

Introduction

MZ series pressure switches have been designed for applications that require cost effective outdoor mounting, in aggressive environments. The tough polycarbonate cover, fitted on a stainless steel base, retained by SS screws offers excellent resistance to corrosion, and also allows a view of the internal scale and working of the pressure switch. The reliable microswitch offers narrow deadband, switching values, which have excellent repeatability. By using appropriate capsules and wetted parts, MZ series pressure switches can be used for thousands of applications.

APPLICATIONS

- Power Generation
- Burners and Furnaces
- Glass and Metal Industries
- Chemical Industries
- Steel Industry
- Hydraulic, Steam and Gas Turbines
- 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 : $\pm 1\%$ of FSR
- Enclosure : Tough Polycarbonate and SS to IP 66
- Switch output : SPDT / 2SPDT
- Process connection : $\frac{1}{4}$ " BSP standard,
- Approximate weight : 1 kg

FEATURES

- Robust
- Externally visible scale for viewing, along with internal working of the switch
- Enclosure protection : IP 66 / IP 68 standard
- Reliable accurate microswitches for long life switching
- Customized arrangements for switching values on request
- Easy safe wiring options
- Locking and sealing arrangement to avoid tampering of setpoints on field
- Accuracy $\pm 1\%$ FSR
- Warranty : 2 years

*Accuracy changes with switch configuration

PROCESS SWITCHES

SPECIFIER'S GUIDE FOR

PRESSURE SWITCHES

PRESSURE DIFFERENCE SWITCHES

VACUUM SWITCHES

TEMPERATURE SWITCHES



Using the section

This section 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 141, 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 146 through 149, 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, hysteresis, electrical ratings etc.

- Ordering information

- Some applications

The organisation of each of these pages is demonstrated on pages 142 and 143, 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.

Process Switches Pictorial Index

PRESSURE SWITCHES

HIGH RANGE

HIGH RANGE



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HIGH PROOF HIGH RANGE



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FLANGED



Page No. 158

HYDRAULIC RANGE*

HYDRAULIC DIAPHRAGM RANGE



Page No. 162

HYDRAULIC RANGE



Page No. 166

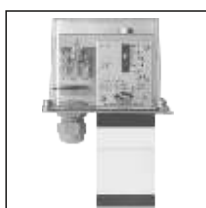
PRESSURE DIFFERENCE SWITCHES

HIGH RANGE



Page No. 170

HIGH RANGE DP



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HYDRAULIC RANGE DP



Page No. 178

VACUUM SWITCHES

HIGH RANGE



Page No. 182

COMPOUND SWITCHES

HIGH RANGE



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TEMPERATURE SWITCHES

DIRECT MOUNTED



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*Hydraulic ranges are ranges typically from 2 bar to 600 bar, used in oil applications. However, these switches can be used for other media depending on wetted parts compatibility.

HOW TO USE this section

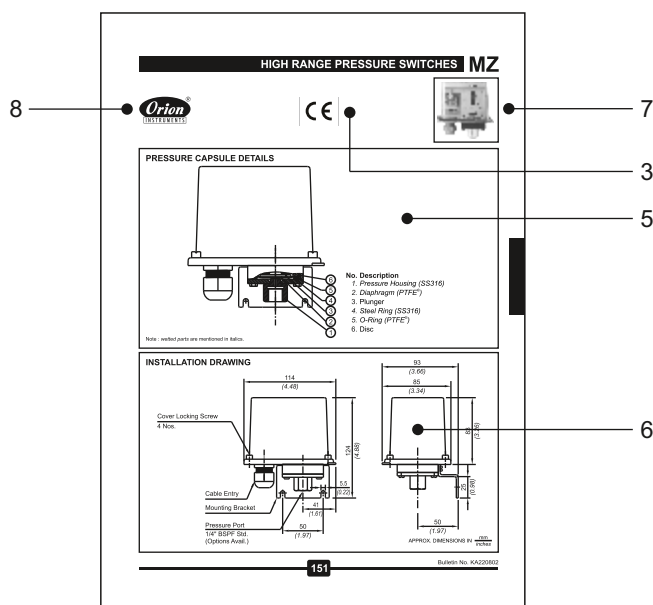
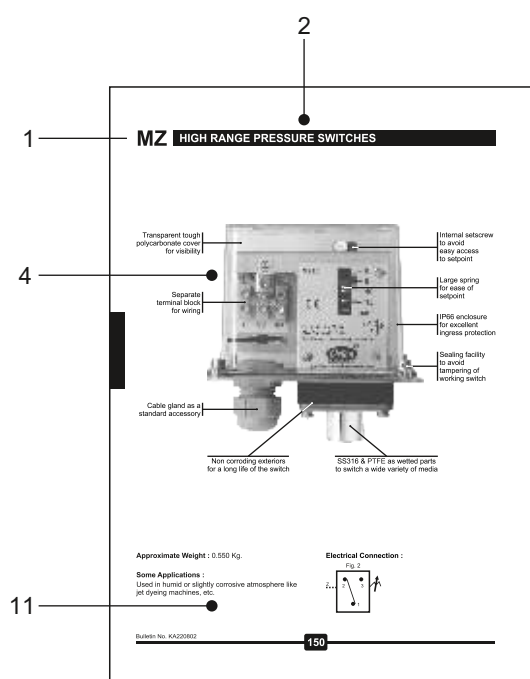
Due to the variety in product types and their salient features, catalogue page formats may vary. But generally the following format is adhered to.

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. **Certification** - Where ever applicable, will appear below the name of the product section in between product photo and company logo.
4. **Features** - will appear next to product description & will enlist only the major attributes.
5. **Pressure capsule details** - will show the construction of the pressure capsule and all its 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.

6. **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.



HOW TO USE this section

7. **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.
8. **Logo** - will appear on right hand top of page to identify the manufacturer.
9. **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.

10. **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.

11. **Some applications** - will appear at the bottom left of the page. This is for easy understanding of the specific use of the product.

12. 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.

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MZ HIGH RANGE PRESSURE SWITCHES			
RANGE SELECTION TABLE			
Range Code	Range bar (psi)	Differential* bar (psi)	Maximum Working Pressure bar (psi)
LP*	0.007 - 0.213 (0.97 - 3.06)	0.05 (0.72)	5 (72.52)
LP5	0.1 - 0.5 (1.45 - 7.25)	0.10 (1.45)	5 (72.52)
H01	0.1 - 1.0 (1.45 - 14.50)	0.10 (1.45)	12 (174.05)
H02	0.1 - 1.5 (1.45 - 21.76)	0.20 (2.90)	12 (174.05)
H03	0.2 - 2.6 (2.90 - 37.71)	0.20 (2.90)	12 (174.05)
H04	0.2 - 3.6 (2.90 - 52.21)	0.30 (4.35)	12 (174.05)
H07	0.5 - 7.8 (7.25 - 107.50)	0.60 (8.70)	12 (174.05)
H10	0.5 - 10.9 (7.25 - 145.04)	0.80 (11.60)	25 (362.6)
H15	1.0 - 16.9 (14.50 - 217.56)	1.00 (14.50)	25 (362.6)
H30	5.0 - 25.0 (72.52 - 362.6)	1.50 (21.75)	35 (507.63)

Note:

- The minimum differential increases with the setpoint. The differential values mentioned in the above table are approximate maximum for FSR. The differential value will vary according to the pressure range selected and microswitch type. For actual values of differential please contact sales office.
- When using 2SPDT switching arrangement, both microswitches may not actuate and/or deactuate at the same point. A small slope gap, normally upto $\pm 5\%$ FSR (depending on range code) may be observed. The On-Off differential (hysteresis) typically tends to be about double of those published for 1SPDT pressure switches.

If actuation and/or deactuation at same point is critical part of operation, then it can be achieved by using a separate DPDT relay. This relay will need a separate power supply line to its coil.



Note: Welded diaphragm also available as shown.

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HIGH RANGE PRESSURE SWITCHES

MZ

HOW TO ORDER PROCESS HIGH RANGE PRESSURE SWITCHES

Group 1	Group 2	Group 3	Group 4	Group 5	Group 6	Group 7	Group 8	Group 9	Group 10				
Next standard accessory	Model	Cable Entry Size	Switch Type	Range Code (Values in Bar)	Microswitch Type	Pressure Unit Material Code	Pressure Port Material Code	Diaphragm	Options				
☒ Reserved for options not covered by catalogue. With material and mounting specification agreed with customer	MZ	1 = 1/2 Bore 2 = 1/2 Bore 3 = 1/2 Bore 4 = 1/2 Bore 5 = 1/2 Bore 6 = 1/2 Bore 7 = 1/2 Bore 8 = 1/2 Bore 9 = 1/2 Bore 10 = 1/2 Bore 11 = 1/2 Bore 12 = 1/2 Bore	1 = 1SPDT 2 = 2SPDT 3 = 3SPDT 4 = 4SPDT 5 = 5SPDT 6 = 6SPDT 7 = 7SPDT 8 = 8SPDT 9 = 9SPDT 10 = 10SPDT 11 = 11SPDT 12 = 12SPDT	LP* = 0.007 - 0.213 LP5 = 0.1 - 0.5 H01 = 0.1 - 1.0 H02 = 0.1 - 1.5 H03 = 0.2 - 2.6 H04 = 0.2 - 3.6 H07 = 0.5 - 7.8 H10 = 0.5 - 10.9 H15 = 1.0 - 16.9 H30 = 5.0 - 25.0	Microswitch Microswitch Microswitch Microswitch Microswitch Microswitch Microswitch Microswitch Microswitch Microswitch Microswitch Microswitch	Al = Aluminium St = Stainless Steel Ti = Titanium In = Inconel Cu = Copper Br = Brass Pb = Lead Zn = Zinc Ni = Nickel Mo = Molybdenum Co = Cobalt Cr = Chromium Mn = Manganese Fe = Iron C = Carbon S = Sulphur P = Phosphorus Si = Silicon Mg = Magnesium Ca = Calcium K = Potassium Na = Sodium Li = Lithium Be = Beryllium B = Boron F = Fluorine Cl = Chlorine Br = Bromine I = Iodine At = Astatine Rn = Radon Fr = Francium Ra = Radium Ac = Actinium Th = Thorium Pa = Protactinium U = Uranium Np = Neptunium Pu = Plutonium Am = Americium Cm = Curium Bk = Berkelium Cf = Californium Es = Einsteinium Fm = Fermium Md = Mendelevium No = Nobelium Lr = Lawrencium	Al = Aluminium St = Stainless Steel Ti = Titanium In = Inconel Cu = Copper Br = Brass Pb = Lead Zn = Zinc Ni = Nickel Mo = Molybdenum Co = Cobalt Cr = Chromium Mn = Manganese Fe = Iron C = Carbon S = Sulphur P = Phosphorus Si = Silicon Mg = Magnesium Ca = Calcium K = Potassium Na = Sodium Li = Lithium Be = Beryllium B = Boron F = Fluorine Cl = Chlorine Br = Bromine I = Iodine At = Astatine Rn = Radon Fr = Francium Ra = Radium Ac = Actinium Th = Thorium Pa = Protactinium U = Uranium Np = Neptunium Pu = Plutonium Am = Americium Cm = Curium Bk = Berkelium Cf = Californium Es = Einsteinium Fm = Fermium Md = Mendelevium No = Nobelium Lr = Lawrencium	Microswitch Microswitch Microswitch Microswitch Microswitch Microswitch Microswitch Microswitch Microswitch Microswitch Microswitch Microswitch	Diaphragm Diaphragm Diaphragm Diaphragm Diaphragm Diaphragm Diaphragm Diaphragm Diaphragm Diaphragm Diaphragm Diaphragm	Mounting Mounting Mounting Mounting Mounting Mounting Mounting Mounting Mounting Mounting Mounting Mounting	Accessories Accessories Accessories Accessories Accessories Accessories Accessories Accessories Accessories Accessories Accessories Accessories	Options Options Options Options Options Options Options Options Options Options Options Options	Notes Notes Notes Notes Notes Notes Notes Notes Notes Notes Notes Notes
	MZ	3	1/2	105	AB	5	5	Group 9	Group 10				

105 = 10 bar pressure in switch with differential pressure 0.1 bar. 1 bar pressure range, with 4 Amp. measurement, 0.025 bar pressure hysteresis with 1/2 psi
 105 = 10 bar pressure in switch with differential pressure 0.1 bar. 1 bar pressure range, with 4 Amp. measurement, 0.025 bar pressure hysteresis with 1/2 psi

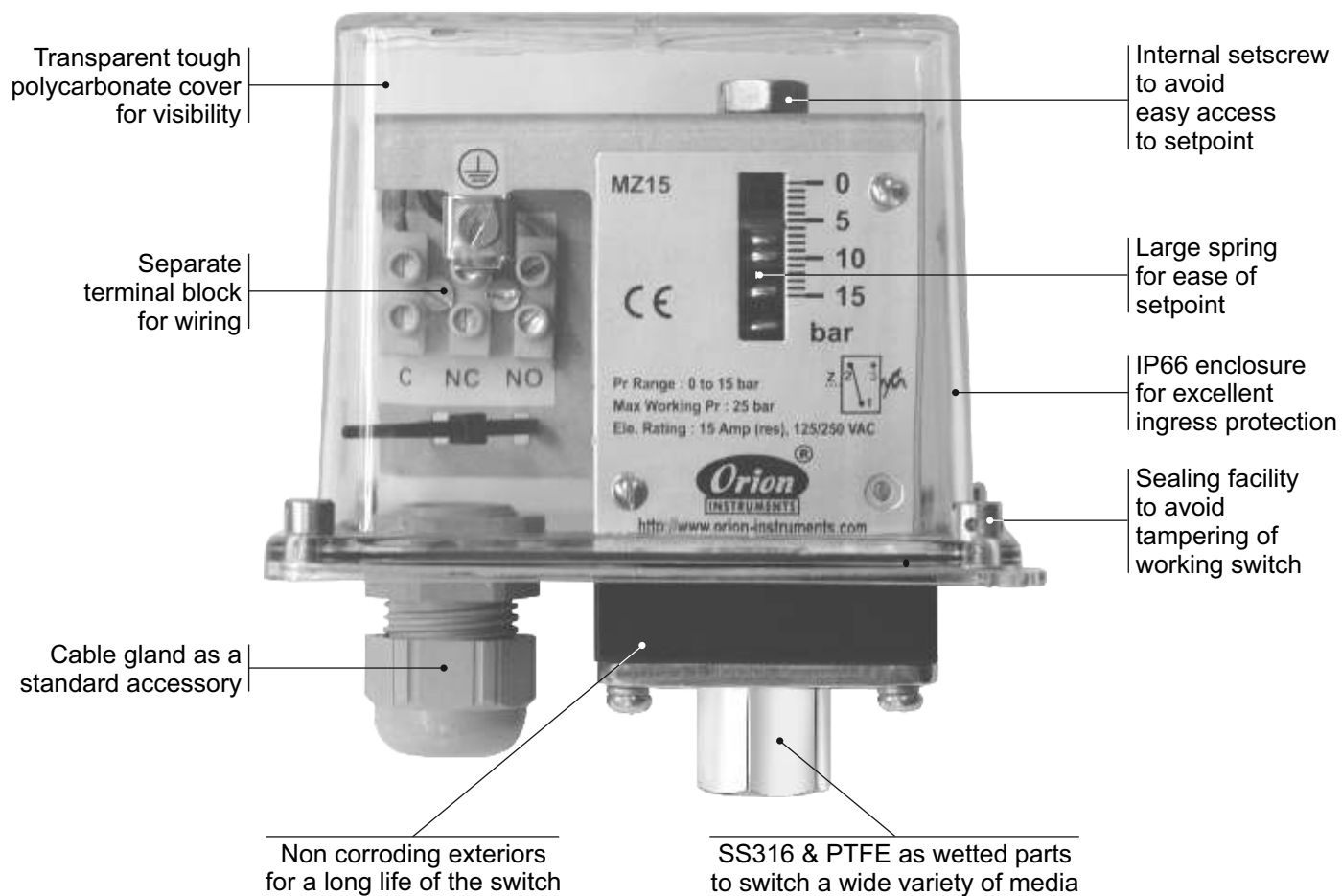
Pressure switch full model number to avoid ambiguity

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Switch Construction



The versatile construction of MZ series process pressure switches can be configured to suit applications, by selecting the following main subassemblies / components :

a) The enclosure

The tough polycarbonate cover, fitted on a stainless steel base, retained by SS screws offers excellent resistance to corrosion, and also allows a view of the internal scale and working of the pressure switch. The reliable snapaction microswitch offers narrow deadband, switching values, which have excellent repeatability. By using appropriate capsules and wetted parts, MZ series pressure switches can be used for thousands of applications.

A standard cable gland (PG13.5 or M20 x 1.5) is provided as a standard accessory.

b) The electrical element (s) :

Choice of electrical elements to suit end use are offered, like :

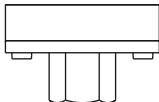
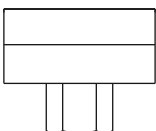
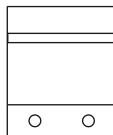
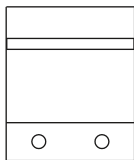
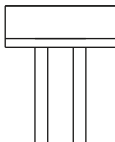
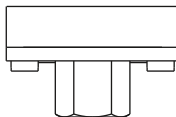
- A8 : General purpose applications
- A7 : 2SPDT switching elements
- A9 : General purpose applications

It is possible to have more options of electrical elements not published here, to suit individual end use.

The deadband (or hysteresis / on-off differential) of the switches will change with the change of the electrical element (s). The approximate values for each range (for standard microswitches offered) are published in this catalogue

c) The pressure capsule :

To suit the setpoints , the working media and the function of the switch in the application:

High Range Pressure Switches (typically from 0.067 barg to 25 barg) 	High Proof High Range Pressure Switches (typically from 0.1 barg to 25 barg : Pmax = 70) 	High Range Pressure Difference Switches (typically from 0.1 barg to 25 barg) 
Vacuum Switches (typically from 760 mm Hg to atmospheric pressure) 	Hydraulic Range Pressure Switches (typically from 0.5 barg to 400 barg) 	OEM Switches (typically from 0.1 barg to 25 barg) 

The pressure capsule can be modified to take high proof pressures [typically 100 bar for high pressure switches, or pressure difference switches (from high pressure side)].

Several accessories like chemical seals, pipe mounting brackets etc can be supplied with these switches to suit the media to be sensed. All of these are not listed, though most popular ones can be found on pages 322 through 328.

Please do get in touch with us for any of your applications, not addressed in this catalogue. We would be glad to offer you a solution.

