.20
8A	91 - 150	6.27 - 10.34

Model	Adjustment Range	
	PSI	BAR
1H	10 - 35	0.69 - 2.41
2H	35 - 75	2.41 - 5.17
3H	75 - 150	5.17 - 10.34
4H	150 - 250	10.34 - 17.24
5H	250 - 400	17.24 - 27.58

\* Model **1H** to **5H** has an overpressure of 500 PSI

### Dimensions



### Wiring Code

CONTACT	FLYING LEADS	FLWF / FLWM FLCM / FLCF / FLPM / FLPF		FLDR / FLDP	
		SPDT MODEL	SPST MODEL	SPDT MODEL	SPST MODEL
		COMMON	BLACK	PIN A	PIN A
NORMALLY CLOSED	BLUE	PIN C	PIN B	PIN C	PIN 2
NORMALLY OPEN	RED	PIN B	PIN B	PIN B	PIN 2

## Ordering Information

### Field Adjustable

SPAL - <sup>1</sup>2A - <sup>2</sup>2M - <sup>3</sup>B - <sup>4</sup>FL - <sup>5 (Optional)</sup>3

### Factory Preset

SPFL - <sup>1</sup>30F - <sup>2</sup>2M - <sup>3</sup>B - <sup>4</sup>FL - <sup>5 (Optional)</sup>3

### Factory Preset

SPFLH - <sup>1</sup>30F - <sup>2</sup>2M - <sup>3</sup>B - <sup>4</sup>FL - <sup>5</sup>3

(Select this ordering code if you require a factory set switch with the high overpressure option.)

## 1 - Pressure Selection:

Field Adjustable - Select Model Code

Model	Adjustment Range	
	PSI	BAR
1A	0.5 - 1.0	0.03 - 0.07
2A	1.1 - 3.0	0.08 - 0.21
3A	3.1 - 7.0	0.21 - 0.49
4A	8.0 - 13	0.55 - 0.90
5A	14 - 24	0.97 - 1.65
6A	25 - 50	1.72 - 3.45
7A	51 - 90	3.52 - 6.20
8A	91 - 150	6.27 - 10.34
1H	10 - 35	0.69 - 2.41
2H	35 - 75	2.41 - 5.17
3H	75 - 150	5.17 - 10.34
4H	150 - 250	10.34 - 17.24
5H	250 - 400	17.24 - 27.58

OR

Insert set point value XXX followed by: R, F, BR, or BF

Set Point	Direction	Description
XXXX	R	PSI Rising Pressure
	F	PSI Falling Pressure
	BR	BAR Rising Pressure
	BF	BAR Falling Pressure

\*If you require a factory preset switch with an overpressure higher than 250 PSI, please select the model code SPFLH.

\*\*Set point is adjusted in relation to normally closed contacts for SPDT circuits

## 2 - Thread Options:

- 2M - 1/8 NPT male
- 4M - 1/4 NPT male
- 2G - 1/8 BSPP male, G1/8
- 4G - 1/4 BSPP male, G1/4

## 3 - Circuit:

- A - SPST (Normally Open)
- B - SPST (Normally Closed)
- D - SPDT (Single Pole Double Throw : Normally Open and Normally Closed)
- E - SPDT (Single Pole Double Throw, Adjustable Differential)

## 4 - Electrical Termination:

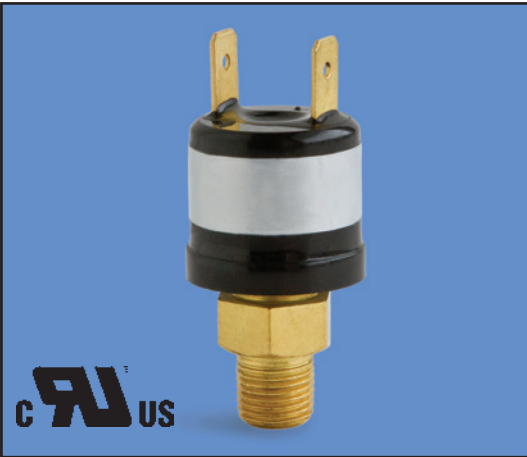
- FL - Flying Lead 18" long, 18 AWG
- FLWF - Flying Lead Weatherpack connector, female, Tower, 10" long leads
- FLWM - Flying Lead Weatherpack connector, male, Shroud, 10" long leads
- FLDP - Flying Lead Deutsch connector, plug, 10" long leads
- FLDR - Flying Lead Deutsch connector, receptacle, 10" long leads
- FLCM - Flying Lead Metripack, male, 150 series, 10" long leads
- FLCF - Flying Lead Metripack, female, 150 series, 10" long leads
- FLPM - Flying Lead Metripack, male, 280 series, 10" long leads
- FLPF - Flying Lead Metripack, female, 280 series, 10" long leads
- SP - 1/4" Spade
- TS - Terminal Screws, #8-32

## 5 - Options (Omit if not required):

- 2 - EPDM Diaphragm
- 3 - Stainless Steel Housing
- 20 - Seal Adjustment Screw
- 30 - Rubber Boot - Removable



Note: Please see page 61 for other available options



### DESCRIPTION

A basic snap disc design pressure switch for control applications. It has the ability to automatically reset pressure at various desired settings. Its main uses are in the air conditioning and refrigeration field.

### FEATURES

- Stainless steel diaphragm
- Compact size
- Low cost
- Factory adjusted differential
- Preset differential

### APPLICATIONS

- Air conditioning
- Refrigeration

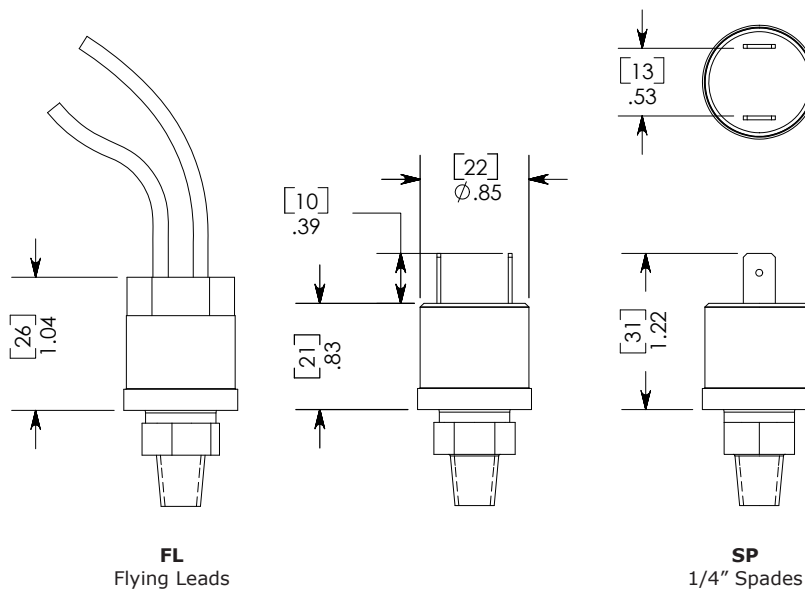
\* UL available for certain models

Specifications	
Electrical	2A [12/24 VDC] or 120/240 VAC, 375 VA
Switch Type	Snap Disc
Protection	Terminals - IP00
Temperature Range	-40°F to 180°F (-40°C to 82°C)
Mechanical Life Expectancy	100,000 Cycles
Diaphragm Material	Standard: Stainless Steel
Housing Material	Brass
Maximum Overpressure	500 PSI (35 BAR) for set points up to 145 PSI (10 BAR) 770 PSI (55 BAR) for set points 146 PSI to 290 PSI (10.1 BAR - 20 BAR) 1200 PSI (85 BAR) for set points 291 PSI to 630 PSI (20.1 BAR - 45 BAR)
Weight	0.07 lbs (0.03 kg)

Pressure Range	
Set Point	
PSI	BAR
5 - 650	0.3 - 45

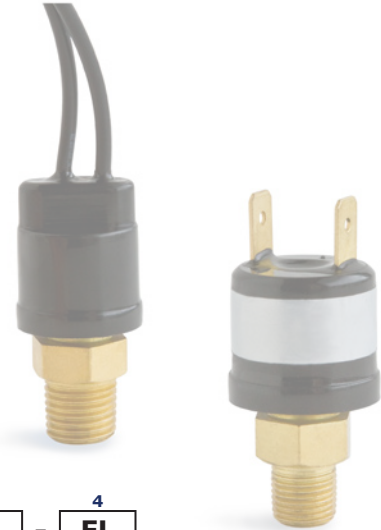
\*Factory Set Only

### Dimensions



### Wiring Code

CONTACT	FLYING LEADS	FLWF / FLWM WEATHERPACK	FLDR / FLDP DEUTSCH RECEPTACLE / PLUG
COMMON	BLACK	A	PIN 1
NORMALLY CLOSED	BLACK	B	PIN 2
NORMALLY OPEN	BLACK	B	PIN 2



### Ordering Information

**Factory Preset**    **SLF** - <sup>1</sup>**30R/25F** - <sup>2</sup>**2M** - <sup>3</sup>**A** - <sup>4</sup>**FL**

#### 1 - Pressure Selection

Insert rising and falling set point value XXX followed by: R, F, BR, or BF

Set Point	Direction	Description
XX/XX	<b>R</b>	PSI Rising Pressure
	<b>F</b>	PSI Falling Pressure
	<b>BR</b>	BAR Rising Pressure
	<b>BF</b>	BAR Falling Pressure

#### 3 - Circuit:

- A** - SPST (Normally Open)
- B** - SPST (Normally Closed)

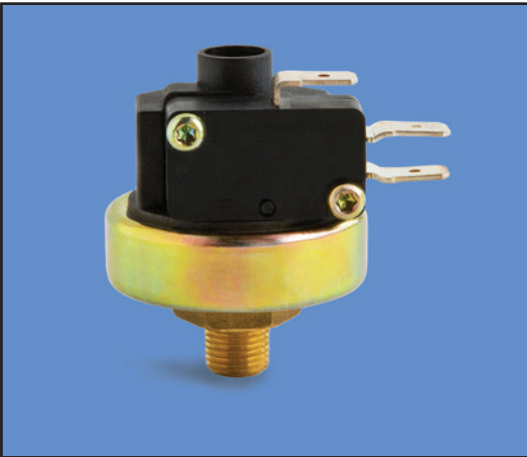
#### 2 - Thread Options:

- 2M** - 1/8 NPT male
- 2MF** - 1/8 NPT female
- 4M** - 1/4 NPT male
- 4MF** - 1/4 NPT female
- 2G** - 1/8 BSPP male, G1/8
- 2GF** - 1/8 BSPP female, G1/8
- 4G** - 1/4 BSPP male, G1/4
- 4GF** - 1/4 BSPP female, G1/4
- SV** - Schreader valve

#### 4 - Electrical Termination:

- FL** - Flying Lead 18" long, 18 AWG
- FLWF** - Flying Lead Weatherpack connector, female, Tower, 10" long leads
- FLWM** - Flying Lead Weatherpack connector, male, Shroud, 10" long leads
- FLDP** - Flying Lead Deutsch connector, plug, 10" long leads
- FLDR** - Flying Lead Deutsch connector, receptacle, 10" long leads
- FLCM** - Flying Lead Metripack, male, 150 series, 10" long leads
- FLCF** - Flying Lead Metripack, female, 150 series, 10" long leads
- FLPM** - Flying Lead Metripack, male, 280 series, 10" long leads
- FLPF** - Flying Lead Metripack, female, 280 series, 10" long leads
- SP** - 1/4" Spade
- TS** - Terminal Screw, #8-32

Note: Please see page 61 for other available options



### DESCRIPTION

A small open type construction switch suitable for use in the electrical appliance market. Its high current ratings allow direct control of heating elements and motor loads without the use of an additional relay. It is ideal for high volume requirements.

### FEATURES

- Very high current rating
- Compact size
- Open type construction

### APPLICATIONS

- Household appliances
- Motor switching
- Heating element switching

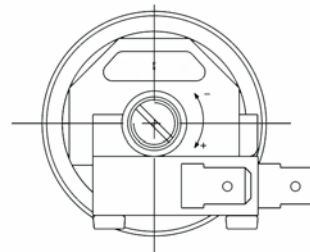
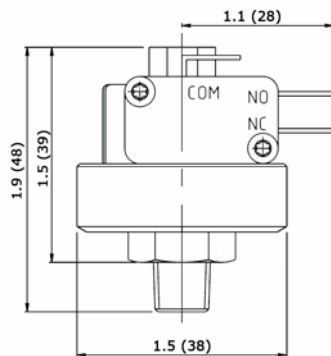
### Specifications

Electrical	16A, 125/250 VAC 21A, 125/250 VAC
Switch Type	Snap Action
Protection	Terminals - IP00
Temperature Range	-20°F to 257°F (-29°C to 125°C)
Diaphragm Material	Standard: Stainless Steel
Housing Material	Brass , Glass reinforced polyester
Maximum Overpressure	Model 1 - 43 PSI (3 BAR) Model 2 - 58 PSI (4 BAR) Model 3 - 72 PSI (5 BAR) Model 4 - 87 PSI (6 BAR) Model 5 - 116 PSI (8 BAR) Model 6 - 145 PSI (10 BAR)
Weight	0.16 lbs (0.07 kg)

### Pressure Range

Model	Adjustment Range	
	PSI	BAR
1	3 - 9	0.2 - 0.6
2	7 - 20	0.5 - 1.4
3	17 - 36	1.2 - 2.5
4	29 - 58	2.0 - 4.0
5	43 - 100	3.0 - 6.9
6	70 - 130	4.8 - 9.0

### Dimensions



SP  
1/4" Spades

### Wiring Code

CONTACT	SP
COMMON	COM
NORMALLY CLOSED	NC
NORMALLY OPEN	NO



## Ordering Information

**Field Adjustable**    SPAH - <sup>1</sup>2 - <sup>2</sup>2M - <sup>3</sup>C1 - <sup>4</sup>QC1 - <sup>5</sup>T1

**Factory Preset**     SPFH - <sup>1</sup>30F - <sup>2</sup>2M - <sup>3</sup>C1 - <sup>4</sup>QC1 - <sup>5</sup>T1

### 1 - Pressure Selection:

Field Adjustable - Select Model Code

Insert set point value XXX followed by: R, F, BR, or BF

Model	Adjustment Range	
	PSI	BAR
1	3 - 9	0.2 - 0.6
2	7 - 20	0.5 - 1.4
3	17 - 36	1.2 - 2.5
4	29 - 58	2.0 - 4.0
5	43 - 100	3.0 - 6.9
6	70 - 130	4.8 - 9.0

OR

Set Point	Direction	Description
XXXX	<b>R</b>	PSI Rising Pressure
	<b>F</b>	PSI Falling Pressure
	<b>BR</b>	BAR Rising Pressure
	<b>BF</b>	BAR Falling Pressure

### 2 - Thread Options:

- 2M - 1/8 NPT male
- 4M - 1/4 NPT male
- 2G - 1/8 BSPP male, G1/8
- 4G - 1/4 BSPP male, G1/4

### 3 - Circuit:

- C1 - SPDT (Single Pole Double Throw) - 16A, 125/250 VAC
- C2 - SPDT (Single Pole Double Throw) - 22A, 125/250 VAC

### 4 - Electrical Termination:

- QC1 - Quick Connect 4.8 mm
- QC2 - Quick Connect 6.35 mm

### 5 - Temperature Rating:

- T1 - 85°C
- T2 - 125°C



Note: Please see page 61 for other available options



## DESCRIPTION

The pressure transmitter T200/T201 series is designed for use in many mobile and industrial applications. Its compact size, IP67 integrated connectors and stainless steel housing makes it well suited for dependable operation in the field. Featuring EMC/EMI protections, vibration resistance and shock resistance, our transmitters can withstand adverse environments.

