Introduction

These are the items which are used in most general purpose applications. These switches cannot be configured and are generally intended for stock and sell.

As such, many of them are picked from all the above categories, and can be ordered by part numbers. These will generally have minimum order quantities, and would be available off the shelf.

APPLICATIONS

- Power Generation
- Burners and Furnaces
- Glass and Metal Industries
- Chemical Industries
- Steel Industry
- Hydraulic, Steam and GasTurbines
- Boilers & Compressors
- Machine tools
- Water treatment
- Sugar and Paper Mills
- Fire protection
- Surgical gas, Breweries, Milk industries
- Tyre Industry

PRODUCT SPECIFICATIONS:

- Storage temperature : Atmospheric temperature
- Operating ambient temperature : - 20° C to + 60° C
- Media temperature : for rubber diaphragms 80° C max
- Can be offered for higher temperatures with other capsule combinations
- Setpoint repeatability : ± 1 % of FSR
- Enclosure : IP rating varies as per model selected
- Switch output : SPDT
- Process connection : ¼ “BSP standard,
- Approximate weight : 1 kg

FEATURES

- Low cost
- Easily available
- Reliable accurate microswitches for long life switching
- Customized arrangements for switching values on request
- Easy safe wiring options
- Accuracy +/- 1 % FSR
- Warranty : 2 years

*Accuracy changes with switch configuration

OEM SWITCHES

SPECIFIER'S GUIDE FOR

PRESSURE SWITCHES

PRESSURE DIFFERENCE SWITCHES

Orion® INSTRUMENTS

Using the section

This section on “How to use this catalogue “ helps you make a logical choice in selecting the best product for a particular application. It allows a user familiar with our product line to locate the exact page the product is listed on. For those not familiar with our products, a logical sequence is given to help the user pick the best product for their need.

By taking a few minutes to familiarise yourself with the catalogue organization, you will find it very easy to locate the product / information you need.

1. The contents page lists the broad outline in which the catalogue is organized, and will help the user familiar with products to select the page on which the product or other useful information is listed.
2. Need Product Selection help ?

   Product selection help will start with the “Pictorial Index” on Page 251, where the products are broadly classified. A brief description of each product group , a typical photo of the product within the group and the page number on which it is listed are given.

   If the user is not familiar with the products, a product selection guide is provided on pages 254 through 260, where photos for each product and important specifications are given to help determine and select the best product for the application.

   By evaluating and comparing these parameters, a logical selection can be made. Turn to the page on which the product information for the selected product is listed, for :

   - Capsule Construction details
   - Physical sizes
   - Special features
   - Ranges, hysterisis, electrical ratings etc.
   - Ordering information

   The organisation of each of these pages is demonstrated on pages 252 and 253, of this section “How to use this section”.

   In many cases, more than one product may work. For the most cost effective solution, compare prices and consider alternatives. Remember, the end cost includes initial product price, plus the installation, plus the service.

3. Need the terminology explained? (see page 304)

   Turn to page 304 for the definitions and terminology. This will help you familiarize with the terms used throughout the catalogue.

4. Need information on Accessories? (see page 296)

   Turn to page 296 for information on important accessories. These will give information on only important accessories, and information needed, when these are to be supplied with our products.

5. Need selection guidance? (see page 305)

   A logical procedure on page 305 will help you to consider most of the important factors when selecting a pressure switch.

6. Need other products ? (see page 306)

   Products other than those listed in this catalogue are referenced on these pages. Separate catalogues for these products are available.

OEM Switches Pictorial Index

KU

VACUUM

Page No. 262

Page No. 264

SE

SUBMINIATURE

Page No. 266

SUBMINIATURE (DIN CONNECTOR)

Page No. 267

SUBMINIATURE TEMPERATURE

Page No. 268

SUBMINIATURE (PISTON TYPE)

Page No. 269

PISTON SWITCH (DIN CONNECTOR)

Page No. 270

MZ/MX

MZ_ _A
MX_ _A

Page No. 272

Page No. 274

SA

HYDRAULIC

Page No. 276

HIGH RANGE

Page No. 278

SM

Page No. 280

EZ/EX

Page No. 282

CF

Page No. 284

CK

Page No. 286

CS12

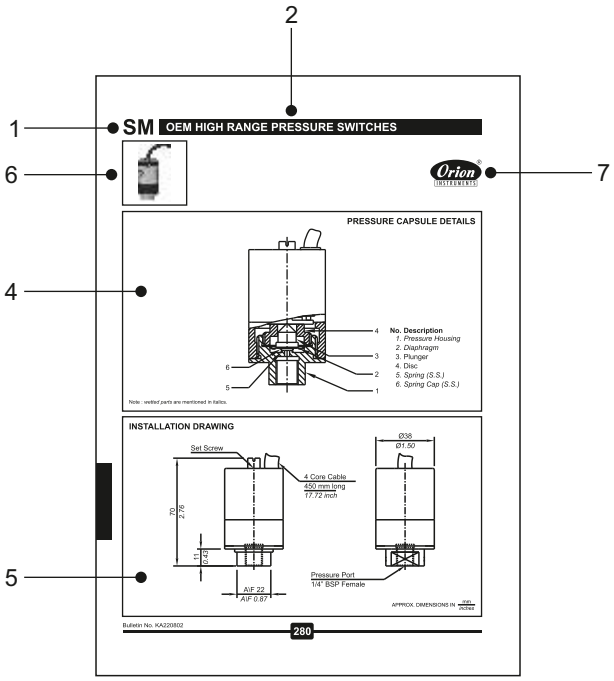
Page No. 288

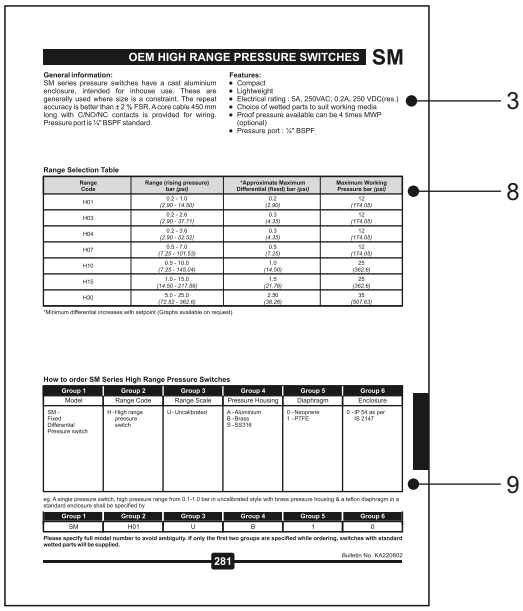
HOW TO USE this section

Due to the variety in product types and their salient features, catalogue page formats may vary. But generally the following formats are adhered to.

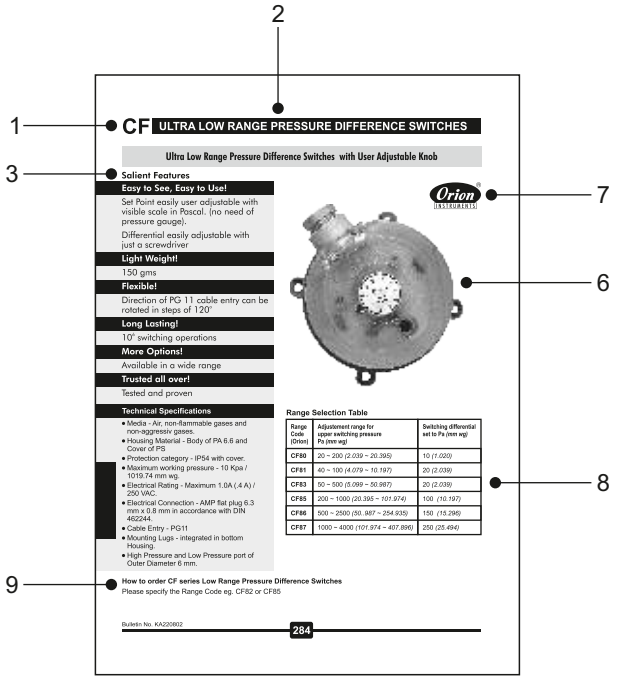
Elements appearing on each page will be:

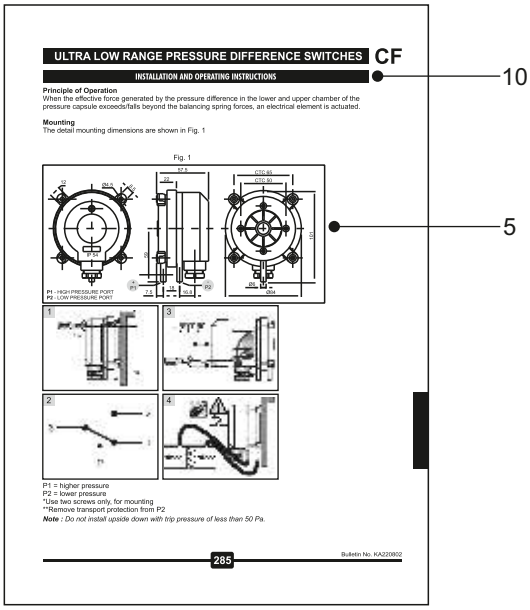
1. **Product family / series** - A product family / series will appear on the outside page corner, depending on the left / right hand page, and will be in large bold type.
2. **Product section** - will appear immediately following the product family / series at top of the page and will be in bold type.
3. **Features** - will appear next to product description & will enlist only the major attributes.
4. **Pressure capsule details** - will show the construction of the pressure capsule and all it's internal parts. If the process / working medium is variable, the wetted parts will be mentioned in italics. If the wetted parts are unique, the material of construction (MOC) will be mentioned alongside in brackets. Where the material of construction is not specified, it will vary and the options are to be selected by the user considering the compatibility of the process / working medium. Modifications can be made to suit any particular medium, if the answer for your needs is not in the standard MOC listed. Products for which process / working medium is predefined, pressure capsule details are not provided (e.g as in case of comparison test pump). Pressure capsule details of accessories are not given.
5. **Installation drawing** - will show the typical installation dimensions of products as they exist in their standard forms. The dimensions are mentioned in millimetres and also in inches to facilitate the user. The dimensions of accessories will have to be added to these to arrive at any particular general arrangement (GA) drawings. The dimensions are approximate and for precise dimensions, where mounting space is restricted, the user may contact the nearest sales office. Installation drawings of only fast moving accessories are given.





6. **Photos** - will appear on the relevant top of the page for products. If there are mounting variations / styles, all the styles for standard products will appear for easy identification. Options, if included in the photograph, are for demonstration only, and are not a part of the standard equipment. For accessories, the photos are not given due to the sheer variety and range available.
7. **Logo** - will appear on right hand top of page to identify the manufacturer.
8. **Characteristics** - Range tables and their relevant data, e.g the range covered, the differentials and maximum working pressures will generally appear on the right hand page. Additional technical details will also be mentioned, wherever required, on the right hand side of the page.
9. **Ordering guide** - A guide as to how to order the particular series' variations will appear on right hand bottom of the page. Only the variations available within a particular product family / series will appear here. Any additional accessories or modifications required for the product need to be mentioned in text by the user.
10. **Installation and Operating Instructions** - will appear on the right hand page. This provides instructions for installation and operation of that switch.
11. Numerous combinations are possible when pressure switches are provided with accessories like chemical seals, snubbers, remote seals, pipe mounting brackets, combination of switches mounted in a panel etc. Users are requested to provide the details of accessories required in text / drawings, as separate identification codes are provided for pressure switches fitted and supplied with accessories.





Product Selection Guide

Page No. 262

Page No. 264

Page No. 266

	Model	KU	KU	SE
	Switch type	OEM (High Pr.)	Vacuum	Subminiature type
	Differential type	Adjustable	Fixed	Fixed
	Repeatability (% FSR)	± 1.5		
	Range covered	0.5 bar to 32 bar	760 mmHg to 100 mmHg	0.2 bar to 25 bar
	Enclosure Protection	IP 40		IP 54
	Enclosure Standard Optional	Powder Coated		Body of aluminium and cover of PS
WETTED PARTS	sensing element Standard Optional	Diaphragm PTFE	Diaphragm SS316	Nitrile rubber
WETTED PARTS	Pressure housing Standard Optional	SS316, PTFE	SS316	Industrial Plastic SS
WETTED PARTS	Other Wetted Parts	SS316, PTFE	Various	PTFE, SS316
WETTED PARTS	Optional wetted parts through chem. seal			
	Temp. of working medium	80°C maximum. For higher temperature, please use impulse tubing/chemical seals.		
	Switching element	SPDT Snap action switch A8 : General purpose rated at 5A, 250 VAC, 0.2 A, 250 VDC resistive. For other switching elements please contact sales office	5 A, 250 VAC : 0.2 A, 250 VDC	SPDT Snap action switch A8 : General purpose rated at 5A, 250 VAC, 0.2 A, 250 VDC resistive. For other switching elements please contact sales office

Accessories can be supplied with most of the switches. Please consult sales office.

Page No. 267

Page No. 268

Page No. 269

SE	SE	SE	Model
DIN Connector type	Sub-miniature Temperature	Piston	Switch type
Fixed			Differential type
Various			Repeatability (% FSR)
0.2 bar to 25 bar	25°C to 90°C	5 bar to 200 bar	Range covered
IP 65 with cap			Enclosure Protection
Aluminium	Body of Aluminium and cover of PS		Enclosure Standard Optional
Various	Diaphragm nylon reinforced neoprene diaphragm PTFE	Piston SS	sensing element Standard Optional
PTFE, SS316		SS	Pressure housing Standard Optional
MS, Brass, Neoprene, PTFE, SS316L	Brass, SS, PTFE, Neoprene	SS316L, CS, Viton	Other Wetted Parts
			Optional wetted parts through chem. seal
80°C maximum. For higher temperature, please use impulse tubing/chemical seals.			Temp. of working medium
SPDT Snap action switch A8 : General purpose rated at 5A, 250 VAC, 0.2 A, 250 VDC resistive. For other switching elements please contact sales office			Switching element

WETTED PARTS

Accessories can be supplied with most of the switches. Please consult sales office.