Product Selection Guide



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Switch type	High range	High proof high range	Flanged
Repeatability (% FSR)	± 1	± 2	± 2
Range covered	0.067 bar to 25 bar	0.1 bar to 25 bar	0.1 bar to 200 bar
Enclosure Protection	IP 66 / IP 68		
Enclosure Material	Tough transparent polycarbonate		
sensing element Standard Optional	Diaphragm nylon reinforced neoprene diaphragm protected by PTFE SS 316L, PTFE, Monel SS 316L, PTFE		Diaphragm nylon reinforced neoprene diaphragm PTFE, SS316L, Hastelloy C, Monel, Titanium, Tantalum
Pressure housing Standard Optional	Monel	SS 316	Flange SS316L Hastelloy C276, Monel, Titanium, Tantalum
Other Wetted Parts	PTFE, SS316		PTFE, SS 316
Optional wetted parts through chem. seal	-		
Temp. of working medium	For non-metallic diaphragm: 80°C maximum. For metallic diaphragm: 150°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		

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



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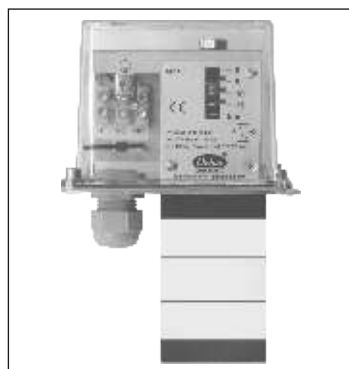
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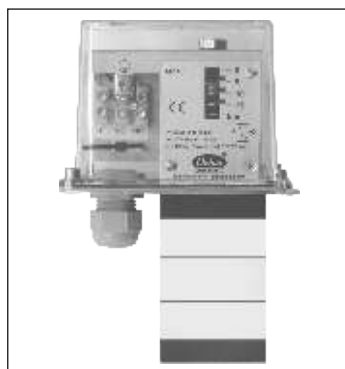
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Hydraulic Diaphragm		Hydraulic	High range pressure difference	Switch type
± 2		± 1	± 1	Repeatability (% FSR)
0.5 bar to 400 bar		5 bar to 400 bar	0.1 bar to 3.6 bar	Range covered
IP 66 / IP 68				Enclosure Protection
Tough transparent polycarbonate				Enclosure Material
Diaphragm SS316 Monel	Piston SS	Diaphragm nylon reinforced neoprene diaphragm protected by PTFE PTFE	sensing element Standard Optional	
SS 316		Aluminium SS 316	Pressure housing Standard Optional	
SS316, PTFE	SS	PTFE, SS, SS 316	Other Wetted Parts	
-	-	-	Optional wetted parts through chem. seal	
For non-metallic diaphragm: 80°C maximum. For metallic diaphragm: 150°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

Product Selection Guide



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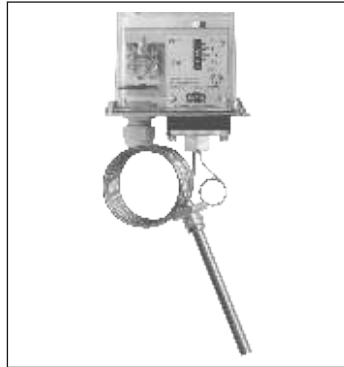
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Switch type	High Range DP	Hydraulic Range DP	Vacuum
Repeatability (% FSR)	± 1		± 2
Range covered	0.1 bar to 25 bar	0.1 bar to 400 bar	760 mmHg to 100 mmHg
Enclosure Protection	IP 66 / IP 68		
Enclosure Material	Tough transparent polycarbonate		
sensing element Standard Optional	Diaphragm nylon reinforced neoprene diaphragm protected by PTFE PTFE		
Pressure housing Standard Optional	SS 316	SS 316	Aluminium SS 316
Other Wetted Parts	PTFE	PTFE	PTFE, SS 316
Optional wetted parts through chem. seal			
Temp. of working medium	For non-metallic diaphragm: 80°C maximum. For metallic diaphragm: 150°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		

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



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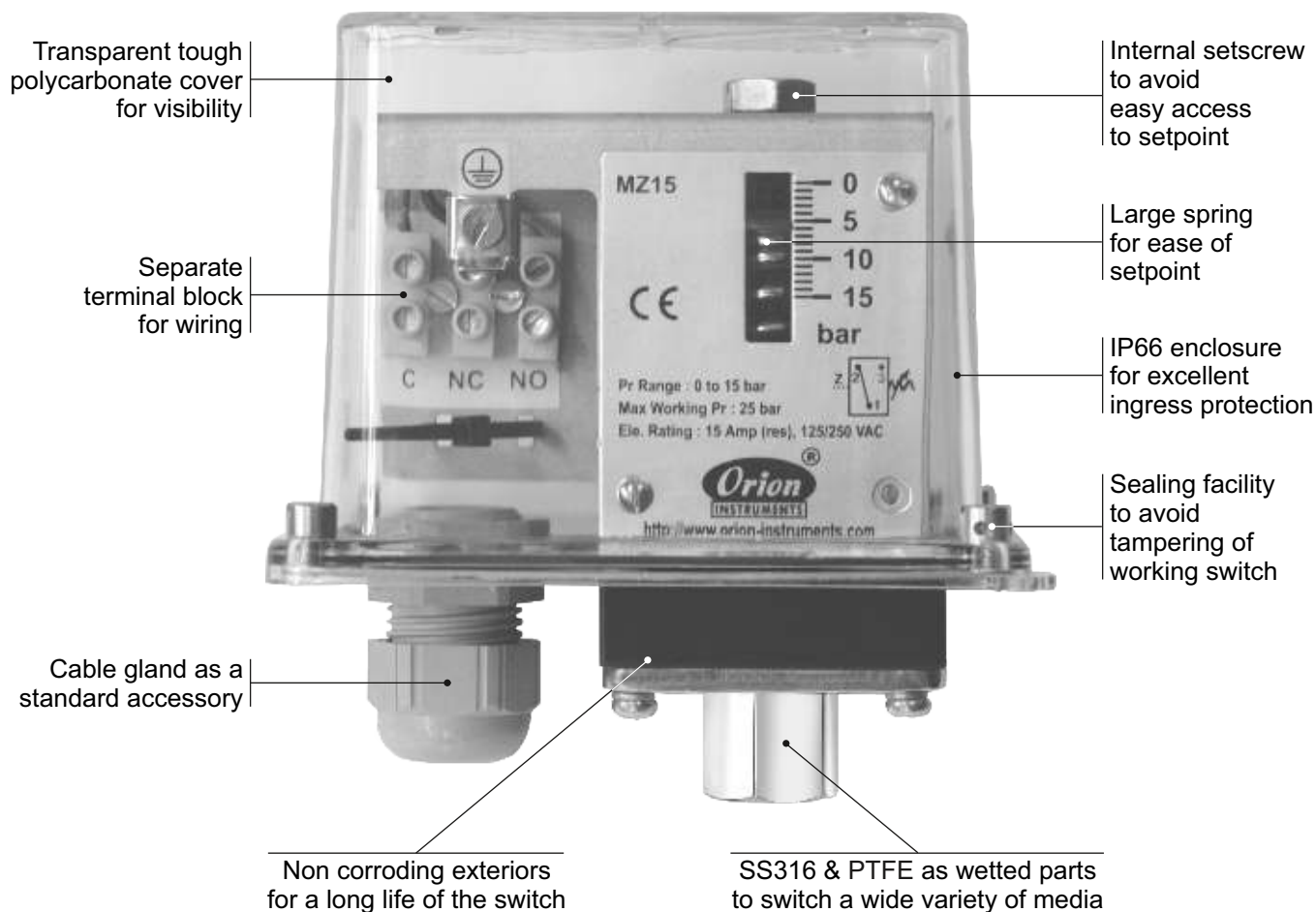


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High Range Compound	Temperature	Temperature	Switch type
± 2		± 1	Repeatability (% FSR)
-1 bar to 7 bar	25°C to 215°C	35°C to 215°C	Range covered
IP 66 / IP 68			Enclosure Protection
Tough transparent polycarbonate			Enclosure Material
Diaphragm Neoprene / SS316 / Teflon	Bulb / Probe Brass		sensing element Standard Optional
			Pressure housing Standard Optional
SS316		SS	Other Wetted Parts
-	-	-	Optional wetted parts through chem. seal
For non-metallic diaphragm: 80°C maximum. For metallic diaphragm: 150°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

MZ HIGH RANGE PRESSURE SWITCHES

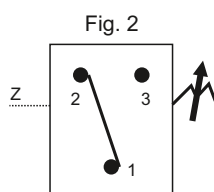


Approximate Weight : 0.550 Kg.

Some Applications :

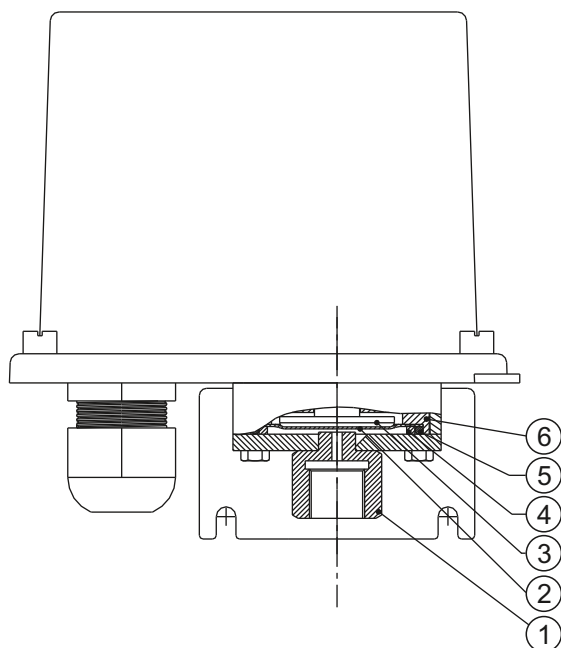
Used in humid or slightly corrosive atmosphere like jet dyeing machines, etc.

Electrical Connection :





PRESSURE CAPSULE DETAILS



No. Description

1. *Pressure Housing (SS316)*
2. *Diaphragm (PTFE®)*
3. Plunger
4. *Steel Ring (SS316)*
5. *O-Ring (PTFE®)*
6. Disc

Note : *wetted parts* are mentioned in italics.

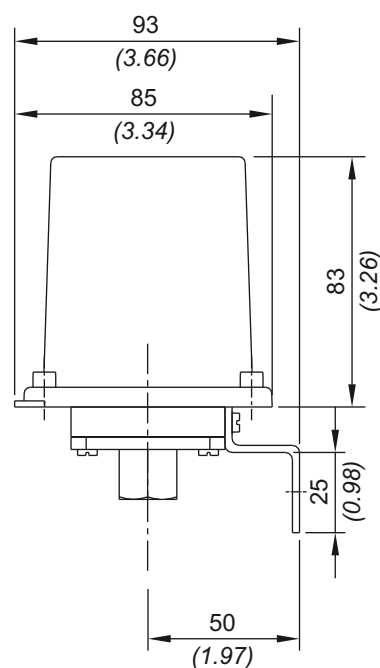
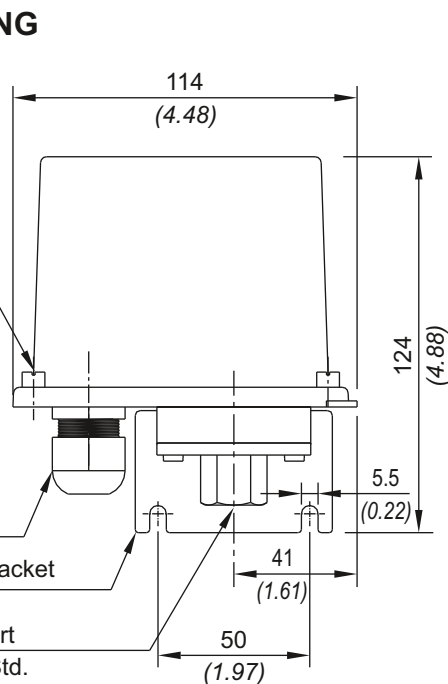
INSTALLATION DRAWING

Cover Locking Screw
4 Nos.

Cable Entry

Mounting Bracket

Pressure Port
1/4" BSPF Std.
(Options Avail.)



APPROX. DIMENSIONS IN $\frac{\text{mm}}{\text{inches}}$

MZ HIGH RANGE PRESSURE SWITCHES

RANGE SELECTION TABLE

Range Code	Range bar (psi)	Differential* bar (psi)	Maximum Working Pressure bar (psi)
		Approximate Maximum for "A8" microswitch	
LP [†]	0.067 - 0.213 (0.97 - 3.09)	0.05 (0.72)	5 (72.52)
LP5	0.1 - 0.5 (1.45 - 7.25)	0.10 (1.45)	5 (72.52)
H01	0.1 - 1.0 (1.45 - 14.50)	0.10 (1.45)	12 (174.05)
H02	0.1 - 1.5 (1.45 - 21.76)	0.20 (2.90)	12 (174.05)
H03	0.2 - 2.6 (2.90 - 37.71)	0.20 (2.90)	12 (174.05)
H04	0.2 - 3.6 (2.90 - 52.21)	0.30 (4.35)	12 (174.05)
H07	0.5 - 7.0 (7.25 - 101.50)	0.60 (8.70)	12 (174.05)
H10	0.5 - 10.0 (7.25 - 145.04)	0.80 (11.60)	25 (362.6)
H15	1.0 - 15.0 (14.50 - 217.56)	1.00 (14.50)	25 (362.6)
H30	5.0 - 25.0 (72.52 - 362.6)	1.50 (21.75)	35 (507.63)

Note:

1. The minimum differential increases with the setpoint. The differential values mentioned in the above table are approximate maximum for FSR. The differential value will vary according to the pressure range selected and microswitch type. For actual values of differential please contact sales office.



Note: Welded diaphragm also available as shown

2. When using 2SPDT switching arrangement, both microswitches may not actuate and/or deactuate at the same point. A small stage gap, normally upto +/- 5% FSR (depending on range code) may be observed. The On-Off differential (hysteresis) typically tends to be atleast double of those published for 1SPDT pressure switches.

If actuation and/or deactuation at same point is critical part of operation, then it can be achieved by using a separate DPDT relay. This relay will need a separate power supply for it's coil.

HOW TO ORDER PROCESS HIGH RANGE PRESSURE SWITCHES

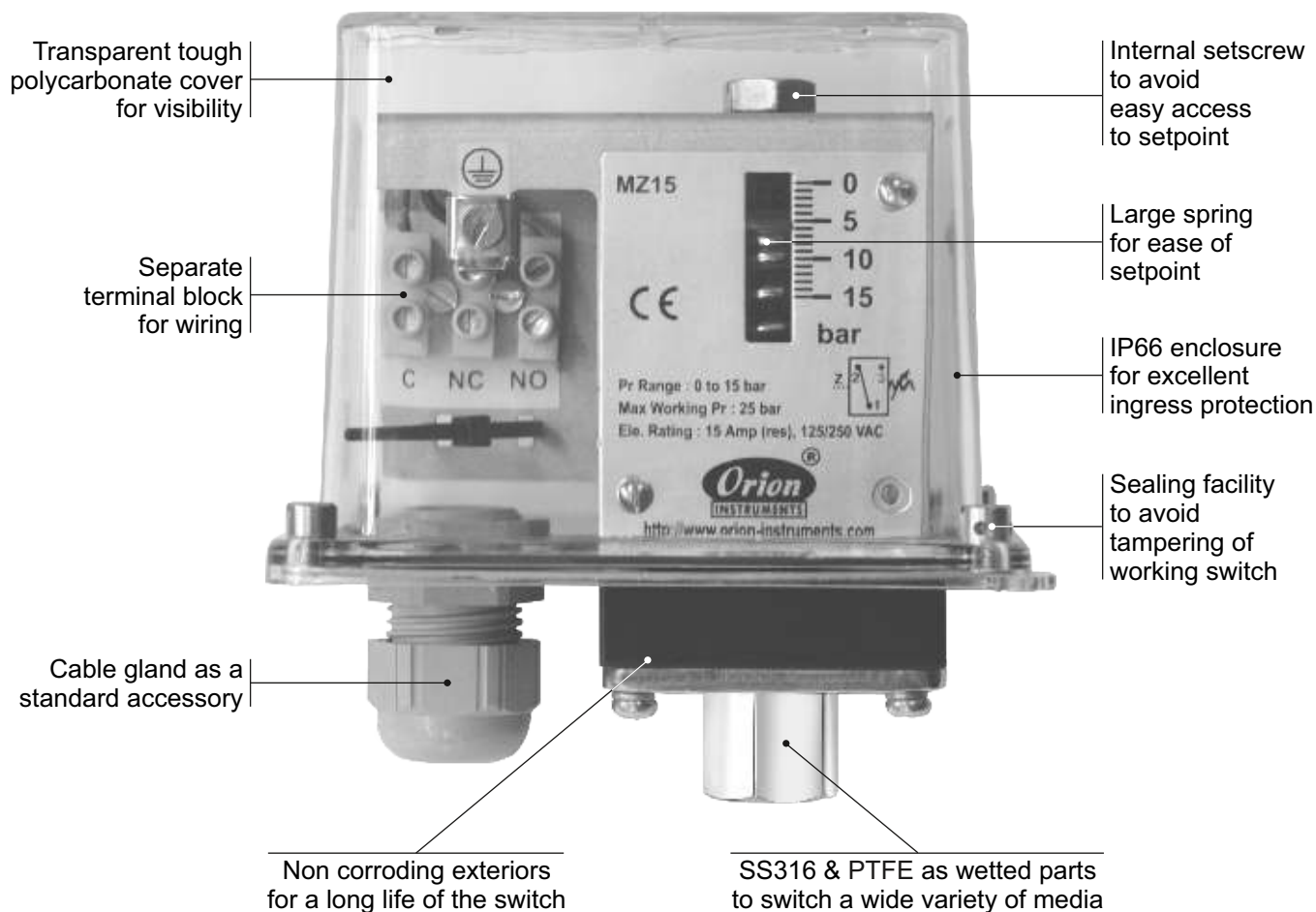
Group 1	Group 2	Group 3	Group 4	Group 5	Group 6	Group 7	Group 8
Non standard allocation	Model	Cable Entry Size	Switch Type	Range Code (values in bar)	Microswitch Type	Pressure Port Material / Size	Diaphragm
☐ Reserved for non-standard options not covered in catalogue. Will be given by manufacturer, only after agreement of supply details with customer.	MZ = Process pressure switch with a weatherproof enclosure rated IP66 as per IS/IEC 60529 Note : Contact sales office for IP 68 enclosure	1 = Polycarbonate Enclosure ½" NPT threads 2 = Polycarbonate Enclosure ¾" NPT threads 3 = Polycarbonate Enclosure M20 x 1.5 threads 4 = Diecast Al. Enclosure ½" NPT threads 5 = Diecast Al. Enclosure ¾" NPT threads 6 = Diecast Al. Enclosure M20 x 1.5 threads 7 = SS Enclosure ½" NPT threads 8 = SS Enclosure ¾" NPT threads 9 = SS Enclosure M20 x 1.5 threads Note : For dual cable entries contact sales office	PF2 = pressure switch, fixed differential with scale in bar PF3 = pressure switch, fixed differential with scale in psi *PA2 = pressure switch, adjustable differential with scale in bar *PA3 = pressure switch, adjustable differential with scale in psi *Available only with option A7 and A9 in Group 6	LP = (0.067 - 0.213) LP5 = (0.1 - 0.5) H01 = (0.1 - 1.0) H02 = (0.1 - 1.5) H03 = (0.2 - 2.6) H04 = (0.2 - 3.6) H07 = (0.5 - 7.0) H10 = (0.5 - 10.0) H15 = (1.0 - 15.0) H30 = (5.0 - 25.0)	A8 = General purpose microswitch A7 = 2SPDT microswitches A9 = General purpose microswitch * Please refer note under Range Selection Table	S1 = SS316 / ¼" BSP(F) S2 = SS316 / ¼" NPT(F) S3 = (welded diaphragm) SS316 / 1" BSP(M) S4 = SS316 / ½" NPT(F) S5 = SS316 / ½" NPT(M) H1 = Hastelloy C / ¼" BSP(F) H2 = Hastelloy C / ¼" NPT(F) N1 = Monel / ¼" BSP(F) N2 = Monel / ¼" NPT(F) More options available. Please contact sales office.	0 = Neoprene 1 = PTFE 2 = SS 316L 3 = Hastelloy C 4 = Monel

eg. A process pressure switch with fixed differential having 0.1 bar to 1 bar pressure range, with 5 Amp. microswitch, SS316 pressure housing with ¼" BSP port size & neoprene diaphragm shall be specified by

Group 1	Group 2	Group 3	Group 4	Group 5	Group 6	Group 7	Group 8
☐	MZ	3	PF2	H01	A8	S1	0

Please specify full model number to avoid ambiguity.

MZ HIGH PROOF HIGH RANGE PRESSURE SWITCHES

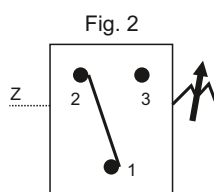


Approximate Weight : 0.900 Kg.