These transmitters employ ceramic piezoresistive pressure measuring cells. The use of ceramic allows for an output that is linear with negligible hysteresis that remains consistent throughout its lifetime. The thermal errors can be compensated to standard (T200) or extended (T201) temperature ranges.

The T200/T201 is available in a large range of configurations including process and electrical connections, pressure ranges, and output signals. Its size, specifications and price make it well suited for OEM applications. Product customization is available.

## FEATURES

- Piezoresistive Ceramic Sensor
- ASIC Signal conditioning

## APPLICATIONS

- Industrial Equipment
- Safety Monitoring
- Mobile Equipment

## Specifications

Accuracy*	+/- 0.5 % FS*	
Full Scale Pressure Range	15 to 7,500 PSI (1 BAR to 517 BAR)	
Proof Pressure	140% to 200% FS based on range (consult factory)	
Burst Pressure	180% to 400% FS based on range (consult factory)	
Long Term Drift	<0.3% FS @ 77°F (25°C)	
Zero Error	0.75% FS	
Span Error	0.75% FS	
Thermal Error	≤100 psi: 0.01% FS/°F (0.018% FS/°C) 101 psi to 400 psi: 0.009% FS/°F (0.016% FS/°C) 401 psi to 1000 psi: 0.011% FS/°F (0.019% FS/°C) 1001 psi to 3000 psi: 0.012% FS/°F (0.021% FS/°C) 3001 psi to 7500 psi: 0.018% FS/°F (0.028% FS/°C)	
Compensated Temperature	T200 Series: 32°F to 185°F (0°C to 85°C) T201 Series: -40°F to 257°F (-40°C to 125°C)	
Operating Temperature	-40°F to 257°F (-40°C to 125°C)	
Storage Temperature	-40°F to 255°F (-40°C to 125°C)	
Process Connection	SS304	
Wetted Materials	Ceramic Al <sub>2</sub> O <sub>3</sub> NBR (Standard) or Optional: FKM,HNBR,EPDM	
Vibration	10g (20-2000Hz) for ≤ 58 PSI (4 BAR) 20g (20 - 500Hz) for ranges > 58 PSI (4 BAR)	
Shock	50g (11ms)	
Supply Voltage	Output	Supply
	4 - 20mA	8 - 30 VDC
	0 - 10V	12.5 - 30 VDC
	0.5 - 4.5V (ratiometric)	4.5 - 5.5 VDC
	0.5 - 4.5V	9 - 30 VDC
	0 - 5V	9 - 30 VDC
	1 - 5V	9 - 30 VDC
	1 - 6V	9 - 30 VDC
	0.25 - 10.25 V	12 - 30 VDC
	<b>* Other supply voltage and outputs available upon request</b>	
Current Consumption	4-20mA : ≤23mA 0.5-4.5V Ratiometric: 3mA All other models listed: 7mA	
Protection	Overvoltage, Short Circuit, Reverse Polarity Protection	
Response Time	<1ms	
Ingress Protection	IP67 (IP65 for M2 Electrical Connection)	
Compliance	IEC/EN 61000-4-3(2006) 100V/m 80-1000MHz IEC/EN 61000-4-4(2004) Class 3 IEC/EN 61000-4-6(2006) 3Vrms 0.15-80MHz ROHS	
Weight	0.15 lbs (0.07kg)	

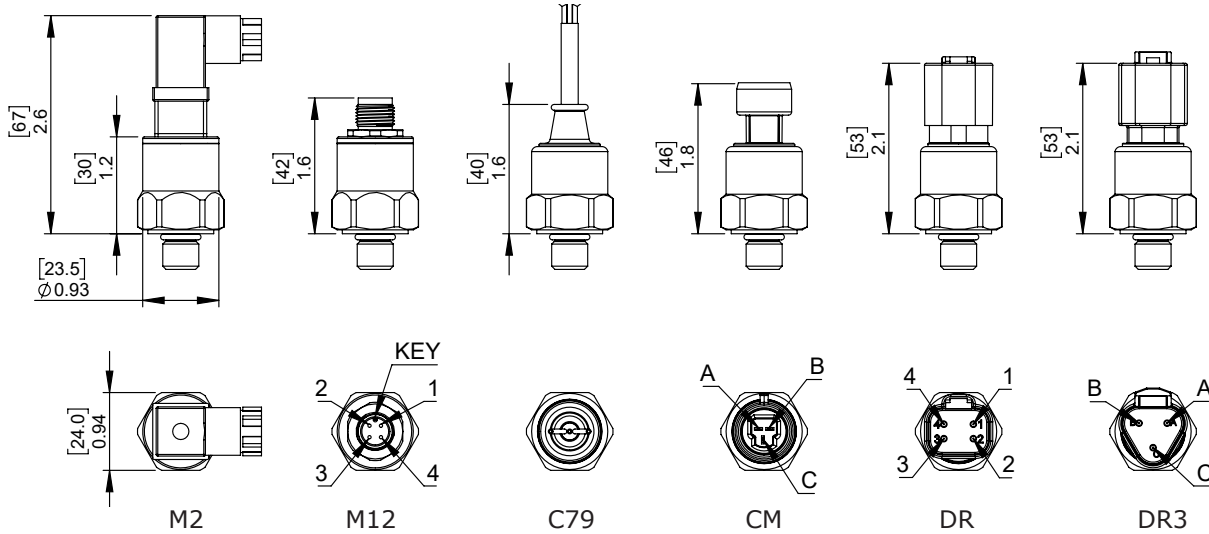
\* Accuracy includes:  
 Non-repeatability  
 Hysteresis  
 Terminal-based non linearity

\*\*Temperature data is dependent on seal material selection. Please refer to page 65 for seal temperature range

# T200 / T201



## Dimensions



Connector	Output				
	4 - 20 mA		Voltage		
	Supply +	Supply -	Supply +	Common	Output +
M2	1	2	1	2	3
M12	1	3	1	3	4
C79 / C158	Red	Black	Red	Black	White
DR	2	1	2	1	4
DR3	A	B	A	B	C
CM	B	A	B	A	C

## Ordering Information

**T200** - **1** **0100P** - **2** **G** - **3** - **4** **M2** - **5** **4M** - **6** **N** - **7** **T1** - **8 (Optional)** **SR**

Model:	Pressure Range:	Reference:	Output:	Electrical Connection:	Process Connection:	Seal Material:	Accuracy:
<b>T200</b> Compensated Temperature Range 32°F to 185°F (0°C to 85°C)	<b>0015P</b> - 15 PSI <b>0030P</b> - 30 PSI <b>0100P</b> - 100 PSI <b>0150P</b> - 150 PSI <b>0300P</b> - 300 PSI <b>0400P</b> - 400 PSI <b>0600P</b> - 600 PSI <b>1000P</b> - 1000 PSI <b>1500P</b> - 1500 PSI <b>3000P</b> - 3000 PSI <b>5000P</b> - 5000 PSI <b>7500P</b> - 7500 PSI **	<b>A</b> - Absolute <b>G</b> - Gauge <b>S</b> - Sealed	<b>2</b> - 4 -20 mA (2 wire) <b>3</b> - 0 - 10 V (3 wire) <b>4</b> - 0.5 - 4.5 V (ratiometric) <b>5</b> - 0-5 V (3 wire) <b>6</b> - 1 - 5 V (3 wire) <b>7</b> - 0.5 - 4.5 V (3 wire) <b>8</b> - 1 - 6V (3 wire) <b>9</b> - 0.25 - 10.25 V (3 wire)	<b>M2</b> - DIN 43650C (Mini DIN, 9.4mm) <b>M12</b> - M12, 4 pin <b>C79</b> - Shielded Cable 79 inches (2 meter) <b>DR</b> - Deutsch Receptacle DT04-4P <b>DR3</b> - Deutsch Receptacle DT04-3P <b>CM</b> - Packard, Metripack 150 Series (P2S)	<b>2M</b> - 1/8" NPT male <b>4M</b> - 1/4" NPT male <b>4G</b> - 1/4" BSPP male, G1/4 , Type E <b>4S</b> - 7/16-20 SAE male, with O-ring seal <b>6S</b> - 9/16-18 SAE male, with O-ring seal	<b>N</b> - NBR (Standard) <b>V</b> - VITON® <b>H</b> - HNBR <b>E</b> - EPDM	<b>T1</b> - +/- 0.5% FS  <b>Options:</b> <b>SR</b> - Snubber <b>VE</b> - Vented†

\*Other material and options available upon request.  
Custom design available. Please consult factory.

\*\* 7500 psi (500 BAR) range is not available with NPT threads.

† VE option is recommended for applications using gaseous media.

Not all configurations are available. Please consult sales representative.



## DESCRIPTION

The TI2C offers a digital communication (i<sup>2</sup>c) interface optimized for users in the commercial and industrial fields looking for a rugged but accurate low-power sensor. Its compact size, IP67 integrated connectors and rugged stainless steel housing makes it well suited for dependable operation in the field. Featuring EMC/EMI protections, vibration resistance and shock resistance, our transmitters can withstand adverse environments.

The i<sup>2</sup>c interface provides unparalleled sensing accuracy not seen at this price point for analog systems as it eliminates the errors added from ADCs or I/O modules. As well, this transmitter is well suited for low-power applications due its negligible power consumption (<32  $\mu$ A across full temperature range in sleep mode).

## FEATURES

- Ceramic thick film sensor
- Low-power sleep mode (<32  $\mu$ A)
- Compensated range: -40°F to 257°F

## APPLICATIONS

- Low-power applications
- Real time monitoring
- OEM hydraulic and process controls
- Plant engineering and automation

### Specifications

Accuracy	+/- 0.5% FS*
Full Scale Pressure Range	15 psi to 5000 psi (1 Bar to 400 Bar)
Pressure Reference	Gauge, Absolute, Sealed
Digital Interface	I <sup>2</sup> C
Device Address	0x28
Operating Current Sleep Mode	0.5 $\mu$ A (typical) 32 $\mu$ A (maximum)
Operating Current Update Mode	2.5 mA (max) for ~ 1.7 kHz sampling frequency
Resolution	14 bit
Proof Pressure	140% to 200% FS based on range (consult factory)
Burst Pressure	180% to 400% FS based on range (consult factory)
Long Term Drift	<0.3% FS @ 77°F (25°C)
Compensated Temperatures **	-40°F to 257°F (-40°C to 125°C)
Operating Temperatures **	-40°F to 257°F (-40°C to 125°C)
Storage Temperature Rating **	-40°F to 257°F (-40°C to 125°C)
Process Connection	SS304
Wetted Materials	Ceramic Al <sub>2</sub> O <sub>3</sub> Seal material: NBR (Standard) Optional Seal material: FKM,HNBR,EPDM
Vibration	10g (20-2000Hz) for $\leq$ 58 PSI (4 BAR) 20g (20 - 500Hz) for ranges > 58 PSI (4 BAR)
Shock	50g (11ms)
Supply Voltage	3.3V update mode and sleep mode: 3 - 3.3 VDC 5.0V update mode and sleep mode: 5 to 5.5 VDC
Protection	Short Circuit, Reverse Polarity Protection
Response Time	$\leq$ 5ms
Ingress Protection	IP67
Compliance	IEC/EN 61000-4-3(2006) IEC/EN 61000-4-4(2004) IEC/EN 61000-4-5(2005) IEC/EN 61000-4-6(2006) ROHS
Weight	0.15 lbs (0.07kg)

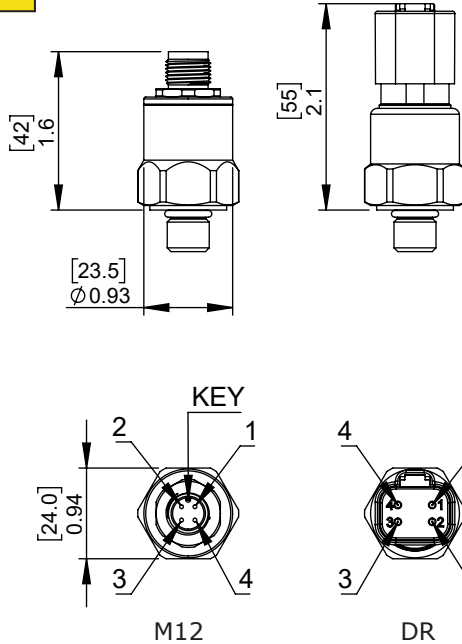
\* Accuracy includes: Non-repeatability, Hysteresis, Terminal-based non linearity

\*\* Temperature data is dependent on seal material selection. Please refer to page 65 for seal temperature range

# TI2C



## Dimensions



Connector	Output			
	VCC	SCL	SDA	GND
M12	1	2	4	3
DR	1	2	3	4

## Ordering Information

TI2C - 1 0150P - 2 G - 3 1 - 4 M12 - 5 4M - 6 N - 7 T1 - 8 (Optional) SR

Model:	Pressure Range:	Reference:	Configuration:	Electrical Connection:	Process Connection:	Seal Material:	Accuracy:
TI2C	<b>0015P</b> - 15 PSI <b>0030P</b> - 30 PSI <b>0100P</b> - 100 PSI <b>0150P</b> - 150 PSI <b>0300P</b> - 300 PSI <b>0400P</b> - 400 PSI <b>0600P</b> - 600 PSI <b>1000P</b> - 1000 PSI <b>1500P</b> - 1500 PSI <b>3000P</b> - 3000 PSI <b>5000P</b> - 5000 PSI  <b>001B</b> - 1 BAR <b>002B</b> - 2 BAR <b>005B</b> - 5 BAR <b>010B</b> - 10 BAR <b>020B</b> - 20 BAR <b>050B</b> - 50 BAR <b>100B</b> - 100 BAR <b>200B</b> - 200 BAR <b>400B</b> - 400 BAR	<b>A</b> - Absolute <b>G</b> - Gauge <b>S</b> - Sealed	<b>1</b> - I <sup>2</sup> C - 3.3V update mode <b>2</b> - I <sup>2</sup> C - 5.0V update mode <b>3</b> - I <sup>2</sup> C - 3.3V sleep mode <b>4</b> - I <sup>2</sup> C - 5.0V sleep mode	<b>M12</b> - M12, 4 pin <b>DR</b> - Deutsch Receptacle DT04-4P	<b>2M</b> - 1/8" NPT male <b>4M</b> - 1/4" NPT male <b>4G</b> - 1/4" BSPP male, G1/4, Type E <b>4S</b> - 7/16-20 SAE male, with O-ring seal <b>6S</b> - 9/16-19 SAE male, with O-ring seal	<b>N</b> - NBR (Standard) <b>V</b> - VITON® <b>H</b> - HNBR <b>E</b> - EPDM	<b>T1</b> - +/- 0.5% FS  <b>Options:</b> <b>SR</b> - Snubber <b>VE</b> - Vented†

\*Other material and options available upon request. Custom design available. Please consult factory.

† VE option is recommended for applications using gaseous media. Not all configurations are available. Please consult sales representative.



### DESCRIPTION

A general purpose industrial transducer suitable for a wide range of applications. Our TG series is available in either 0.5% or 0.25% accuracy. It uses a diffused silicon strain gauge sensing element.