Product Selection Guide

Page No. 270

Page No. 272

Page No. 272

	Model	SE	MZ	MX
	Switch type	Piston DIN Connector type	OEM (High Pr.)	OEM (High Pr.)
	Differential type	Fixed	Fixed	Adjustable
	Repeatability (% FSR)	Various	Various	
	Range covered	5 bar to 200 bar	0.1 bar to 25 bar	
	Enclosure Protection		IP 66	
	Enclosure Standard Optional	Body of Aluminium and cover of PS	Tough transparent polycarbonate	
WETTED PARTS	sensing element Standard Optional	Piston SS	Various	
WETTED PARTS	Pressure housing Standard Optional	SS	SS 316	
WETTED PARTS	Other Wetted Parts	SS316L, CS, Viton	PTFE, SS 316	
WETTED PARTS	Optional wetted parts through chem. seal			
	Temp. of working medium	80°C maximum. For higher temperature, please use impulse tubing/chemical seals.		
	Switching element	SPDT Snap action switch A8 : General purpose rated at 5A, 250 VAC, 0.2 A, 250 VDC resistive. For other switching elements please contact sales office		5 A, 250 VAC : 0.2 A, 250 VAC

Accessories can be supplied with most of the switches. Please consult sales office.

Page No. 274

Page No. 274

Page No. 276

MZ_ _A	MX_ _A	SA	Model
OEM (High Pr.)	OEM (High Pr.)	OEM Hydraulic	Switch type
Fixed	Adjustable	Fixed	Differential type
Various		± 2	Repeatability (% FSR)
1.5 psi to 350 psi		3 bar to 400 bar	Range covered
IP 66		IP 54	Enclosure Protection
Tough transparent polycarbonate		Aluminium	Enclosure Standard Optional
Various		Piston SS	sensing element Standard Optional
SS 316		SS	Pressure housing Standard Optional
PTFE, SS 316			Other Wetted Parts
			Optional wetted parts through chem. seal
80°C maximum. For higher temperature, please use impulse tubing/chemical seals.			Temp. of working medium
SPDT Snap action switch A8 : General purpose rated at 5A, 250 VAC, 0.2 A, 250 VDC resistive. For other switching elements please contact sales office			Switching element

WETTED PARTS

Accessories can be supplied with most of the switches. Please consult sales office.

Product Selection Guide

Page No. 278

Page No. 280

Page No. 282

	Model	SA	SM	EZ
	Switch type	OEM (High Pr.)	OEM (High Pr.)	OEM (High Pr.)
	Differential type	Fixed		Fixed
	Repeatability (% FSR)	± 2		± 1.5
	Range covered	0.2 bar to 25 bar		0.2 bar to 25 bar
	Enclosure Protection			
	Enclosure Standard Optional	Cast aluminium to IP 54 as per IS 2147		Pressed steel enclosures IP 40 as per IS 2147
WETTED PARTS	sensing element Standard Optional	Diaphragm	PTFE	Diaphragm PTFE
WETTED PARTS	Pressure housing Standard Optional	Aluminium Brass/SS316		SS316
WETTED PARTS	Other Wetted Parts			
WETTED PARTS	Optional wetted parts through chem. seal			
	Temp. of working medium	80°C maximum. For higher temperature, please use impulse tubing/chemical seals.		
	Switching element	SPDT Snap action switch A8 : General purpose rated at 5A, 250 VAC, 0.2 A, 250 VDC resistive. For other switching elements please contact sales office	Maximum 1.0 A (.4A) / 250 VAC	Max. 5 A / 250 VAC

Accessories can be supplied with most of the switches. Please consult sales office.

Page No. 282

Page No. 284

Page No. 286

EX	CF	CK	Model
OEM (High Pr.)	OEM (Ultra-low Range)	Ultra-low Range PD	Switch type
Adjustable	Adjustable	Adjustable	Differential type
± 1.5			Repeatability (% FSR)
0.5 bar to 25 bar	20 Pa to 4000 Pa	200 Pa to 4000 Pa	Range covered
	IP 54	IP 54 with cover	Enclosure Protection
Pressed steel enclosures IP 40 as per IS 2147	Body of PA 6.6 and Cover of PS	Body of glass filled nylon & Cover of Polycarbonate	Enclosure Standard Optional
Diaphragm PTFE	Diaphragm	Silicon	sensing element Standard Optional
SS316	Industrial Plastic	Industrial Plastic	Pressure housing Standard Optional
			Other Wetted Parts
			Optional wetted parts through chem. seal
80°C maximum. For higher temperature, please use impulse tubing/chemical seals.			Temp. of working medium
16 Amp, 500 VAC			Switching element

WETTED PARTS

Accessories can be supplied with most of the switches. Please consult sales office.

Product Selection Guide

Page No. 288

	Model	CS12		
	Switch type	OEM		
	Differential type	Adjustable		
	Repeatability (% FSR)			
	Range covered	2 bar to 12 bar		
	Enclosure Protection	IP44		
	Enclosure Standard Optional	Non-metallic cover		
WETTED PARTS	sensing element Standard Optional	Nitrile rubber		
WETTED PARTS	Pressure housing Standard Optional	Mild Steel		
WETTED PARTS	Other Wetted Parts			
WETTED PARTS	Optional wetted parts through chem. seal			
	Temp. of working medium	80°C maximum. For higher temperature, please use impulse tubing/chemical seals.		
	Switching element	SPDT Snap action switch A8 : General purpose rated at 5A, 250 VAC, 0.2 A, 250 VDC resistive. For other switching elements please contact sales office	Maximum 1.0 A (.4A) / 250 VAC	Max. 5 A / 250 VAC

Accessories can be supplied with most of the switches. Please consult sales office.

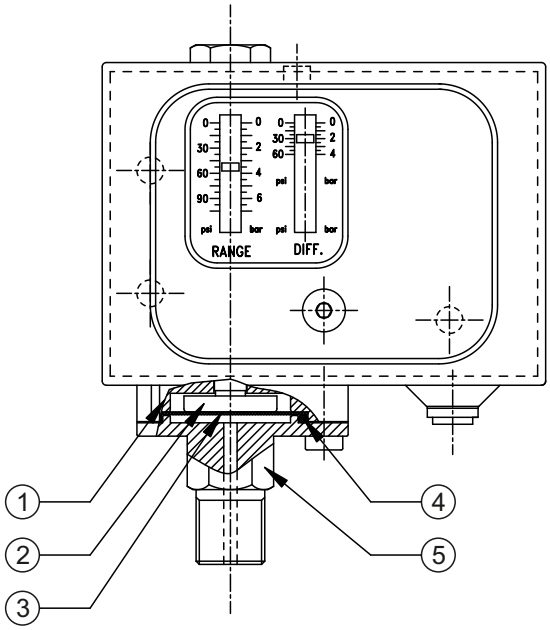
Subminiature Switches

Pressure Ranges from 0.1 bar to 25 bar

Please refer page no. 266 for Subminiature Switch details

KU OEM HIGH RANGE PRESSURE SWITCHES

PRESSURE CAPSULE DETAILS

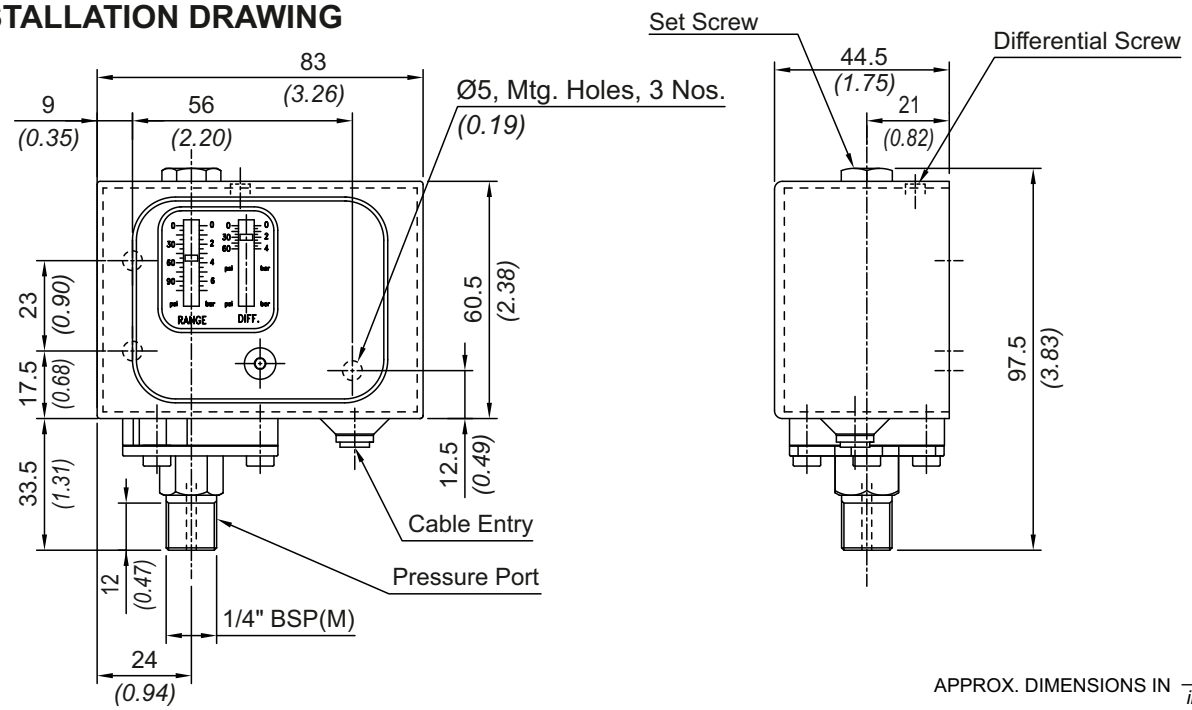


No. Description

1. Disc
2. Plunger
3. *Diaphragm (PTFE®)*
4. *'O' ring (PTFE®)*
5. *Pressure Housing (SS316)*

Note : *wetted parts* are mentioned in italics.

INSTALLATION DRAWING



APPROX. DIMENSIONS IN mm / *inches*

OEM HIGH RANGE PRESSURE SWITCHES KU

General information:
KU series pressure switches are housed in pressed steel powder coated enclosure and are recommended for panel mounting or indoor service. The repeat accuracy is better than +/-1.5 % FSR, Pressure port is 1/4" BSPM standard.

Features:
- Compact
- SS316 & Teflon as standard wetted parts
- Electrical Rating : 15A, 125/250 VAC, 5Amp 30VDC
- Pressure port : 1/4" BSPM

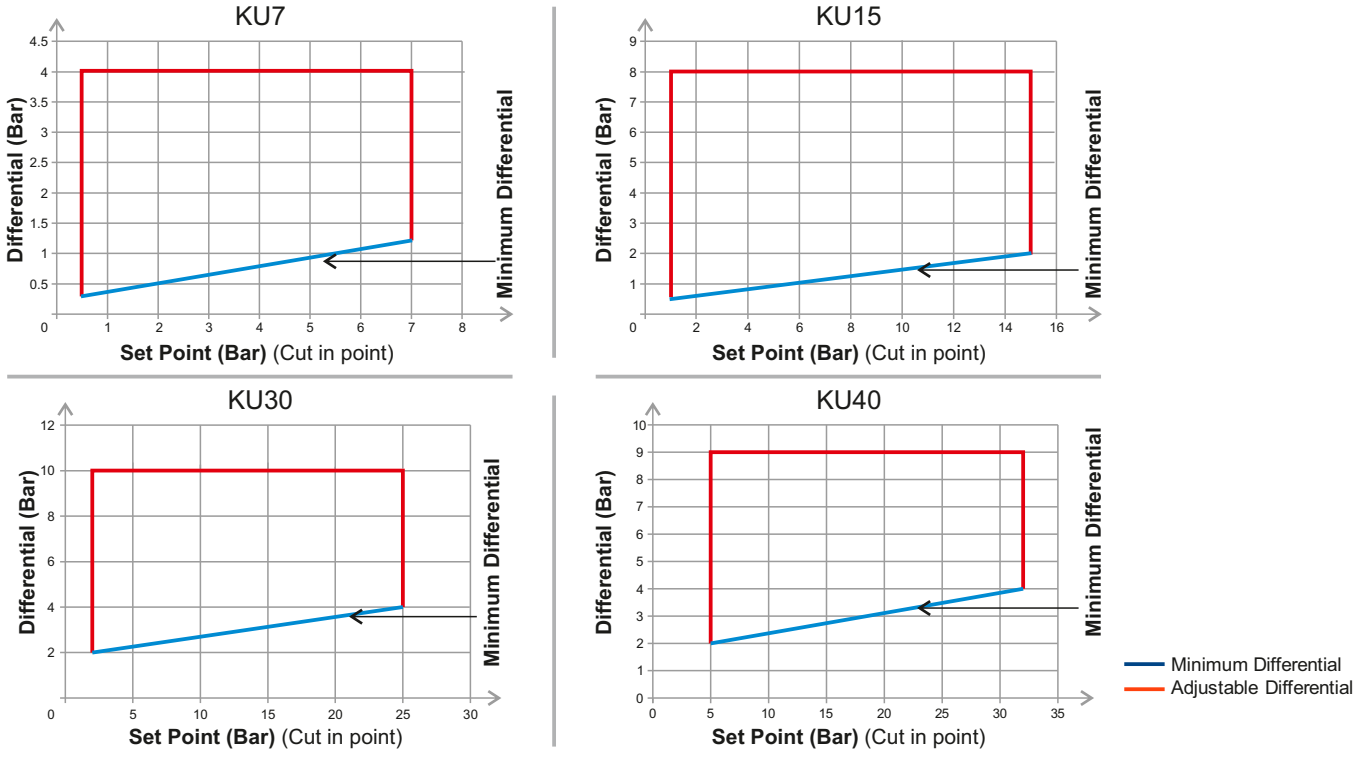
Range Selection Table

Model	+ Range Bar *(psi)*	*Adjustable Differential bar *(psi)*	Maximum Working Pressure bar *(psi)*
KU7	0.5 - 7.0 *(7.25 - 101.50)*	1.2 – 4.0 *(17.40 – 58.00)*	12 *(174.00)*
KU15	1.0 - 15.0 *(14.5 - 217.5)*	2.0 – 8.0 *(29.0 – 116.0)*	25 *(362.5)*
KU30	2.0 - 25.0 *(29.01 - 362.5)*	3.0 – 10.0 *(43.5 – 145.0)*	35 *(507.5)*
KU40	5.0 - 32.0 *(72.5 - 464.0)*	4.0 – 9.0 *(58.0 – 130.5)*	42 *(609.0)*

*Minimum Differential increases with Setpoint

HOW TO ORDER KU OEM HIGH RANGE PRESSURE SWITCHES
Please specify model number as per range selection table above.