Some Applications :

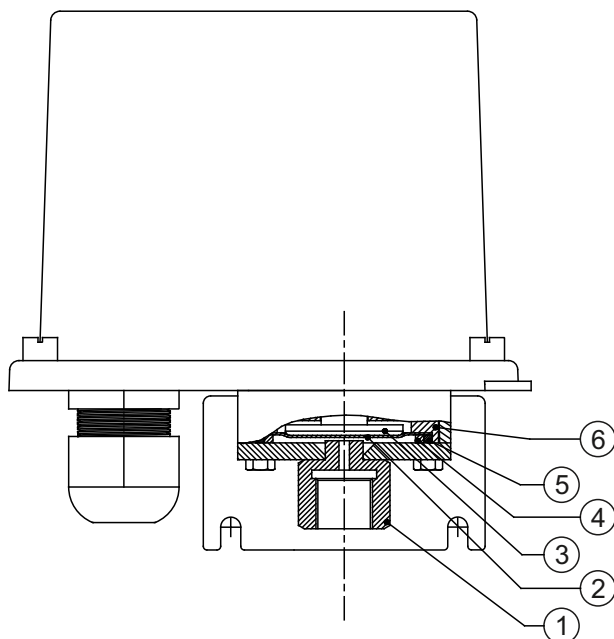
Used where low set point and high proof pressure is required like tyre moulding machines, etc.

Electrical Connection :





PRESSURE CAPSULE DETAILS

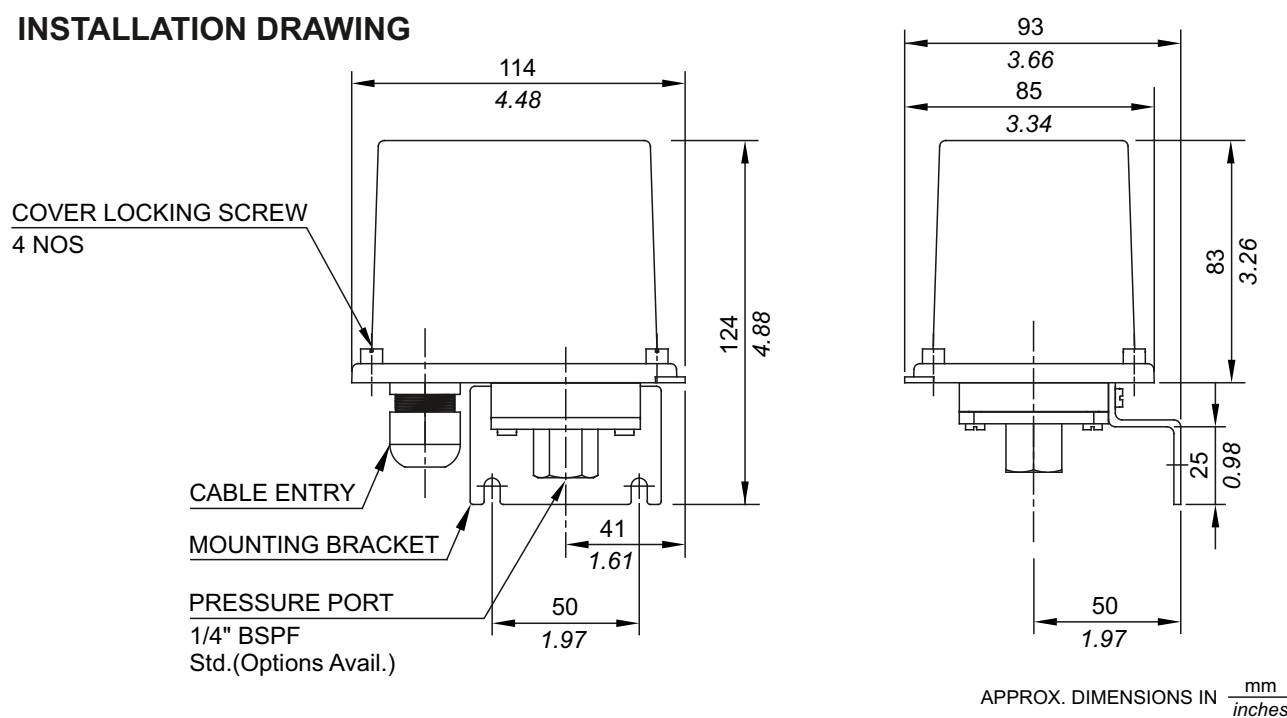


No. Description

1. Pressure Port (SS316)
2. Diaphragm (PTFE®)
3. Plunger
4. Steel Ring (SS316)
5. O-Ring (PTFE®)
6. Disc

Note : wetted parts are mentioned in italics.

INSTALLATION DRAWING



MZ HIGH PROOF HIGH RANGE PRESSURE SWITCHES

RANGE SELECTION TABLE

Range Code	Range bar (psi)	Differential* bar (psi)	Maximum Working Pressure bar (psi)
		Approximate Maximum for "A8" microswitch	
P01	0.1 - 1.0 (1.45 - 14.50)	0.20 (2.90)	70 (1015.26)
P02	0.1 - 1.5 (1.45 - 21.76)	0.40 (5.80)	70 (1015.26)
P03	0.2 - 2.6 (2.90 - 37.71)	0.40 (5.80)	70 (1015.26)
P04	0.2 - 3.6 (2.90 - 52.21)	0.50 (7.25)	70 (1015.26)
P07	0.5 - 7.0 (7.25 - 101.53)	1.00 (14.50)	70 (1015.26)
P10	0.5 - 10.0 (7.25 - 145.04)	1.00 (14.50)	70 (1015.26)
P15	1.0 - 15.0 (14.50 - 217.56)	1.5 (21.76)	70 (1015.26)
P30	5.0 - 25.0 (72.52 - 362.6)	1.5 (21.76)	70 (1015.26)

Note:

1. The minimum differential increases with the setpoint. The differential values mentioned in the above table are approximate maximum for FSR. The differential value will vary according to the pressure range selected and microswitch type. For actual values of differential please contact sales office.



Note: Welded diaphragm also available as shown

2. When using 2SPDT switching arrangement, both microswitches may not actuate and/or deactuate at the same point. A small stage gap, normally upto +/- 5% FSR (depending on range code) may be observed. The On-Off differential (hysteresis) typically tends to be atleast double of those published for 1SPDT pressure switches.

If actuation and/or deactuation at same point is critical part of operation, then it can be achieved by using a separate DPDT relay. This relay will need a separate power supply for it's coil.

HOW TO ORDER PROCESS HIGH PROOF HIGH RANGE PRESSURE SWITCHES

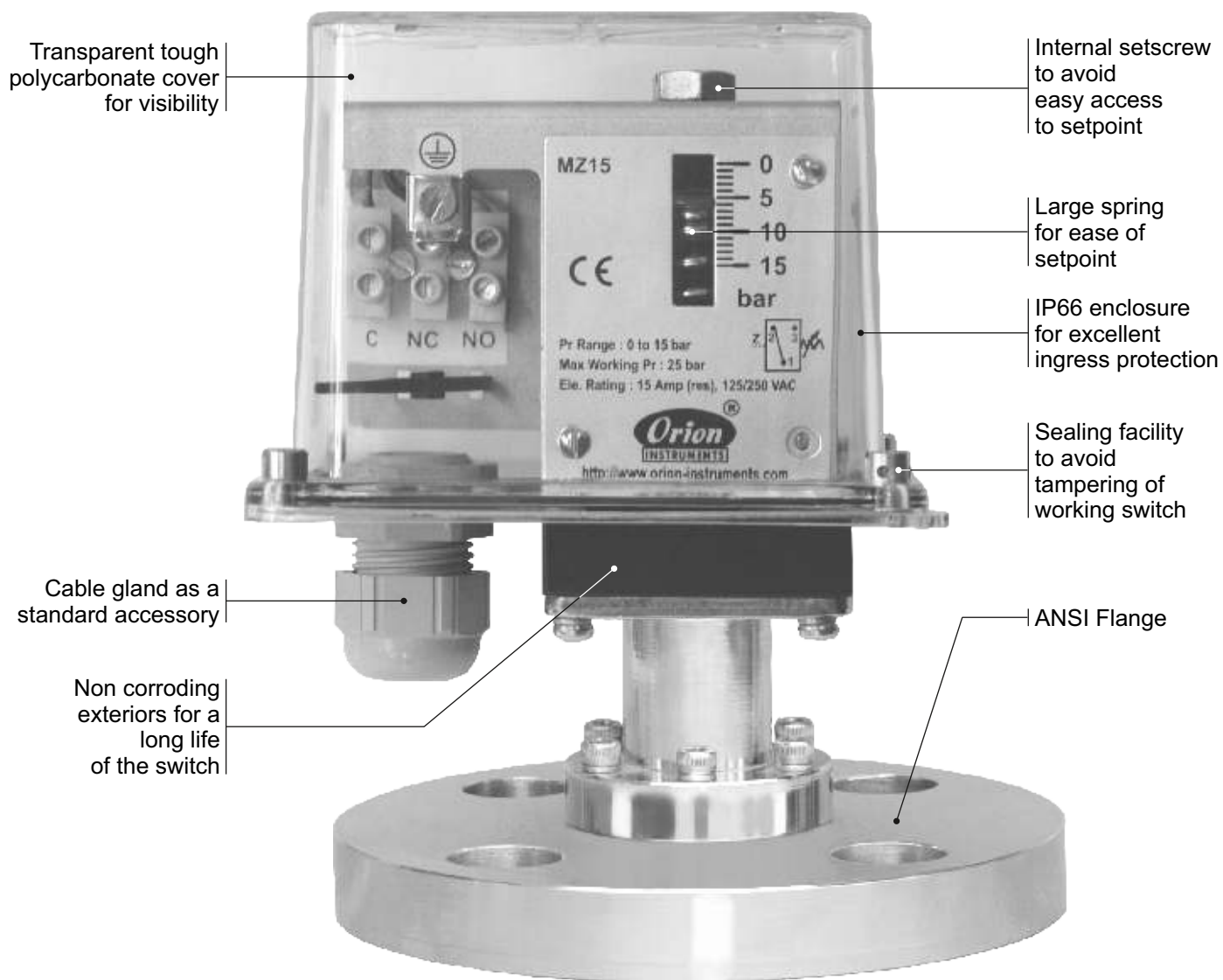
Group 1	Group 2	Group 3	Group 4	Group 5	Group 6	Group 7	Group 8
Non standard allocation	Model	Cable Entry Size	Switch Type	Range Code (values in bar)	Microswitch Type	Pressure Port Material / Size	Diaphragm
☐ Reserved for non-standard options not covered in catalogue. Will be given by manufacturer, only after agreement of supply details with customer.	MZ = Process pressure switch with a weatherproof enclosure rated IP66 as per IS/IEC 60529 Note : Contact sales office for IP 68 enclosure	1 = Polycarbonate Enclosure ½" NPT threads 2 = Polycarbonate Enclosure ¾" NPT threads 3 = Polycarbonate Enclosure M20 x 1.5 threads 4 = Diecast Al. Enclosure ½" NPT threads 5 = Diecast Al. Enclosure ¾" NPT threads 6 = Diecast Al. Enclosure M20 x 1.5 threads 7 = SS Enclosure ½" NPT threads 8 = SS Enclosure ¾" NPT threads 9 = SS Enclosure M20 x 1.5 threads Note : For dual cable entries contact sales office	PF2 = pressure switch, fixed differential with scale PF3 = pressure switch, fixed differential with scale in psi PA2* = pressure switch, adjustable differential with scale in bar PA3* = pressure switch, adjustable differential with scale in psi *Available only with option A7 and A9 in Group 6	P01 = (0.1 - 1.0) P02 = (0.1 - 1.5) P03 = (0.2 - 2.6) P04 = (0.2 - 3.6) P07 = (0.5 - 7.0) P10 = (0.5 - 10.0) P15 = (1.0 - 15.0) P30 = (5.0 - 25.0)	A8 = General purpose microswitch A7 = 2SPDT microswitches A9 = General purpose microswitch * Please refer note under Range Selection Table	S1 = SS316 / ¼" BSP(F) S2 = SS316 / ¼" NPT(F) S3 = (welded diaphragm) SS316 / 1" BSP(M) S4 = SS316 / ½" NPT(F) S5 = SS316 / ½" NPT(M) H1 = Hastelloy C / ¼" BSP(F) H2 = Hastelloy C / ¼" NPT(F) N1 = Monel / ¼" BSP(F) N2 = Monel / ¼" NPT(F) More options available. Please contact sales office.	0 = Neoprene 1 = PTFE 2 = SS 316L 3 = Hastelloy C 4 = Monel

eg. A process pressure switch with fixed differential having 0.1 bar to 1 bar pressure range, with 5 Amp. microswitch, SS316 pressure housing with ¼" BSP port size & neoprene diaphragm shall be specified by

Group 1	Group 2	Group 3	Group 4	Group 5	Group 6	Group 7	Group 8
☐	MZ	3	PF2	P01	A8	S1	0

Please specify full model number to avoid ambiguity.

MZ FLANGED PRESSURE SWITCHES



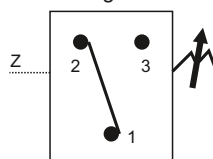
Approximate Weight : 0.900 Kg.

Some Applications :

In non-hazardous areas for slurry, colloidal solutions, corrosive & non-corrosive working media (unclean working media), etc.

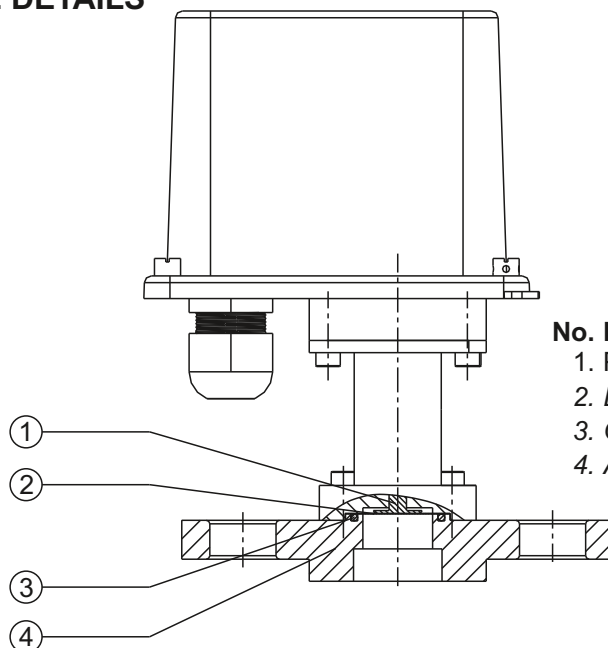
Electrical Connection :

Fig. 2





PRESSURE CAPSULE DETAILS

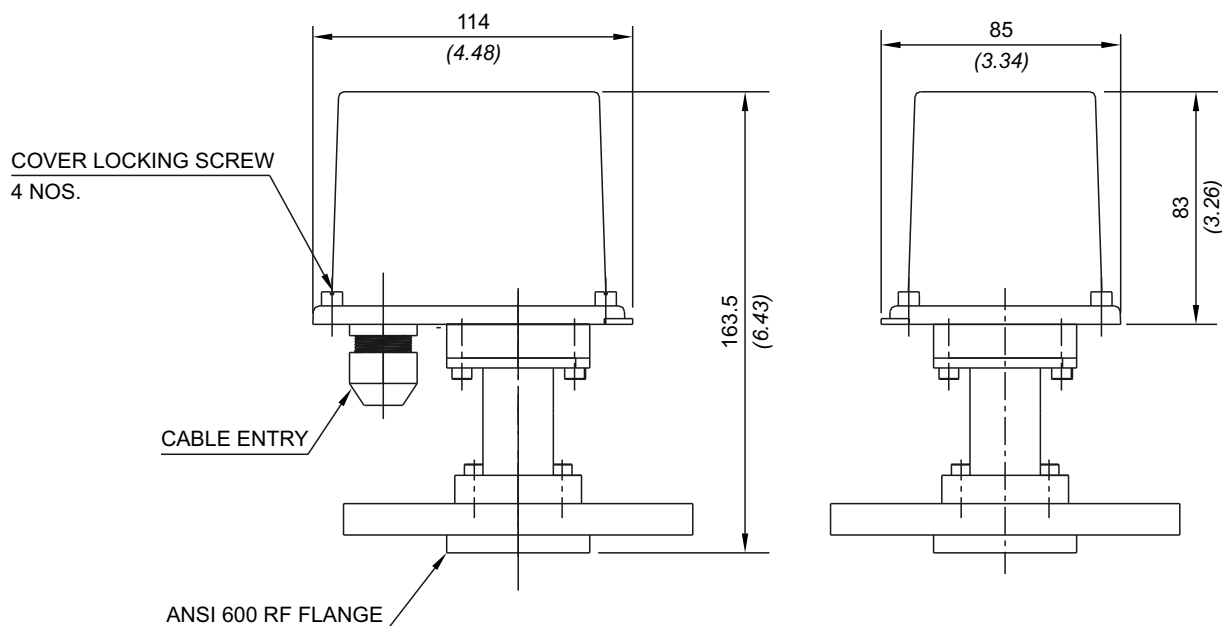


No. Description

1. Plunger
2. Diaphragm (PTFE®)
3. O-Ring (PTFE®)
4. ANSI 600 Flange (SS316)

Note : *wetted parts* are mentioned in italics.

INSTALLATION DRAWING



APPROX. DIMENSIONS IN $\frac{\text{mm}}{\text{inches}}$

MZ FLANGED PRESSURE SWITCHES

RANGE SELECTION TABLE

Range Code	Range bar (psi)	Differential* bar (psi)	Maximum Working Pressure bar (psi)
		Approximate Maximum for "A8" microswitch	
H01	0.1 - 1.0 (1.45 - 14.50)	0.1 (1.45)	As per the class of flange Please consult Sales Office in case you need clarification on availability of maximum working pressure for a particular range.
H02	0.1 - 1.5 (1.45 - 21.76)	0.2 (2.90)	
H03	0.2 - 2.6 (2.90 - 37.71)	0.2 (2.90)	
H04	0.2 - 3.6 (2.90 - 52.21)	0.4 (5.80)	
H07	0.5 - 7.0 (7.25 - 101.50)	0.6 (8.70)	
H10	0.5 - 10.0 (7.25 - 145.04)	0.8 (11.60)	
H15	1.0 - 15.0 (14.50 - 217.71)	1.0 (14.50)	
H30	5.0 - 25.0 (72.52 - 362.6)	1.5 (21.75)	
H4T	5 - 40 (72.52 - 580.15)	5 (72.52)	
H1H	10 - 100 (145.04 - 1450.38)	12 (174.05)	
H2H	10 - 200 (145.038 - 2900.76)	24 (348.09)	

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

* Differentials of microswitches A2 through A9 will vary. Differentials for A7 are typically twice that for A1 microswitch. Please indicate specifically the differential value in enquiry/order, when it is critical in your application.