### FEATURES

- Vacuum and pressure ranges
- Temperature Compensation
- Voltage and current output models available

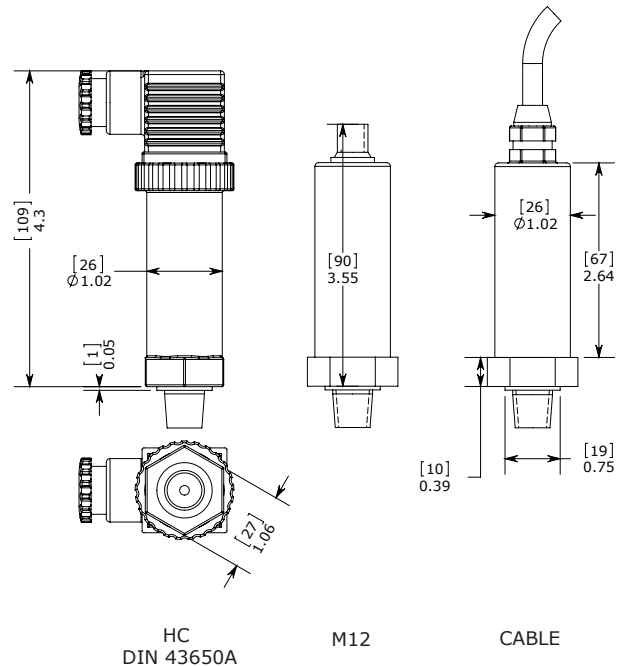
### APPLICATIONS

- Industrial Equipment
- Safety Monitoring
- Mobile Equipment

### Specifications

Accuracy	0.5% FS, 0.25% FS	
Pressure Range	Vacuum to 10,000 psi (700 Bar)	
Proof Pressure	150% FS	
Burst Pressure	300% FS	
Protection	DIN 43650A (18 mm) : IP65 DIN 43650C (9.4 mm) : IP65 M12 Connector: IP67 Cable: IP67	
Fatigue Life	100,000,000 cycle	
Long Term Drift	0.1% FS/year for < 725 PSI (50 BAR) 0.2% FS/year for ≥ 725 PSI (50 BAR)	
Thermal Error	0.02% FS/°C	
Compensated Temperature	32°F to 149°F (0°C to 65°C)	
Operating Temperature Range	-4°F to 176°F (-20°C to 80°C)	
Storage Temperature Rating	-40°F to 176°F (-40°C to 80°C)	
Process Connection	Standard: SS304 Optional: SS316	
Vibration	10g (20-2000Hz) for ≤ 58 PSI (4 BAR) 20g (20-500Hz) for ranges >58 PSI (4BAR)	
Shock	100g (11ms)	
Supply Voltage	Output	Supply
	4 - 20mA	12 - 36 VDC
	0 - 5V	12 - 36 VDC
	0 - 10V	12 - 36 VDC
	0.5 - 4.5V (ratiometric)	4.5 - 5.5 VDC
	0.5 - 4.5V	12 - 36 VDC
	<b>* Other supply voltage available upon request</b>	
Max Loop Resistance	500 Ω	
Weight	0.37 lbs (0.17kg)	

### Dimensions



### Wiring Code

Connector	Output				
	4 - 20 mA		Voltage		
	Supply +	Supply -	Supply +	Common	Output +
M2	1	2	1	3	2
M12	1	3	1	4	3
C79 / C158	Red	Black	Red	Yellow/White	Blue
HC	1	2	1	3	2

## Ordering Information

**Example**    TG - <sup>1</sup>0300P - <sup>2</sup>G - <sup>3</sup>3 - <sup>4</sup>HC - <sup>5</sup>4M - <sup>6</sup>A2

### 1 - Measuring Range:

Code	Description
1V0B	-1 BAR to 0 BAR (only available in gauge reference)*
1V1B	-1 BAR to 1 BAR (only available in compound reference)*
001B	1 BAR
002B	2 BAR
005B	5 BAR
010B	10 BAR
020B	20 BAR
050B	50 BAR
100B	100 BAR
200B	200 BAR
350B	350 BAR
400B	400 BAR
600B	600 BAR
700B	700 BAR

OR

Code	Description
1V0P	-30 inHg to 0 inHg (only available in gauge reference)*
1V15P	-30 inHg to 15 PSI (only available in compound reference)*
0015P	15 PSI
0030P	30 PSI
0060P	60 PSI
0100P	100 PSI
0150P	150 PSI
0200P	200 PSI
0300P	300 PSI
0500P	500 PSI
0600P	600 PSI
0750P	750 PSI
1000P	1000 PSI
1500P	1500 PSI
2000P	2000 PSI
3000P	3000 PSI
5000P	5000 PSI
6000P	6000 PSI
7500P	7500 PSI
10000P	10000 PSI

Note:  
 -Other ranges available.  
 -\*Vacuum models are offered as standard with lowest output value corresponding to -30"Hg (-1Bar) vacuum. Other configurations available.  
 Please consult factory

### 2 - Gauge Standard:

- A - Absolute
- G - Gauge
- C - Compound

### 3 - Output:

- 2 - 4 -20 mA, (2 wire)
- 3 - 0 - 10 V, (3 wire)
- 4 - 0.5 - 4.5 V (Ratiometric)
- 5 - 0 - 5.0 V, (3 wire)
- 7 - 0.5 - 4.5 V, (3 wire)

### 4 - Electrical Connection:

- M2 - DIN 43650C
- HC - DIN 43650A
- HCC79 - DIN 43650A - with 79 inches (2 meters) of cable
- M12 - M12, 4 pin
- C79 - Shielded Cable, 79 inches (2 meters)
- C158 - Shielded Cable, 158 inches(4 meters)

### 5 - Process Connection

- 4M - 1/4 NPT male
- 4G - 1/4 BSPP male, G1/4, with Viton profile seal
- 4S - 7/16-20 SAE male, with Viton O-ring seal

### 6 - Accuracy

- A2 - 0.5%
- A3 - 0.25%



Note: Please see page 61 for other available options



### DESCRIPTION

A compact bonded foil pressure transducer excellent for conditions where high proof and burst pressure is required. It features a hermetically sealed construction with all stainless steel body. There is a wide variety of electrical output and electrical connection options.

### FEATURES

- Temperature Compensation
- Stainless Steel Construction
- Hermetically sealed
- Stainless steel body

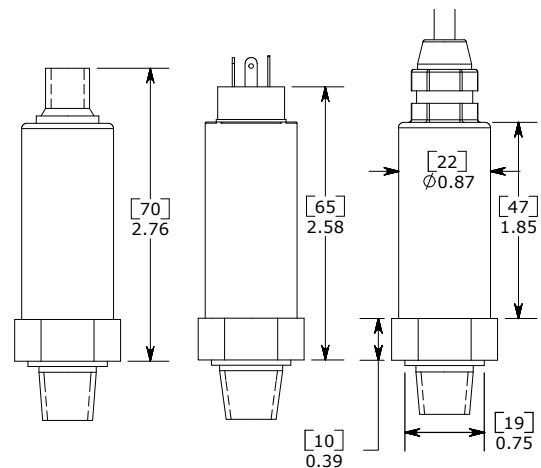
### APPLICATIONS

- Road Maintenance Vehicles
- Cranes
- Automation process

### Specifications

Accuracy	0.5% FS	
Pressure Range	1500 to 10,000 PSI (700 BAR)	
Proof Pressure	150% FS	
Burst Pressure	300% FS	
Fatigue Life	100,000,000 cycles	
Long Term Drift	0.1% FS/year for < 725 PSI (50 BAR) 0.2% FS/year for ≥ 725 PSI (50 BAR)	
Thermal Error	0.02%/FS/°C	
Compensated Temperatures	32°F to 149°F (0°C to 65°C)	
Operating Temperatures	-4°F to 176°F (-20°C to 80°C)	
Storage Temperature Rating	-40°F to 257°F (-40°C to 125°C)	
Process Connection	Standard: SS304 Optional: SS316	
Vibration	10g (20-2000Hz) for ≤ 58 PSI (4 BAR) 20g (20 - 500Hz) for ranges > 58 PSI (4 BAR)	
Shock	100g (11ms)	
Supply Voltage	Output	Supply
	4 - 20mA	12 - 36 VDC
	0 - 5V	12 - 36 VDC
	0 - 10V	12 - 36 VDC
	0.5 - 4.5V (ratiometric)	4.5 - 5.5 VDC
	0.5 - 4.5V	12 - 36 VDC
<b>* Other supply voltage available upon request</b>		
Max. Loop Resistance	500 Ω	
Weight	0.37 lbs (0.170kg)	

### Dimensions



### Wiring Code

Connector	Output				
	4 - 20 mA		Voltage		
	Supply +	Supply -	Supply +	Common	Output +
M2	1	2	1	3	2
M12	1	3	1	4	3
C79 / C158	Red	Black	Red	Yellow/White	Blue



## Ordering Information

### Example

TC - <sup>1</sup>1500P - <sup>2</sup>A - <sup>3</sup>4 - <sup>4</sup>M2 - <sup>5</sup>4M - <sup>6</sup>A2

#### 1 - Measuring Range:

Code	Description
100B	100 BAR
200B	200 BAR
350B	350 BAR
400B	400 BAR
600B	600 BAR
700B	700 BAR

OR

Code	Description
1500P	1500 PSI
2000P	2000 PSI
3000P	3000 PSI
5000P	5000 PSI
6000P	6000 PSI
7500P	7500 PSI
10000P	10000 PSI

#### 2 - Gauge Standard:

- A - Absolute
- G - Gauge

#### 3 - Output:

- 2 - 4 - 20 mA, (2 wire)
- 3 - 0 - 10 V, (3 wire)
- 4 - 0.5 - 4.5 V (ratiometric)
- 5 - 0 - 5 V, (3 wire)
- 7 - 0.5 - 4.5 V, (3 wire)

#### 4 - Electrical Connection:

- M2 - DIN 43650C (Mini DIN)
- M2C79 - DIN 43650C (Mini DIN) with 79 inches (2 meters cable)
- M12 - M12, 4 pin
- C79 - Shielded Cable, 79 inches (2 meters)
- C158 - Shielded Cable, 158 inches (4 meters)

#### 5 - Process Connection:

- 4M - 1/4 NPT male
- 4G - 1/4 BSPP male, G1/4
- 4S - 7/16-20 SAE male, with Viton O-ring seal

#### 6 - Accuracy:

- A2 - 0.5% FS

#### 7 - Options (Omit if not required):

- 3 - 316 Stainless Steel Port



Note: Other ranges available. Please consult factory.



### DESCRIPTION

The temperature transmitter TTG is well-suited for use in OEM applications, mobile or industrial. Its high EMI resistance, integrated connectors, stainless steel construction, and high shock and vibration specifications were designed to ensure reliable operation out in the field. Furthermore, the industry-standard analog outputs allows ease of integration while the ability to configure the measuring range allows for optimal accuracy built for your system.

### FEATURES

- Stainless steel construction
- Easy to install
- Robust design
- Customizable outputs per request

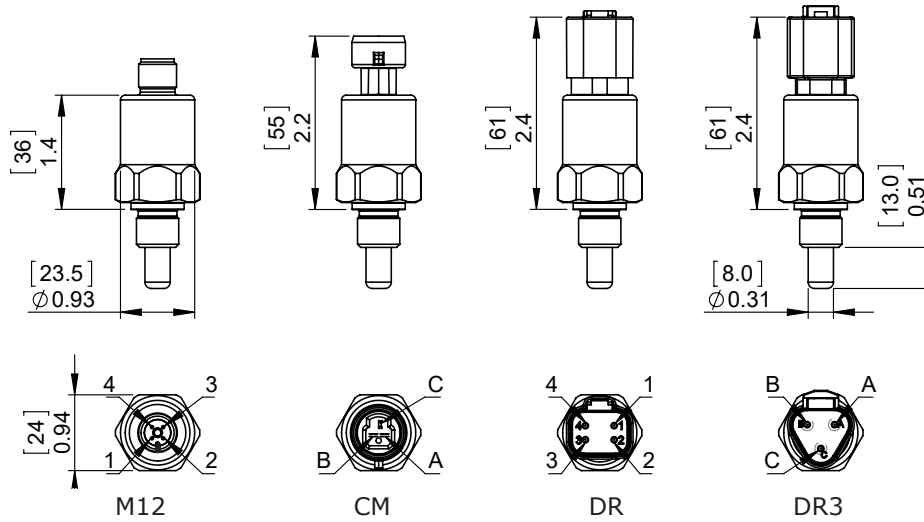
### APPLICATIONS

- Hydraulic systems
- Mobile Equipment
- Industrial machinery and machine tools
- Fan cooling circuits

### Specifications

	Fahrenheit	Celcius
Accuracy (Measuring Element)	Between -4°F to 221°F : +/- 0.81°F	Between -20°C to 105°C: +/-0.45°C
	Below -4°F or above 221°F: +/-1.62°F	Below -20°C or above 105°C: +/-0.90°C
Accuracy (Electronics)	Ratiometric Output: +/-0.1% FS Voltage Output: +/-0.25% FS Current Output: +/-0.5% FS	
Ambient Temperature Range	-58°F to 257°F (-50°C to 125°C)	
Media Temperature Range	No Oring: -58°F to 302°F (-50°C to 150°C) With Viton Oring: -13°F to 302°F (-25°C to 150°C) With HNBR Oring: -40°F to 302°F (-40°C to 150°C)	
Max Pressure	8700 psi (600 Bar)	
Protection	Overvoltage	
Ingress Protection	IP67	
Wetted Parts	Housing: 316SS Oring: Viton or HNBR if applicable	
Supply Voltage	Output	Supply
	4 - 20 mA	8 - 30 VDC
	0 - 10V	12.5 - 30 VDC
	0.5 - 4.5V (Ratiometric)	5V +/-0.5
	0.5 - 4.5V	8 - 30 VDC
Power On Time	< 1s	
Compliance	IEC/EN 61000-4-3(2006) IEC/EN 61000-4-4(2004) IEC/EN 61000-4-5(2005) IEC/EN 61000-4-6(2006) ROHS	
Weight	0.15 lbs (0.07kg)	

## Dimensions



Connector	Output				
	4 - 20 mA		Voltage		
	Supply +	Supply -	Supply +	Common	Output +
M12	1	3	1	3	4
DR	2	1	2	1	4
DR3	A	B	A	B	C
CM	B	A	B	A	C

## Ordering Information

TTG - <sup>1</sup>N40/125C - <sup>2</sup>2 - <sup>3</sup>M12 - <sup>4</sup>4M08 - <sup>5</sup>T1

Model:	Temperature Range:	Output:	Electrical Connection:	Process Connection & Seal Material:	Accuracy:
TTG	<b>N40/125C</b> -40°C to 125°C (-40°F to 257°F)	<b>2</b> - 4 -20 mA (2 wire)	<b>M12</b> - M12, 4 pin	<b>4M08</b> - 1/4" NPT male 1/2" probe	<b>T1</b> - +/- 0.45°C*
	<b>N25/125C</b> -25°C to 125°C (-13°F to 257°F)	<b>3</b> - 0 - 10 V (3 wire)	<b>DR</b> - Deutsch Receptacle DT04-4P	<b>4G08V</b> - 1/4" BSPP male, G1/4, Type E, Viton 1/2" probe	
	<b>N25/100C</b> -25°C to 100°C (-13°C to 212°F)	<b>4</b> - 0.5 - 4.5 V (ratiometric)	<b>DR3</b> - Deutsch Receptacle DT04-3P	<b>4G08H</b> - 1/4" BSPP male, G1/4, Type E, HNBR 1/2" probe	
	<b>0/100C</b> 0°C to 100°C (32°F to 212°F)	<b>7</b> - 0.5 - 4.5 V (3 wire)	<b>CM</b> - Packard, Metripack 150 Series (P25)	<b>6S08V</b> - 9/16-18 SAE male, with O-ring seal, Viton 1/2" probe	
	<b>0/300F*</b> 0°F to 300°F (-17°C to 149°C)			<b>6S08H</b> - 9/16-18 SAE male, with O-ring seal, HNBR 1/2" probe	
	<b>N50/150C*</b> -50°C to 150°C (-58°F to 302°F)				

-Maximum temperature exposure limit of electronics is 257°F

-Other material and options available upon request.  
Custom design available. Please consult factory.