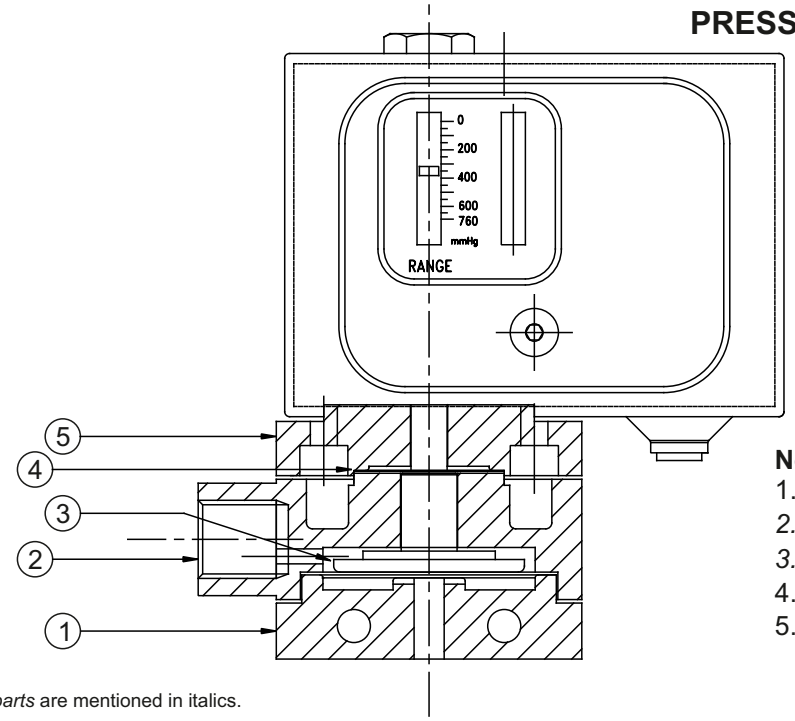
Graph of Set Point Vs Differential:



Note : Cut out = Cut in + Differential

KU VACUUM SWITCHES

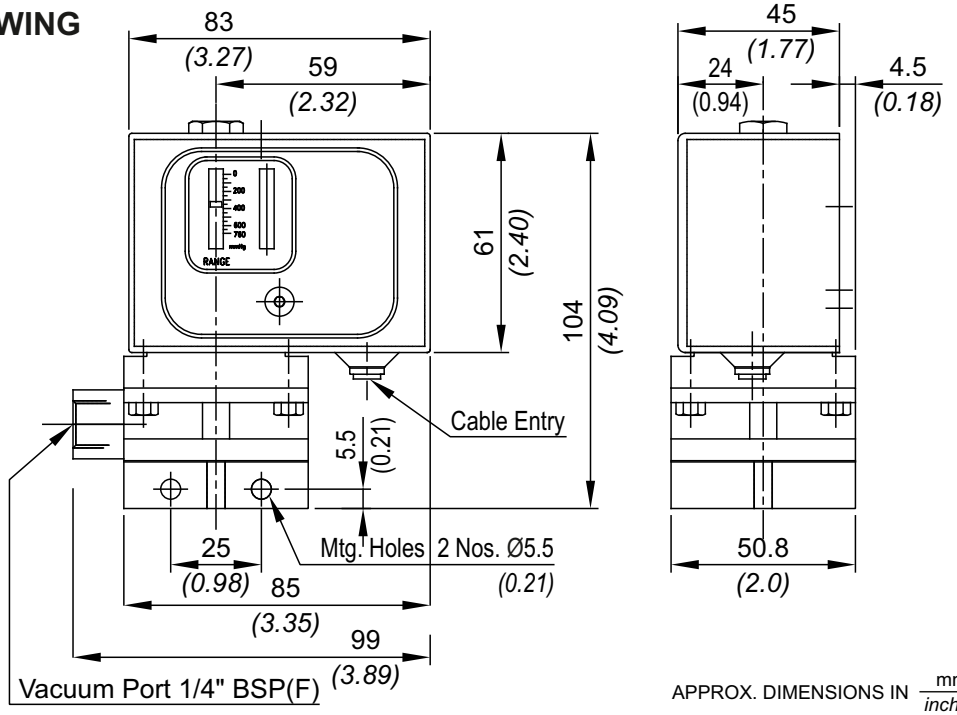
PRESSURE CAPSULE DETAILS



No.	Description
1.	Disc (Alu)
2.	*Pressure Housing (SS)*
3.	*Plunger (SS)*
4.	Diaphragm (SS)
5.	Junction Plate (AL)

Note : *wetted parts* are mentioned in italics.

INSTALLATION DRAWING



APPROX. DIMENSIONS IN mm / *inches*

GENERAL INFORMATION :
KU series vacuum switches are housed in pressed steel powder coated enclosure and are recommended for panel mounting or indoor service. The KU series vacuum switch has a SS316 welded diaphragm. KU series vacuum switches have passed the Helium leak test i.e. they are completely leakproof which makes it possible to achieve a full vacuum. The repeat accuracy is better than ± 1.5% FSR. The Pressure port is 1/4" BSPF standard.

FEATURES :
- Compact
- Separate chamber for working parts
- Choice of wetted parts to suit working media
- Electrical rating : 5A, 250VAC; 0.2A, 250 VDC
- Pressure port : 1/4" BSPF

RANGE SELECTION TABLE

Range code	Range vacuum (falling) mm Hg *("Hg)*	*Approximate Maximum Differential (Fixed) mm Hg *("Hg)*	Maximum Working Pressure bar *(psi)*
V00	† 760 - 100 *(29.92 - 3.94)*	100 *(3.94)*	12 *(171.43)*

* Minimum differential increases with setpoint (Graphs available on request)
† Typical values achieved at sea level, total vacuum that can be achieved varies mainly with altitude.

HOW TO ORDER MN / MA SERIES VACUUM SWITCHES

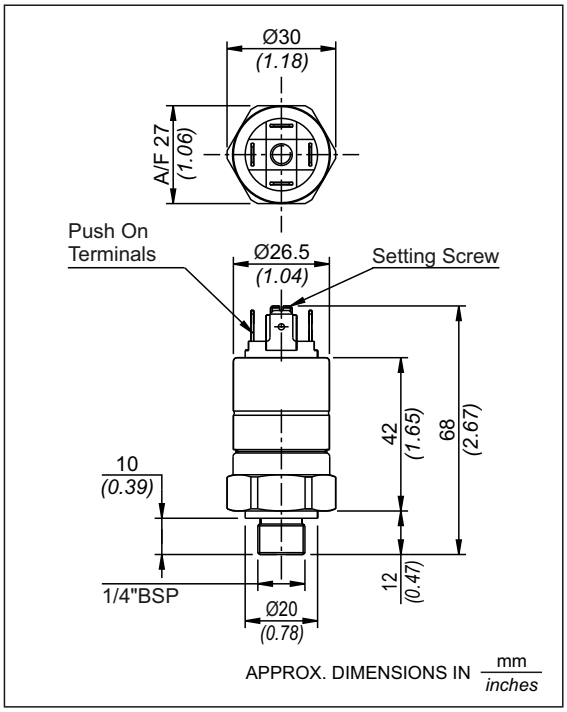
Group 1	Group 2	Group 3	Group 4	Group 5	Group 6
Model	Range Code	Range Scale	Disc	Diaphragm	Enclosure
KU - Fixed differential Vacuum Switch	V00 - High range vacuum Switch	-	-	-	-

Eg. A fixed differential vacuum switch, high range from 760 mm Hg vac. To 100 mm Hg vac. in calibrated style, with aluminium pressure housing, a Teflon diaphragm & a standard enclosure shall be specified by

Group 1	Group 2	Group 3	Group 4	Group 5	Group 6
KU	V00	-	-	-	-

Please specify full model number to avoid ambiguty. If only the first two groups are specified while ordering, uncalibrated switches with standard wetted parts and enclosures will be supplied.

SE SUBMINIATURE SWITCHES



General information:
SE series subminiature pressure switches are low cost options. They are generally used where size is a constraint. Typical applications are to sense oil pressure in power packs. Can also be used for several automation applications.

Features:
- Compact
- Lightweight (Approx. 0.11 Kg.)
- Normally closed (NC) or normally open (NO) or SPDT
- Electrical rating: 5A, 250VAC; 0.2A, 250 VDC (res.)
- Switching point easy to adjust
- Material : Body - Aluminium; Pressure housing - Brass/MS/SS
- Wetted parts : MS/Brass/SS316L, Neoprene, PTFE
- Pressure port : 1/4" BSP(M), other sizes available

Range Selection Table

Range Code	Range bar *(psi)*	Differential* bar *(psi)* (Approx. Maximum)	Maximum Working Pressure bar *(psi)*
H01	0.2 - 1.0 *(2.90 - 14.50)*	0.2 *(2.90)*	35 *(507.5)*
H04	0.2 - 3.6 *(2.9 - 52.20)*	0.4 *(5.8)*	35 *(507.5)*
H10	0.5 - 10.0 *(7.14 - 142.86)*	1.0 *(14.50)*	35 *(507.5)*
H30	2.0 - 25.0 *(29.00 - 362.6)*	2.0 *(29.00)*	35 *(507.5)*

*Differential increases with set point, graph available on request.

Other model with range upto 200 bar available. Please contact sales office.

How to order SE Series Subminiature Switches

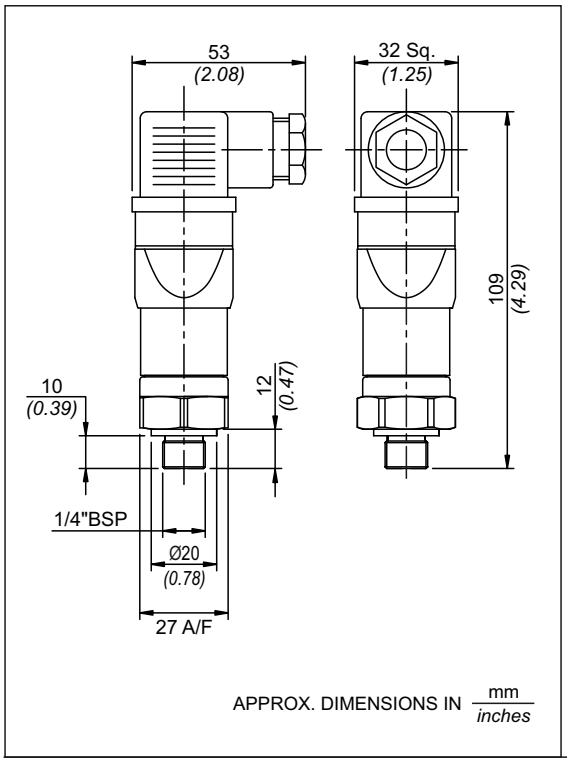
Group 1	Group 2	Group 3	Group 4	Group 5	Group 6	Group 7	Group 8
Non Standard Allocation	Model	Terminal Type	Switch Type	Range Code	Operating Type	Pressure Port Material / Size	Diaphragm
☐ Reserved for non-standard options not mentioned in catalogue. Will be given by manufacturer, only after agreement of supply details with customer.	**SE** = Subminiature Type	**1** = Plug Type	**PFO** = Pressure Switch Fixed Differential	**H01** = (0.2 - 1.0) **H04** = (0.2 - 3.6) **H10** = (0.5 - 10.0) **H30** = (2.0 - 25.0)	**A3** = With Silver Contact **SPDT**	**S3** = SS316L / ¼" BSPM **B3** = Brass / ¼" BSPM **S6** = SS316L / M10x1 M **B6** = Brass / M10 x 1M Contact Sales Office for side hole pressure port	**0** = Nitrile **2** = SS316L

e.g.: A single subminiature switch, high pressure range from 0.1 -1.0 bar in uncalibrated style with mild steel pressure port & a neoprene diaphragm shall be specified by

Group 1	Group 2	Group 3	Group 4	Group 5	Group 6	Group 7	Group 8
☐	SE	1	PFO	H01	A1	M3	0

Please specify full model number to avoid ambiguity. If only the first two groups are specified while ordering, switches with standard wetted parts will be supplied.

SUBMINIATURE SWITCHES (DIN Connector type) SE



APPROX. DIMENSIONS IN mm / *inches*

General information:
SE series subminiature pressure switches are low cost options. They are generally used where size is a constraint. Typical applications are to sense oil pressure in power packs. Can also be used for several automation applications.