FLANGE CODE TABLE (Please refer page no. 268 & 269 for more options)

	SS316L		Hastelloy C276		Monel		Titanium		Tantalum	
	RF*	FF*	RF*	FF*	RF*	FF*	RF*	FF*	RF*	FF*
150 #										
1" NB	AC	BS	DI	EY	GO	IE	JU	LK	NA	OQ
2" NB	AF	BV	DL	FB	GR	IH	JX	LN	ND	OT
300#										
1" NB	AI	BY	DO	FE	GU	IK	KA	LQ	NG	OW
2" NB	AL	CB	DR	FH	GX	IN	KD	LT	NJ	OZ
2500#										
1" NB	BM	DC	ES	GI	HY	JO	LE	MU	OK	QA
2" NB	BP	DF	EV	GL	IB	JR	LH	MX	ON	QD

RANGE AVAILABILITY AS PER BORE SIZES

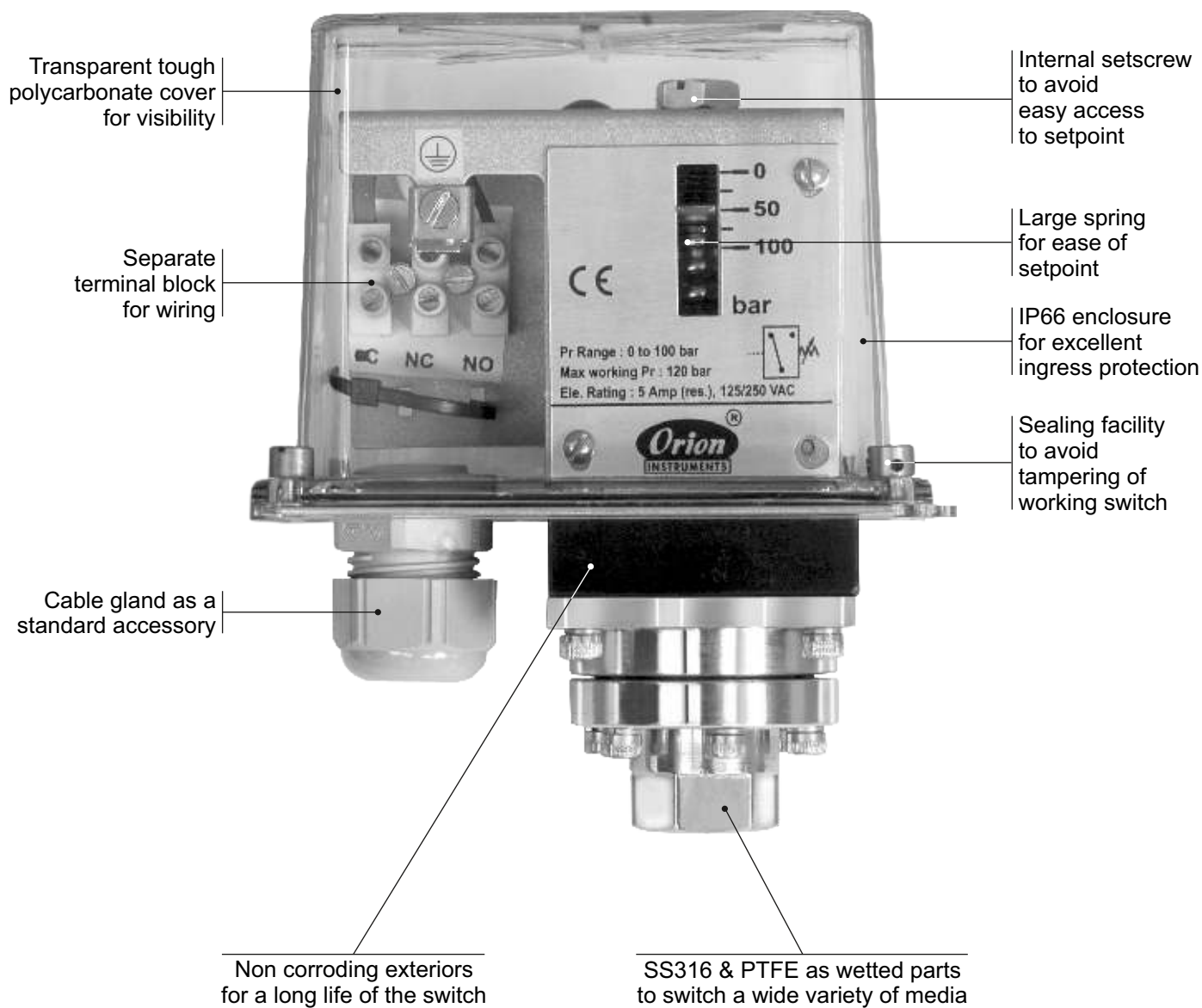
	H01 to H04	H07	H10	H15	H30	H2T to H2H
1" NB	NA	Yes	Yes	Yes	Yes	Yes
2" NB	Yes	Yes	Yes	Yes	Yes	Yes

*RF = Raised Face
*FF = Flat Face

eg. A high range process ANSI flanged pressure switch with 1/2" NPT cable entry with fixed differential without scale, having 0.1 bar to 1 bar pressure range, with 15 Amp. microswitch, and 2" 150# RF SS316L flange & SS316L diaphragm shall be specified by

Please specify full model number to avoid ambiguity.

MZ HYDRAULIC DIAPHRAGM PRESSURE SWITCHES

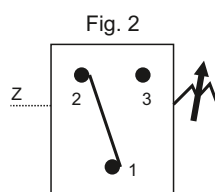


Approximate Weight : 0.680 Kg.

Some Applications :

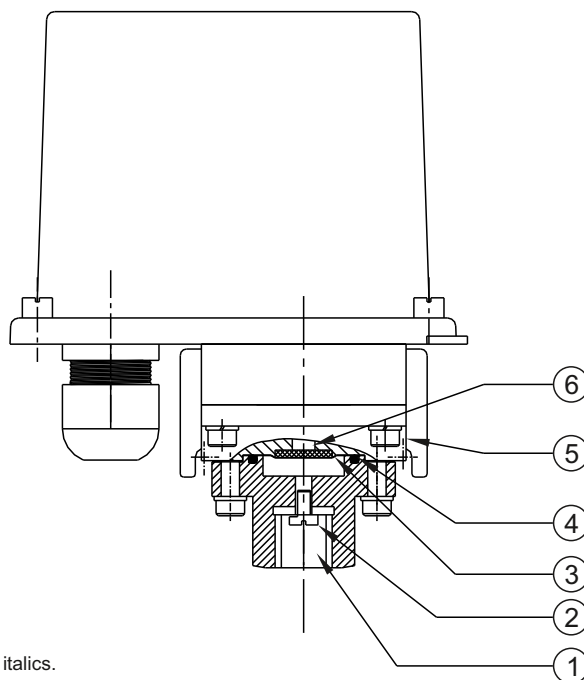
High Pressure applications requiring diaphragm as sensing element like water treatment plants, etc.

Electrical Connection :





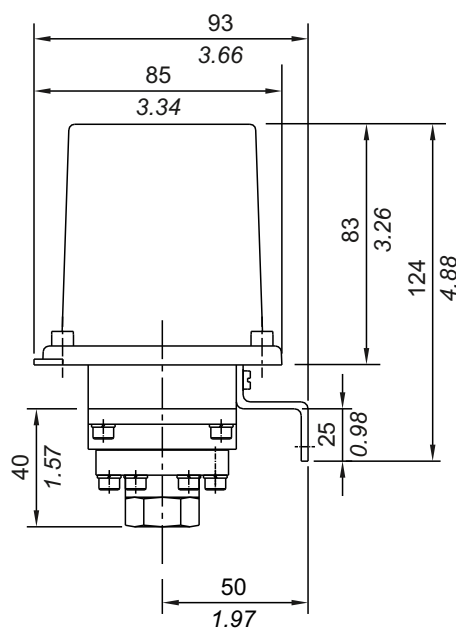
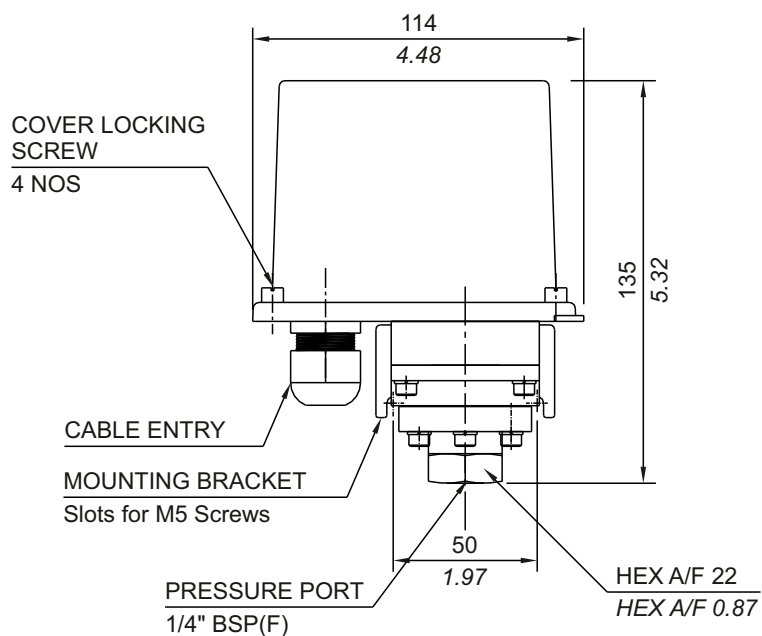
PRESSURE CAPSULE DETAILS



- | No. | Description |
|-----|------------------|
| 1. | Pressure Housing |
| 2. | Surge Reducer |
| 3. | Diaphragm |
| 4. | O-Ring |
| 5. | Disc |
| 6. | Plunger |

Note : wetted parts are mentioned in italics.

INSTALLATION DRAWING



APPROX. DIMENSIONS IN $\frac{\text{mm}}{\text{inches}}$

MZ HYDRAULIC DIAPHRAGM PRESSURE SWITCHES

RANGE SELECTION TABLE

Range Code	Range bar (psi)	Differential* bar (psi)	Maximum Working Pressure bar (psi)
		Approximate Maximum for "A8" microswitch	
H1T	0.5 - 10 (7.25 - 145.04)	1 (14.50)	150 (2175.51)
H2T	2 - 20 (29.00 - 290.07)	2 (29.00)	200 (2900.76)
H4T	5 - 40 (72.52 - 580.15)	5 (72.52)	200 (2900.76)
H1H	10 - 100 (146.04 - 1450.38)	12 (174.05)	200 (2900.76)
H2H	7 - 200 (101.52 - 2900.76)	24 (348.09)	400 (5801.52)
H4H	40 - 400 (580.15 - 5801.52)	50 (725)	500 (7251.88)
H7H	70 - 700 (1015.26 - 10152.64)	70 (1015.26)	800 (11603)
H1K	100 - 1000 (1450.37 - 14503.77)	100 (1450.37)	1100 (15954.15)

Note:

1. The minimum differential increases with the setpoint. The differential values mentioned in the above table are approximate maximum for FSR. The differential value will vary according to the pressure range selected and microswitch type. For actual values of differential please contact sales office.



Note: Welded diaphragm
also available as shown

2. When using 2SPDT switching arrangement, both microswitches may not actuate and/or deactuate at the same point. A small stage gap, normally upto +/- 5% FSR (depending on range code) may be observed. The On-Off differential (hysteresis) typically tends to be atleast double of those published for 1SPDT pressure switches.

If actuation and/or deactuation at same point is critical part of operation, then it can be achieved by using a separate DPDT relay. This relay will need a separate power supply for it's coil.

HOW TO ORDER PROCESS HYDRAULIC DIAPHRAGM PRESSURE SWITCHES

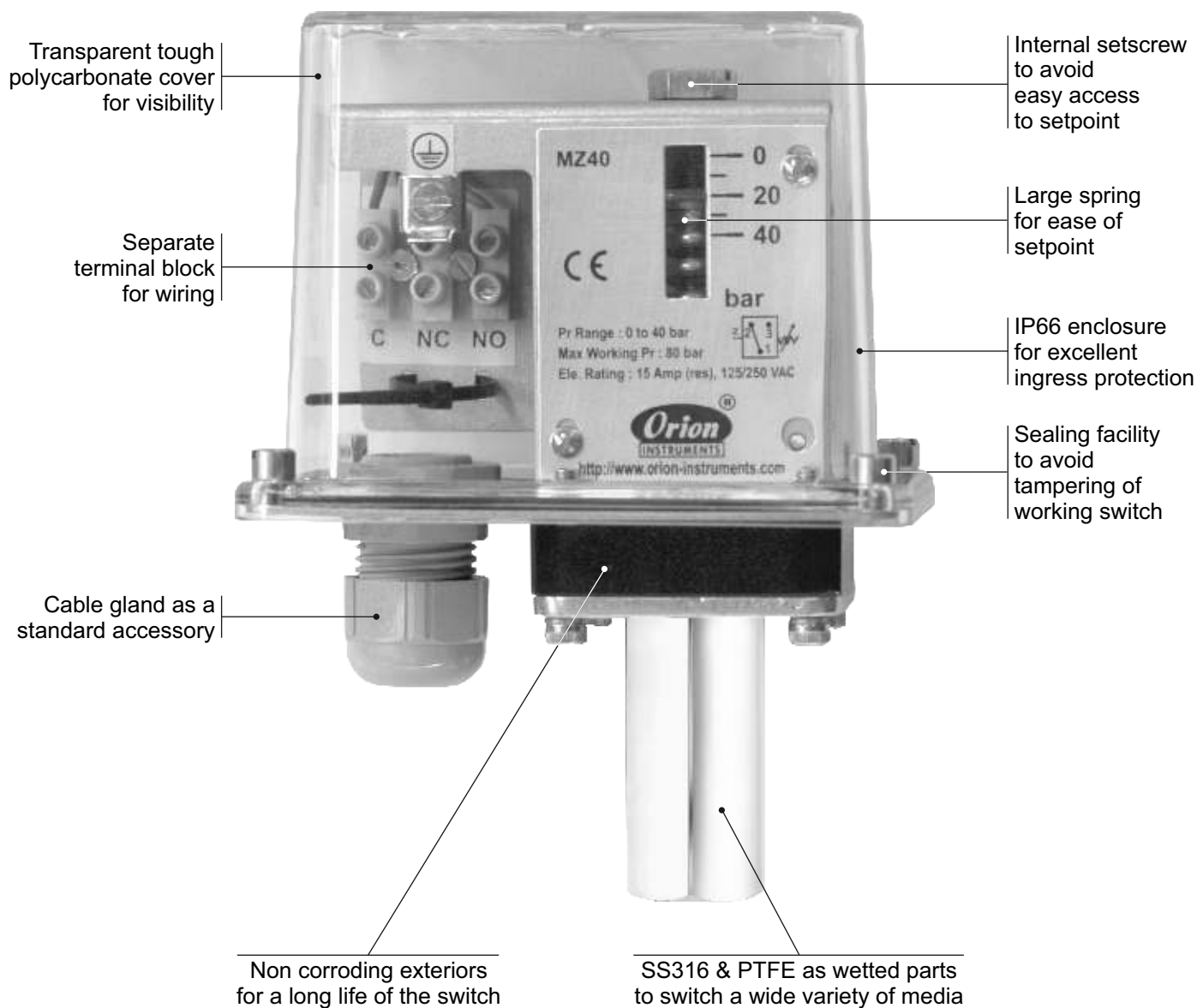
Group 1	Group 2	Group 3	Group 4	Group 5	Group 6	Group 7	Group 8
Non standard allocation	Model	Cable Entry Size and Material of Enclosure	Switch Type	Range Code (values in bar)	Microswitch Type	Pressure Port Material / Size	Diaphragm
☐ Reserved for non-standard options not covered in catalogue. Will be given by manufacturer, only after agreement of supply details with customer.	MZ = Process pressure switch with a weatherproof enclosure rated IP66 as per IS/IEC 60529 Note : Contact sales office for IP 68 enclosure	1 = Polycarbonate Enclosure ½" NPT threads 2 = Polycarbonate Enclosure ¾" NPT threads 3 = Polycarbonate Enclosure M20 x 1.5 threads 4 = Diecast Al. Enclosure ½" NPT threads 5 = Diecast Al. Enclosure ¾" NPT threads 6 = Diecast Al. Enclosure M20 x 1.5 threads 7 = SS Enclosure ½" NPT threads 8 = SS Enclosure ¾" NPT threads 9 = SS Enclosure M20 x 1.5 threads Note : For dual cable entries contact sales office	PF2 = pressure switch, fixed differential with scale in bar PF3 = pressure switch, fixed differential with scale in psi *PA2 = pressure switch, adjustable differential with scale in bar *PA3 = pressure switch, adjustable differential with scale in psi *Available only with option A7 and A9 in Group 6	H1T = (0.5 - 10) H2T = (2 - 20) H4T = (5 - 40) H1H = (10 - 100) H2H = (7 - 200) H4H = (40 - 400) H7H = (70 - 700) H1K = (100 - 1000)	A8 = General purpose microswitch A7 = 2SPDT microswitches A9 = General purpose microswitch * Please refer note under Range Selection Table	S1 = SS316 / ¼" BSP(F) S2 = SS316 / ½" NPT(F) S3 = (welded diaphragm) SS316 / 1" BSP(M) S4 = SS316 / ½" NPT(F) S5 = SS316 / ½" NPT(M) H1 = Hastelloy C / ¼" BSP(F) H2 = Hastelloy C / ¼" NPT(F) N1 = Monel / ¼" BSP(F) N2 = Monel / ¼" NPT(F) More options available. Please contact sales office.	0 = Neoprene 1 = PTFE 2 = SS 316L 3 = Hastelloy C 4 = Monel

eg. A process pressure switch with fixed differential having 5 bar to 40 bar pressure range, with 5 Amp. microswitch, SS316 pressure housing with ¼" BSP port size & neoprene diaphragm shall be specified by

Group 1	Group 2	Group 3	Group 4	Group 5	Group 6	Group 7	Group 8
☐	MZ	3	PF2	H1T	A8	S1	0

Please specify full model number to avoid ambiguity.

MZ HYDRAULIC RANGE PRESSURE SWITCHES



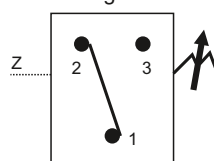
Approximate Weight : 0.680 Kg.

Some Applications :

Used where pressure surges and fluctuations may be present like oil hydraulic systems, etc.

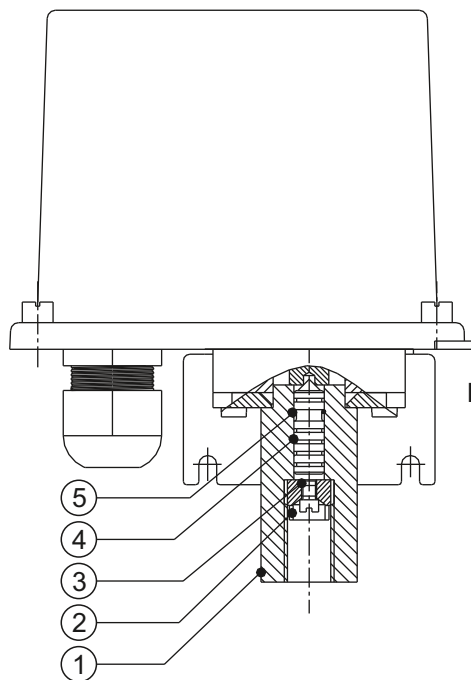
Electrical Connection :

Fig. 2





PRESSURE CAPSULE DETAILS

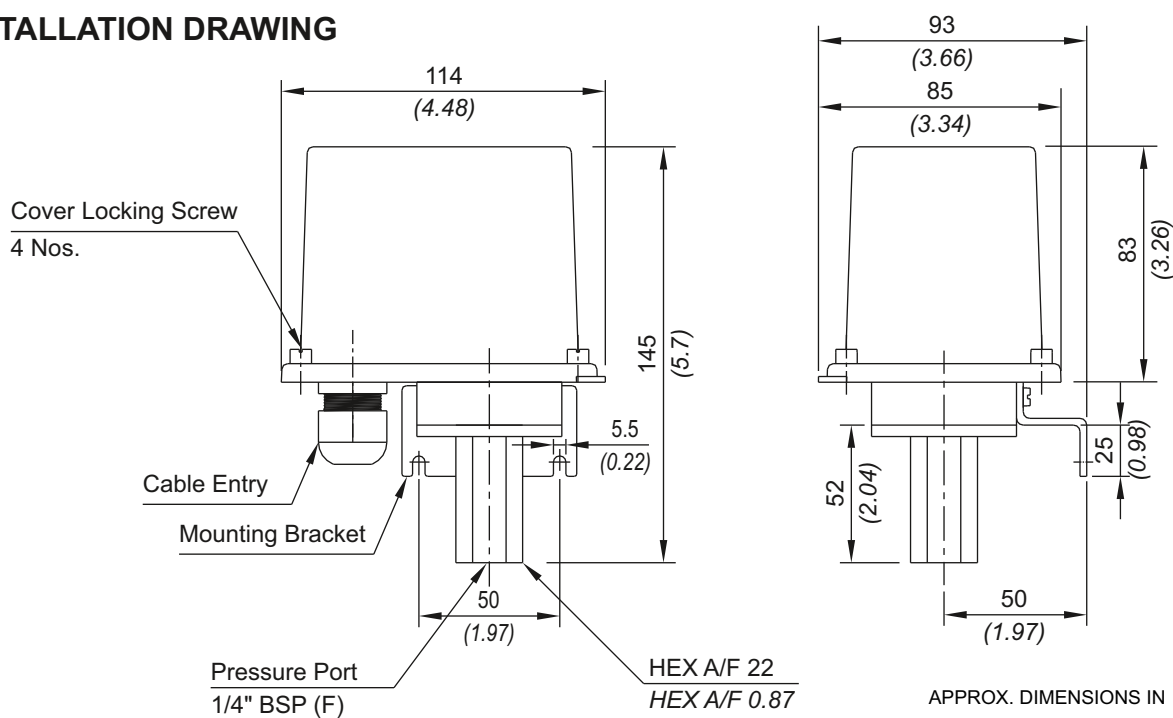


No.	Description
-----	-------------

1. Pressure housing (SS)
2. Surge Arrestor (SS)
3. Surge Reducer (SS)
4. Piston (SS)
5. O-Ring (Viton®)

Note : *wetted parts* are mentioned in italics.