\*Please review Specifications section for Accuracy details for this model series

Note: Please see page 61 for other available options



### DESCRIPTION

The TTLM series is an integrated-circuit based temperature transducer that outputs voltage proportional to the Centigrade temperature or Kelvin temperature. The TTLM is a very low power device which is why it has very low self heating of less than 0.1°C in still air. Its compact size and amplified output are ideal for mobile equipment or engine monitoring applications.

### FEATURES

- Rated for -67°F to 302°F (-55°C to 150°C)
- Less than 100 µA Current Drain
- Low self-heating
- Sensing Element: Precision IC Temperature Sensor

### APPLICATIONS

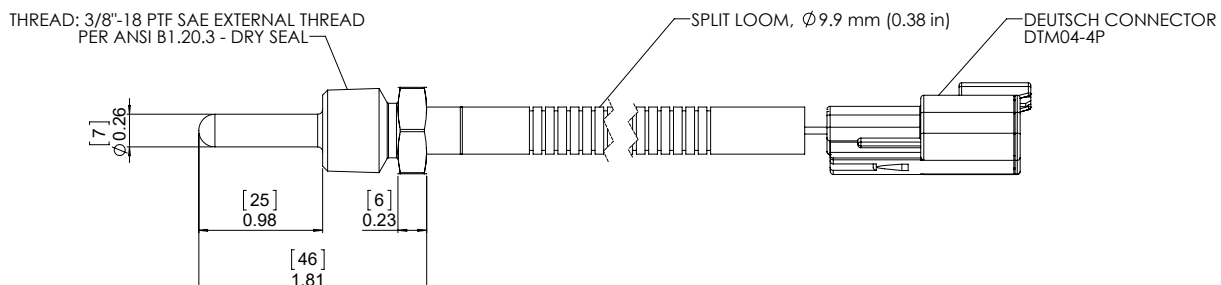
- Mobile equipment
- Hydraulic power units
- Lubrication system
- Engine Oil & Coolant Temp

### Specifications

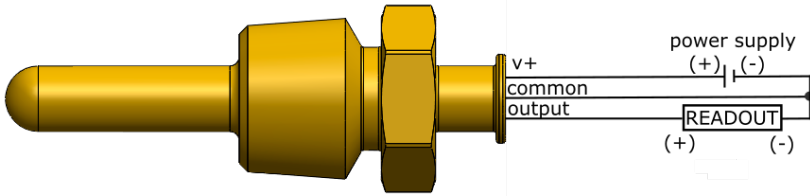
	TTLM1	TTLM2
Temperature Range	32°F to 212°F (0°C to 100°C)	-67°F to 302°F (-55°C to 150°C)
Accuracy	Max +/- 2.7°F at 77°F +/- 1.5°C at 25°C	Max +/- 5.4°F at 77°F +/- 3°C at 25°C
Ambient Temperature Range	-40°F to 257°F (-40°C to 125°C)	-67°F to 257°F (-55°C to 125°C)
Supply Voltage / Current	8 - 30 VDC	12 - 24 VDC* Current Limited. See equation (1)
Output Voltage Range	0.02 to 1V	2.18 to 4.23V
Output Sensitivity	10 mV/°C	10 mV/°K
Output Load Resistance	Min 10kΩ	Min 10kΩ
Electrical Connection	Deutsch DTM04-3P	Deutsch DTM04-3P
Wire Protection	Nylon Split Loom (0.38 in) / Ø 9.9mm	Nylon Split Loom (0.38 in) / 9.9mm
IP Rating	IP 65	IP 65
Housing Material	Brass	Brass
Pressure Rating	1800 psi (124 Bar)	1800 psi (124 Bar)
Probe Diameter	7 mm (0.28")	7 mm (0.28")

\*Must be powered with a constant current source. The current source setting must consider the current in the sensor and the current in the load resistance.

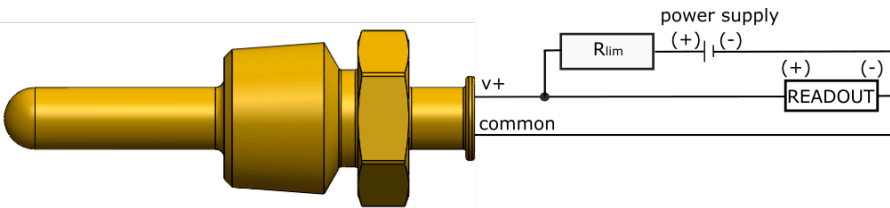
### Dimensions



## Wiring Code



TTLM1	
PIN 1	RED (V+)
PIN 2	WHITE (OUTPUT)
PIN 3	BLACK (COMMON)



TTLM2	
PIN 1	RED (V+)
PIN 2	NOT CONNECTED
PIN 3	BLACK (COMMON)

Choose resistor ( $R_{lim}$ ) that is nearest to the calculated value. A 0.25W to 0.5W Power Rating is required for the limiting resistor,  $R_{lim}$

**Equation [1]** 
$$R_{lim} = \frac{(V_{supply}) - 2.18 V}{0.5 mA}$$

## Ordering Information

**EXAMPLE** 1 **TTLM1** - 2 **6PTF12** - 3 **FLDT**

**1 - Model Selection:**

- TTLM1** - 32°F to 212°F (0°C to 100°C)
- TTLM2** - -67°F to 302°F (-55°C to 150°C)

**2 - Thread Options:**

- 6PTF12** - 3/8"-18 PTF SAE External Thread (Per ANSI B1.20.3 - Dry Seal) with 1" (25 mm) probe length

**3 - Electrical Connection**

- FLDT** - Deutsch connector, DTM04-3P, 10" long leads

Note: Different configurations to this series is available. Please contact Anfield Sensors Inc. for custom options.



### DESCRIPTION

The TT is a robust temperature transmitter designed for measuring temperature in hydraulic applications. Anfield's unique design enables for ideal performance at a competitive cost. The sensor provides an analog 4 to 20 mA output. The TT series is ideal for harsh environmental conditions.

### FEATURES

- Robust design
- IP 65 rated
- Solid state sensing

### APPLICATIONS

- Industrial applications
- Hydraulic Power units
- Gear Box
- Lubrication systems

### Specifications

Measuring Principle	Solid State
Accuracy (Full Range)	+/- 2% FS
Accuracy (Room Temperature)	≤ 0.5% FS
Supply Voltage	8 to 30 VDC
Measurement Unit	°F, °C
Ambient Temperature Range	-40°F to 257°F (-40°C to 125°C)
Max Pressure	1800 psi (124 BAR)
Output Signal	4 - 20mA
Power On Time	< 1 sec
Temperature Drift	0.001% FS/°C / 1000 hrs
Protection	DIN 43650A : IP65
Protection	Overvoltage, Short Circuit, Reverse Polarity
Housing Material	Nickel plated brass
Weight	0.37 lbs (0.17 kg)

### Wiring Code

	4 - 20 mA	
	Supply +	Supply -
HC - DIN 43650A	Pin 1	Pin 2

### Ordering Information

#### Example

TT - <sup>1</sup>S - <sup>2</sup>N25/100C - <sup>3</sup>2 - <sup>4</sup>8M32 - <sup>5</sup>HC

#### 1 - Sensing Element:

S - Solid State

#### 2 - Temperature Range:

**N25/100C** - -25°C to 100°C (-13°F to 212°F)

**0/100C** - 0°C to 100°C (32°F to 212°F)

**0/300F** - 0°F to 300°F (-17°C to 149°C)

#### 3 - Output:

2 - 4 - 20mA

#### 4 - Threads:

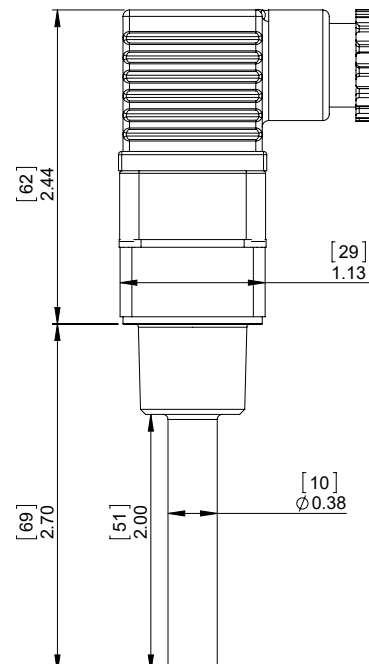
**8M32** - 1/2 NPT thread

**8G32** - 1/2 BSPP thread with viton seal

#### 5 - Electrical Connector

HC - DIN 43650A

### Dimensions



# TEMPERATURE SWITCH GUIDE



	Models					
	S2TAF	S3TAF	S5TAF	S6TAF	S7TAF	S8TAF
<b>Temperature Range</b>	77°F - 293°F (25° - 145°C)	77°F - 293°F (25° - 145°C)	130°F / 54°C 140°F / 60°C 150°F / 65°C 160°F / 71°C 170°F / 76°C 180°F / 82°C 190°F / 87°C 200°F / 93°C 220°F / 104°C	130°F / 54°C 140°F / 60°C 150°F / 65°C 160°F / 71°C 170°F / 76°C 180°F / 82°C 190°F / 87°C 200°F / 93°C 220°F / 104°C	120°F / 49°C 140°F / 60°C 160°F / 71°C 170°F / 76°C 180°F / 82°C	120°F / 49°C 140°F / 60°C 160°F / 71°C 170°F / 76°C 180°F / 82°C
<b>Electrical Rating</b>	15 amp Silver / Gold	15 amp Silver	3 amp Silver	3 amp Silver	3 amp Gold	3 amp Gold
<b>Electrical Connection</b>	DIN 43650A	Spade Flying Leads Deutsch Metripack Weatherpack	Flying Leads Weather Pack Deutsch	Spade Deustch DT04-2P Flying Lead Packard Metripack	Flying Leads Weather Pack Deutsch	Spade Deustch DT04-2P Flying Lead Packard Metripack
<b>Differential</b>	25°F	25°F	30% of Setpoint	30% of Setpoint	<4% of Setpoint	<4% of Setpoint
<b>Probe</b>	Not Available	Yes	Yes	Yes	Yes	Yes
<b>IP Rating</b>	IP65, IP67	IP65, IP67	IP65	IP65, IP67	IP65	IP65, IP67
<b>Response Time</b>						

## Legend:

Slowest Response =

Fastest Response =





### DESCRIPTION

The S2TAF is a bimetal temperature switch featuring an internal sensing cavity that allows for sensing of the fluid temperature without the need of a probe. It is most suitable for where areas is a tight constraint. The S3TAF temperature switch is ideal for high amperage rating with high ingress protection.

### FEATURES

- Factory preset
- High current rating
- Reliable differential
- Compact size

### APPLICATIONS

- Hydraulic reservoir safety switch
- Coolant temperature switch

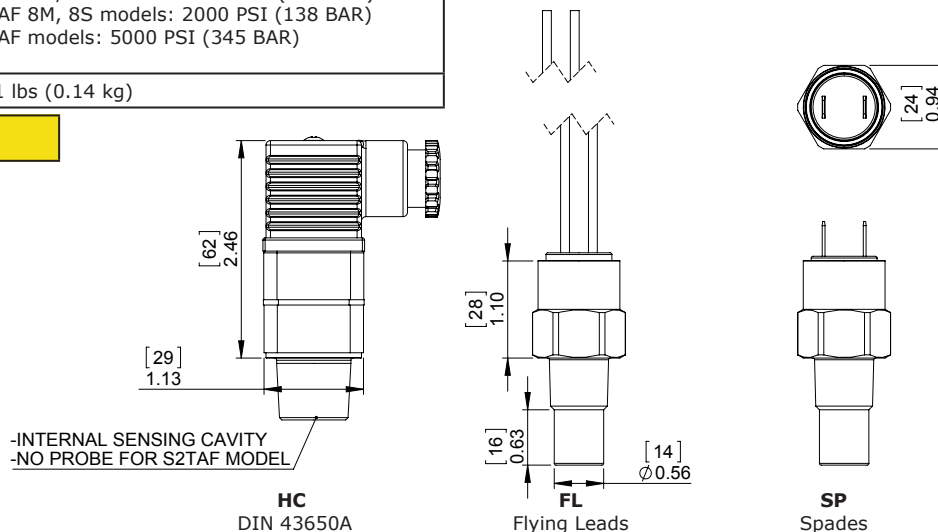
### Specifications

Electrical	120 VAC - 15A Resistive 240 VAC - 10A Resistive 12VDC - 12A Resistive 24 VDC - 6A Resistive
Switch Type	Bimetal
Protection	DIN 43650A: IP65 Terminals: IP00 Flying Lead: IP67 Deutsch DT04-2P: IP67
Repeatability	+/- 7°F
Temperature Range	77°F to 293°F (25 °C to 145°C)
Temperature Differential	25°F (12°C)
Temperature Exposure Limit	300°F (149°C)
Housing Material	Brass (Optional: Stainless Steel)
Maximum Overpressure	S2TAF 4M, 6M models: 5000 PSI (345 BAR) S2TAF 8M, 8S models: 2000 PSI (138 BAR) S3TAF models: 5000 PSI (345 BAR)
Weight	0.31 lbs (0.14 kg)

### Temperature Set Point Range (Factory Set)

°F	°C
77 - 293	25 - 145

### Dimensions



### Wiring Code

CONTACT	FLYING LEADS	DIN 43650 TYPE	FLWF / FLWM FLCM / FLCF / FLPM / FLPF	FLDR / FLDP
COMMON	BLACK	PIN 1	PIN A	PIN 1
NORMALLY CLOSED	BLACK	PIN 2	PIN B	PIN 2
NORMALLY OPEN	BLACK	PIN 2	PIN B	PIN 2



## Ordering Information

### Factory Preset

S2TAF or S3TAF - <sup>1</sup>140F - <sup>2</sup>4M - <sup>3</sup>B - <sup>4</sup>FL

### 1 - Temperature Selection:

Insert set point value XXX followed by: R, F  
Temperature selection is in increments of 5°F

Set Point	Direction	Description
XXXX	<b>R</b>	°F Rising Temperature
	<b>F</b>	°F Falling Temperature

### 2 - Thread Options:

Thread Description	S2TAF Model	S3TAF Model
	No Probe	5/8" Probe
1/4 NPT	<b>4M</b>	<b>4M10</b>
3/8 NPT	<b>6M</b>	<b>6M10</b>
1/2 NPT	<b>8M</b>	<b>8M10</b>
1/2 BSPP	<b>8G</b>	<b>8G10</b>
3/4-16 SAE with Viton O-ring seal	<b>8S</b>	<b>8S10</b>

- Other Thread and Probe options are available upon request. Consult factory for availability

### 3 - Circuit:

- A** - SPST (Normally Open)
- B** - SPST (Normally Closed)

### 4 - Electrical Termination:

S2TAF	<b>HC</b>	- DIN 43650A - connector type (Only available for S2TAF series)
	<b>HN</b>	- DIN 43650A 1/2" NPT Conduit (Only available for S2TAF series)
S3TAF	<b>FL</b>	- Flying Lead 18" long, 18 AWG
	<b>FLWF</b>	- Flying Lead Weatherpack connector, female, Tower, 10" long leads
	<b>FLWM</b>	- Flying Lead Weatherpack connector, male, Shroud, 10" long leads
	<b>FLDP</b>	- Flying Lead Deutsch connector, plug, 10" long leads
	<b>FLDR</b>	- Flying Lead Deutsch connector, receptacle, 10" long leads
	<b>FLCM</b>	- Flying Lead Metripack, male, 150 series, 10" long leads
	<b>FLCF</b>	- Flying Lead Metripack, female, 150 series, 10" long leads
	<b>FLPM</b>	- Flying Lead Metripack, male, 280 series, 10" long leads
	<b>FLPF</b>	- Flying Lead Metripack, female, 280 series, 10" long leads
	<b>SP</b>	- 1/4" Spade



\*Other material and options available upon request. Please consult factory for details.