Features:
- Compact
- Lightweight (Approx. 0.11 Kg.)
- Normally closed (NC) or normally open (NO) or SPDT
- Electrical rating: 5A, 250VAC; 0.2A, 250 VDC (res.)
- Terminal type: DIN Connector
- Switching point easy to adjust
- Material : Body - Aluminium; Pressure housing - Brass/MS/SS
- Wetted parts : MS/Brass/SS316L, Neoprene, PTFE
- Pressure port : 1/4" BSP(M), other sizes available

Range Selection Table

Range Code	Range bar *(psi)*	Differential* bar *(psi)* (Approx. Maximum)	Maximum Working Pressure bar *(psi)*
H01	0.2 - 1.0 *(2.90 - 14.50)*	0.2 *(2.90)*	35 *(507.5)*
H04	0.2 - 3.6 *(2.9 - 52.20)*	0.4 *(5.8)*	35 *(507.5)*
H10	0.5 - 10.0 *(7.14 - 142.86)*	1.0 *(14.50)*	35 *(507.5)*
H30	2.0 - 25.0 *(29.00 - 362.6)*	2.0 *(29.00)*	35 *(507.5)*

*Differential increases with set point, graph available on request.

Other model with range upto 200 bar available. Please contact sales office.

How to order SE Series Subminiature Switches

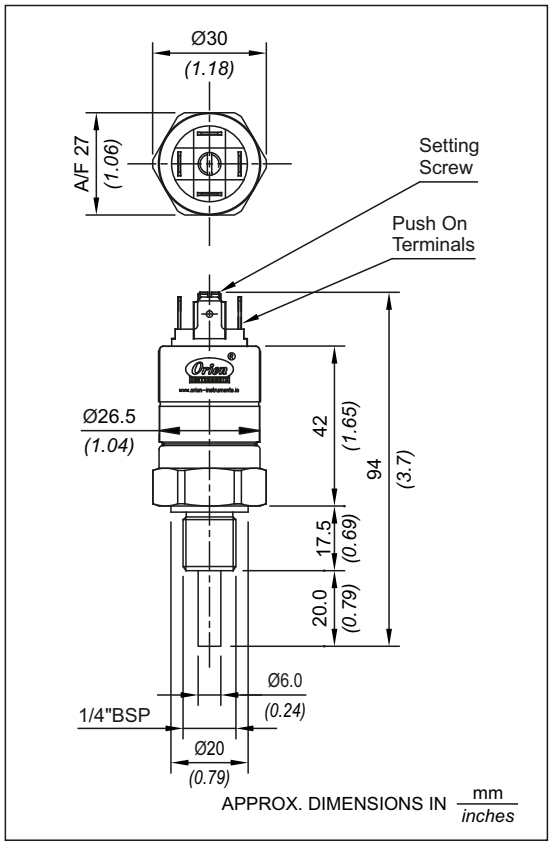
Group 1	Group 2	Group 3	Group 4	Group 5	Group 6	Group 7	Group 8
Non Standard Allocation	Model	Terminal Type	Switch Type	Range Code	Operating Type	Pressure Port Material / Size	Diaphragm
☐ Reserved for non-standard options not mentioned in catalogue. Will be given by manufacturer, only after agreement of supply details with customer.	**SE** = Subminiature Type	**3** = DIN connector	**PFO** = Pressure Switch Fixed Differential	**H01** = (0.2 - 1.0) **H04** = (0.2 - 3.6) **H10** = (0.5 - 10.0) **H30** = (2.0 - 25.0)	**A3** = With Silver Contact **SPDT**	**S3** = SS316L / ¼" BSPM **S6** = SS316L / M10 x 1M **B3** = Brass / ¼" BSPM **B6** = Brass / M10 x 1M	**0** = Nitrile **2** = SS316

e.g.: A single subminiature switch, high pressure range from 0.1 -1.0 bar in uncalibrated style with stainless steel pressure port & a neoprene diaphragm shall be specified by

Group 1	Group 2	Group 3	Group 4	Group 5	Group 6	Group 7	Group 8
☐	SE	3	PFO	H01	A1	S3	0

Please specify full model number to avoid ambiguity. If only the first two groups are specified while ordering, switches with standard wetted parts will be supplied.

SE SUBMINIATURE TEMPERATURE SWITCHES



General information:
SE series subminiature temperature switches are low cost options. They are generally used where size is a constraint. Typical applications are to sense temperature. Can also be used for several other applications e.g. automation, boiler, oil furnace, engine etc.

Features:
- Compact
- Lightweight (Approx. 0.11 Kg.)
- Normally Closed (NC) or Normally Open (NO) or SPDT
- Electrical rating: 5A, 250VAC; 0.2A, 250 VDC (res.)
- Easy to adjust switching point
- Material : Body - Aluminium; Temperature housing - Brass/SS
- Port threading : 1/4" BSP(M), other sizes available

Range Selection Table

Range Code	Range °C (°F)	Differential °C (°F) Approx. Max.	Maximum Working Temperature °C (°F)
T1H	25 - 90 *(77 - 194)*	15 *(59)*	150 *(302)*

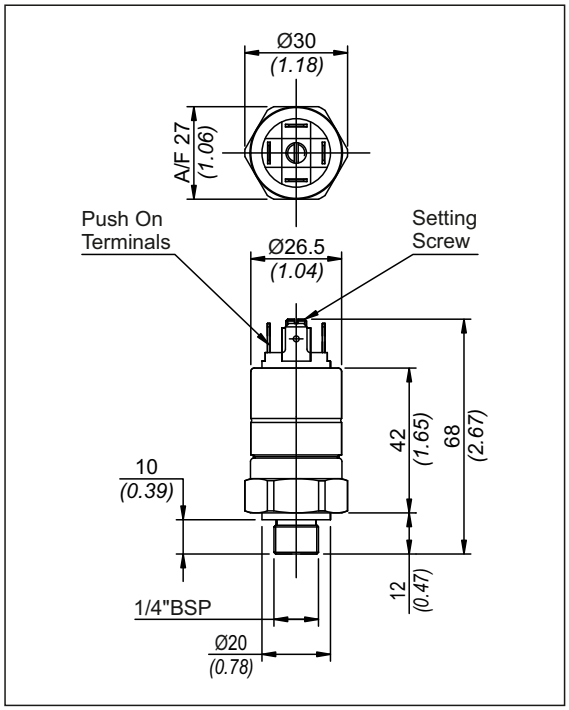
How to order SE Series Subminiature Temperature Switches

Group 1	Group 2	Group 3	Group 4	Group 5	Group 6	Group 7	Group 8
Non Standard Allocation	Model	Terminal Type	Switch Type	Range Code	Operating Type	Temperature Bulb Material / Size	Length
☐ Reserved for non-standard options not mentioned in catalogue. Will be given by manufacturer, only after agreement of supply details with customer.	**SE** = Subminiature Type	**1** = Plug Type	**TFO** = Temperature Switch Fixed Differential	**T1H** = (25 - 90)	**A3** = With Silver Contact **SPDT**	**B3** = Brass / ¼" BSPM (Standard) **S3** = SS316L / ¼" BSPM	**0** = Dia. 6 mm, 20 mm length

e.g.: A temperature subminiature switch, temperature range from 25 - 90 °C in uncalibrated style with brass bulb port & dia. 6mm, 20mm length shall be specified by

Group 1	Group 2	Group 3	Group 4	Group 5	Group 6	Group 7	Group 8
☐	SE	1	TFO	T1H	A1	B3	0

Please specify complete model code to avoid ambiguity. If only the first two groups are specified while ordering, switches with standard temperature bulb and port threading will be supplied.



General information:
SE series piston pressure switches are low cost options. They are generally used where size is a constraint. Typical applications are to sense oil pressure in power packs. Can also be used for several automation applications.

Features:
- Compact
- Lightweight (Approx. 0.11 Kg.)
- Normally closed (NC) or normally open (NO) or SPDT
- Electrical rating: 5A, 250VAC; 0.2A, 250 VDC (res.)
- Switching point easy to adjust
- Material : Body - Aluminium; Pressure housing - Brass/MS/SS
- Wetted parts : SS316L, CS, Viton, Piston
- Pressure port : 1/4" BSP(M), other sizes available

Range Selection Table

Range Code	Range bar *(psi)*	Differential bar *(psi)*	Maximum Working Pressure bar *(psi)*
040	5 - 40 *(72.5 - 580)*	5 *(72.52)*	80 *(1160.31)*
100	10 - 100 *(14.5 - 1450)*	12 *(174.05)*	120 *(1740.45)*
200	7 - 200 *(101.5 - 2900)*	24 *(348.09)*	200 *(2900.75)*

How to order SE Series Subminiature Switches

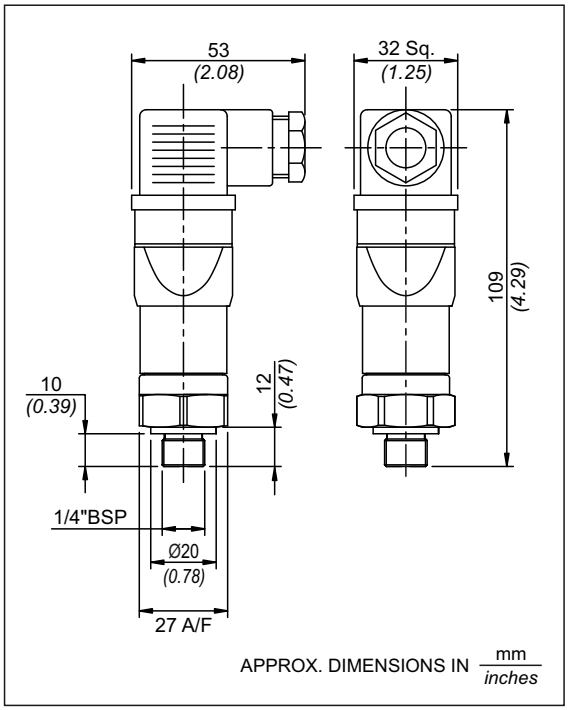
Group 1	Group 2	Group 3	Group 4	Group 5	Group 6	Group 7	Group 8
Non Standard Allocation	Model	Terminal Type	Switch Type	Range Code	Operating Type	Pressure Port Material / Size	Piston
☐ Reserved for non-standard options not mentioned in catalogue. Will be given by manufacturer, only after agreement of supply details with customer.	**SE** = Piston Type	**1** = Plug Type	**PFO** = Pressure Switch Fixed Differential	**040** = (5 - 40) **100** = (10 - 100) **200** = (7 - 200)	**A3** = With Silver Contact **SPDT**	**S3** = SS316L / ¼" BSPM **B3** = Brass / ¼" BSPM	**0** = Carbon Steel

e.g.: A single piston switch, high pressure range from 0.1 -1.0 bar in uncalibrated style with mild steel pressure port & a piston shall be specified by

Group 1	Group 2	Group 3	Group 4	Group 5	Group 6	Group 7	Group 8
☐	SE	1	PFO	040	A1	M3	0

Please specify full model number to avoid ambiguity. If only the first two groups are specified while ordering, switches with standard wetted parts will be supplied.

SE PISTON SWITCHES (DIN Connector type)



General information:
SE series piston pressure switches are low cost options. They are generally used where size is a constraint. Typical applications are to sense oil pressure in power packs. Can also be used for several automation applications.

Features:
- Compact
- Lightweight (Approx. 0.11 Kg.)
- Normally closed (NC) or normally open (NO) or SPDT
- Electrical rating: 5A, 250VAC; 0.2A, 250 VDC (res.)
- Switching point easy to adjust
- Material : Body - Aluminium; Pressure Housing - SS
- Wetted parts : SS316L, CS, Viton, Piston
- Pressure port : 1/4" BSP(M), other sizes available

Range Selection Table

Range Code	Range bar *(psi)*	Differential bar *(psi)*	Maximum Working Pressure bar *(psi)*
040	5 - 40 *(72.5 - 580)*	5 *(72.52)*	80 *(1160.31)*
100	10 - 100 *(14.5 - 1450)*	12 *(174.05)*	120 *(1740.45)*
200	7 - 200 *(101.5 - 2900)*	24 *(348.09)*	200 *(2900.75)*

How to order SE Series Subminiature Switches

Group 1	Group 2	Group 3	Group 4	Group 5	Group 6	Group 7	Group 8
Non Standard Allocation	Model	Terminal Type	Switch Type	Range Code	Operating Type	Pressure Port Material / Size	Piston
☐ Reserved for non-standard options not mentioned in catalogue. Will be given by manufacturer, only after agreement of supply details with customer.	**SE** = Piston Type	**3** = DIN connector	**PFO** = Pressure Switch Fixed Differential	**040** = (5 - 40) **100** = (10 - 100) **200** = (7 - 200)	**A3** = With Silver Contact **SPDT**	**S3** = SS316L / ¼" BSPM **B3** = Brass / ¼" BSPM	**0** = Carbon Steel

e.g.: A single piston switch, high pressure range from 0.1 -1.0 bar in uncalibrated style with mild steel pressure port & a piston shall be specified by

Group 1	Group 2	Group 3	Group 4	Group 5	Group 6	Group 7	Group 8
☐	SE	1	PFO	040	A1	M3	0

Please specify full model number to avoid ambiguity. If only the first two groups are specified while ordering, switches with standard wetted parts will be supplied.