INSTALLATION DRAWING



APPROX. DIMENSIONS IN $\frac{\text{mm}}{\text{inches}}$

MZ HYDRAULIC RANGE PRESSURE SWITCHES

RANGE SELECTION TABLE

Range Code	Range bar (psi)	Differential* bar (psi)	Maximum Working Pressure bar (psi)
		Approximate Maximum for "A8" microswitch	
040	5 - 40 (72.52 - 580.15)	5 (72.52)	80 (1160.30)
100	10 - 100 (145.04 - 1450.38)	12 (174.05)	120 (1740.45)
200	10 - 200 (145.03 - 2900.75)	24 (348.09)	300 (4351.13)
350	35 - 350 (101.53 - 2900.75)	24 (348.09)	400 (5801.52)
400	100 - 400 (1450.38 - 5801.51)	40 (580.15)	500 (7251.9)
700	100 - 700 (1450.38 - 10152.64)	70 (1015.26)	800 (11603.00)

Note:

1. The minimum differential increases with the setpoint. The differential values mentioned in the above table are approximate maximum for FSR. The differential value will vary according to the pressure range selected and microswitch type. For actual values of differential please contact sales office.

2. When using 2SPDT switching arrangement, both microswitches may not actuate and/or deactuate at the same point. A small stage gap, normally upto +/- 5% FSR (depending on range code) may be observed. The On-Off differential (hysteresis) typically tends to be atleast double of those published for 1SPDT pressure switches.

If actuation and/or deactuation at same point is critical part of operation, then it can be achieved by using a separate DPDT relay. This relay will need a separate power supply for it's coil.

HOW TO ORDER PROCESS HYDRAULIC RANGE PRESSURE SWITCHES

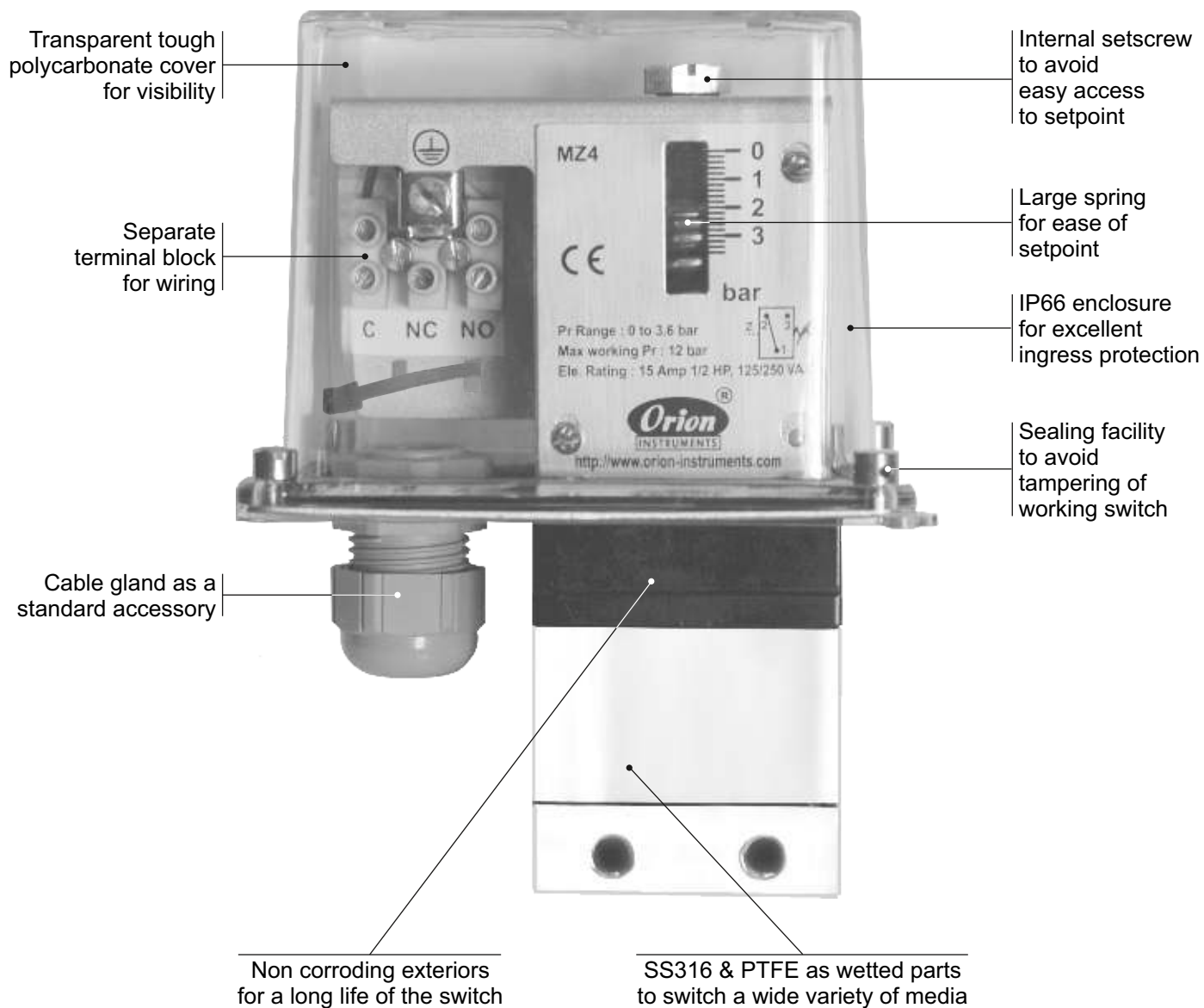
Group 1	Group 2	Group 3	Group 4	Group 5	Group 6	Group 7	Group 8
Non standard allocation	Model	Cable Entry Size and Material of Enclosure	Switch Type	Range Code (values in bar)	Microswitch Type	Pressure Port Material / Size	Piston
☐ Reserved for non-standard options not covered in catalogue. Will be given by manufacturer, only after agreement of supply details with customer.	MZ = Process pressure switch with a weatherproof enclosure rated IP66 as per IS/IEC 60529 Note : Contact sales office for IP 68 enclosure	1 = Polycarbonate Enclosure ½" NPT threads 2 = Polycarbonate Enclosure ¾" NPT threads 3 = Polycarbonate Enclosure M20 x 1.5 threads 4 = Diecast Al. Enclosure ½" NPT threads 5 = Diecast Al. Enclosure ¾" NPT threads 6 = Diecast Al. Enclosure M20 x 1.5 threads 7 = SS Enclosure ½" NPT threads 8 = SS Enclosure ¾" NPT threads 9 = SS Enclosure M20 x 1.5 threads Note : For dual cable entries contact sales office	PF2 = pressure switch, fixed differential with scale in bar PF3 = pressure switch, fixed differential with scale in psi *PA2 = pressure switch, adjustable differential with scale in bar *PA3 = pressure switch, adjustable differential with scale in psi *Available only with option A7 and A9 in Group 6	040 = (5 - 40) 100 = (10 - 100) 200 = (7 - 200) 350 = (35 - 350) 400 = (100 - 400) 700 = (100 - 700)	A8 = General purpose microswitch A7 = 2SPDT microswitches A9 = General purpose microswitch * Please refer note under Range Selection Table	S1 = SS316 / ¼" BSP(F) S2 = SS316 / ½" NPT(F) Please refer page no. 290 & 291 for more pressure port options	2 = SS

eg. A process pressure switch with fixed differential having 5 bar to 40 bar pressure range, with 5 Amp. microswitch, SS316 pressure housing with ¼" BSP port size & neoprene diaphragm shall be specified by

Group 1	Group 2	Group 3	Group 4	Group 5	Group 6	Group 7	Group 8
☐	MZ	3	PF2	040	A8	S1	2

Please specify full model number to avoid ambiguity.

MZ HIGH RANGE PRESSURE DIFFERENCE SWITCHES

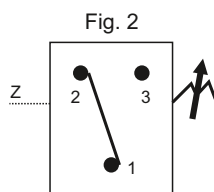


Approximate Weight : 1.400 Kg.

Some Applications :

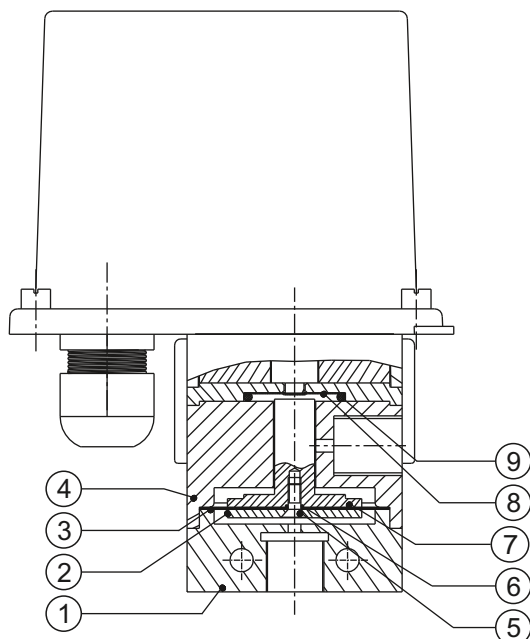
In non-hazardous areas for filters, strainers, cooling systems, etc.

Electrical Connection :





PRESSURE CAPSULE DETAILS

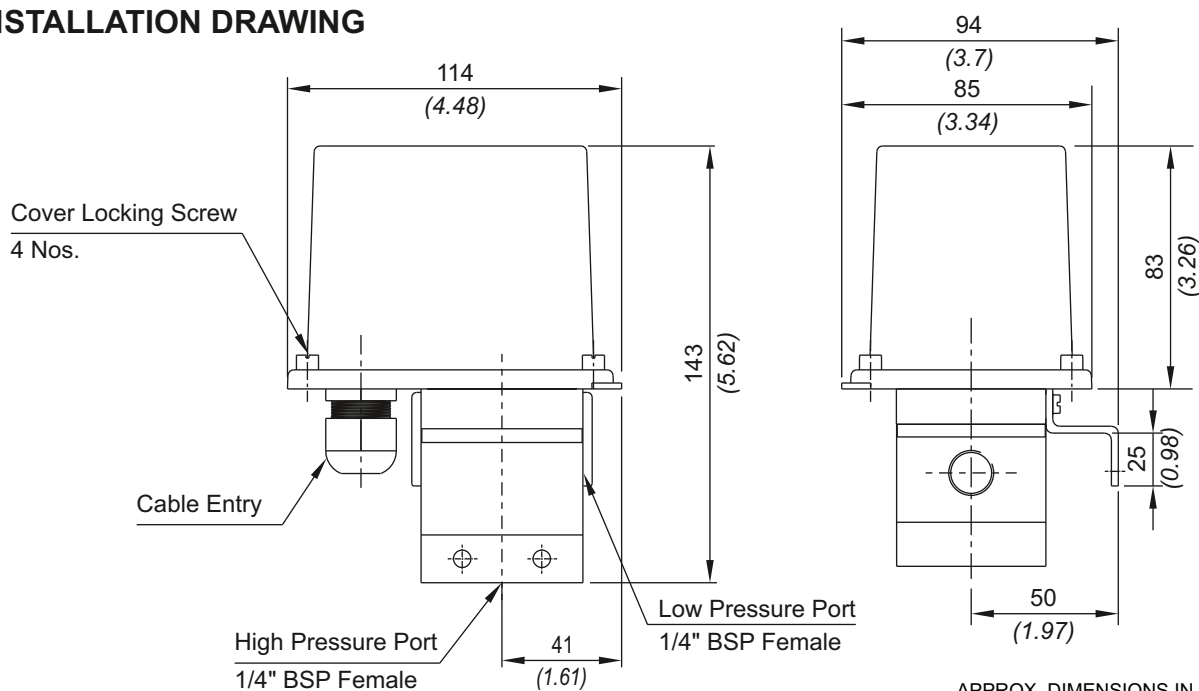


No. Description

1. Pressure Housing
2. HP Plunger (SS316)
3. Diaphragm
4. Disc
5. CSK Screw (SS)
6. O-Ring (PTFE®)
7. LP Plunger (SS316)
8. Sealing Diaphragm (PTFE®)
9. Sealing O-Ring (PTFE®)

Note : wetted parts are mentioned in italics.

INSTALLATION DRAWING



APPROX. DIMENSIONS IN $\frac{\text{mm}}{\text{inches}}$

MZ HIGH RANGE PRESSURE DIFFERENCE SWITCHES

RANGE SELECTION TABLE

Range Code	Range bar (psi)	Differential* bar (psi)	Maximum Working Pressure bar (psi)
		Approximate Maximum for "A8" microswitch	
H01	0.1 - 1.0 (1.45 - 14.50)	0.12 (1.74)	12 (174.05)
H02	0.1 - 1.5 (1.45 - 21.76)	0.20 (2.90)	12 (174.05)
H03	0.2 - 2.6 (2.90 - 37.71)	0.20 (2.90)	12 (174.05)
H04	0.2 - 3.6 (2.90 - 52.21)	0.30 (4.35)	12 (174.05)

Note:

1. The minimum differential increases with the setpoint. The differential values mentioned in the above table are approximate maximum for FSR. The differential value will vary according to the pressure range selected and microswitch type. For actual values of differential please contact sales office.

2. When using 2SPDT switching arrangement, both microswitches may not actuate and/or deactuate at the same point. A small stage gap, normally upto +/- 5% FSR (depending on range code) may be observed. The On-Off differential (hysteresis) typically tends to be atleast double of those published for 1SPDT pressure switches.

If actuation and/or deactuation at same point is critical part of operation, then it can be achieved by using a separate DPDT relay. This relay will need a separate power supply for it's coil.

HOW TO ORDER PROCESS HIGH RANGE PRESSURE DIFFERENCE SWITCHES

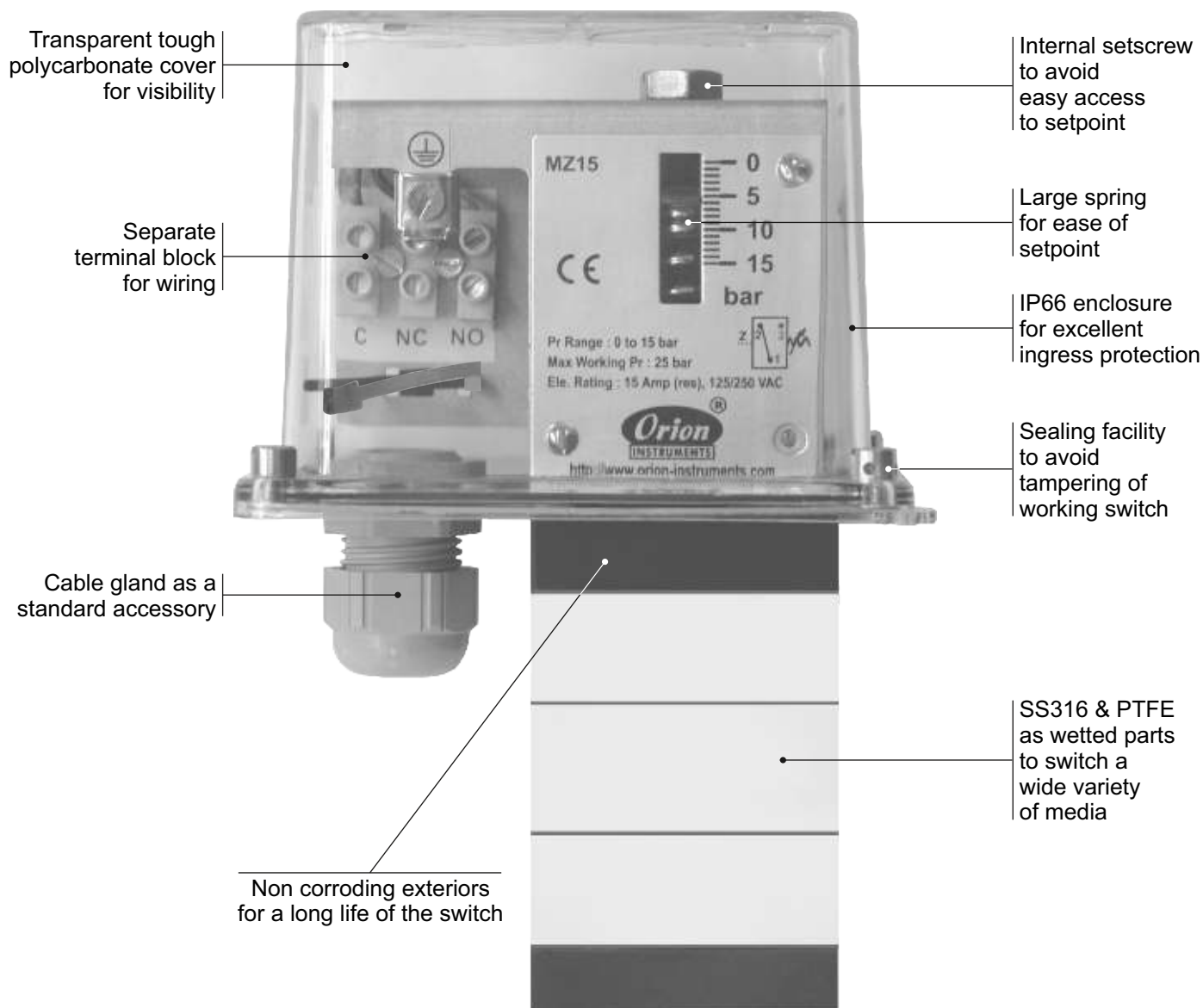
Group 1	Group 2	Group 3	Group 4	Group 5	Group 6	Group 7	Group 8
Non standard allocation	Model	Cable Entry Size	Switch Type	Range Code (values in bar)	Microswitch Type	Pressure Port Material / Size	Diaphragm
☐ Reserved for non-standard options not covered in catalogue. Will be given by manufacturer, only after agreement of supply details with customer.	MZ = Process pressure switch with a weatherproof enclosure rated IP66 as per IS/IEC 60529 Note : Contact sales office for IP 68 enclosure	1 = Polycarbonate Enclosure ½" NPT threads 2 = Polycarbonate Enclosure ¾" NPT threads 3 = Polycarbonate Enclosure M20 x 1.5 threads 4 = Diecast Al. Enclosure ½" NPT threads 5 = Diecast Al. Enclosure ¾" NPT threads 6 = Diecast Al. Enclosure M20 x 1.5 threads 7 = SS Enclosure ½" NPT threads 8 = SS Enclosure ¾" NPT threads 9 = SS Enclosure M20 x 1.5 threads Note : For dual cable entries contact sales office	DF2 = pressure difference switch, fixed differential with scale in bar DF3 = pressure difference switch, fixed differential with scale in psi *DA2 = pressure difference switch, adjustable differential with scale in bar *DA3 = pressure difference switch, adjustable differential with scale in psi *Available only with option A7 and A9 in Group 6	H01 = (0.1 - 1.0) H02 = (0.1 - 1.5) H03 = (0.2 - 2.6) H04 = (0.2 - 3.6)	A8 = General purpose microswitch A7 = 2SPDT microswitches A9 = General purpose microswitch	S1 = SS316 / ¼" BSP(F) S2 = SS316 / ¼" NPT(F) Please refer page no. 290 & 291 for more pressure port options	0 = Neoprene 1 = PTFE

eg. A process pressure difference switch with fixed differential having 0.1 bar to 1 bar pressure range, with 5 Amp. microswitch, SS316 pressure housing with ¼" BSP port size & neoprene diaphragm shall be specified by

Group 1	Group 2	Group 3	Group 4	Group 5	Group 6	Group 7	Group 8
☐	MZ	3	DF2	H01	A8	S1	0

Please specify full model number to avoid ambiguity.