### DESCRIPTION

The S5TAF and S7TAF model series are bimetallic temperature switches. The S5TAF series features a large temperature differential and the S7TAF series features a small temperature differential. The sensing element is designed to provide rapid temperature response.

### FEATURES

- Temperature switch and sensor
- Compact size
- Low and high differential

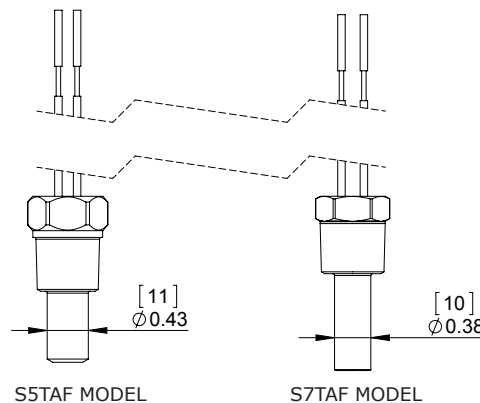
### APPLICATIONS

- Coolant temperature switch/sensor
- Lubrication systems
- Oil reservoir temperature switch/sensor

### Specifications

Model	S5TAF	S7TAF
Set Point Range (Factory Set)	130°F to 300°F (54°C to 150°C)	40°F to 300°F (4°C to 150°C)
Electrical	120/240 VAC - 3A Resistive 120/240 VAC - 2.5A Inductive 12/24 VDC - 3A Resistive 12/24 VDC - 2A Inductive	120/240 VAC - 3A Resistive 120/240 VAC - 2.5A Inductive 12/24 VDC - 3A Resistive 12/24 VDC - 2A Inductive
Contacts	Silver	Gold
Switch Type	Bimetal Snap Action	Bimetal Creep Action
Protection	IP65	IP65
Repeatability	+/- 7°F	+/- 7°F
Temperature Differential	Approximately 30% of Setpoint	Approximately <4% of Setpoint
Temperature Exposure Limit	325°F (162°C)	325°F (162°C)
Housing Material	Brass	Brass
Probe Length	3/4"	1/2" , 1" , 2"
Maximum Overpressure	5000 PSI (345 BAR)	5000 PSI (345 BAR)
Weight	0.15 lbs (0.06 kg)	0.15 lbs (0.06 kg)

### Dimensions



Hex Size varies depending on thread and model. Please consult factory for details.

Probe length is listed on ordering information.

### Wiring Code

CONTACT	FLYING LEADS	FLWF / FLWM FLCM / FLCF / FLPM / FLPF	FLDR / FLDP
COMMON	BLACK	PIN A	PIN 1
NORMALLY CLOSED	BLACK	PIN B	PIN 2
NORMALLY OPEN	BLACK	PIN B	PIN 2

## Ordering Information

### Factory Preset

<sup>1</sup> S5TAF or S7TAF - <sup>2</sup> 140R - <sup>3</sup> 4M08 - <sup>4</sup> A - <sup>5</sup> FL

### 1 Model Selection:

**S5TAF** - Approximately 30% of setpoint (see Temperature Selection Table)

**S7TAF** - Approximately <4% of setpoint (see Temperature Selection Table)

### 2 - Temperature Selection - Standard available setpoints (Fahrenheit Rising):

S5TAF Model	S7TAF Model
130R	115R*
140R	120R
150R	140R
160R	160R
170R	170R
180R	180R
190R	
200R	
220R	

\*This set point is only offered in normally open configuration  
 -Other setpoints are available upon request. Consult factory for availability

### 3 - Thread Options:

Thread Description	S5TAF Model	S7TAF Model		
	3/4" Probe	1/2" Probe	1" Probe	2" Probe
1/4 NPT	4M12	4M08	4M16	4M32
3/8 NPT	6M12	N/A	6M16	N/A
1/2 NPT	8M12	8M08	8M16	8M32
1/2 BSPP	8G12	8G12	N/A	N/A
3/4-16 SAE with Viton O-ring seal	8S12	N/A	8S16	N/A

-Other thread and probe options are available upon request. Consult factory for availability

### 4 - Circuit:

- A** - SPST (Normally Open)
- B** - SPST (Normally Closed)

### 5 - Electrical Termination:

- EL** - 1/2" male conduit with 18" long leads. Only available with 8M08 thread
- FL** - Flying Lead 18" long, (20 AWG for S5TAF) (18 AWG for S7TAF)
- FLWF** - Flying Lead Weatherpack connector, female, 10" long leads
- FLWM** - Flying Lead Weatherpack connector, male, 10" long leads
- FLDP** - Flying Lead Deutsch connector, plug, 10" long leads
- FLDR** - Flying Lead Deutsch connector, receptacle, 10" long leads
- FLCM** - Flying Lead, Metripack, male, 150 series, 10" long leads
- FLCF** - Flying Lead, Metripack, female, 150 series, 10" long leads
- FLPM** - Flying Lead Metripack 280 connector, male, 10" long leads
- FLPF** - Flying Lead Metripack 280 connector, female, 10" long leads

\*Other material and options available upon request. Please consult factory for details.



### DESCRIPTION

The S6TAF and S8TAF model series are bimetallic temperature switches. The S6TAF series features a large temperature differential and the S8TAF series features a small temperature differential. The sensing element is designed to provide rapid temperature response.

### FEATURES

- High ingress protection
- Compact size
- Option of low and high differential
- No exposed potting compound

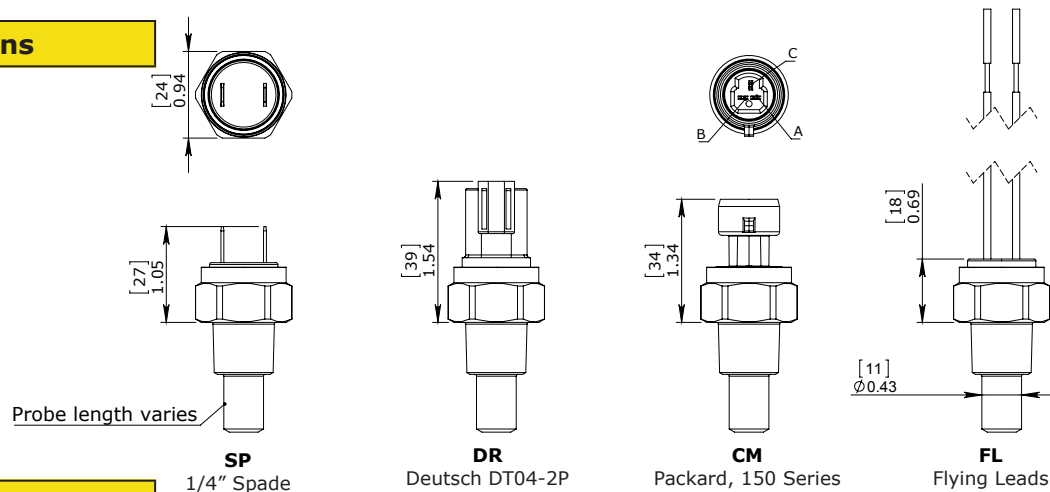
### APPLICATIONS

- Coolant temperature switch/sensor
- Fan
- Oil reservoir temperature switch/sensor

### Specifications

Model	S6TAF	S8TAF
Set Point Range (Factory Set)	130°F to 300°F (54°C to 150°C)	40°F to 300°F (4°C to 150°C)
Electrical	120/240 VAC - 3A Resistive 120/240 VAC - 2.5A Inductive 12/24 VDC - 3A Resistive 12/24 VDC - 2A Inductive	120/240 VAC - 3A Resistive 120/240 VAC - 2.5A Inductive 12/24 VDC - 3A Resistive 12/24 VDC - 2A Inductive
Contacts	Silver	Gold
Switch Type	Bimetal Snap Action	Bimetal Creep Action
Protection	IP67: Deutsch, Packard, Flying Lead IP65: Spade (Except exposed terminals)	IP67: Deutsch, Packard, Flying Lead IP65: Spade (Except exposed terminals)
Repeatability	+/-7°F	+/-7°F
Temperature Differential	Approximately 30% of Setpoint	Approximately <4% of Setpoint
Temperature Exposure Limit	325°F (162°C)	325°F (162°C)
Housing Material	Brass	Brass
Probe Length	5/8", 1"	5/8", 1"
Maximum Overpressure	5000 PSI (345 BAR)	5000 PSI (345 BAR)
Weight	0.11 lbs (0.05 kg)	0.11 lbs (0.05 kg)

### Dimensions



### Wiring Code

CONTACT	FLYING LEADS	FLWF / FLWM FLCM / FLCF / FLPM / FLPF	FLDR / FLDP	CM
COMMON	BLACK	PIN A	PIN 1	PIN A
NORMALLY CLOSED	BLACK	PIN B	PIN 2	PIN B
NORMALLY OPEN	BLACK	PIN B	PIN 2	PIN B

## Ordering Information

### Factory Preset

<sup>1</sup> **S6TAF or S8TAF** - <sup>2</sup> **140R** - <sup>3</sup> **4M10** - <sup>4</sup> **A** - <sup>5</sup> **SP**

### 1 Model Selection:

- S6TAF** - Approximately 30% of setpoint (see Temperature Specifications Table)
- S8TAF** - Approximately <4% of setpoint (see Temperature Specifications Table)

### 2 - Temperature Selection - Standard available setpoints (Fahrenheit Rising):

S6TAF Model	S8TAF Model
130R	120R
140R	140R
150R	160R
160R	170R
170R	180R
180R	195R*
190R	
200R	
220R	

-Other setpoints are available upon request. Consult factory for availability

\*Only available in Normally Open configuration

### 3 - Thread Options:

Thread Description	S6TAF Model		S8TAF Model	
	5/8" Probe	1" Probe	5/8" Probe	1" Probe
1/4 NPT	<b>4M10</b>	<b>4M16</b>	<b>4M10</b>	<b>4M16</b>
3/8 NPT	<b>6M10</b>	<b>6M16</b>	<b>6M10</b>	<b>6M16</b>
1/2 NPT	<b>8M10</b>	<b>8M16</b>	<b>8M10</b>	<b>8M16</b>
1/2 BSPP	<b>8G10</b>	<b>N/A</b>	<b>8G10</b>	<b>N/A</b>
3/4-16 SAE with Viton O-ring seal	<b>8S10</b>	<b>8S16</b>	<b>8S10</b>	<b>8S16</b>

-Other Thread and Probe options are available upon request. Consult factory for availability

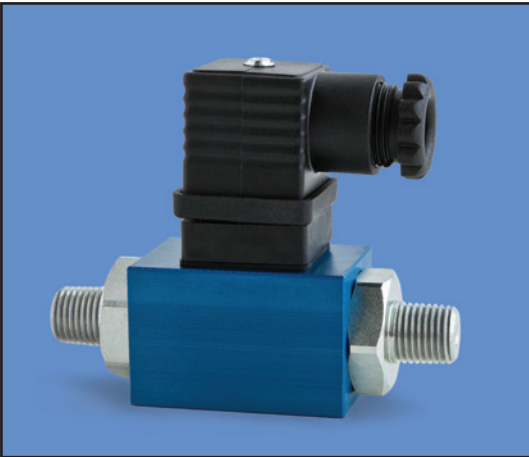
### 4 - Circuit:

- A** - SPST (Normally Open)
- B** - SPST (Normally Closed)

### 5 - Electrical Termination:

- SP** - 1/4" Spade
- DR** - Integrated Deutsch Receptacle (DT04-2P) - Mates with DT06-2S
- CM** - Packard, Metripack 150 Series (3 pin)
- FL** - Flying Lead 18" long, (20 AWG for S6TAF) (18 AWG for S8TAF)
- FLWF** - Flying Lead Weatherpack connector, female, 10" long leads
- FLWM** - Flying Lead Weatherpack connector, male, 10" long leads
- FLDP** - Flying Lead Deutsch connector, plug, 10" long leads
- FLDR** - Flying Lead Deutsch connector, receptacle, 10" long leads
- FLPM** - Flying Lead Metripack 280 connector, male, 10" long leads
- FLPF** - Flying Lead Metripack 280 connector, female, 10" long leads

\*Other material and options available upon request. Please consult factory for details



### DESCRIPTION

An economical differential switch utilizing a simple and reliable design. It is used for many monitoring applications such as a filter change indicator. Constructed of an anodized aluminium body with steel ports for durability.

### FEATURES

- Snap action micro switch
- Factory set or field adjustable
- Diaphragm design

### APPLICATIONS

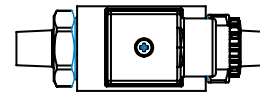
- Filter element monitoring
- Fluid control
- Water treatment applications

### Specifications

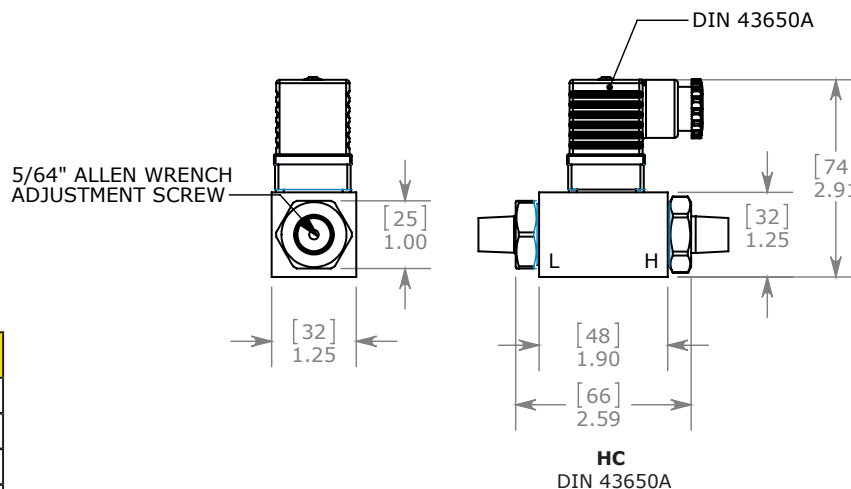
Electrical	5A [12/24 VDC, 125 VAC] or 3A [250 VAC]
Switch Type	Snap Action
Protection	DIN 43650A - IP65, Terminals - IP00
Mechanical Range	1,000,000 Cycles @ 75 PSI (5.2 BAR)
Media Temperature Range	Nitrile: -20°F to 180°F (-29°C to 82°C) Viton: 23°F to 248°F (-5°C to 120°C) HNBR: -20°F to 248°F (-29°C to 120°C) EPDM: -20°F to 248°F (-29°C to 120°C)
Ambient Temperature Range	-40°F to 180°F (-40°C to 82°C)
Diaphragm Material	Standard: Nitrile Optional: Viton, EPDM, HNBR
Housing Material	Anodized Aluminum Housing
Maximum Overpressure	500 PSI (34 BAR)
Repeatability	+/- 2% of full set point range at 20°C (68°F)
Differential	10 - 30% of setting
Weight	0.75 lbs (0.35 kg)