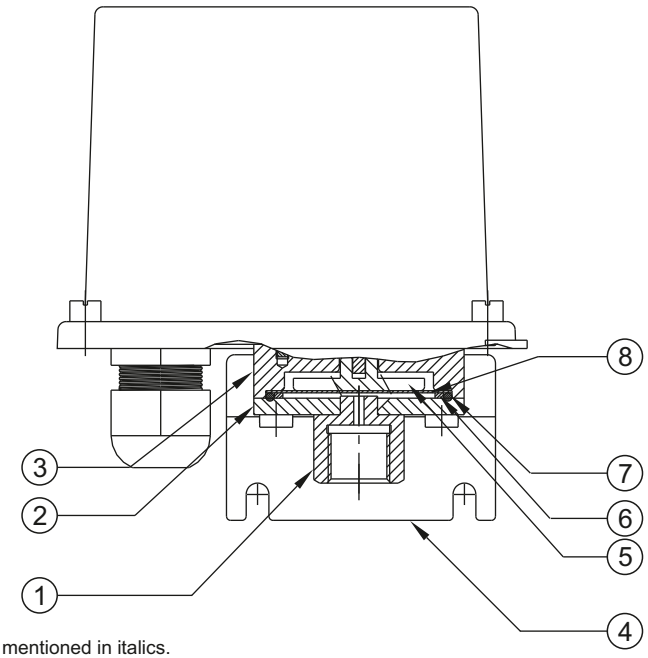
EZ/EX Switches

Pressure Ranges from 0.1 bar to 25 bar

Please refer page no. 282 for Subminiature Switch details

MZ / MX OEM HIGH RANGE PRESSURE SWITCHES

PRESSURE CAPSULE DETAILS

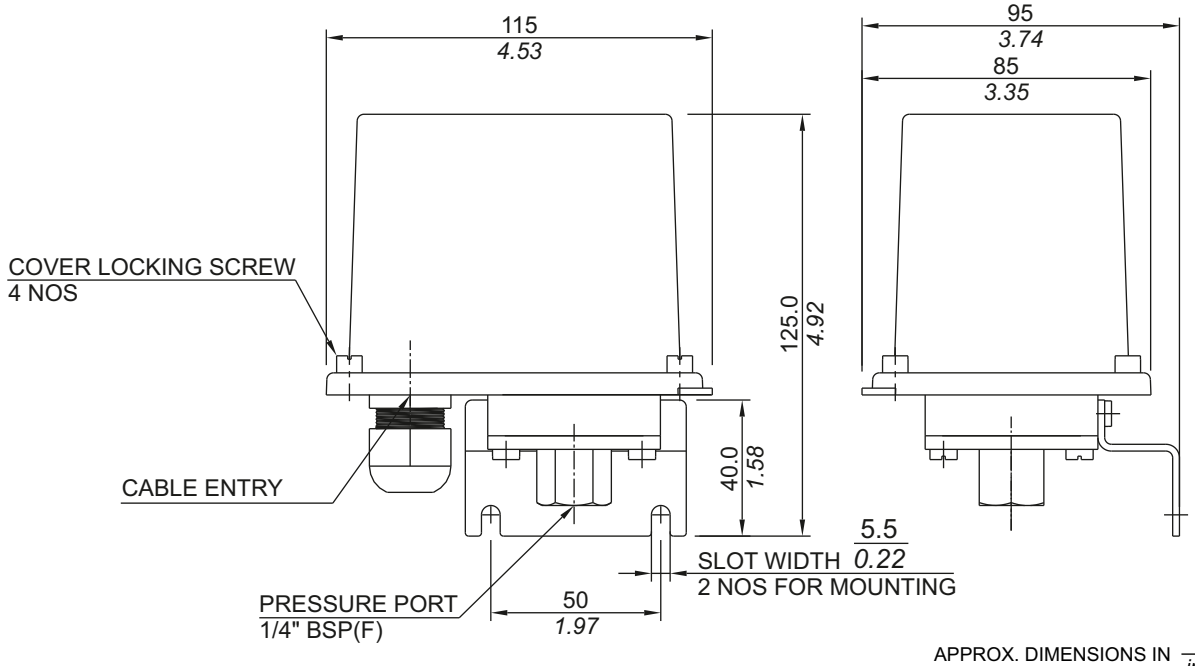


No. Description

1. *Pressure Port (SS316)*
2. *Housing Plate (SS316)*
3. Disc
4. Mounting Bracket
5. Plunger
6. *Ring (SS316)*
7. *O-Ring (PTFE®)*
8. *Diaphragm (PTFE®)*

Note : *wetted parts* are mentioned in italics.

INSTALLATION DRAWING



APPROX. DIMENSIONS IN mm / *inches*

OEM HIGH RANGE PRESSURE SWITCHES MZ / MX

Range Selection Table

Model Code	† Range bar *(psi)*	*Approximate Maximum Differential bar *(psi)*	* Adjustable Differential bar *(psi)*	Maximum Working Pressure bar *(psi)*
MZ-1	0.1 - 1.0 *(1.45 - 14.50)*	0.15 *(2.18)*	-	12 *(174.05)*
MZ-4	0.2 - 3.6 *(2.90 - 52.21)*	0.30 *(4.35)*	-	12 *(174.05)*
MZ-7	0.5 - 7.0 *(7.25 - 101.52)*	0.60 *(8.70)*	-	12 *(174.05)*
MZ-10	0.5 - 10.0 *(7.25 - 145.04)*	1.00 *(14.50)*	-	25 *(362.6)*
MZ-15	1.0 - 15.0 *(14.50 - 217.71)*	1.5 *(21.76)*	-	25 *(362.6)*
MZ-30	5.0 - 25.0 *(72.52 - 362.6)*	2.0 *(29.00)*	-	35 *(507.63)*
MX-1	0.1 - 1.0 *(1.45 - 14.50)*	-	0.2 - 0.6 *(2.90 - 8.70)*	12 *(174.05)*
MX-4	0.2 - 3.6 *(2.90 - 52.21)*	-	0.4 - 0.8 *(5.80 - 11.60)*	12 *(174.05)*
MX-7	0.5 - 7.0 *(7.25 - 101.52)*	-	0.8 - 2.0 *(11.60 - 29.00)*	12 *(174.05)*
MX-10	0.5 - 10.0 *(7.25 - 145.04)*	-	1.0 - 2.5 *(14.50 - 36.25)*	25 *(362.6)*
MX-15	1.0 - 15.0 *(14.50 - 217.71)*		1.5 - 3.0 *(21.75 - 43.51)*	25 *(362.6)*
MX-30	5.0 - 25.0 *(72.52 - 362.6)*		2.0 - 3.5 *(29.00 - 50.76)*	35 *(507.63)*

*Minimum differential increases with setpoint (Graphs available on request)
†Rising pressure for MZ series
†Falling pressure for MX series

SPECIFICATIONS :

Range : As per model code
Electrical rating : 15 Amp, 250 VAC, 5 Amp 28 VDC, SPDT snapaction microswitch
Enclosure# : IP66 standard, transparent tough polycarbonate cover
Wetted parts : SS 316 & PTFE
Pressure port : 1/4" BSPF standard
Cable gland : M20 x 1.5 standard (polyamide)
Maximum temperature of working medium : 80° C maximum. Please use impulse tubing for higher temperatures

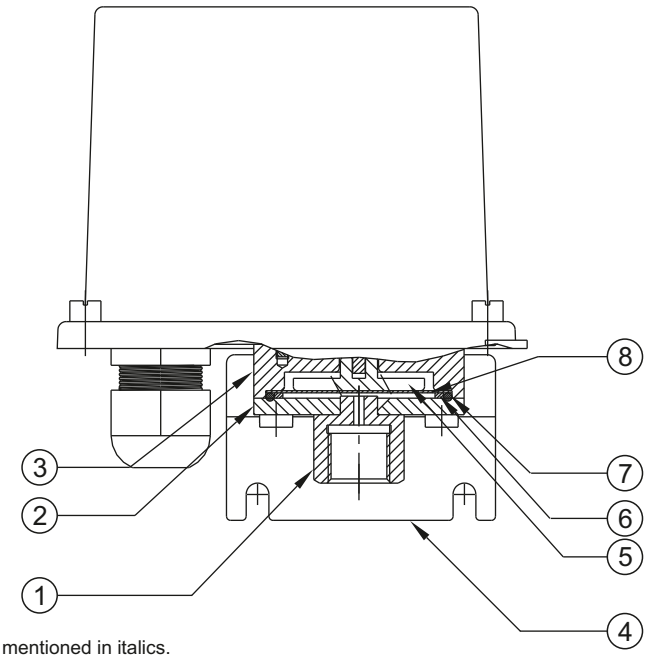
- IP66 is approximately equivalent to NEMA 4X

HOW TO ORDER MZ/MX SERIES OEM PRESSURE SWITCHES

Please select model code from Range Selection table

MZ_ _A / MX_ _A OEM HIGH RANGE PRESSURE SWITCHES

PRESSURE CAPSULE DETAILS

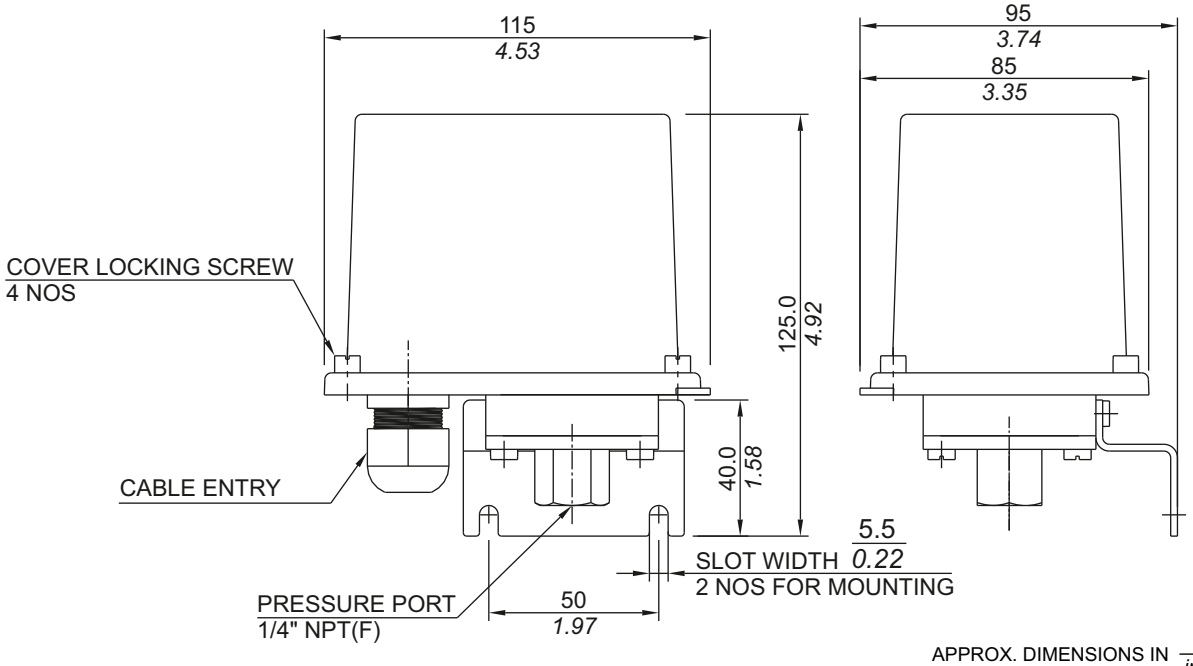


No. Description

1. *Pressure Port (SS316)*
2. *Housing Plate (SS316)*
3. Disc
4. Mounting Bracket
5. Plunger
6. *Ring (SS316)*
7. *O-Ring (Teflon®)*
8. *Diaphragm (Teflon®)*

Note : *wetted parts* are mentioned in italics.

INSTALLATION DRAWING



APPROX. DIMENSIONS IN mm / *inches*

OEM HIGH RANGE PRESSURE SWITCHES MZ_ _A / MX_ _A

RANGE SELECTION TABLE

Model Code	Range † psi	*Approximate Maximum Differential psi	*Adjustable Differential psi	Maximum Working Pressure psi
MZ-1A	1.5-15.0	2.0	-	200
MZ-4A	3.0-50.0	3.0	-	200
MZ-7A	7.0-100.0	6.0	-	200
MZ-10A	7.0-150.0	12.0	-	350
MZ-15A	15.0-200.0	20.0	-	350
MZ-30A	70.0-350.0	20.0	-	500
MX-1A		-	2 - 6	200
MX-4A		-	3 - 7	200
MX-7A		-	12 - 29	200
MX-10A		-	12 - 29	350
MX-15A		-	14 - 36	350
MX-30A		-	22 - 45	500

*Minimum differential increases with setpoint (Graphs available on request)
†Rising pressure for MZ series

SPECIFICATIONS :

Range : As per model code
Electrical rating : 15 Amp, 250 VAC, SPDT snapaction microswitch
Enclosure# : IP66 standard, transparent tough polycarbonate cover
Wetted parts : SS 316 & Teflon
Pressure port : 1/4" NPTF standard
Cable gland : M20 x 1.5 standard (polyamide)
Maximum temperature of working medium : 80° C maximum. Please use impulse tubing for higher temperatures

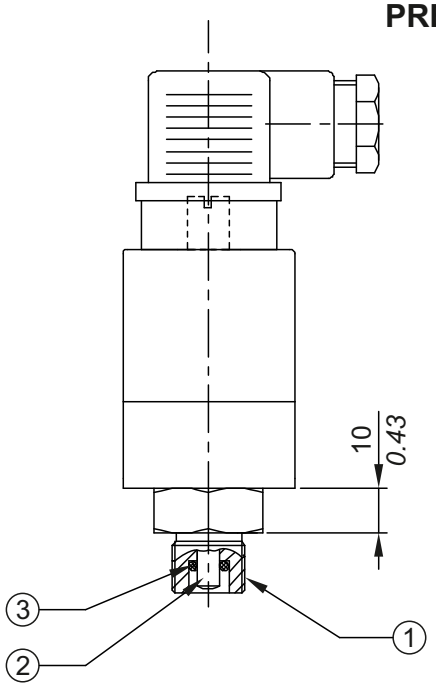
- IP66 is approximately equivalent to NEMA 4X

HOW TO ORDER MZ_ _A SERIES OEM PRESSURE SWITCHES

Please select model code from Range Selection table

SA OEM HYDRAULIC PRESSURE SWITCHES

PRESSURE CAPSULE DETAILS

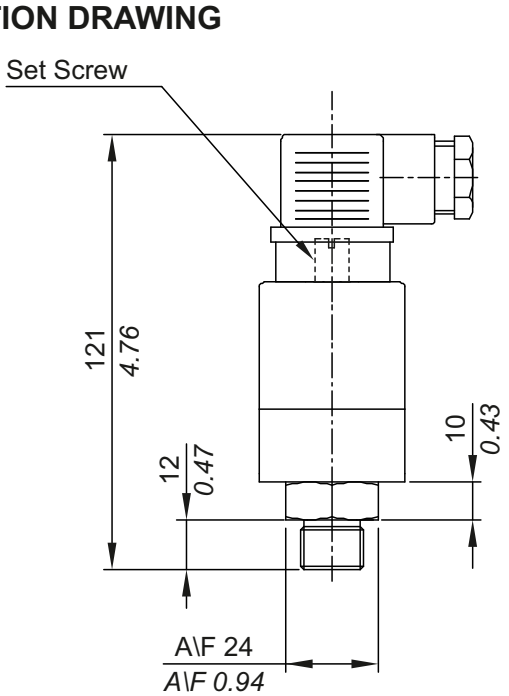


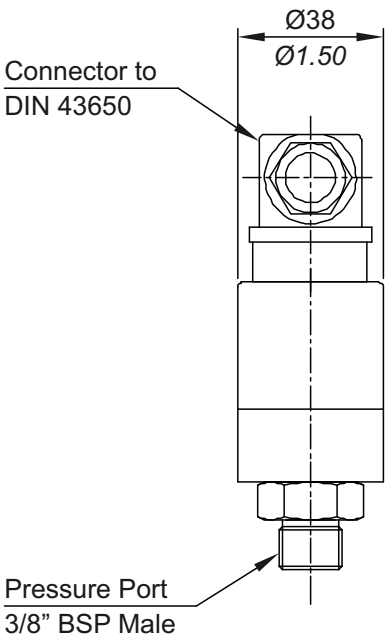
No. Description

1. *Pressure Housing*
2. *Piston*
3. *O Ring*

Note : *wetted parts* are mentioned in italics.