MZ HIGH RANGE DP



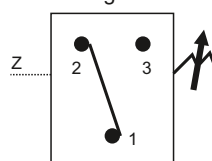
Approximate Weight : 1.800 Kg.

Some Applications :

Applications requiring high static/system pressure but low pressure difference.

Electrical Connection :

Fig. 2

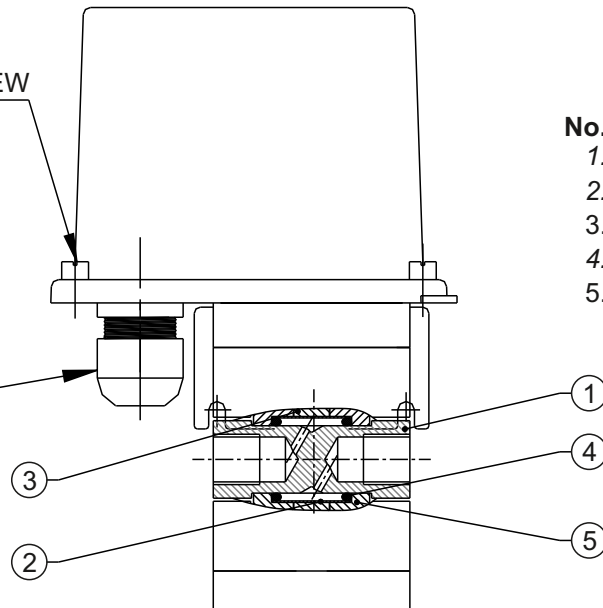




PRESSURE CAPSULE DETAILS

COVER LOCKING SCREW
4NOS.

CABLE ENTRY



No. Description

1. Pressure Housing
2. Diaphragm
3. Plunger
4. O-Ring
5. Disc

Note : *wetted parts* are mentioned in italics.

INSTALLATION DRAWING

Cover Locking Screw
4 Nos.

Cable Entry

High Pressure Port
1/4" BSPF

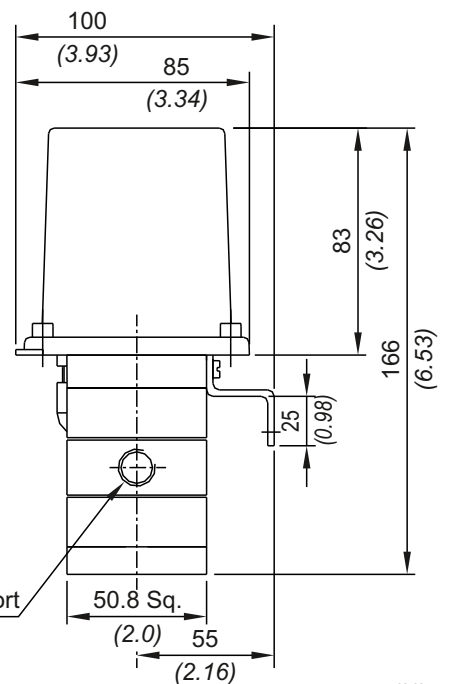
50
(1.97)

41
(1.61)

Mounting Bracket

Slot Width 5.5
2 Nos. for Mounting

Low Pr. Port
1/4" BSPF



APPROX. DIMENSIONS IN $\frac{\text{mm}}{\text{inches}}$

RANGE SELECTION TABLE

Range Code	Range bar (psi)	Differential* bar (psi)	Maximum Working Pressure bar (psi)
		Approximate Maximum for "A8" microswitch	
D01	0.1 - 1.0 (1.45 - 14.50)	0.12 (1.74)	70 (1000.00)
D02	0.1 - 1.5 (1.45 - 21.76)	0.2 (2.90)	70 (1000.00)
D03	0.2 - 2.6 (2.90 - 37.71)	0.4 (5.80)	70 (1000.00)
D04	0.2 - 3.6 (2.90 - 52.21)	0.6 (8.70)	70 (1000.00)
D07	0.5 - 7.0 (7.25 - 101.50)	0.8 (11.60)	70 (1000.00)
D10	0.5 - 10.0 (7.14 - 142.86)	1.0 (14.50)	70 (1000.00)
D15	1.0 - 15.0 (14.29 - 214.29)	1.5 (21.75)	70 (1000.00)
D30	5.0 - 25.0 (71.43 - 357.14)	2.0 (29.00)	70 (1000.00)

Note:

1. The minimum differential increases with the setpoint. The differential values mentioned in the above table are approximate maximum for FSR. The differential value will vary according to the pressure range selected and microswitch type. For actual values of differential please contact sales office.

2. When using 2SPDT switching arrangement, both microswitches may not actuate and/or deactuate at the same point. A small stage gap, normally upto +/- 5% FSR (depending on range code) may be observed. The On-Off differential (hysteresis) typically tends to be atleast double of those published for 1SPDT pressure switches.

If actuation and/or deactuation at same point is critical part of operation, then it can be achieved by using a separate DPDT relay. This relay will need a separate power supply for it's coil.

HOW TO ORDER PROCESS HIGH RANGE DP SWITCHES

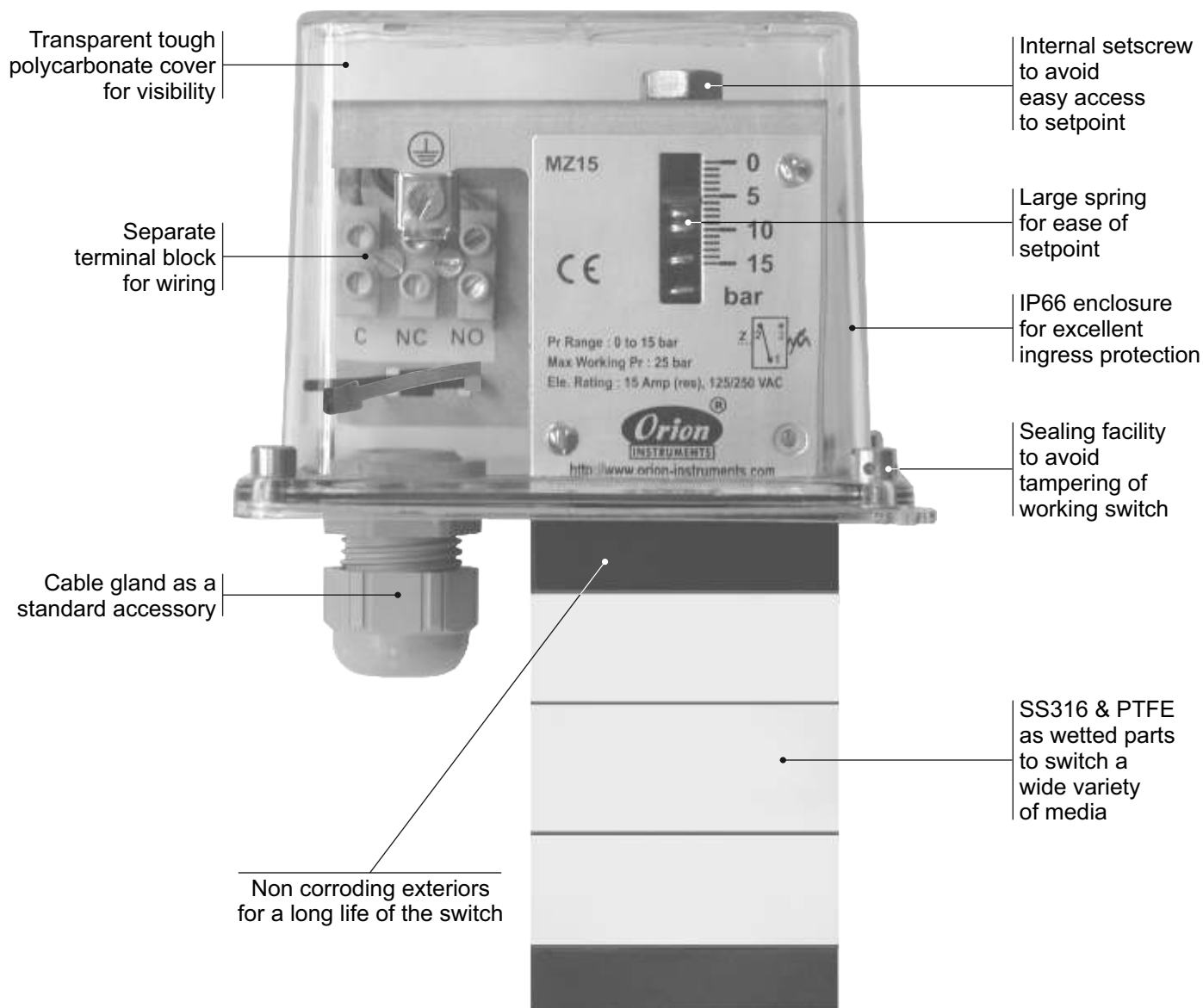
Group 1	Group 2	Group 3	Group 4	Group 5	Group 6	Group 7	Group 8
Non standard allocation	Model	Cable Entry Size	Switch Type	Range Code (values in bar)	Microswitch Type	Pressure Port Material / Size	Diaphragm
☐ Reserved for non-standard options not covered in catalogue. Will be given by manufacturer, only after agreement of supply details with customer.	MZ = Process pressure switch with a weatherproof enclosure rated IP66 as per IS/IEC 60529 Note : Contact sales office for IP 68 enclosure	1 = Polycarbonate Enclosure 1/2" NPT threads 2 = Polycarbonate Enclosure 3/4" NPT threads 3 = Polycarbonate Enclosure M20 x 1.5 threads 4 = Diecast Al. Enclosure 1/2" NPT threads 5 = Diecast Al. Enclosure 3/4" NPT threads 6 = Diecast Al. Enclosure M20 x 1.5 threads 7 = SS Enclosure 1/2" NPT threads 8 = SS Enclosure 3/4" NPT threads 9 = SS Enclosure M20 x 1.5 threads Note : For dual cable entries contact sales office	DF2 = pressure difference switch, fixed differential with scale in bar DF3 = pressure difference switch, fixed differential with scale in psi *DA2 = pressure difference switch, adjustable differential with scale in bar *DA3 = pressure difference switch, adjustable differential with scale in psi *Available only with option A7 and A9 in Group 6	D01 = (0.1 - 1.0) D02 = (0.1 - 1.5) D03 = (0.2 - 2.6) D04 = (0.2 - 3.6) D07 = (0.5 - 7.0) D10 = (0.5 - 10.0) D15 = (1.0 - 15.0) D30 = (5.0 - 25.0)	A8 = General purpose microswitch A7 = 2SPDT microswitches A9 = General purpose microswitch * Please refer note under Range Selection Table	S1 = SS316 / 1/4" BSP(F) S2 = SS316 / 1/4" NPT(F) N1 = Monel / 1/4" BSP(F) N2 = Monel / 1/4" NPT(F) H1 = Hastelloy C / 1/4" BSP(F) H2 = Hastelloy C / 1/4" NPT(F) Please refer page no. 290 & 291 for more pressure port options	0 = Neoprene 1 = PTFE 2 = SS316L 3 = Hastelloy C 4 = Monel

eg. A process pressure difference switch with fixed differential having 0.1 bar to 1 bar pressure range, with 5 Amp. microswitch, SS316 pressure housing with 1/4" BSP port size & neoprene diaphragm shall be specified by

Group 1	Group 2	Group 3	Group 4	Group 5	Group 6	Group 7	Group 8
☐	MZ	3	DF2	D01	A8	S1	0

Please specify full model number to avoid ambiguity.

MZ HYDRAULIC RANGE DP



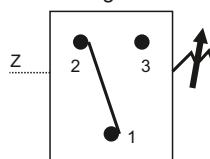
Approximate Weight : 1.800 Kg.

Some Applications :

Applications requiring high static/system pressure but low pressure difference.

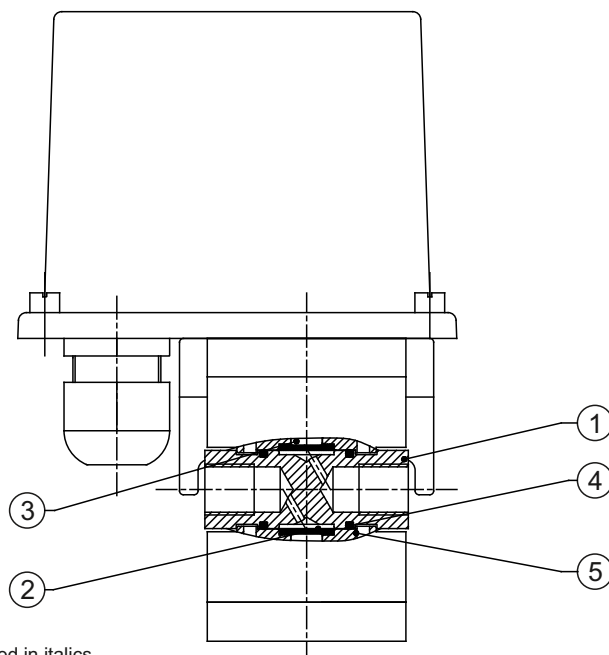
Electrical Connection :

Fig. 2





PRESSURE CAPSULE DETAILS

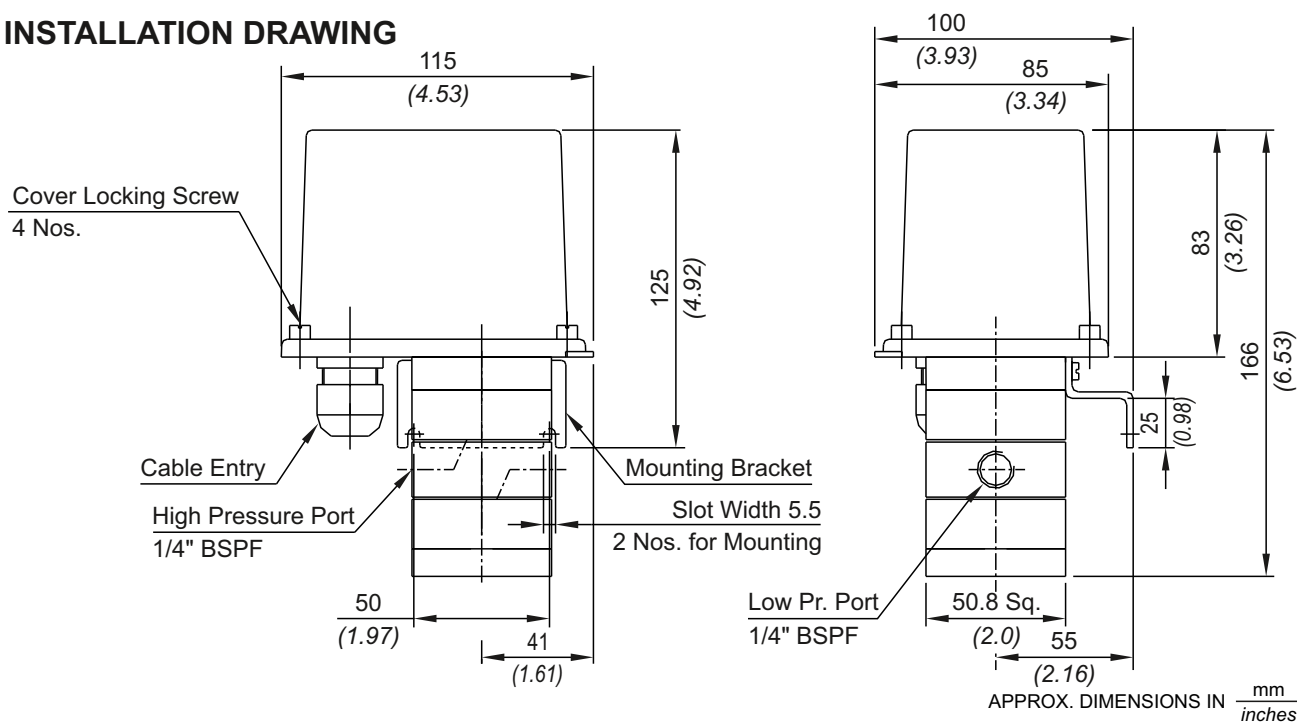


No. Description

1. *Pressure Housing (SS)*
2. *Diaphragm (SS or PTFE®)*
3. *Plunger (SS)*
4. *O-Ring (Viton)*
5. *Disc (Al)*

Note : *wetted parts* are mentioned in italics.

INSTALLATION DRAWING



RANGE SELECTION TABLE

Range Code	Range bar (psi)	Differential* bar (psi)	Maximum Working Pressure bar (psi)
		Approximate Maximum for "A1" microswitch	
H1U	0.1 - 1.0 (1.45 - 14.50)	0.30 (4.35)	150 (2175)
H2U	0.2 - 1.5 (2.90 - 21.75)	0.30 (4.35)	150 (2175)
H3U	0.2 - 2.6 (2.90 - 37.7)	0.40 (5.8)	150 (2175)
H4U	0.2 - 3.6 (2.90 - 52.2)	0.40 (5.8)	150 (2175)
H7U	0.5 - 7.0 (7.25 - 101.5)	0.80 (11.60)	150 (2175)
D1T	1.0 - 10.0 (14.50 - 145)	1.00 (14.50)	200 (2900)
D2T	2.0 - 20.0 (29.00 - 290.70)	2.00 (29.00)	200 (2900)
D3T	3.0 - 30.0 (43.51 - 435.11)	2.50 (36.25)	200 (2900)
D4T	5.0 - 40.0 (72.50 - 580)	4.00 (58)	400 (5800)
D1H	10.0 - 100 (145.00 - 1450)	10.00 (145)	400 (5800)
D2H	10.0 - 200 (145.00 - 2900)	20.00 (290)	400 (5800)
D4H	40.0 - 400 (580.00 - 5800)	60.00 (870)	500 (7250)

Note:

1. The minimum differential increases with the setpoint. The differential values mentioned in the above table are approximate maximum for FSR. The differential value will vary according to the pressure range selected and microswitch type. For actual values of differential please contact sales office.

2. When using 2SPDT switching arrangement, both microswitches may not actuate and/or deactuate at the same point. A small stage gap, normally upto +/- 5% FSR (depending on range code) may be observed. The On-Off differential (hysteresis) typically tends to be atleast double of those published for 1SPDT pressure switches.

If actuation and/or deactuation at same point is critical part of operation, then it can be achieved by using a separate DPDT relay. This relay will need a separate power supply for it's coil.