### Differential Pressure Range

Model	Adjustment Range	
	PSID	BARD
1	10 - 30	0.7 - 2.0
2	25 - 60	1.7 - 4.0



### Dimensions



### Wiring Code

CONTACT	DIN 43650 TYPE
COMMON	PIN 1
NORMALLY CLOSED	PIN 2
NORMALLY OPEN	PIN 3

## Ordering Information

**Field Adjustable**    **DSPA** - <sup>1</sup>**2** - <sup>2</sup>**4M-4M** - <sup>3</sup>**C** - <sup>4</sup>**HC** - <sup>5 (Optional)</sup>**1**

**Factory Preset**    **DSPF** - <sup>1</sup>**30F** - <sup>2</sup>**4M-4M** - <sup>3</sup>**C** - <sup>4</sup>**HC** - <sup>5 (Optional)</sup>**1**

### 1 - Differential Pressure Selection:

Field Adjustable - Select Model Code

Insert set point value XXX followed by: R, F, BR, or BF

Model	Adjustment Range	
	PSID	BARD
<b>1</b>	10 - 30	0.7 - 2.0
<b>2</b>	25 - 60	1.7 - 4.0

OR

Set Point	Direction	Description
XXXX	<b>R</b>	PSI Rising Pressure
	<b>F</b>	PSI Falling Pressure
	<b>BR</b>	BAR Rising Pressure
	<b>BF</b>	BAR Falling Pressure

### 2 - Thread Options for both process connections:

**4M-4M** - 1/4 NPT male

**4G-4G** - 1/4 BSPP male, G1/4

### 3 - Circuit:

**C** - SPDT (Single Pole Double Throw : Normally Open and Normally Closed)

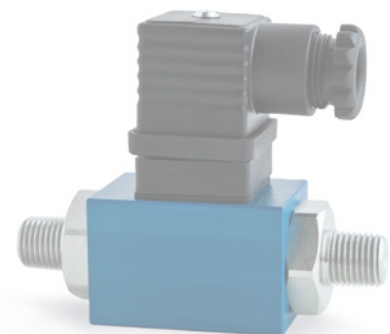
### 4 - Electrical Termination:

**HC** - DIN 43650A PG9/PG11 - connector type

**HN** - DIN 43650A 1/2" NPT Conduit

### 5 - Options (Omit if not required):

- 1** - Viton® Diaphragm
- 2** - EPDM Diaphragm
- 4** - HNBR Diaphragm
- 7** - Gold Contact, Snap Action Microswitch @ 20 mA / 12 VDC
- 8** - 10 amp, Snap Action Microswitch @ 10(2) 125 VAC (inductive), 6(2) 250 VAC (inductive)



Note: Please see page 61 for other available options



### DESCRIPTION

A compact vacuum switch utilizing a high quality snap action micro switch for applications in which price and size are of concern. It is used for pneumatic, water and low pressure applications. Its modular design allows for a variety of electrical and mechanical terminations.

### FEATURES

- Snap action micro switch
- Factory set or field adjustable
- Diaphragm design
- WRAS approved EPDM diaphragms available

### APPLICATIONS

- Vacuum generators
- Industrial automation
- Pick and place units
- Engine load monitoring

\* UL available for certain models

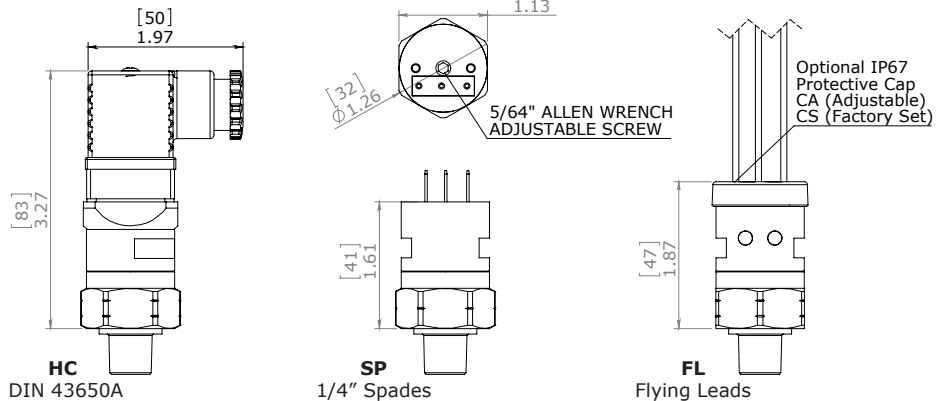
### Specifications

Electrical	5A [12/24 VDC, 125 VAC] or 3A [250 VAC] Optional: 10A or Gold Contact
Switch Type	Snap Action
Protection	DIN 43650A - IP65 Spades - IP00 Flying Lead: IP64 Flying Lead with CA/CS: IP67
Media Temperature Range	Nitrile: -20°F to 180°F (-29°C to 82°C) Viton: 23°F to 248°F (-5°C to 120°C) HNBR: -20°F to 248°F (-29°C to 120°C) EPDM: -20°F to 248°F (-29°C to 120°C)
Ambient Temperature Range	-40°F to 180°F (-40°C to 82°C)
Mechanical Range	1,000,000 Cycles @ 20 inHg
Diaphragm Material	Standard: Nitrile    Optional: Viton, EPDM, HNBR
Housing Material	Brass (Optional Stainless Steel)
Maximum Overpressure	350 PSI (25 BAR)
Repeatability	+/- 2% of full set point range at 20°C (68°F)
Differential	10 - 40% of setting
Weight	0.26 lbs (0.12 kg)

### Vacuum Range

MODEL	Adjustment Range	
	inHg	Millibar
1	5-30	170 - 1016

### Dimensions



### Wiring Code

CONTACT	FLYING LEADS	DIN 43650 TYPE	FLWF / FLWM FLCM / FLCF / FLPM / FLPF		FLDR / FLDP	
			SPDT MODEL	SPST MODEL	SPDT MODEL	SPST MODEL
COMMON	BLACK	PIN 1	PIN A	PIN A	PIN A	PIN 1
NORMALLY CLOSED	BLUE	PIN 2	PIN C	PIN B	PIN C	PIN 2
NORMALLY OPEN	RED	PIN 3	PIN B	PIN B	PIN B	PIN 2



## Ordering Information

### Field Adjustable

**SVA** - <sup>1</sup>**1** - <sup>2</sup>**2M** - <sup>3</sup>**C** - <sup>4</sup>**HC** - <sup>5 (Optional)</sup>**1**

### Factory Preset

**SVF** - <sup>1</sup>**25F** - <sup>2</sup>**2M** - <sup>3</sup>**C** - <sup>4</sup>**HC** - <sup>5 (Optional)</sup>**1**

## 1 - Vacuum Selection:

Field Adjustable - Select Model Code

Model	Adjustment Range	
	inHg	Millibar
<b>1</b>	5 - 30	170 - 1016

OR

Insert set point value XXX followed by: R, F, MR, or MF

Set Point	Direction	Description
XXXX	<b>R</b>	inHg Rising Vacuum
	<b>F</b>	inHg Falling Vacuum
	<b>MR</b>	Millibar Rising Vacuum
	<b>MF</b>	Millibar Falling Vacuum

## 2 - Thread Options:

- 2M** - 1/8 NPT male
- 4M** - 1/4 NPT male
- 2G** - 1/8 BSPP male, G1/8
- 4G** - 1/4 BSPP male, G1/4
- 4S** - 7/16-20 SAE male, with O-ring seal
- 6S** - 9/16-18 SAE male, with O-ring seal

## 3 - Circuit:

- A** - SPST (Normally Open)
- B** - SPST (Normally Closed)
- C** - SPDT (Single Pole Double Throw: Normally Open and Normally Closed)

## 4 - Electrical Termination:

- H** - DIN 43650A - connector type - male half only (only available in SPDT option)
- HC** - DIN 43650A - connector type (only available in SPDT option)
- HN** - DIN 43650A 1/2" NPT Conduit (only available in SPDT option)
- FL** - Flying Lead 18" long, 18 AWG
- FLWF** - Flying Lead Weatherpack connector, female, Tower, 10" long leads
- FLWM** - Flying Lead Weatherpack connector, male, Shroud, 10" long leads
- FLDP** - Flying Lead Deutsch connector, plug, 10" long leads
- FLDR** - Flying Lead Deutsch connector, receptacle, 10" long leads
- FLCM** - Flying Lead Metripack, male, 150 series, 10" long leads
- FLCF** - Flying Lead Metripack, female, 150 series, 10" long leads
- FLPM** - Flying Lead Metripack, male, 280 series, 10" long leads
- FLPF** - Flying Lead Metripack, female, 280 series, 10" long leads
- SP** - 1/4" Spade

## 5 - Options (Omit if not required):

- 1** - Viton® Diaphragm
- 2** - EPDM Diaphragm
- 3** - 316 Stainless Steel Housing
- 4** - HNBR Diaphragm
- 6** - Lead Free Brass
- 7** - Gold Contact, Snap Action Microswitch @ 20 mA / 12 VDC (minimum set point 7 inHg / 237 millibar)
- 8** - 10 amp, Snap Action Microswitch @ 10(2) 125 VAC (inductive), 6(2) 250 VAC (inductive) (minimum set point 7 inHg / 237 millibar)
- 20** - Seal adjustment Screw
- OC** - Oxygen Cleaned Switches
- CA** - IP67 rated protective cover with a removable plug (For Adjustable Switches, SVA Flying lead model)
- CS** - IP67 rated protective cover (For Factory Set Switches, SVF Flying lead model)



Note: Please see page 61 for other available options



### DESCRIPTION

This compact, simple vacuum switch is suitable for many applications. It is designed for easy installation and quick access to the set point. It is available in factory set or adjustable ranges.

### FEATURES

- Gold plated silver alloy contacts
- High current ratings
- Works well with extreme temperature
- Economical

### APPLICATIONS

- Vacuum generators
- Industrial automation
- Engine load monitoring

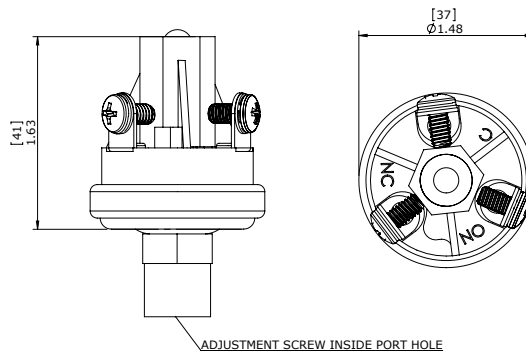
### Specifications

Electrical	Resistive	Inductive
	15 AMP - 6 VDC	1 AMP - 120 VAC
	8 AMP - 12 VDC	0.5 AMP - 240 VAC
	4 AMP - 24 VDC	
Switch Type	Blade Contact	
Protection	Terminals - IP00	
Temperature Range	-40°F to 248°F (-40°C to 120°C)	
Diaphragm Material	Standard: Fluorosilicone elastomer	
Housing Material	Brass, Glass Reinforced Polyester (Optional 304 Stainless Steel)	
Maximum Operating Vacuum	30 inHg Vacuum (1.02 BAR)	
Burst Pressure	150 PSI (10.3 BAR)	
Weight	0.14 lbs (0.06 kg)	

### Vacuum Range

Model	Adjustment Range	
	inHg	Millibar
1	1.1 - 3	37 - 101
2	4 - 8	135 - 270
3	9 - 17	305 - 575
4	18 - 22	610 - 745

### Dimensions



### Wiring Code

CONTACT	FLYING LEADS	FLWF / FLWM FLCM / FLCF / FLPM / FLPF		FLDR / FLDP	
		SPDT MODEL	SPST MODEL	SPDT MODEL	SPST MODEL
		COMMON	BLACK	PIN A	PIN A
NORMALLY CLOSED	BLUE	PIN C	PIN B	PIN C	PIN 2
NORMALLY OPEN	RED	PIN B	PIN B	PIN B	PIN 2

## Ordering Information

### Field Adjustable

SPVL - <sup>1</sup>2 - <sup>2</sup>2M - <sup>3</sup>A - <sup>4</sup>SP - <sup>5 (Optional)</sup>2

### Factory Preset

SPVF - <sup>1</sup>17F - <sup>2</sup>2M - <sup>3</sup>A - <sup>4</sup>SP - <sup>5 (Optional)</sup>2

## 1 - Vacuum Selection:

Field Adjustable - Select Model Code

Insert set point value XXXX followed by: R, F, MR, or MF

Model	Adjustment Range	
	inHg	Millibar
1	1.1 - 3	37 - 101
2	4 - 8	135 - 270
3	9 - 17	305 - 575
4	18 - 22	610 - 745

OR

Set Point	Direction	Description
XXXX	R	inHg Rising Vacuum
	F	inHg Falling Vacuum
	MR	Millibar Rising Vacuum
	MF	Millibar Falling Vacuum

## 2 - Thread Options:

- 2M - 1/8 NPT male
- 4M - 1/4 NPT male
- 2G - 1/8 BSPP male, G1/8
- 4G - 1/4 BSPP male, G1/4

## 3 - Circuit:

- A - SPST (Normally Open)
- B - SPST (Normally Closed)

## 4 - Electrical Termination:

- FL - Flying Lead 18" long, 18 AWG
- FLWF - Flying Lead Weatherpack connector, female, Tower, 10" long leads
- FLWM - Flying Lead Weatherpack connector, male, Shroud, 10" long leads
- FLDP - Flying Lead Deutsch connector, plug, 10" long leads
- FLDR - Flying Lead Deutsch connector, receptacle, 10" long leads
- FLCM - Flying Lead Metripack, male, 150 series, 10" long leads
- FLCF - Flying Lead Metripack, female, 150 series, 10" long leads
- FLPM - Flying Lead Metripack, male, 280 series, 10" long leads
- FLPF - Flying Lead Metripack, female, 280 series, 10" long leads
- SP - 1/4" Spade
- TS - Terminal Screws, #8-32

## 5 - Options (Omit if not required):

- 2 - EPDM Diaphragm
- 9 - 304 Stainless Steel Housing
- 20 - Seal adjustment Screw
- 30 - Rubber Boot - Removable



Note: Please see page 61 for other available options



### DESCRIPTION

This single float level switch is suitable for the use of monitoring maximum or minimum fluid levels. The nylon glass body is strong and resistant to chemicals. Rod height can be easily cut to length for fast integration into your system.

### FEATURES

- Rapid level float switch
- User can easily customize length of rod
- Can be used in the presence of dirty liquids or ferrous particles due to lack of magnet
- Materials suitable for high temperatures

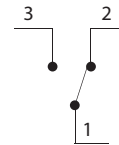
### APPLICATIONS

- Hydraulic unit
- Coolant tanks
- Storage tanks

### Specifications

Electrical	1A, 20W, 20VA, 150 VDC/VAC 0.5A, 30W, 500VDC
Switch Type	Reed Switch
Protection	DIN 43650 PG9 - IP65
Temperature Range	-4°F to 176°F (-20°C to 80°C)
Rod Material	Stainless Steel (Optional Reinforced Rod Brass)
Rod Length	20" or 39" (500 mm or 1000 mm)
Maximum Pressure	145 PSI (10 BAR)
Weight	0.55 lbs (0.25 kg)

Single Pole Double Throw Contact



### Ordering Information

#### Example

1
2
3
4  
**LF1** - **R** - **F3** - **S2** - **A500**

#### 1 - Rod Type:

- Blank** - Stainless Steel Standard Rod
- R** - Reinforced Rod (Brass material)

#### 2 - Thread Options:

- F3** - 3 Hole Flange
- T3** - 1-1/4 NPT

#### 3 - Circuit:

- S2** - SPDT (Single Pole Double Throw)

#### 4 - Control Rod Length:

- A500** - Standard rod length 20" (500 mm)
- A1000** - Standard rod length 39" (1000 mm)

Note: Rods can be cut to specific length. Please see pg 56 for cutting chart



### DESCRIPTION

This double float level switch is ideal for monitoring both maximum and minimum fluid levels. This rapid fluid level switch is suitable for use with contaminated fluid. Rod height can be easily cut to length for fast implementation into your system. It has two rods to monitor two fluid levels.