INSTALLATION DRAWING





APPROX. DIMENSIONS IN mm / *inches*

OEM HYDRAULIC PRESSURE SWITCHES SA

General information:
SA series pressure switches have a cast aluminium enclosure, intended for inhouse use. These are generally used where size is a constraint. The repeat accuracy is better than ± 2% FSR. Pressure port is 3/8" BSP(M) standard.

Features:
- Compact
- Lightweight
- Electrical rating : 5A, 250 VAC; 0.2 A, 250 VDC (res.)
- Working media : for air & oil
- Pressure port : 3/8 " BSP(M)

Range Selection Table

Range Code	Range (falling pressure) bar *(psi)*	*Approximate Maximum Differential bar *(psi)*	Maximum Working Pressure bar *(psi)*
040	3 - 40 *(43.51 - 580.15)*	5 *(72.52)*	200 *(2900.76)*
100	10 - 100 *(145.04 - 1450.38)*	12 *(174.05)*	200 *(2900.76)*
200	7 - 200 *(101.52 - 2900.76)*	24 *(348.09)*	200 *(2900.76)*
400	100 - 400 *(1450.38 - 5801.51)*	60 *(870.20)*	400 *(5801.51)*

*differential rises with setpoint (Graphs available on request)

How to order SA OEM hydraulic pressure switches

Group 1	Group 2	Group 3	Group 4	Group 5	Group 6
Model	Range Code	Connector	Pressure Housing	Piston	Enclosure
SA - Fixed Differential Pressure switch	H - Hydraulic pressure range	U - Unlighted L - Lighted (24 VDC) P - Lighted (230 VAC)	M - M.S.	0 - Alloy Steel	0 - IP 54

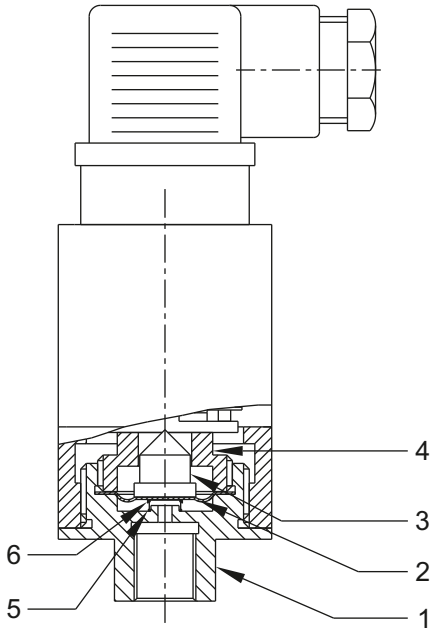
eg. A SA OEM hydraulic pressure switch, pressure range from 3 - 40 bar with unlighted connector having M.S. pressure housing & alloy steel piston in a standard enclosure shall be specified by

Group 1	Group 2	Group 3	Group 4	Group 5	Group 6
SA	040	U	M	0	0

Please specify full model number to avoid ambiguity. If only the first two groups are specified while ordering, switches with standard wetted parts will be supplied.

SA OEM HIGH RANGE PRESSURE SWITCHES

PRESSURE CAPSULE DETAILS

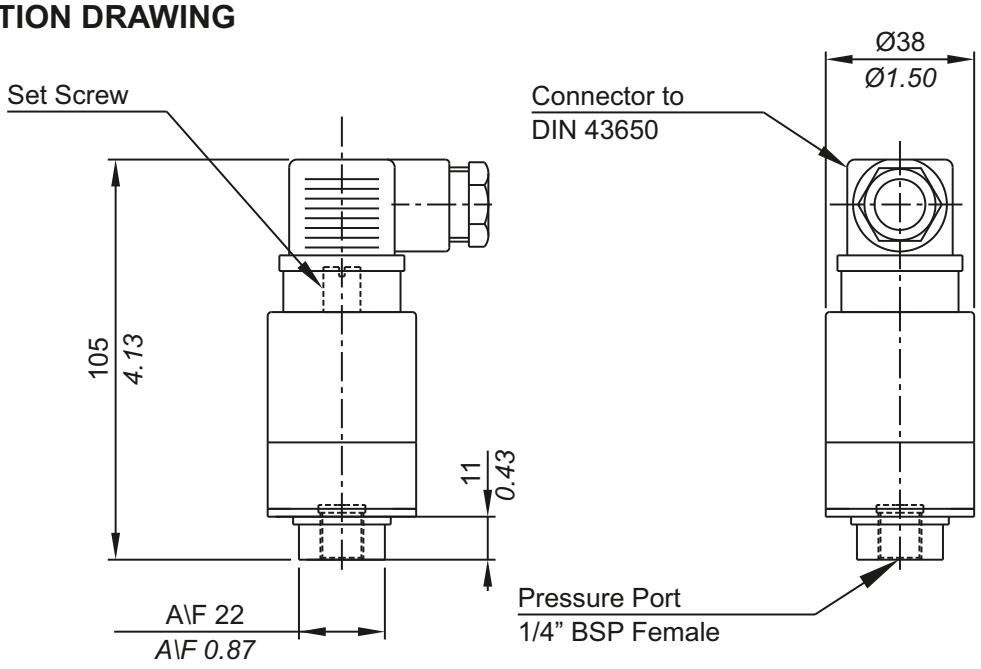


No. Description

1. *Pressure Housing*
2. *Diaphragm*
3. Plunger
4. Disc
5. *Spring (S.S.)*
6. *Spring Cap (S.S.)*

Note : *wetted parts* are mentioned in italics.

INSTALLATION DRAWING



APPROX. DIMENSIONS IN mm / *inches*

OEM HIGH RANGE PRESSURE SWITCHES SA

General information:
SA series (a variant of SM series) pressure switches have a cast aluminium enclosure, intended for inhouse use. These are generally used where size is a constraint. The repeat accuracy is better than ± 2% FSR. A connector to DIN 43650 is provided for wiring. Pressure port is ¼" BSPF standard.

Features:
- Compact
- Lightweight
- Electrical rating : 5A, 250 VAC; 0.2 A, 250 VDC (res.)
- Choice of wetted parts to suit working media
- Proof pressure available can be 4 times MWP (optional)
- Pressure port: ¼ " BSPF

Range Selection Table

Range Code	Range (rising pressure) bar *(psi)*	*Approximate Maximum Differential (fixed) bar *(psi)*	Maximum Working Pressure bar *(psi)*
H01	0.2 - 1.0 *(2.90 - 14.50)*	0.2 *(2.90)*	12 *(174.05)*
H03	0.2 - 2.6 *(2.90 - 37.71)*	0.3 *(4.35)*	12 *(174.05)*
H04	0.2 - 3.6 *(2.90 - 52.21)*	0.3 *(4.35)*	12 *(174.05)*
H07	0.5 - 7.0 *(7.25 - 101.53)*	0.5 *(7.25)*	12 *(174.05)*
H10	0.5 - 10.0 *(7.25 - 145.04)*	1.0 *(14.50)*	25 *(362.6)*
H15	1.0 - 15.0 *(14.50 - 217.76)*	1.5 *(21.76)*	25 *(362.6)*
H30	5.0 - 25.0 *(72.52 - 362.6)*	2.50 *(36.26)*	35 *(507.63)*

*Minimum differential increases with setpoint (Graphs available on request)

How to order SA high range pressure switches

Group 1	Group 2	Group 3	Group 4	Group 5	Group 6
Model	Range Code	Range Scale	Pressure Housing	Diaphragm	Enclosure
SA - Fixed Differential Pressure switch	H - High range pressure Switch	U - Uncalibrated	A - Aluminium B - Brass S - SS316	0 - Neoprene 1 - PTFE	0 - IP 65 as per IS60529

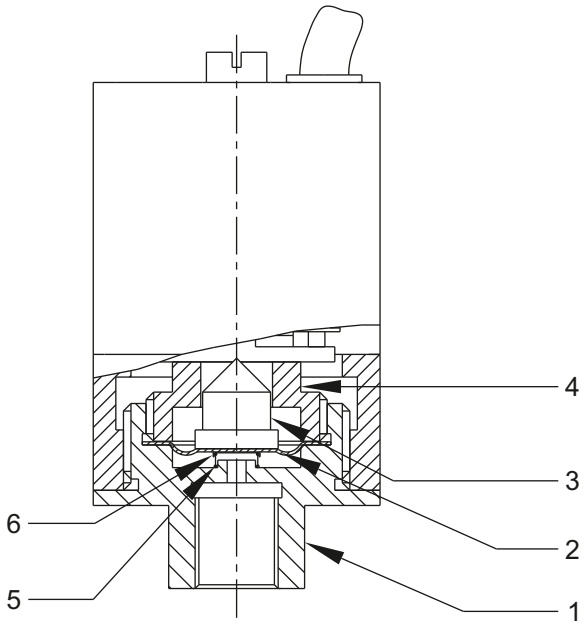
eg. A single pressure switch, high pressure range from 0.2 - 2.6 bar in uncalibrated style with brass pressure housing & a teflon diaphragm in a standard enclosure shall be specified by

Group 1	Group 2	Group 3	Group 4	Group 5	Group 6
SA	H03	U	B	1	0

Please specify full model number to avoid ambiguity. If only the first two groups are specified while ordering, switches with standard wetted parts will be supplied.

SM OEM HIGH RANGE PRESSURE SWITCHES

PRESSURE CAPSULE DETAILS

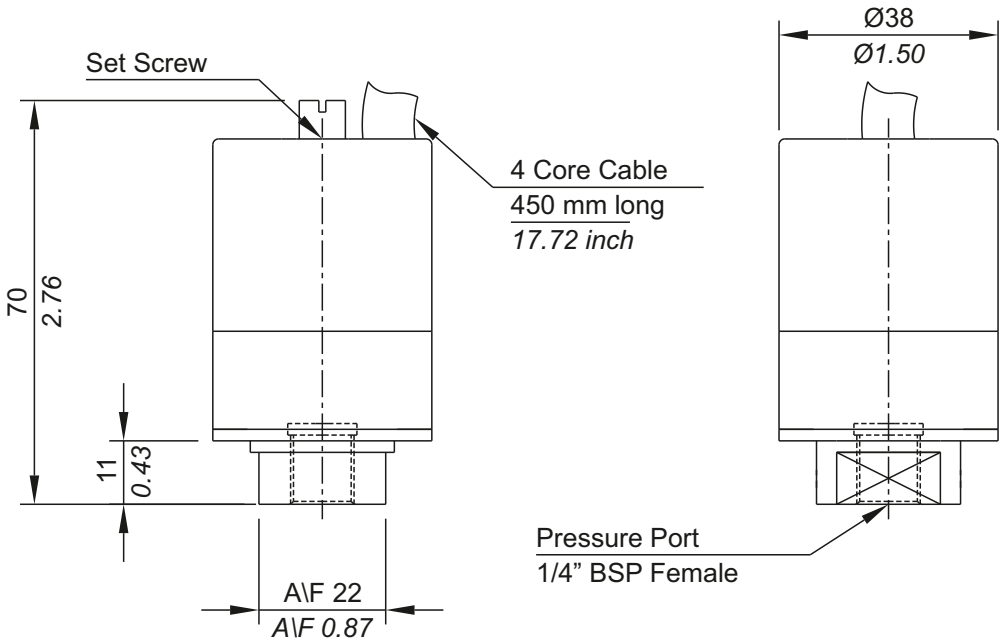


No. Description

1. *Pressure Housing*
2. *Diaphragm*
3. Plunger
4. Disc
5. *Spring (S.S.)*
6. *Spring Cap (S.S.)*

Note : *wetted parts* are mentioned in italics.

INSTALLATION DRAWING



APPROX. DIMENSIONS IN mm / *inches*

OEM HIGH RANGE PRESSURE SWITCHES SM

General information:
SM series pressure switches have a cast aluminium enclosure, intended for inhouse use. These are generally used where size is a constraint. The repeat accuracy is better than ± 2 % FSR. A core cable 450 mm long with C/NO/NC contacts is provided for wiring. Pressure port is ¼" BSPF standard.