HOW TO ORDER INDUSTRIAL HYDRAULIC RANGE DP SWITCHES

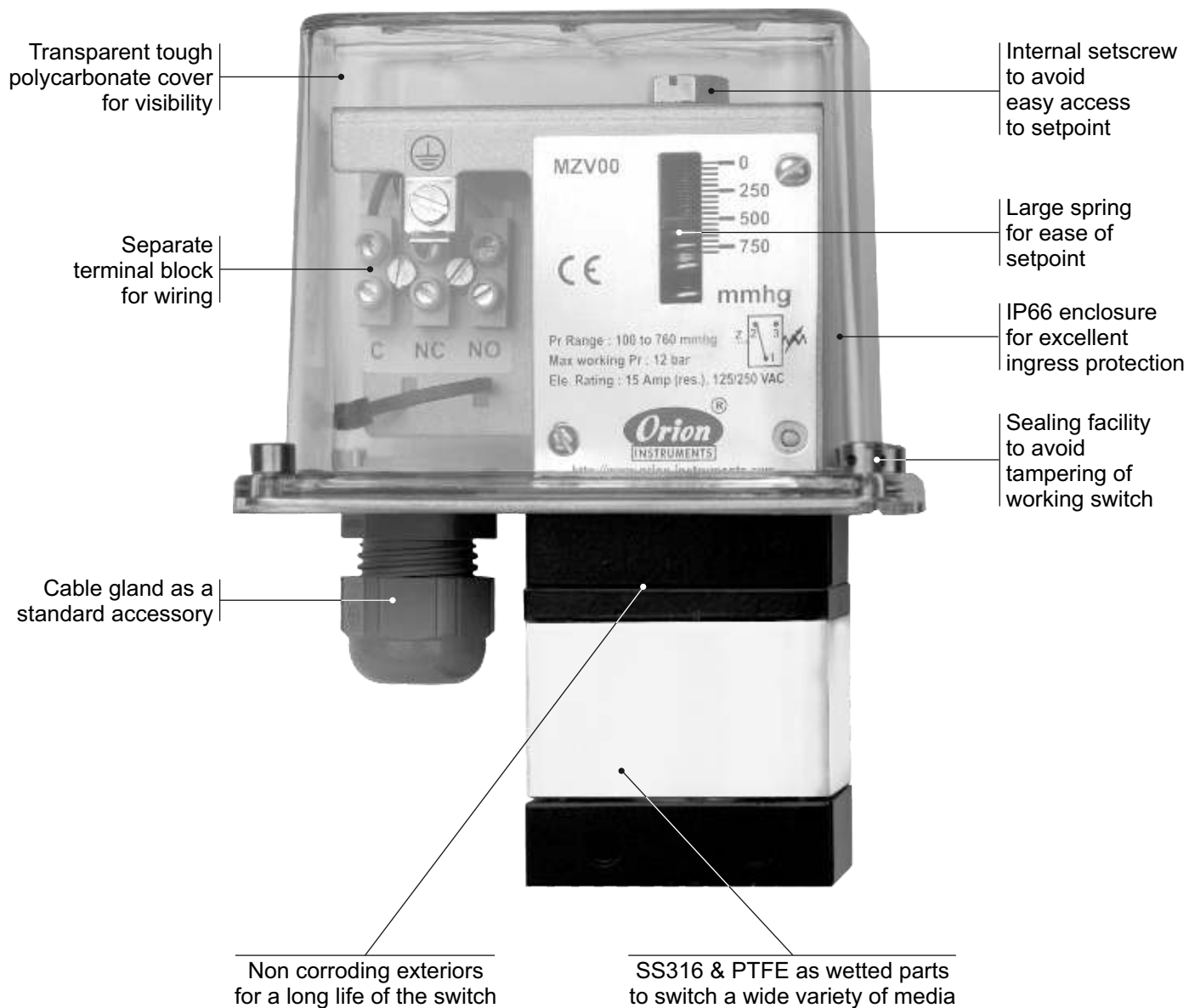
Group 1	Group 2	Group 3	Group 4	Group 5	Group 6	Group 7	Group 8
Non standard allocation	Model	Cable Entry Size	Switch Type	Range Code (values in bar)	Microswitch Type	Pressure Port Material / Size	Diaphragm
☐ Reserved for non-standard options not covered in catalogue. Will be given by manufacturer, only after agreement of supply details with customer.	MZ = Process pressure switch with a weatherproof enclosure rated IP66 as per IS/IEC 60529 Note : Contact sales office for IP 68 enclosure	1 = Polycarbonate Enclosure ½" NPT threads 2 = Polycarbonate Enclosure ¾" NPT threads 3 = Polycarbonate Enclosure M20 x 1.5 threads 4 = Diecast Al. Enclosure ½" NPT threads 5 = Diecast Al. Enclosure ¾" NPT threads 6 = Diecast Al. Enclosure M20 x 1.5 threads 7 = SS Enclosure ½" NPT threads 8 = SS Enclosure ¾" NPT threads 9 = SS Enclosure M20 x 1.5 threads Note : For dual cable entries contact sales office	DF1 = pressure difference switch, fixed differential without scale DF2 = pressure difference switch, fixed differential with scale in bar DF3 = pressure difference switch, fixed differential with scale in psi *DA1 = pressure difference switch, adjustable differential without scale *DA2 = pressure difference switch, adjustable differential with scale in bar *DA3 = pressure difference switch, adjustable differential with scale in psi *Available only with option A7 and A9 in Group 6	H1U = (0.1 - 1.0) H2U = (0.1 - 1.5) H3U = (0.2 - 2.6) H4U = (0.2 - 3.6) H7U = (0.5 - 7.0) D1T = (0.5 - 10.0) D2T = (1.0 - 15.0) D3T = (5.0 - 25.0) D4T = (5.0 - 40.0) D1H = (10.0 - 100) D2H = (10.0 - 200) D4H = (40.0 - 400)	A8 = General purpose microswitch A7 = 2SPDT microswitches A9 = General purpose microswitch * Please refer note under Range Selection Table	S1 = SS316 / ¼" BSP(F) S2 = SS316 / ½" NPT(F) H1 = Hastelloy C / ¼" BSP(F) H2 = Hastelloy C / ½" NPT(F) N1 = Monel / ¼" BSP(F) N2 = Monel / ½" NPT(F) More options available. Please contact sales office.	0 = Neoprene 1 = PTFE 2 = SS 316L 3 = Hastelloy C 4 = Monel For additional wetted parts please contact sales office

eg. A high range pressure difference process switch, with ½" NPT cable entry in aluminium housing as 1SPDT pressure switch, fixed differential without scale, having 0.1 bar to 1 bar pressure range, with 15Amp. microswitch, SS316 pressure housing with ¼" BSP port size & neoprene diaphragm shall be specified by

Group 1	Group 2	Group 3	Group 4	Group 5	Group 6	Group 7	Group 8
☐	MZ	1	DF1	H1U	A8	S1	0

Please specify full model number to avoid ambiguity.

MZ VACUUM SWITCHES



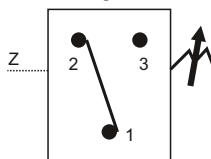
Approximate Weight : 1.160 Kg.

Some Applications :

Used in filters, vacuum pumps, blower systems, etc.

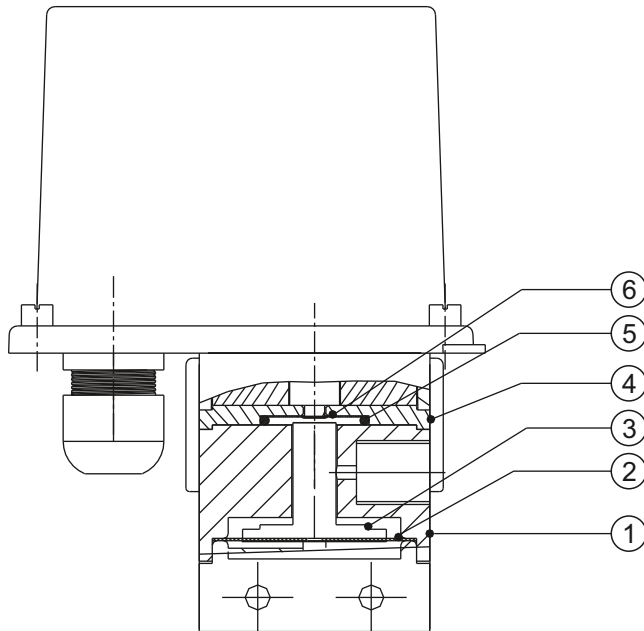
Electrical Connection :

Fig. 2





PRESSURE CAPSULE DETAILS

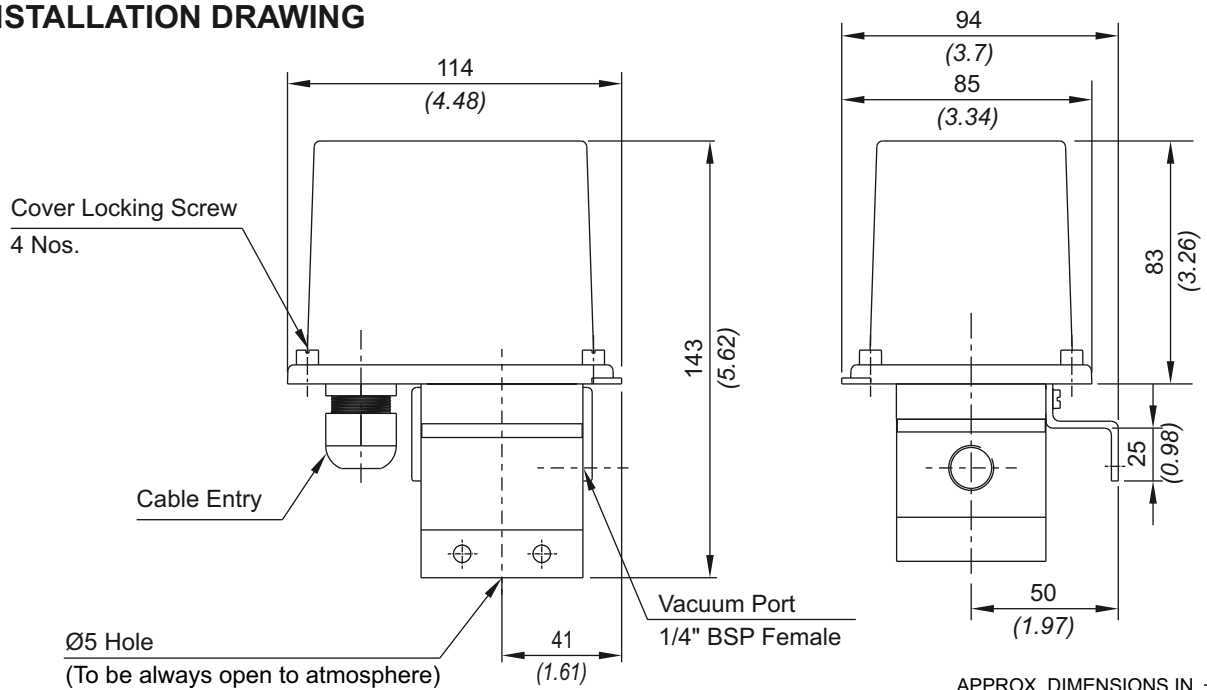


No. Description

1. Disc
2. Diaphragm
3. Plunger (SS316)
4. Junction Plate
5. Sealing 'O' Ring (PTFE®)
6. Sealing diaphragms (PTFE®)

Note : *wetted parts* are mentioned in italics.

INSTALLATION DRAWING



APPROX. DIMENSIONS IN $\frac{\text{mm}}{\text{inches}}$

MZ VACUUM SWITCHES

RANGE SELECTION TABLE

Range Code	Range mm Hg ("Hg)	Differential* mm Hg ("Hg)	Maximum Working Pressure bar (psi)
		Approximate Maximum for "A8" microswitch	
V00	† 760 - 100 (29.92 - 3.94)	50 (1.97)	12 (174.05)

Note:

1. The minimum differential increases with the setpoint. The differential values mentioned in the above table are approximate maximum for FSR. The differential value will vary according to the pressure range selected and microswitch type. For actual values of differential please contact sales office.

2. When using 2SPDT switching arrangement, both microswitches may not actuate and/or deactuate at the same point. A small stage gap, normally upto +/- 5% FSR (depending on range code) may be observed. The On-Off differential (hysteresis) typically tends to be atleast double of those published for 1SPDT pressure switches.

If actuation and/or deactuation at same point is critical part of operation, then it can be achieved by using a separate DPDT relay. This relay will need a separate power supply for it's coil.

HOW TO ORDER PROCESS VACUUM SWITCHES

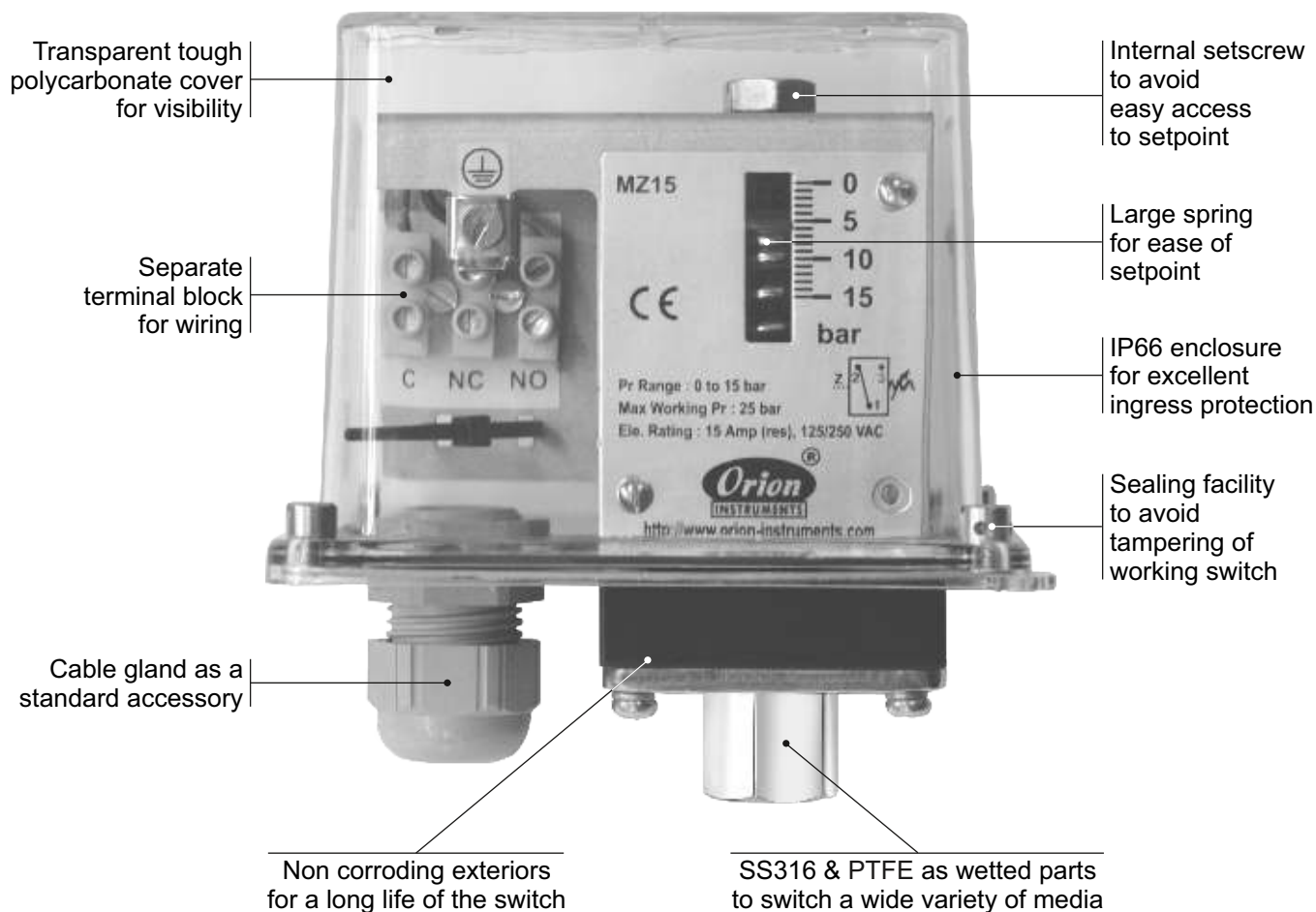
Group 1	Group 2	Group 3	Group 4	Group 5	Group 6	Group 7	Group 8
Non standard allocation	Model	Cable Entry Size	Switch Type	Range Code (values in mmHg)	Microswitch Type	Pressure Port Material / Size	Diaphragm
☐ Reserved for non-standard options not covered in catalogue. Will be given by manufacturer, only after agreement of supply details with customer.	MZ = Process pressure switch with a weatherproof enclosure rated IP66 as per IS/IEC 60529 Note : Contact sales office for IP 68 enclosure	1 = Polycarbonate Enclosure ½" NPT threads 2 = Polycarbonate Enclosure ¾" NPT threads 3 = Polycarbonate Enclosure M20 x 1.5 threads 4 = Diecast Al. Enclosure ½" NPT threads 5 = Diecast Al. Enclosure ¾" NPT threads 6 = Diecast Al. Enclosure M20 x 1.5 threads 7 = SS Enclosure ½" NPT threads 8 = SS Enclosure ¾" NPT threads 9 = SS Enclosure M20 x 1.5 threads Note : For dual cable entries contact sales office	VF2 = vacuum switch, fixed differential with scale in mmHg VF3 = vacuum switch, fixed differential with scale in "Hg *VA2 = vacuum switch, adjustable differential with scale in mmHg *VA3 = vacuum switch, adjustable differential with scale in "Hg *Available only with option A7 and A9 in Group 6	V00 = († 760 - 100)	A8 = General purpose microswitch A7 = 2SPDT microswitches A9 = General purpose microswitch * Please refer note under Range Selection Table	S1 = SS316 / ¼" BSP(F) S2 = SS316 / ½" NPT(F) Please refer page no. 290 & 291 for more pressure port options	0 = Neoprene 1 = PTFE

eg. A process vacuum switch with fixed differential having 760 mmHg vac to 100 mmHg vac vacuum range, with 5 Amp. microswitch, SS316 pressure housing with ¼" BSP port size & neoprene diaphragm shall be specified by

Group 1	Group 2	Group 3	Group 4	Group 5	Group 6	Group 7	Group 8
☐	MZ	3	VF2	V00	A8	S1	0

Please specify full model number to avoid ambiguity.

MZ HIGH RANGE COMPOUND SWITCHES

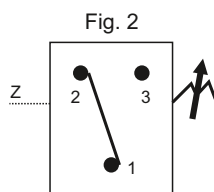


Approximate Weight : 0.550 Kg.

Some Applications :

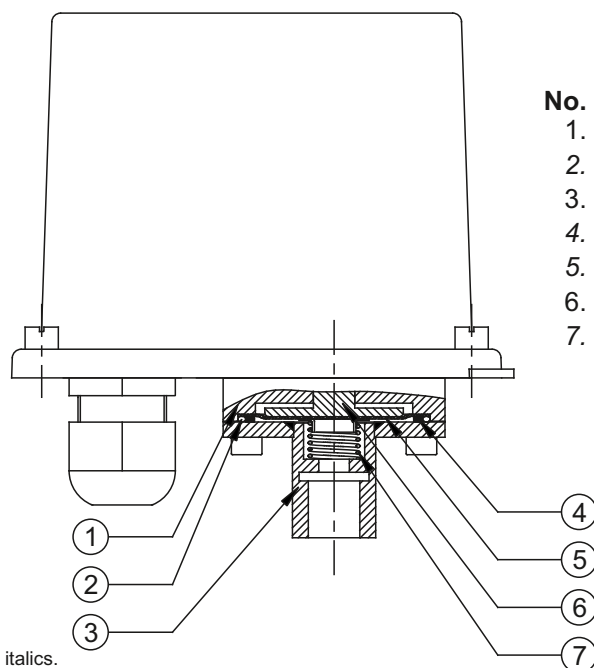
Used in humid or slightly corrosive atmosphere like jet dyeing machines, etc.

