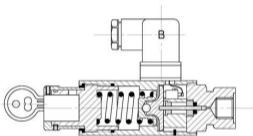


# Pressure Switches

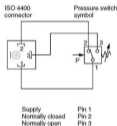
## S\*307 Series

### Sectional Arrangement

ST307-V2-AS-H2 example



### Functional Symbol



### General Description

A range of piston-operated pressure switches for general applications where an electrical signal is needed to indicate a given pressure condition in a hydraulic circuit.

The microswitch is actuated by the operating plate of an adjustable loading spring. The spring load holds the operating plate against the switch until applied hydraulic pressure on a small piston forces the operating plate away from the switch to change over the switch contacts. The switch will reset when the hydraulic pressure falls by a small differential.

Switches in three pressure adjustment ranges are available for panel or base mounting with  $G\frac{1}{4}''$  (BSPP) or SAE/UNF port connection, or for subplate mounting. Adjustment options are screwdriver or handknob (both with locking screw) or handknob with keylock. Pressure switches are supplied complete with an ISO 4400 (DIN 43650) type connector plug.

Separate stacking adaptor blocks to ISO 4401 size (G) are available to allow pressure switches to be installed into compact stack assemblies using Vickers SystemStak™ valves (see catalog 2027).

### Features and Benefits

- Switching accuracy less than 1% of pressure setting
- Low hysteresis
- Suitable for AC or DC current
- Galvanic gold-plated silver switch contacts for long life
- Small, easy to install
- Electrical protection to IEC 144 class IP65
- Select requirements from:
  - 3 pressure ranges
  - 3 adjustment types
  - 3 mounting styles
- Locking screw and keylock options

## Model Code

### For Pressure Switches

**S\* 307(-\*\*\*)-(\*\*-\*\*-\*\*-)\*\*-\*\*\*(-\*)**



#### 1 Hydraulic system connection

T = Threaded pipe connection  
G = O-seal for subplate connection

#### 2 Mounting

Blank = Two tapped holes for base mounting (type T only)  
SCH = Panel mounting  
F = Subplate mounting

#### 3 Type of adjustment

Blank = Screwdriver slot with locking set screw  
V2 = Knurled handknob with locking set screw  
V2-AS-H2 = Knurled handknob with keylock

#### 4 Pressure adjustment range

55 = 5 to 55 bar (73 to 797 psi)  
150 = 20 to 150 bar (290 to 2175 psi)  
350 = 20 to 350 bar (290 to 5075 psi)

#### 5 Thread combinations: port/mounting bolt tappings

B = G<sup>1</sup>/<sub>4</sub>" (BSPF) port and/or metric mountings  
ST307 models only:  
S = SAE 6 port and/or UNC mountings

### For Stacking Adaptor Blocks

**DGMP-3 - \* - \* -1 \***



#### 1 Valve/subplate mounting interface

3 = ISO 4401 size O3  
(ANSI B93.7M, size D03)

#### 2 Port connection to pressure switch

P = Port P (at A end of block)  
A = Port A (at A end of block)  
B = Port B (at B end of block)

#### 3 Pressure switch mounting bolt tappings

B = Metric  
S = UNC

#### 4 Design number, 10 series

Subject to change. Installation dimensions unchanged for design numbers 10 to 19 inclusive.

## Operating Data

### Pressure Switches

Maximum pressure, all models	350 bar (5075 psi)
Pressure adjustment ranges	See model code position <a href="#">4</a>
<b>Electrical data</b>	
Current capacity	See "Switching Capacity" below
Switching connections	See "Functional Symbol" page 1
Connector plug (supplied)	Female receptacle to ISO 4400 (DIN 43650)
Protection (general)	IEC 144 class IP65
<b>Microswitch details</b>	
Type	Electromechanical, double-throw
Travel	0,5 mm (0.020")
Contacts	Refined silver, galvanic gold-plated
Protection	IEC 144 class IP67; dustproof to DIN 40050
Switching repeatability	<1%
Hydraulic fluids	Antiwear hydraulic oil or water-in-oil emulsions
Fluid temperatures	-50°C to +100°C (-58°F to +212°F)
Main housing materials	Aluminium and brass
Mass	0,62 kg (1.4 lb)

### Stacking Adaptor Blocks

Mass	1 kg (2.2 lb)
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### Switching Capacity

#### AC current

Voltage	Resistive load (A)	Bulb load, metallic filament (A)		Inductive load (A)
110 to 125	3	0.5		3
220 to 250	3	0.5		3

#### DC current

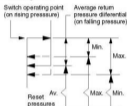
Voltage	Resistive load (A)	Bulb load, metallic filament (A)		Inductive load (A)
		NC▲	NO▲	
Up to 15	3.0	3.0	1.5	3.0
>15 to 30	3.0	3.0	1.5	3.0
>30 to 50	1.0	0.7	0.7	1.0
>50 to 75	0.75	0.5	0.5	0.25
>75 to 125	0.5	0.4	0.4	0.05
>125 to 250	0.25	0.2	0.2	0.00

▲ At normally closed (NC) and normally open (NO) contacts respectively.

### Hysteresis Diagrams

The pressure differential between switching point (on rising pressure) and switch reset point (on falling pressure) varies according to the switching point set pressure.