### FEATURES

- Rapid level float switch
- User can easily customize length of rod
- Can be used in the presence of dirty liquids or ferrous particles due to lack of magnet
- Materials suitable for high temperatures

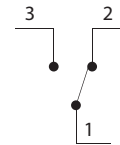
### APPLICATIONS

- Process tank
- Batch monitoring
- Storage tanks

### Specifications

Electrical	1A, 20W, 20VA, 150 VDC/VAC 0.5A, 30W, 500VDC
Switch Type	Reed Switch
Protection	Junction Box - IP65
Temperature Range	-4°F to 176°F (-20°C to 80°C)
Rod Material	Stainless Steel (Optional Reinforced Rod Brass)
Rod Length	20" or 39" (500 mm or 1000 mm)
Maximum Pressure	145 PSI (10 BAR)
Weight	0.9 lbs (0.4 kg)

Single Pole Double Throw Contact



### Ordering Information

**Example**    **LF2** - <sup>1</sup>**R** - <sup>2</sup>**F3** - <sup>3</sup>**S2-S2** - <sup>4</sup>**A500** - <sup>5</sup>**B400**

#### 1 - Rod Type:

- BLANK** - Stainless Steel Standard Rod
- R** - Reinforced Rod (Brass material)

#### 2 - Thread Options:

- F3** - 3 Hole Flange
- T3** - 1-1/4 NPT

#### 3 - Circuit:

- S2 - S2** - SPDT (Single Pole Double Throw)

#### 4 - Lower Control Rod Length:

- A500** - Standard rod length 20" (500 mm)
- A1000** - Standard rod length 39" (1000 mm)

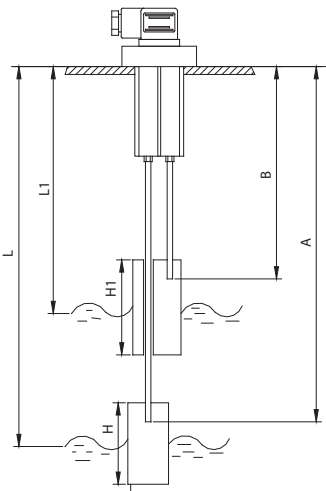
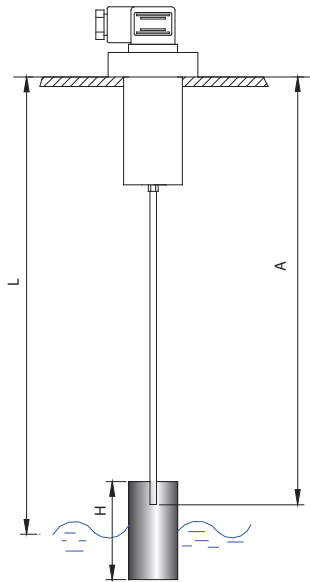
#### 5 - Upper Control Rod Length:

- B400** - Standard rod length 16" (400 mm)
- B900** - Standard rod length 35" (900 mm)



- Minimum distance between the two points to be controlled is 3.54" (90mm)

-Rods can be cut to specific length. Please see pg 54 for cutting chart



Control Value L (mm)	Rod Cutting For Min Level A (mm)	Control Value L1 (mm)	Rod Cutting for Max Level B (mm)
120	116		
140	137		
160	158		
220	221	120	131
240	242	140	152
260	263	160	173
280	284	180	194
300	305	200	215
320	326	220	236
340	347	240	257
360	368	260	278
380	389	280	299
400	410	300	320
420	431	320	341
440	452	340	362
460	473	360	383
480	494	380	404
500	515	400	425
520	511	420	421
540	532	440	442
560	553	460	463
580	574	480	484
600	595	500	505
620	616	520	526
640	637	540	547
660	658	560	568
680	679	580	589
700	700	600	610
720	721	620	631
740	742	640	652
760	763	660	673
780	784	680	694
800	805	700	715
820	826	720	736
840	847	740	757
860	868	760	778
880	889	780	799
900	910	800	820
920	931	820	841
940	952	840	862
960	973	860	883
980	994	880	904
1000	1015	900	925

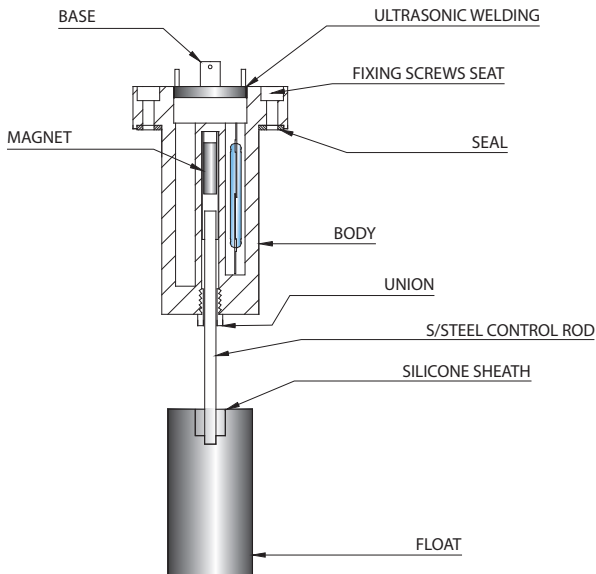
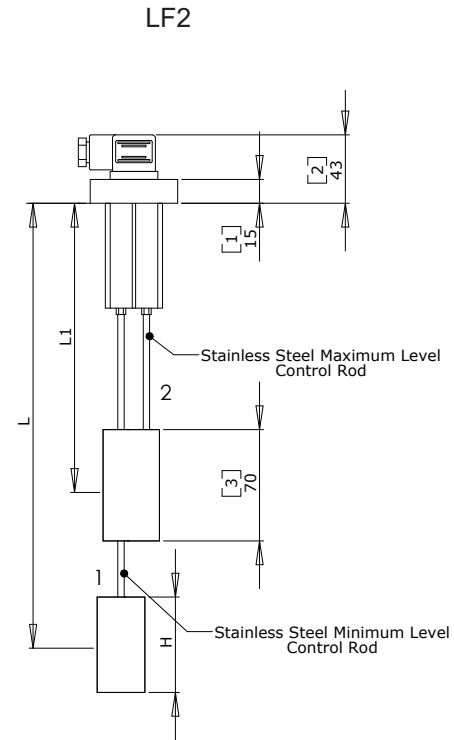
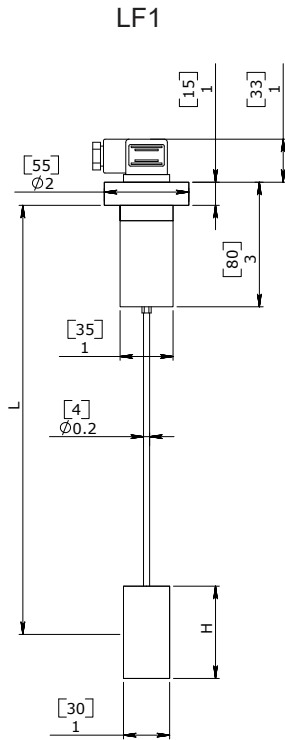
H = 60 for L = 120 to 500  
H = 90 for L = 501 to 1000  
H1 = 70 for L1 = 120 to 1000

# LEVEL SWITCH SPECIFICATION

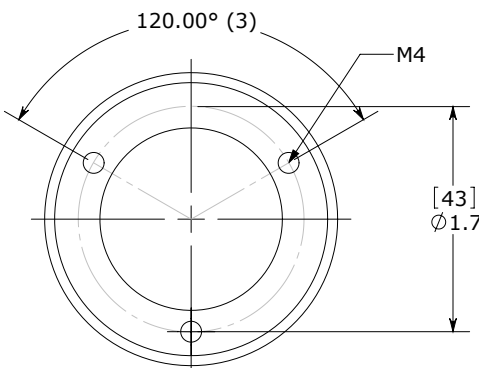


Wiring Code - LF1	
CONTACT	DIN 43650 TYPE
COMMON	PIN 1
NORMALLY CLOSED	PIN 2
NORMALLY OPEN	PIN 3

Wiring Code - LF2	
CONTACT	JUNCTION BOX
COMMON	YELLOW
NORMALLY CLOSED	BLUE
NORMALLY OPEN	WHITE



F3 Mounting Pattern:





### DESCRIPTION

The VE series is a sight gauge level switch that can be installed on the side of a reservoir. It enables an operator to visually identify the liquid level and to generate an electrical signal for low or high level fluid detection. This easy to install switch is affordable and reliable. It is available in two different lengths.

### FEATURES

- Compact size
- Easy to install
- Visual indicator

### APPLICATIONS

- Water tank
- Hydraulic units
- Level monitoring

### Specifications

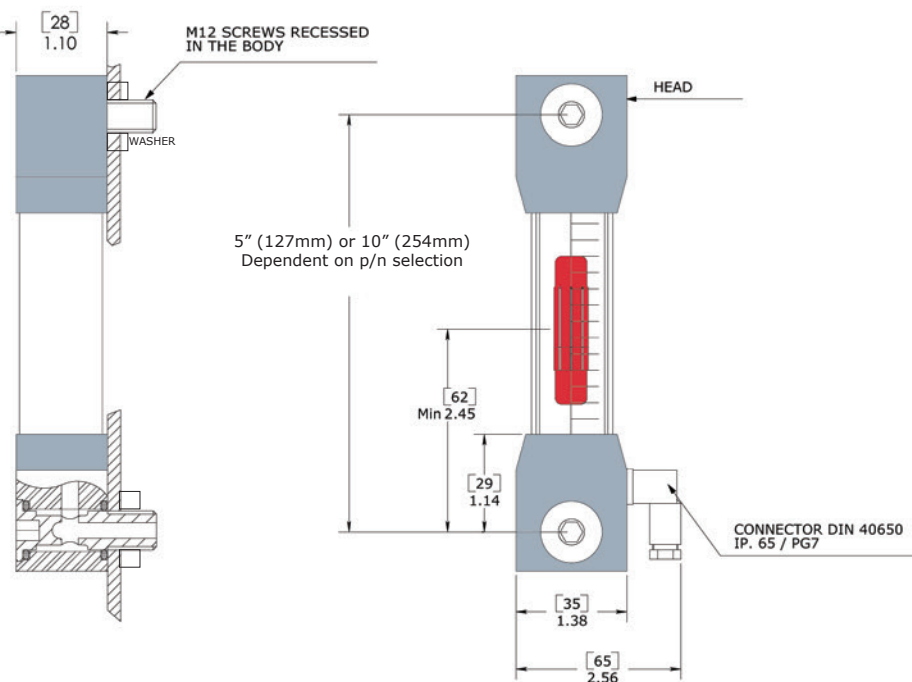
Electrical	1A, 20W, 20 VA. 150 VDC/VAC
Electrical Connection	DIN 43650 Form C, 9.4mm
Protection	IP65
Temperature Range	-4°F to 158°F (-20°C to 70°C)
Tube Material	Methacrylate Tube
Mounting Method	M12 x 1.75 Screws
Seal Material	Standard Oring: Nitrile Optional: Viton
Maximum Overpressure	72.5 PSI (5 BAR)
Weight	0.5 lbs (0.25 kg)

### Wiring Code

CONTACT	DIN 40050
COMMON	PIN 3
NORMALLY CLOSED	PIN 2
NORMALLY OPEN	PIN 1

- Reference to presence of fluid

### Dimensions



### Ordering Information

Description	5" Visual/Electrical Gauge	10" Visual/Electrical Gauge
Single Pole Double Throw	<b>VE-127-M12-SPDT</b>	<b>VE-254-M12-SPDT</b>
Single Pole Double Throw with Temperature Probe	<b>VE-127-M12-SPDT-T</b>	<b>VE-254-M12-SPDT-T</b>





## DESCRIPTION

The VEC series is a sight gauge level switch with an optional temperature detection. This enables an operator to be able to visually identify the liquid level, provide an electrical signal for low level fluid detection as well as monitor the temperature in a reservoir.

## FEATURES

- Compact size
- Easy to install
- Economical

## APPLICATIONS

- Water tank
- Hydraulic units
- Level monitoring

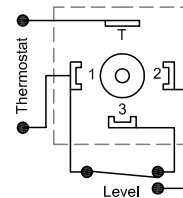
## Specifications

Electrical	1A, 20W, 20 VA, 150VDC/VAC
Electrical Connection	DIN 43650 Form C, 9.4mm
Protection	IP65
Temperature Range	-4°F to 176°F (-20°C to 80°C)
Tube Material	TR 55 LX
Mounting Method	M12 Screws
Seal Material	Standard Oring: Nitrile Optional: Viton
Maximum Pressure	72.5 PSI (5 BAR)
Weight	0.47 lbs (0.23 kg)

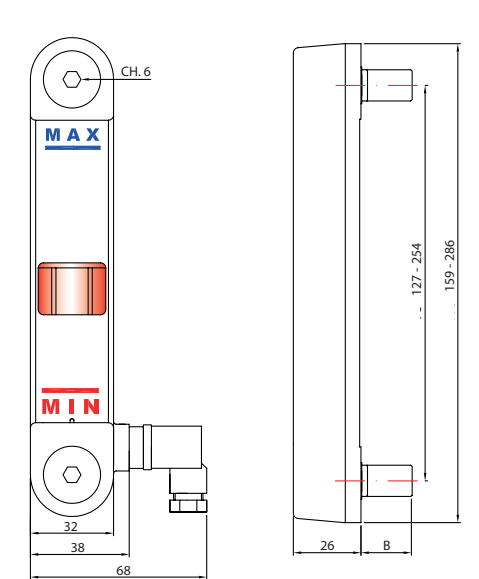
## Wiring Code

CONTACT	DIN 40050
COMMON	PIN 1
NORMALLY CLOSED	PIN 3
NORMALLY OPEN	PIN 2
THERMOSTAT	Ground

- Reference to absence of fluid



## Dimensions



## Ordering Information

### 1 - Model Series

**VEC** - With electrical output

### 2 - Body Length:

**127** - 127 mm  
**254** - 254 mm

### 3 - Screw Selection:

**M12** - M12 x 1.75 thread, nickel plated brass

### 4 - Electrical Configuration for Level (Only for VEC model):

**SPDT** - Single Pole Double Throw

### 5 - Thermostat Factory set (Optional):

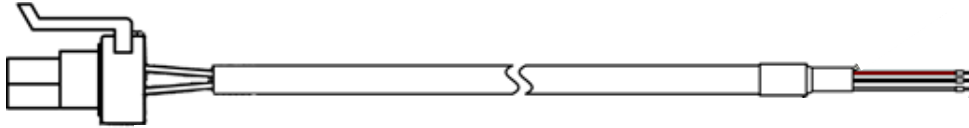
**BLANK** - No Thermostat  
**122NO** - 122°F (50°C), Normally Open  
**122NC** - 122°F (50°C), Normally Closed  
**140NO** - 140°F (60°C), Normally Open  
**140NC** - 140°F (60°C), Normally Closed  
**158NO** - 158°F (70°C), Normally Open  
**158NC** - 158°F (70°C), Normally Closed  
**176NO** - 176°F (80°C), Normally Open  
**176NC** - 176°F (80°C), Normally Closed

### 5 - Option (Omit if not required):

**1** - Viton

## Ordering Information

**Example**      1                      2                      3                      4 (Optional)  
**CFPS2** - **3** - **18FL** - **HS**



Please refer to page 61 for connector diagram.  
 Not all connectors are offered on page 61 are available as a cable version.  
 See ordering code below.