Features:
- Compact
- Lightweight
- Electrical rating : 5A, 250VAC; 0.2A, 250 VDC(res.)
- Choice of wetted parts to suit working media
- Proof pressure available can be 4 times MWP (optional)
- Pressure port : ¼" BSPF

Range Selection Table

Range Code	Range (rising pressure) bar *(psi)*	*Approximate Maximum Differential (fixed) bar *(psi)*	Maximum Working Pressure bar *(psi)*
H01	0.2 - 1.0 *(2.90 - 14.50)*	0.2 *(2.90)*	12 *(174.05)*
H03	0.2 - 2.6 *(2.90 - 37.71)*	0.3 *(4.35)*	12 *(174.05)*
H04	0.2 - 3.6 *(2.90 - 52.52)*	0.3 *(4.35)*	12 *(174.05)*
H07	0.5 - 7.0 *(7.25 - 101.53)*	0.5 *(7.25)*	12 *(174.05)*
H10	0.5 - 10.0 *(7.25 - 145.04)*	1.0 *(14.50)*	25 *(362.6)*
H15	1.0 - 15.0 *(14.50 - 217.56)*	1.5 *(21.76)*	25 *(362.6)*
H30	5.0 - 25.0 *(72.52 - 362.6)*	2.50 *(36.26)*	35 *(507.63)*

*Minimum differential increases with setpoint (Graphs available on request)

How to order SM Series High Range Pressure Switches

Group 1	Group 2	Group 3	Group 4	Group 5	Group 6
Model	Range Code	Range Scale	Pressure Housing	Diaphragm	Enclosure
SM - Fixed Differential Pressure switch	H - High range pressure switch	U - Uncalibrated	A - Aluminium B - Brass S - SS316	0 - Neoprene 1 - PTFE	0 - IP 54

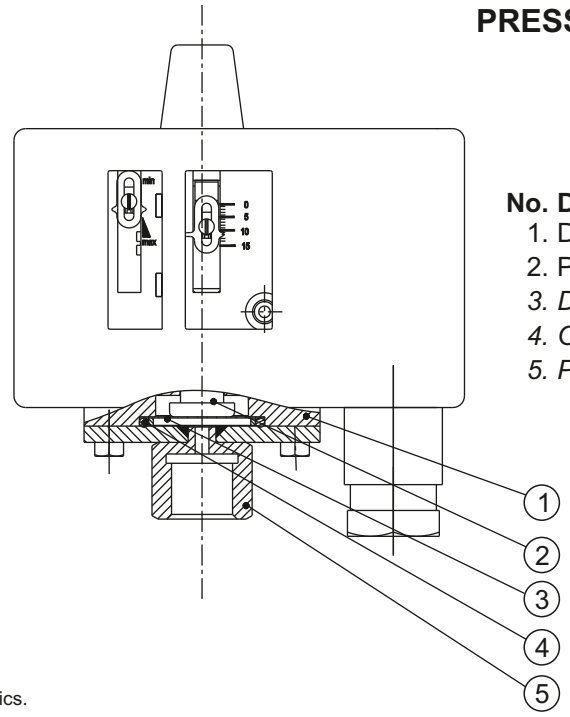
eg. A single pressure switch, high pressure range from 0.1-1.0 bar in uncalibrated style with brass pressure housing & a teflon diaphragm in a standard enclosure shall be specified by

Group 1	Group 2	Group 3	Group 4	Group 5	Group 6
SM	H01	U	B	1	0

Please specify full model number to avoid ambiguity. If only the first two groups are specified while ordering, switches with standard wetted parts will be supplied.

EZ / EX OEM HIGH RANGE PRESSURE SWITCHES

PRESSURE CAPSULE DETAILS

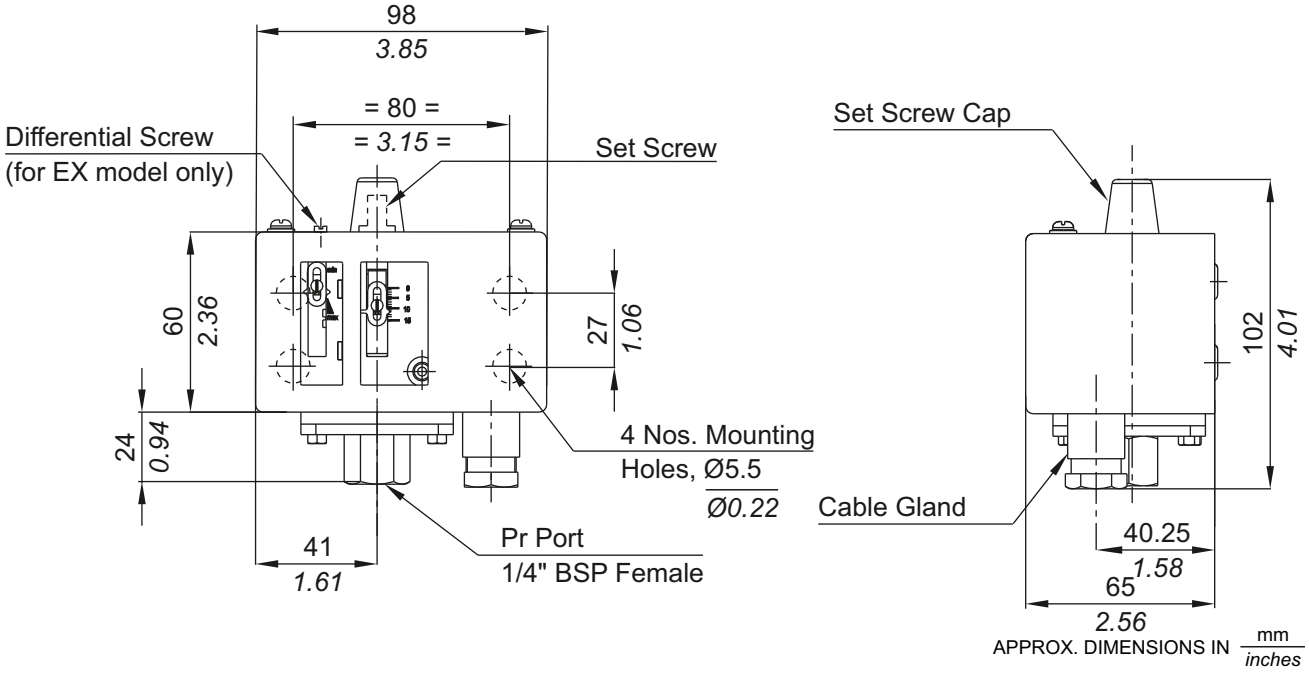


No. Description

1. Disc
2. Plunger
3. *Diaphragm (PTFE®)*
4. *O ring (PTFE®)*
5. *Pressure Housing (SS 316)*

Note : *wetted parts* are mentioned in italics.

INSTALLATION DRAWING



APPROX. DIMENSIONS IN mm / *inches*

OEM HIGH RANGE PRESSURE SWITCHES EZ / EX

General information:
EZ /EX series pressure switches are housed in pressed steel powder coated enclosure and are recommended for panel mounting or indoor service. The repeat accuracy is better than ± 1.5 % FSR. A 3/8" cable entry is provided for cables and a terminal strip suitable for wired ends is provided inside the enclosure. Pressure port is ¼" BSPF standard.

Features:
- Compact
- SS316 & PTFE as standard wetted parts
- Electrical rating : 5A, 250 VAC; 0.2 A, 250VDC (res.)
- Pressure port: ¼" BSPF

Range Selection Table

Model Code	† Range bar *(psi)*	*Approximate Maximum Differential bar *(psi)*	* Adjustable Differential bar *(psi)*	Maximum Working Pressure bar *(psi)*
EZ1	0.1 - 1.0 *(1.45 - 14.50)*	0.15 *(2.17)*	-	12 *(174.05)*
EZ4	0.2 - 3.6 *(2.90 - 52.21)*	0.30 *(4.35)*	-	12 *(174.05)*
EZ7	0.5 - 7.0 *(7.25 - 101.52)*	0.50 *(7.25)*	-	12 *(174.05)*
EZ15	1.0 - 15.0 *(14.50 - 217.71)*	1.00 *(14.50)*	-	25 *(362.6)*
EZ30	5.0 - 25.0 *(72.52 - 362.6)*	2.50 *(36.25)*	-	35 *(507.63)*
EX1	0.1 - 1.0 *(1.45 - 14.50)*	0.20 *(2.90)*	1.0 *(14.50)*	12 *(174.05)*
EX4	0.2 - 3.6 *(2.90 - 52.21)*	0.40 *(5.80)*	1.5 *(21.75)*	12 *(174.05)*
EX7	0.5 - 7.0 *(7.25 - 101.52)*	-	1.4 - 6.0 *(20.30 - 87.02)*	12 *(174.05)*
EX15	1.0 - 15.0 *(14.50 - 217.71)*	-	2.0 - 10.0 *(29.00 - 145.04)*	25 *(362.6)*
EX30	5.0 - 25.0 *(72.52 - 362.6)*	-	2.5 - 10.0 *(36.26 - 145.04)*	35 *(507.63)*

*Minimum differential increases with setpoint (Graphs available on request)
† rising pressure for EZ series; falling pressure for EX series

HOW TO ORDER EZ/EX OEM HIGH RANGE PRESSURE SWITCHES

Please specify model code as per range selection table above.

CF ULTRA LOW RANGE PRESSURE DIFFERENCE SWITCHES

Ultra Low Range Pressure Difference Switches with User Adjustable Knob

Salient Features

Easy to See, Easy to Use!

Set Point easily user adjustable with visible scale in Pascal. (no need of pressure gauge).

Differential easily adjustable with just a screwdriver

Light Weight!

150 gms

Flexible!

Direction of PG 11 cable entry can be rotated in steps of 120°

Long Lasting!

10^6 switching operations

More Options!

Available in a wide range

Trusted all over!

Tested and proven

Technical Specifications

- Media - Air, non-flammable gases and non-aggressiv gases.
- Housing Material - Body of PA 6.6 and Cover of PS
- Protection category - IP54 with cover.
- Maximum working pressure - 10 Kpa / 1019.74 mm wg.
- Electrical Rating - Maximum 1.0A (.4 A) / 250 VAC.
- Electrical Connection - AMP flat plug 6.3 mm x 0.8 mm in accordance with DIN 462244.
- Cable Entry - PG11
- Mounting Lugs - integrated in bottom Housing.
- High Pressure and Low Pressure port of Outer Diameter 6 mm.

Range Selection Table

Range Code (Orion)	Adjustement range for upper switching pressure Pa *(mm wg)*	Switching differential set to Pa *(mm wg)*
CF80	20 ~ 200 *(2.039 ~ 20.395)*	10 *(1.020)*
CF81	40 ~ 100 *(4.079 ~ 10.197)*	20 *(2.039)*
CF83	50 ~ 500 *(5.099 ~ 50.987)*	20 *(2.039)*
CF85	200 ~ 1000 *(20.395 ~ 101.974)*	100 *(10.197)*
CF86	500 ~ 2500 *(50..987 ~ 254.935)*	150 *(15.296)*
CF87	1000 ~ 4000 *(101.974 ~ 407.896)*	250 *(25.494)*

How to order CF series Low Range Pressure Difference Switches

Please specify the Range Code eg. CF82 or CF85

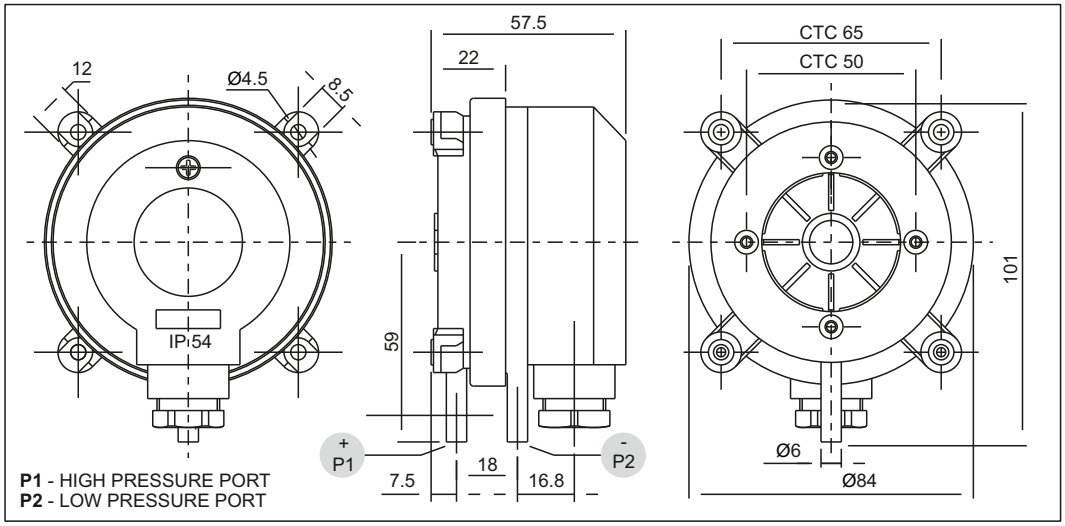
ULTRA LOW RANGE PRESSURE DIFFERENCE SWITCHES CF

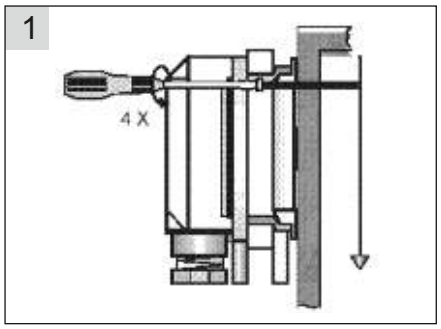
INSTALLATION AND OPERATING INSTRUCTIONS

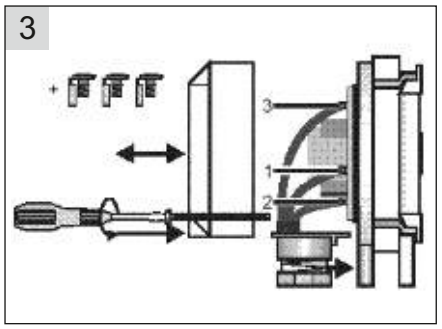
Principle of Operation
When the effective force generated by the pressure difference in the lower and upper chamber of the pressure capsule exceeds/falls beyond the balancing spring forces, an electrical element is actuated.