#### Switching Points



#### Example 1 ("bar" units of pressure)

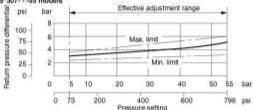
Model S\*307--150 set at 140 bar  
 Max. reset pressure ..... 134 bar  
 Average reset pressure ..... 132 bar  
 Min. reset pressure ..... 130 bar  
 At this level the return pressure differential may vary between 6 and 10 bar, the average being 8 bar.

#### Example 2 ("psi" units of pressure)

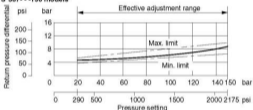
Model S\*307--150 set at 2000 psi  
 Max. reset pressure ..... 1910 psi  
 Average reset pressure ..... 1880 psi  
 Min. reset pressure ..... 1860 psi  
 At this level the return pressure differential may vary between approximately 90 and 140 psi, the average being 120 psi.

Average values ———  
 Max./Min. limits - - - - -

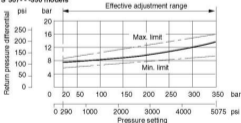
#### S\*307--65 models



#### S\*307--150 models



#### S\*307--350 models



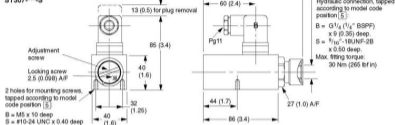
## Installation Dimensions mm (inches)

### Base Mounted Models, Blank at Model Code Position [2]

With screwdriver adjustment and locking screw

ST307-\*\*\*-B

ST307-\*\*\*-S

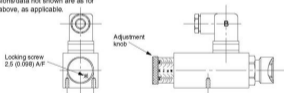


With knurled handknob adjuster and locking screw

ST307-V2-\*\*\*-B

ST307-V2-\*\*\*-S

Dimensions/data not shown are as for model above, as applicable.

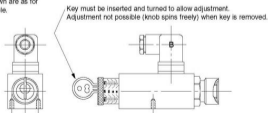


With knurled handknob adjuster and keylock

ST307-V2-AS-H2-\*\*\*-B

ST307-V2-AS-H2-\*\*\*-S

Dimensions/data not shown are as for model above, as applicable.



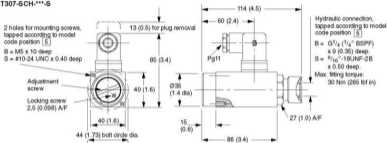
**Models for Panel Mounting, "SCH" at Model Code Position 2**



With screwdriver adjustment and locking screw

**ST307-SCH-\*\*\*-B**

**ST307-SCH-\*\*\*-S**

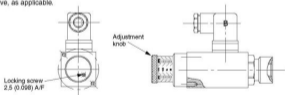


With knurled handknob adjuster and locking screw

**ST307-SCH-V2-\*\*\*-B**

**ST307-SCH-V2-\*\*\*-S**

Dimensions/data not shown are as for model above, as applicable.

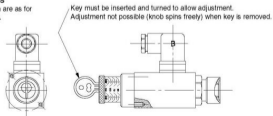


With knurled handknob adjuster and keylock

**ST307-SCH-V2-AS-H2-\*\*\*-B**

**ST307-SCH-V2-AS-H2-\*\*\*-S**

Dimensions/data not shown are as for model above, as applicable.



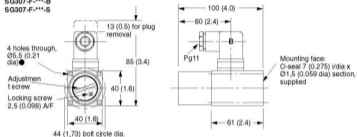
**Subplate Mounted Models, "F" at Model Code Position 2**



With screwdriver adjustment and locking screw

**SG307-F-\*\*\*-B**

**SG307-F-\*\*\*-S**



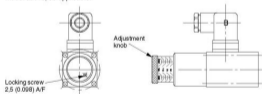
● Only two mounting bolts required, see Mounting Surface, this page.

With knurled handknob adjuster and locking screw

**SG307-F-V2-\*\*\*-B**

**SG307-F-V2-\*\*\*-S**

Dimensions/data not shown are as for model above, as applicable.

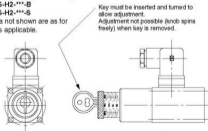


With knurled handknob adjuster and keylock

**SG307-F-V2-AS-H2-\*\*\*-B**

**SG307-F-V2-AS-H2-\*\*\*-S**

Dimensions/data not shown are as for model above, as applicable.

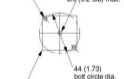


**Mounting Surface for Model Types SG307-F**

Valve can be positioned in 90° steps around axis, and dependent on space for electrical connector.

2 holes tapped M5 or #10-24UNC, or equivalent (user's option)

Port connection to pressure switch, Ø5 (0.2 dia) max.



Flat surface, 40 x 40 (1.6 x 1.6), clean and free from burrs.

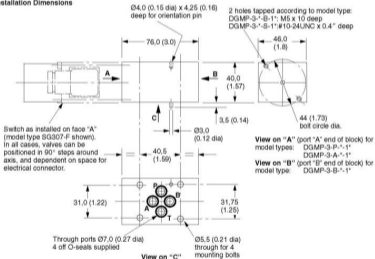
### Stacking Adaptor Blocks

Allows type SG307 switches to be incorporated into Vickers SystemStak assemblies.

### Functional Symbols



### Installation Dimensions



### Ordering Procedure

Specify full model code for pressure switches and for stacking adaptor blocks.

### Spare Parts

No spare parts are available for products shown in this catalog.