Series	Number of Pins Available	Availability
CFPS2	3	wire, cable
FLDP	2, 3, 4	wire, cable
FLDR	2, 3	wire
FLWF	2, 3	wire
FLWM	2, 3	wire
FLCM	2, 3	wire
FLCF	2, 3	wire
FLPM	2, 3	wire
FLPF	2, 3	wire

**1 - Connector Type:**

- CFPS2** - Metripack 150 P2S Series
- FLDP** - Deutsch DT Series Plug
- FLDR** - Deutsch DT Series Receptacle
- FLWF** - Weather Pack Female (Tower)
- FLWM** - Weather Pack Male (Shroud)
- FLCM** - Metripack 150 Series Male
- FLCF** - Metripack 150 Series Female
- FLPM** - Metripack 280 Series Male
- FLPF** - Metripack 280 Series Female

**2 - Number of Pins:**

- 2**
- 3** - Select Number of Pins required.
- 4** - Please see above details above for number of pins offered for the connector series.

**3 - Wire or Cable Length : (not all connector series is offered in cable; please refer to chart above)**

- 18FL** - 18" Flying Lead, 18 AWG, PVC, 600V, UL1015
- 79FL** - 79" Flying Lead, 18 AWG, PVC, 600V, UL1015
- 120FL** - 120" Flying Lead, 18 AWG, PVC, 600V, UL1015
- C39** - 39" Cable, 20 AWG, PVC, Jacketed with braid/foil shielded
- C79** - 79" Cable, 20 AWG, PVC, Jacketed with braid/foil shielded
- C118** - 118" Cable, 20 AWG, PVC, Jacketed with braid/foil shielded
- C196** - 196" Cable, 20 AWG, PVC, Jacketed with braid/foil shielded


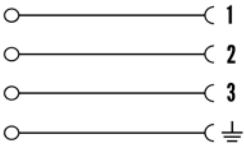

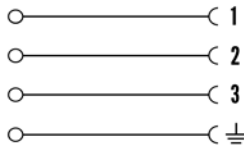

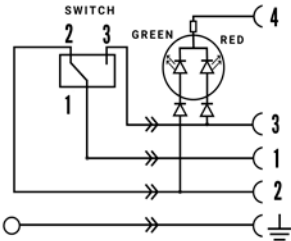

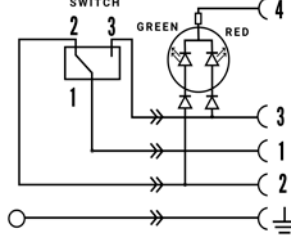

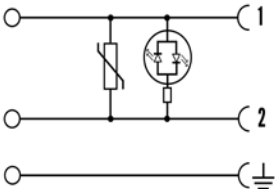

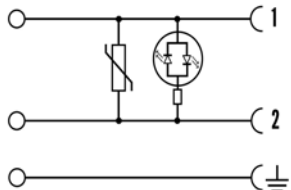

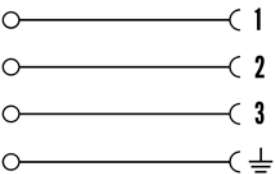


**4 - Options: (Omit if not required)**

- Blank** - No Options required
- HS** - Heat Shrink (For flying lead configuration only)
- SL** - Split Flex (For flying lead configuration only)

# ELECTRICAL CONFIGURATION



<b>FLDR</b> - Deutsch DT04-2P (Receptacle, 2 Tower) Only available for SPST	<b>FLDP</b> - Deutsch DT06-2S (Plug, 2 Tower) Only available for SPST	<b>FLDR</b> - Deutsch DT04-3P (Receptacle, 3 Tower) Only available for SPDT	<b>FLDP</b> - Deutsch DT06-3S (Plug, 3 Tower) Only available for SPDT
<b>FLWF</b> - Weather Pack (Female, 2 Tower) Only available for SPST	<b>FLWM</b> - Weather Pack (Male, 2 Shroud) Only available for SPST	<b>FLWF</b> - Weather Pack (Female, 3 Tower) Only available for SPDT	<b>FLWM</b> - Weather Pack (Male, 3 Shroud) Only available for SPDT
<b>FLCF</b> - Metripack 150 Series (Female) Only available for SPST	<b>FLCM</b> - Metripack 150 Series (Male) Only available for SPST	<b>FLCF</b> - Metripack 150 Series (Female) Only available for SPDT	<b>FLCM</b> - Metripack 150 Series (Male) Only available for SPDT
<b>FLPF</b> - Metripack 280 Series (Female) Only available for SPST	<b>FLPM</b> - Metripack 280 Series (Male) Only available for SPST	<b>FLPF</b> - Metripack 280 Series (Female) Only available for SPDT	<b>FLPM</b> - Metripack 280 Series (Male) Only available for SPDT
<b>HC</b> DIN 43650 Form A Only available for SPDT	<b>HN</b> DIN 43650 Form A 1/2" Conduit Only available for SPDT	<b>FL</b> Flying Leads	<b>SP</b> 1/4" Spade Terminals
<b>30</b> SKBA BOOT	<b>30</b> BOOT - FOR SPAL, SPFL, SPFLH, SPVL, SPVF	<b>EL</b> Male 1/2" NPT Conduit with 18" leads	

			
<p><b>G1NU3000</b> DIN 43650-A 18mm (3 Pole) Cable Grip PG9/PG11 MAX 250VAC/300VDC</p>	<p>Can be used for switches and solenoids.</p>	<p><b>C18309N21</b> Cable Grip PG9 <b>C18313N21</b> 1/2" NPTF DIN 43650-A 18mm (3 Pole) Max 250VAC/300VDC</p>	<p>Can be used for switches and solenoids. UL Recognized.</p>
			
<p><b>G1TU3Q81-BL</b> DIN 43650-A 18mm (3 Pole) Cable Grip PG9/PG11 with 2 LED's (24VDC)</p>	<p>Used for switches. LED's show status of switch contacts.</p>	<p><b>G1TU3Q82-BL</b> DIN 43650-A 18mm (3 Pole) Cable Grip PG9/PG11 With 2 LED's (125VAC)</p>	<p>Used for switches. LED's show status of switch contacts.</p>
			
<p><b>G1TU2VL1</b> DIN 43650-A 18mm (2 Pole) Cable Grip PG9/PG11 LED and Varistor (24VDC)</p>	<p>Used for solenoids. Confirms voltage supply and provides surge protection.</p>	<p><b>G1TU2VL2</b> DIN 43650-A 18mm (2 Pole) Cable Grip PG9/PG11 LED and Varistor (125VAC)</p>	<p>Used for solenoids. Confirms voltage supply and provides surge protection.</p>
			
<p><b>C1B0713A</b> DIN 43650-C 9.4mm (3 Pole) Cable Grip PG7</p>	<p>Used for switches and transducers.</p>	<p><b>M12-C196-PUR</b> M12 cable (5m) PUR Jacket</p>	<p>Used for switches and transducers.</p>

# OPTIONS - AVAILABILITY



		DESCRIPTION	SPA	SWA	SMA	SDCA	SKBA	SKDA	SPAL	SLF	SPAH	DSPA	SVA	SPVL	TC	T200 T201
THREAD	<b>2G</b>	1/8 BSPP Male	●	●	○		●	●	●	●	●		●	●		○
	<b>4G</b>	1/4 BSPP Male	●	●	●	●	●	●	●	●	●	●	●	●	○	●
	<b>4GF</b>	1/4 BSPP Female				●				●						
	<b>4GB</b>	1/4 BSPP Male, Brass										○				
	<b>2M</b>	1/8 NPT Male	●	●	●		●	●	●	●	●		●	●		●
	<b>4M</b>	1/4 NPT Male	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	<b>4MF</b>	1/4 NPT Female				●				●						
	<b>4GT</b>	1/4 BSPT	●													
	<b>6M</b>	3/8 NPT Male														
	<b>4S</b>	7/16 - 20 SAE Oring Male	●	○	●	●	●	●					●		●	●
	<b>4SLN</b>	7/16 - 20 SAE Oring Male, Adjustable			●	○										
	<b>6S</b>	9/16 - 18 SAE Oring Male	●	○	●	○	●	●					●			●
	<b>8S</b>	3/4 - 16SAE Oring Male														
	<b>M10</b>	M10 x 1.0 Male	○	○	●		●	●					○			○
<b>M12</b>	M12 x 1.5 Male	○	○	●		●	●					○			○	
ELECTRICAL	<b>H</b>	DIN 43650A male half	●		●							●	●			
	<b>HC</b>	DIN 43650A	●		●							●	●			
	<b>HC-5A</b>	DIN 43650A 12 VDC	●		●							●	●			
	<b>HC-5B</b>	DIN 43650A 24 VDC	●		●							●	●			
	<b>HC-5C</b>	DIN 43650A 110 / 230 VAC	●		●							●	●			
	<b>HR</b>	90 Degree DIN 43650A male	●	●	●	●							●			
	<b>HCR</b>	90 Degree DIN 43650A	●	●	●	●							●			
	<b>HN</b>	DIN 43650A 1/2" Conduit	●		●							●	●			
	<b>HNR</b>	90 Degree DIN 43650A 1/2" Conduit	●	●	●	●							●			
	<b>FL</b>	Flying Lead, 18 AWG	●	●	●		●		●	●			●	●		
	<b>FLWF</b>	Flying Lead Weatherpack Tower	●	●	●		●		●	●			●	●		
	<b>FLWM</b>	Flying Lead Weatherpack Shroud	●	●	●		●		●	●			●	●		
	<b>FLDP</b>	Flying Lead Deutsch plug	●	●	●		●		●	●			●	●		
	<b>FLCM</b>	Flying Lead Metripack male 150 series	●	●	●		●		●	●			●	●		
	<b>FLCF</b>	Flying Lead Metripack female 150 series	●	●	●		●		●	●			●	●		
	<b>FLPM</b>	Flying Lead Metripack male 280 series	●	●	●		●		●	●			●	●		
	<b>FLPF</b>	Flying Lead Metripack female 280 series	●	●	●		●		●	●			●	●		
<b>SP</b>	1/4" Spades	●	●	●		●		●	●	●		●	●			
<b>TS</b>	Terminal Screw							●					●			
MISCELLANEOUS OPTIONS	<b>1</b>	VITON Seal	●	●	●	●	●	●				●	●			●
	<b>2</b>	EPDM Seal	●	●	●	●	●	●	○			●	●			●
	<b>3</b>	Stainless Steel	●	○	●	○	○	○				○	●			
	<b>4</b>	HNBR	●	●	●	●	●	●				●	●			●
	<b>6</b>	Lead Free Brass	●	●									●			
	<b>7</b>	Gold Contact Microswitch	●	●	●	●	●	●				●	●			
	<b>8</b>	10A Microswitch	●	●	●	●						●	●			
	<b>20</b>	Seal Adjustment Screw	●	●	●	●	●	●	●			●	●			
	<b>30</b>	Rubber Boot					●		●							
	<b>35</b>	Bonded Seal (Available for M10, M12, 1/8 BSPP, 1/4 BSPP threads only)	●	●	●	●	●	●	●	●		●	●			●
	<b>OC</b>	Oxygen Cleaned Switches	○	○	○	○	○	○					○			○
	<b>SR</b>	Snubber	●	●	●	●	●	●					●			●
	<b>SL</b>	Split Flex Loom	●	●	●		●		●	●			●	●		
	<b>HS</b>	Heat Shrink	●	●	●		●		●	●			●	●		
<b>WS</b>	Weather Shielding IP67 Rating	●	●	●								●				

● - Standard  
○ - May require minimum quantity

Media	Nitrile	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		•	
Chlorobenzene			•
Citric Acid	•		
Coke Oven Gas			•
Coolanol	•		
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	•		
Gasoline	•		
Glycerin	•		
Helium	•		
Hexane	•		

Media	Nitrile	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	•		
Oleum Spirits			•
Oxygen			•
Ozone		•	
Crude Oil	•		
Phosphoric Acid			•
Propane	•		
Propanol	•		
Pydral (135, 150, A200)			
Shell Iris 902	•		
Silicone Greases	•		
Silicone Oils	•		
Skydrol 500 & 7000		•	
Soap Solutions	•		
Steam below 320°F		•	
Stoddard Solvent	•		
Sulfuric Acid			•
Toluene			•
Transmission Fluid A	•		
Trisodium Phosphate	•	•	
Turpentine	•		
Water to 220°F (104°C)		•	
Water to 302°F (150°C)		•	

### Recommended Temperature Range

Nitrile: -20°F to 180°F (-29°C to 82°C)  
 HNBR: -20°F to 248°F (-29°C to 120°C)

EPDM: -20°F to 248°F (-29°C to 120°C)  
 Viton: 23°F to 248°F (-5°C to 120°C)

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 Point 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 of the point at which the electrical circuit is closed (or opened) on decreasing pressure or temperature.
Adjustable Range	It is the range within which a switch can be set from lowest to highest set point.
Bimetal Temperature Switch	A temperature sensing device that contains a bimetallic strip. It has a specified temperature set point for which the switch will open or close the circuitry.
Blade Contact	A pressure switch that is not operated by a microswitch, but rather the circuitry is opened or closed through a piece of metal that bridges the two terminals.
Dead Band Differential	Sometimes referred to as "hysteresis", is the change in pressure between the actuation and deactuation set points.
Diaphragm	The membrane of flexible material (Buna, EPDM, Viton®), which is deflected by input pressure.
Field Adjustable	A sensor which has been designed to permit adjustment or calibration of set points in field applications.
Fluid	In engineering terms, a liquid or gas which tends to conform to the shape of its container, and which alters its shape in response to applied force.
Gauge Pressure	A form of differential pressure measurement which uses atmospheric pressure (14.7psia) as the zero reference.
Gold Contacts	Gold switching elements provide high corrosion resistance and high reliability when switching low voltage circuits.
Impedance	In a circuit, the opposition to flow of alternating current, consisting of ohmic resistance, inductive reactance, and capacitive reactance.
Inductive Load	Load from electrical devices which are made of wound or coiled wire. Current passing through the windings creates a magnetic field which produces mechanical work. When an inductive circuit is switched open, energy stored in the coil can reverse flow, sparking at the switch contact surfaces.
Maximum System Pressure	Rated pressure above the normal system pressure, including surges or spikes.
Normally Closed Switching Element	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	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 Range	Minimum and maximum pressure for which a sensor has been calibrated or specified.
Pressure, Proof	Proof Pressure (normally 1-1/2 times system pressure) is the maximum static pressure which can be applied to any switch without causing permanent degradation.
Pressure Sensing Element	That portion of the pressure switch that is in contact with and moves as a result of a change in pressure of the fluid. The most common type of pressure sensing elements are diaphragms, bellows, bourdon tubes, and pistons.
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).
Reed Switch	Is an electrical switch operated by an applied magnetic field. It consists of a pair of contacts, either normally open or normally closed, in a hermetically sealed glass tube.
Resistive Load	Load from devices which use electrical resistance to produce heat or light. Resistive loads cause current to flow in only one direction through a circuit.
Set Point	The point at which motion of the pressure or vacuum or temperature sensing element causes the switch to function.
Single Pole Double Throw (SPDT)	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) or both.
Snap-Action Switch	A mechanically operated electric switch which, once its actuator has reached its operating (or release) point, immediately transfers to its opposite position without further travel of the actuator.
Temperature Range	The ambient temperature range through which a product can operate



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