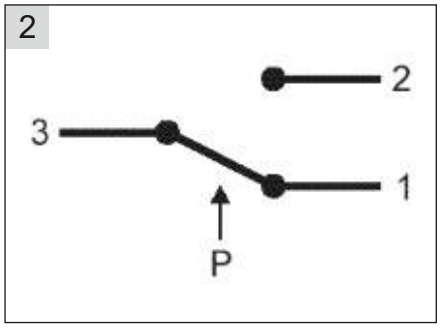
Mounting
The detail mounting dimensions are shown in Fig. 1

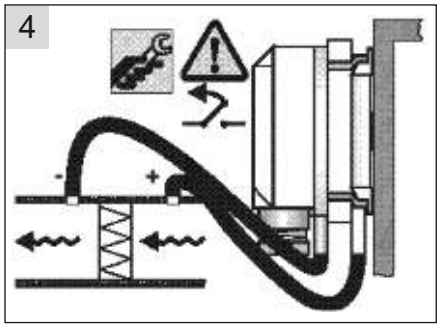
Fig. 1











P1 = higher pressure
P2 = lower pressure
*Use two screws only, for mounting
**Remove transport protection from P2

Note : *Do not install upside down with trip pressure of less than 50 Pa.*

CK ULTRA LOW RANGE PRESSURE DIFFERENCE SWITCHES

Ultra Low Range Pressure Difference Switches with User Adjustable Knob

Salient Features

Easy to See, Easy to Use!

Set Point easily user adjustable with visible scale in mbar. (no need of pressure gauge).

Light Weight!

190 gms

Flexible!

Direction of PG 9 cable entry can be rotated in steps of 120°

Long Lasting!

10^6 switching operations

More Options!

Available in a wide range

Trusted all over!

Tested and proven

Technical Specifications

- Media - Air, non-flammable gases and non-aggressiv gases.
- Housing Material - Body of Glass filled nylon and Cover of Polycarbonate.
- Protection category - IP54 with cover.
- Maximum working pressure - 10 Kpa / 1019.74 mm wg.
- Electrical Rating - Maximum 5A / 250 VAC.
- Electrical Connection - PCB mounted terminal strip
- Cable Entry - PG9
- Mounting Lugs - integrated in bottom Housing.
- High Pressure and Low Pressure port of Outer Diameter 6 mm.

Range Selection Table

Range Code (Orion)	Adjustement range for upper switching pressure Pa *(mm wg)*	Switching differential set to Pa *(mm wg)*
CK85	200 ~ 1000 *(20.395 ~ 101.974)*	100 *(10.197)*
CK86	500 ~ 2500 *(50..987 ~ 254.935)*	150 *(15.296)*
CK87	1000 ~ 4000 *(101.974 ~ 407.896)*	250 *(25.494)*

How to order CK series Low Range Pressure Difference Switches

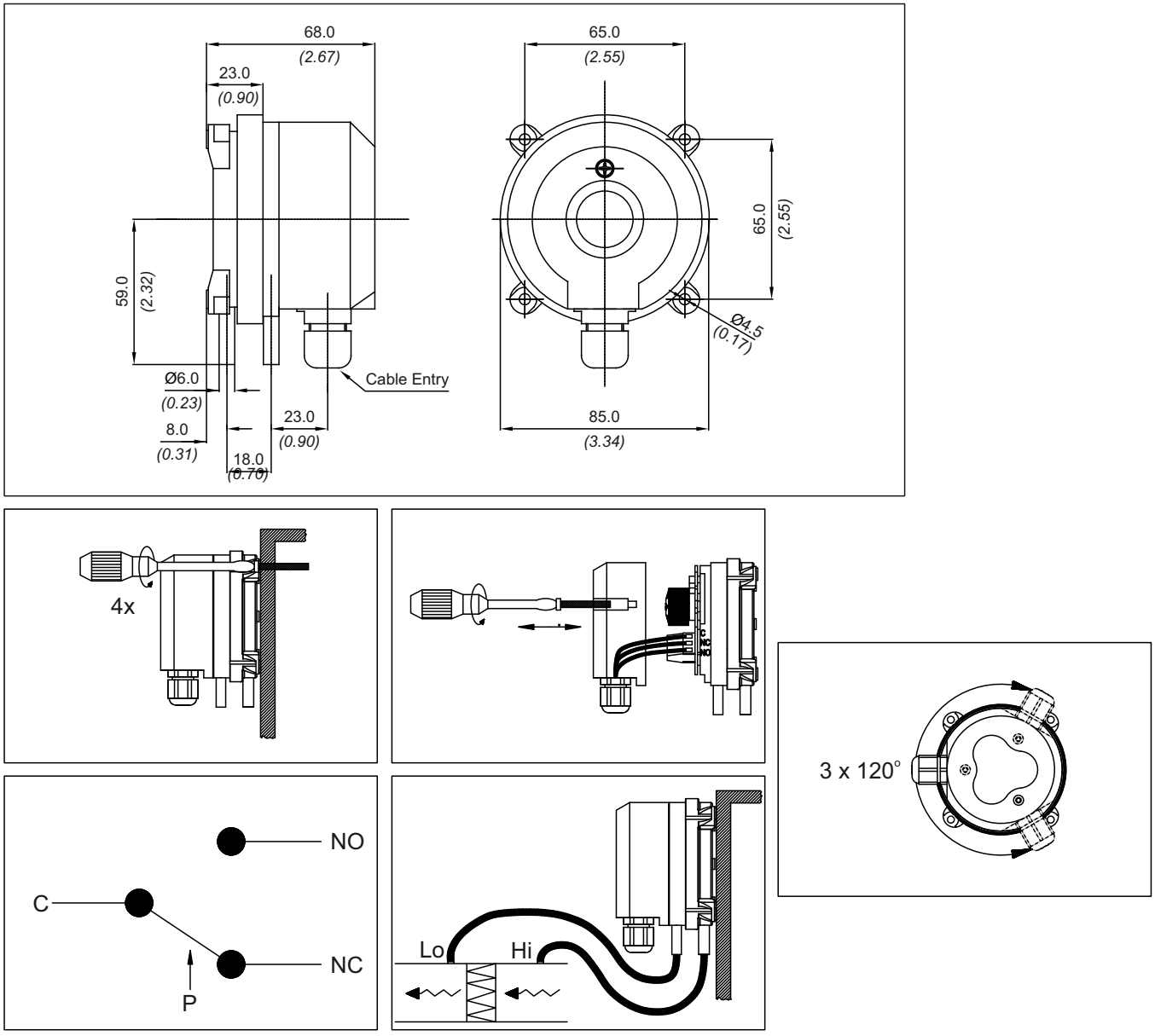
Please specify the Range Code eg. CK85 or CK87

INSTALLATION AND OPERATING INSTRUCTIONS

Principle of Operation
When the effective force generated by the pressure difference in the lower and upper chamber of the pressure capsule exceeds/falls beyond the balancing spring forces, an electrical element is actuated.

Mounting
The detail mounting dimensions are shown in Fig. 1

Fig. 1



P1 = higher pressure
P2 = lower pressure
*Use two screws only, for mounting
**Remove transport protection from P2

Note : *Do not install upside down with trip pressure of less than 50 Pa.*

CS12 COMPRESSOR PRESSURE SWITCHES

The CS12 from Orion offers you Peace of Mind and Unbeatable Features!

Salient Features

Ready to Use, Easy to Fit, No Special Mounting

2 Ground Screws enable you to "Just Fit it, Set it and Forget it!"

Corrosion Resistant Non Metallic Cover

Protects and Lasts...

Non Additional Relays, No Extra Circuitry

Three Phase Pressure Switches can be used instead of a motor starter pressure switch combination. No need for additional relay or any other circuitry.

Manual Cut-Off

Separate an auto-off disconnect lever for manual cut off of the compressor.

Salient Feature

- Available in ready to use condition.
- Special Unloader valve is provided which prevents compressor from starting under load.
- No Special Mounting required.

Technical Specifications

- Sensing Element - Nitrile Rubber.
- Factory setting 6~ 8 bar.
- Input Pressure Port 1/2" BSP Female
- Relief valve 6 mm dia.
- Cable Leading 11.5 & 14.5 mm diameter.
- Electrical Rating 16 A, 500 V AC
- Protection - IP 44.

Range Selection Table

Range Code (Orion)	Adjustement range (bar)	Switching differential (bar)
CS12	2 - 12	1.5 ~ 4.0

How to order CS12 Compressor Pressure Switches
Please specify the Range Code as **CS12**

NRND*

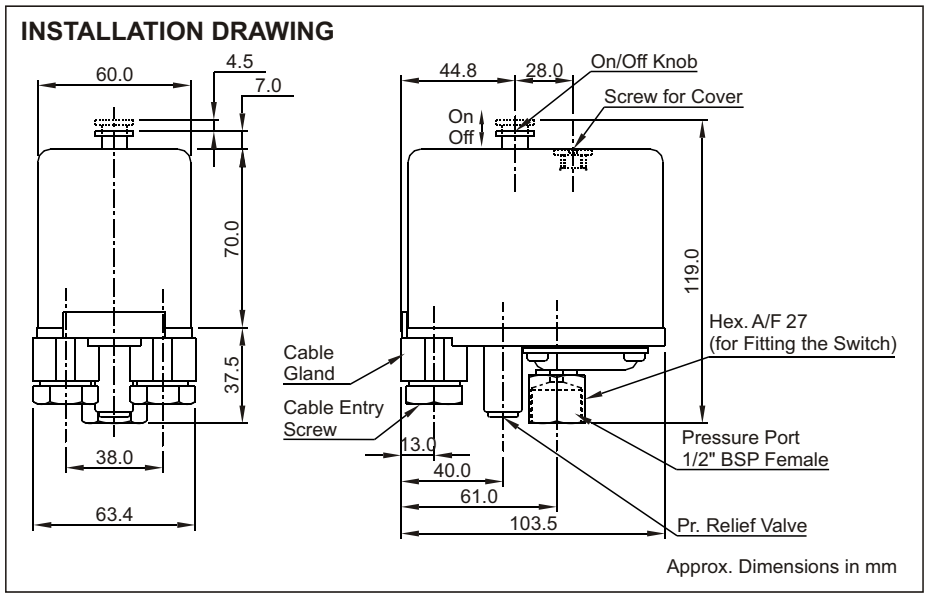
*Not Recomended New Design

***Under support mode. Support ends December 2024.**

COMPRESSOR PRESSURE SWITCHES CS12

INSTALLATION AND OPERATING INSTRUCTIONS

Fig. 1.1



Mounting Please refer Fig. 1.1

1. Pressure switches can be mounted directly on process connection 1/2"BSP F nut with external size of 27 mm A/F.
2. In case, any other process connection is required then the same can be achieved using adaptor.
3. Please don't tighten the switch by holding the top cover. Use appropriate spanner for turning the process connection nut.

Electrical Connections & Wiring (Refer fig 1.2)

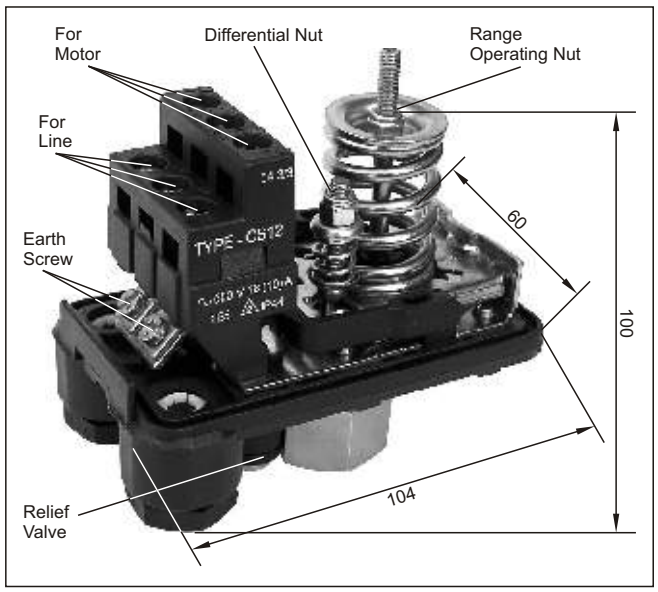
Wiring is to be carried out only when the switch is mounted and voltage free.

(a) Remove the top cover by unscrewing the black screw.

(b) Pass the cable through the cable gland and connect the wiring.

(c) Basically there are two connection as shown in the figure 1.2 one for Line and another for Motor. Each has three wires for three phase. Please ensure appropriate connection of phase wires. Two earthing screws are provided to connect earthing wires from line and motor.

Fig. 1.2



Set Point Adjustment: Refer fig 1.2

Adjustment is to be carried out only when the switch is mounted,

under pressure and voltage free

a. Remove the top cover.

b. Decide the cut-in (lower) pressure (P1) and cut-out (upper) pressure (P2). (Pressure switch is closed when the pressure is between pressure P1 and P2.)

c. Turn the Range nut and differential nut to extreme top position.

d. Apply the desired cut-in pressure (P1) to pressure port.

e. Turn the Range nut slowly till contacts changeover.

f. Turn the differential nut to the extreme positive end (bottom position)

g. Apply the desired cut-out (upper) pressure (P2) to pressure port.

h. Turn the differential nut till the contacts changeover.

i. Some minor adjustment will be required to achieve the exact cutin (lower) / output (higher) point, which can be checked with the help of proper pressure measurement device.

j. Replace the polymer cover after the adjustment of cut-in and cut- out point is achieved.