Electrical Connection :





PRESSURE CAPSULE DETAILS

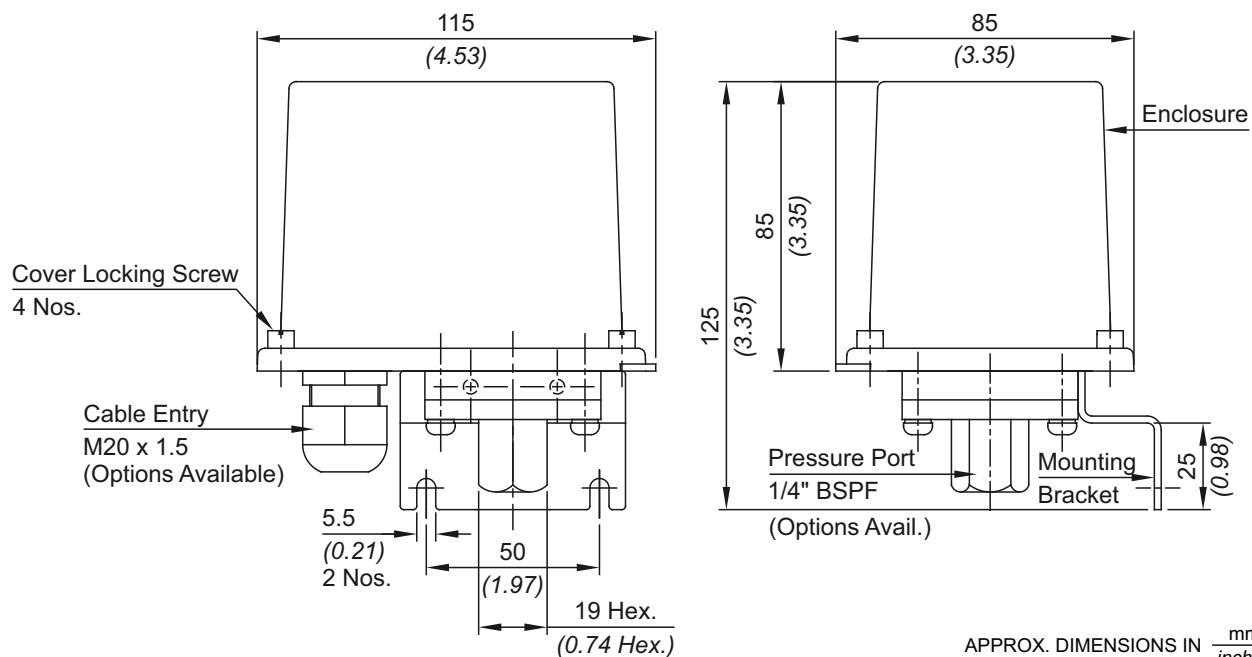


No. Description

1. Disc
2. O-Ring (PTFE®)
3. Pressure Housing (SS316)
4. Steel Ring (SS316)
5. Diaphragm (PTFE®)
6. Plunger (SS316)
7. Spring (SS316)

Note : *wetted parts* are mentioned in italics.

INSTALLATION DRAWING



APPROX. DIMENSIONS IN $\frac{\text{mm}}{\text{inches}}$

MZ HIGH RANGE COMPOUND SWITCHES

RANGE SELECTION TABLE

Range Code	Range bar (psi)	Differential* bar (psi)	Maximum Working Pressure bar (psi)
		Approximate Maximum for "A1" microswitch	
C01	-1 to 1.0 (-14.50 - 14.50)	0.2 (2.90)	12 (174.05)
C02	-1 to 1.5 (-14.50 to 21.75)	0.3 (4.35)	12 (174.05)
C03	-1 to 2.6 (-14.50 - 37.71)	0.4 (5.80)	12 (174.05)
C04	-1 to 3.6 (-14.50 - 52.26)	0.6 (8.70)	12 (174.05)
C07	-1 to 7 (-14.50 - 101.526)	0.8 (11.60)	12 (174.05)

Note:

1. The minimum differential increases with the setpoint. The differential values mentioned in the above table are approximate maximum for FSR. The differential value will vary according to the pressure range selected and microswitch type. For actual values of differential please contact sales office.

2. When using 2SPDT switching arrangement, both microswitches may not actuate and/or deactuate at the same point. A small stage gap, normally upto +/- 5% FSR (depending on range code) may be observed. The On-Off differential (hysteresis) typically tends to be atleast double of those published for 1SPDT pressure switches.

If actuation and/or deactuation at same point is critical part of operation, then it can be achieved by using a separate DPDT relay. This relay will need a separate power supply for it's coil.

HOW TO ORDER INDUSTRIAL HIGH RANGE COMPOUND SWITCHES

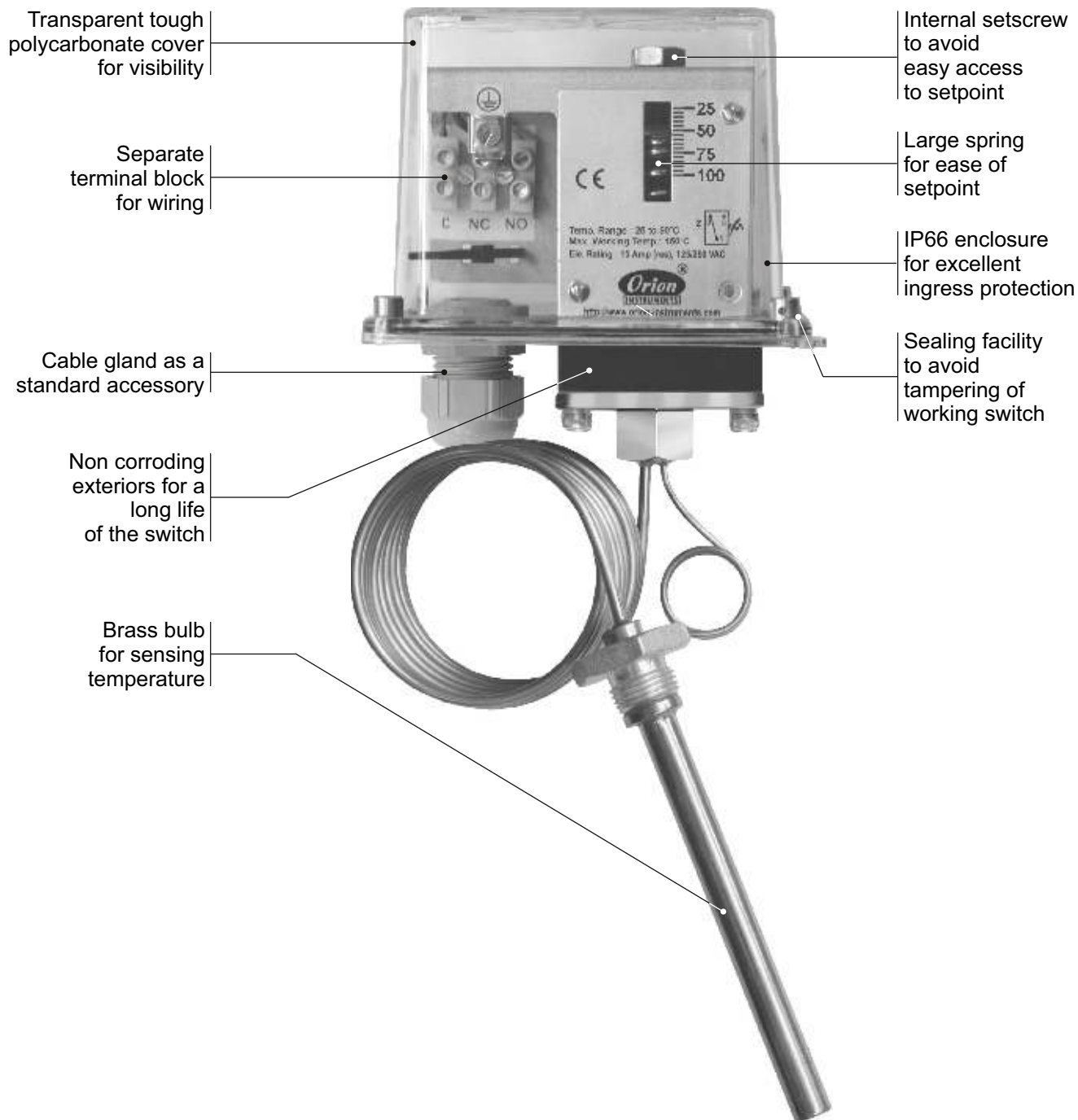
Group 1	Group 2	Group 3	Group 4	Group 5	Group 6	Group 7	Group 8
Non standard allocation	Gas Group Classification	Cable Entry Size	Switch Type	Range Code (values in bar)	Microswitch Type	Pressure Port Material / Size	Diaphragm
☐ Reserved for non-standard options not covered in catalogue. Will be given by manufacturer, only after agreement of supply details with customer.	MZ = Process pressure switch with a weatherproof enclosure rated IP66 as per IS/IEC 60529 Note : Contact sales office for IP 68 enclosure	1 = Polycarbonate Enclosure ½" NPT threads 2 = Polycarbonate Enclosure ¾" NPT threads 3 = Polycarbonate Enclosure M20 x 1.5 threads 4 = Diecast Al. Enclosure ½" NPT threads 5 = Diecast Al. Enclosure ¾" NPT threads 6 = Diecast Al. Enclosure M20 x 1.5 threads 7 = SS Enclosure ½" NPT threads 8 = SS Enclosure ¾" NPT threads 9 = SS Enclosure M20 x 1.5 threads Note : For dual cable entries contact sales office	CF1 = compound switch, fixed differential without scale CF2 = compound switch, fixed differential with scale in bar *CA1 = compound switch, adjustable differential without scale *CA2 = compound switch, adjustable differential with scale in bar *Available with A6, A9 & B9 (in group 6) only	C01 = (-1 to 1.0) C03 = (-1 to 2.6) C04 = (-1 to 3.6) C07 = (-1 to 7)	A8 = General purpose microswitch A7 = 2SPDT microswitches A9 = General purpose microswitch * Please refer note under Range Selection Table	S1 = SS316 / ¼" BSP(F) S2 = SS316 / ½" NPT(F) More options available. Please contact sales office.	0 = Neoprene 1 = PTFE 2 = SS 316L

eg. An industrial switch for gas group IIC, with ½" NPT cable entry in aluminium housing as 1SPDT pressure switch, having -1 bar to +1 bar pressure range, with 15Amp. microswitch, SS316 pressure housing with ¼" BSP port size & Neoprene diaphragm shall be specified by

Group 1	Group 2	Group 3	Group 4	Group 5	Group 6	Group 7	Group 8
☐	MD	1	CF1	C01	A8	S1	0

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

MZ TEMPERATURE SWITCHES

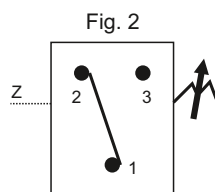


Approximate Weight : 0.700 Kg.

Some Applications :

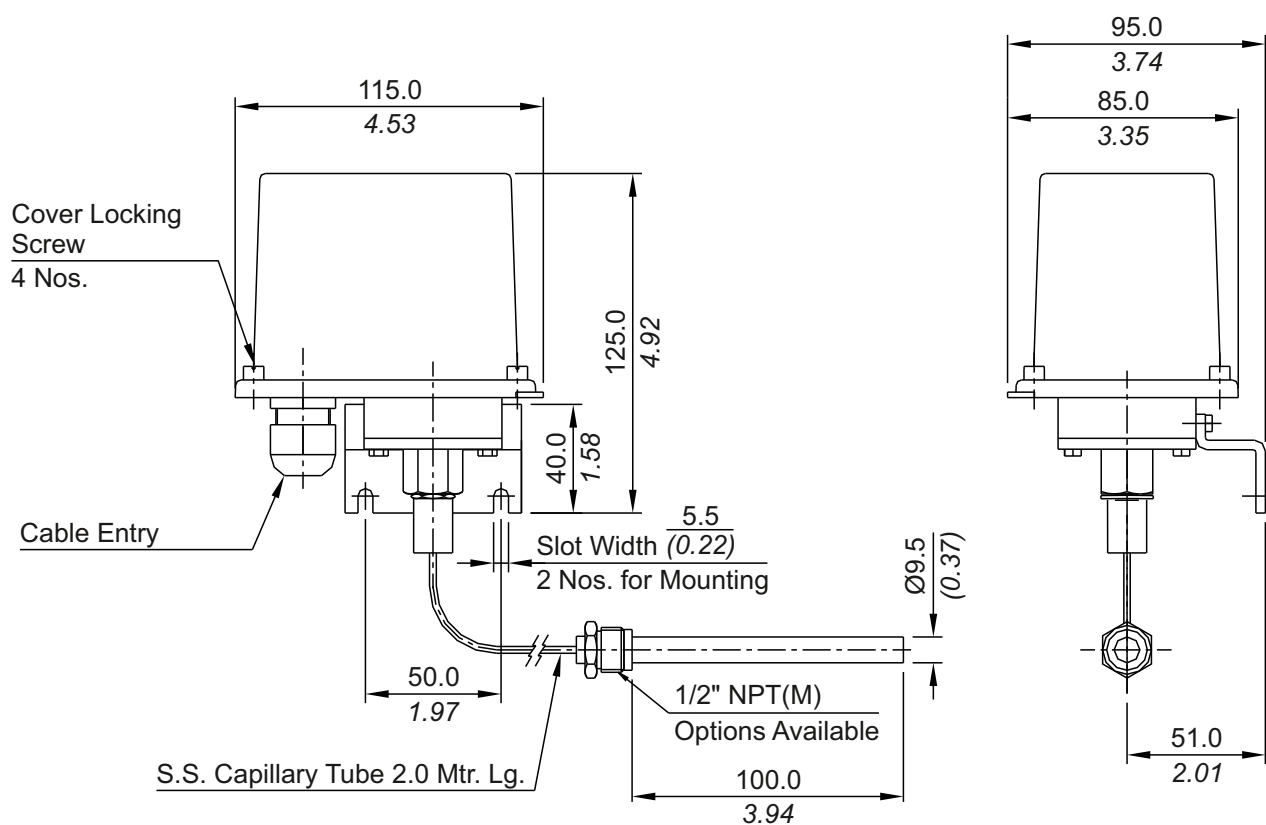
To detect limiting temperature levels in non-hazardous areas.

Electrical Connection :





INSTALLATION DRAWING



APPROX. DIMENSIONS IN $\frac{\text{mm}}{\text{inches}}$

MZ TEMPERATURE SWITCHES

RANGE SELECTION TABLE

Range Code	Range °C (°F)	Differential* °C (°F)	Maximum Working Temperature °C (°F)
		Approximate Maximum for "A8" microswitch	
T1H	25 - 90 (77 - 194)	15 (59)	150 (302)
T2H	70 - 150 (158 - 302)	20 (68)	200 (392)
T3H	120 - 215 (248 - 419)	30 (86)	300 (572)

Note:

1. The minimum differential increases with the setpoint. The differential values mentioned in the above table are approximate maximum for FSR. The differential value will vary according to the pressure range selected and microswitch type. For actual values of differential please contact sales office.

2. When using 2SPDT switching arrangement, both microswitches may not actuate and/or deactuate at the same point. A small stage gap, normally upto +/- 5% FSR (depending on range code) may be observed. The On-Off differential (hysteresis) typically tends to be atleast double of those published for 1SPDT pressure switches.

If actuation and/or deactuation at same point is critical part of operation, then it can be achieved by using a separate DPDT relay. This relay will need a separate power supply for it's coil.

HOW TO ORDER PROCESS TEMPERATURE SWITCHES

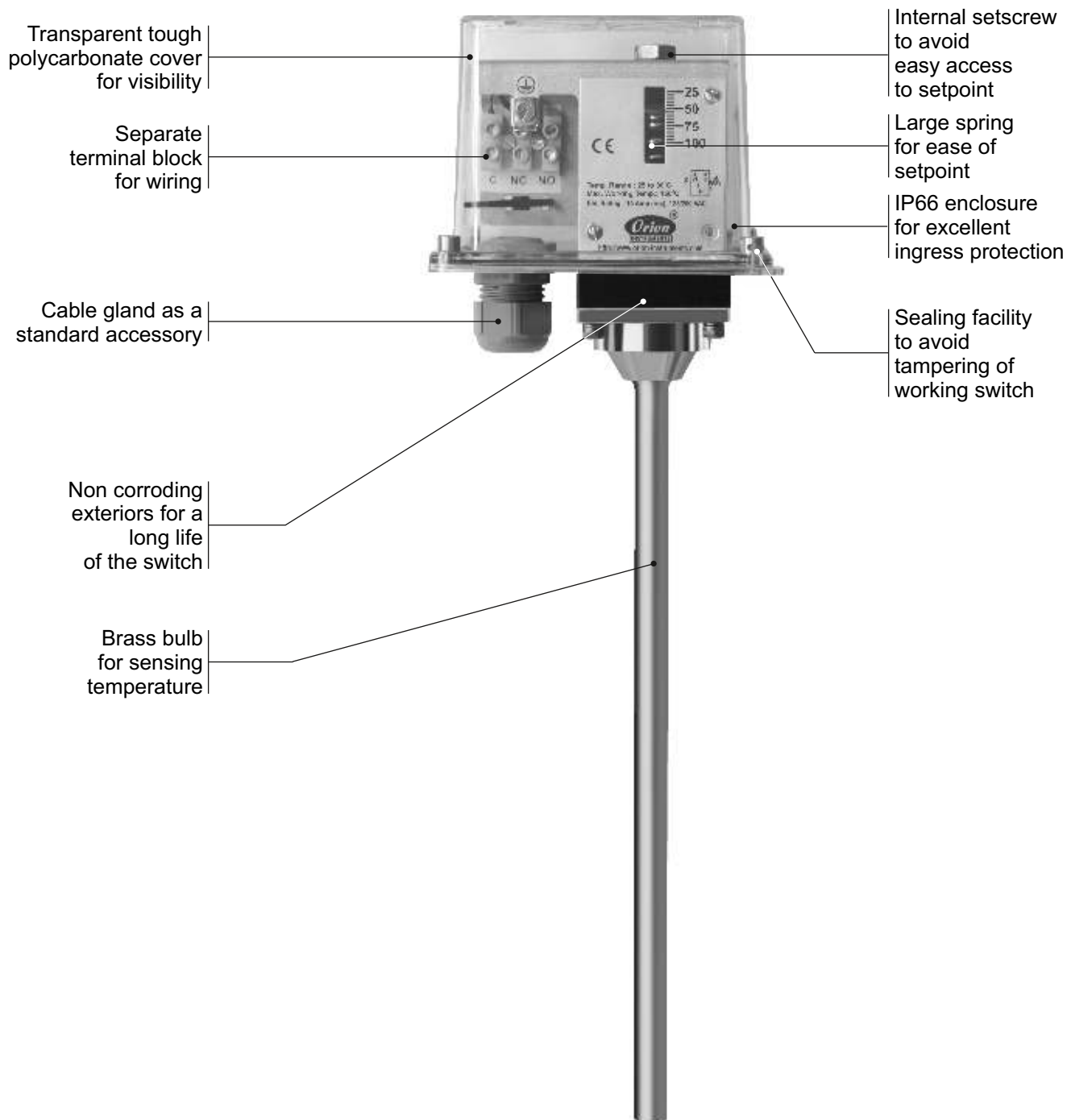
Group 1	Group 2	Group 3	Group 4	Group 5	Group 6	Group 7	Group 8
Non standard allocation	Gas Group Classification	Cable Entry Size	Switch Type	Range Code (values in Deg. Cen.)	Microswitch Type	Temp. Bulb Material / Size	Capillary Material / Size
☐ Reserved for Non-standard Options not covered in Catalogue. Will Be given by Manufacturer, Only after Agreement of Supply details With customer.	MZ = Process pressure switch with a weatherproof enclosure rated IP66 as per IS/IEC 60529 Note : Contact sales office for IP 68 enclosure	1 = Polycarbonate Enclosure ½" NPT threads 2 = Polycarbonate Enclosure ¾" NPT threads 3 = Polycarbonate Enclosure M20 x 1.5 threads 4 = Diecast Al. Enclosure ½" NPT threads 5 = Diecast Al. Enclosure ¾" NPT threads 6 = Diecast Al. Enclosure M20 x 1.5 threads 7 = SS Enclosure ½" NPT threads 8 = SS Enclosure ¾" NPT threads 9 = SS Enclosure M20 x 1.5 threads Note : For dual cable entries contact sales office	TF1 = Temperature Switch fixed differential without scale TF2 = Temperature Switch fixed differential with scale in °C *Available only with option A7 and A9 in Group 6	T1H = 25 - 90 T2H = 70 - 150 T3H = 120 - 215	A8 = General purpose microswitch A7 = 2SPDT microswitches A9 = General purpose microswitch * Please refer note under Range Selection Table	B1 = Brass / Dia. 9.5 mm, 123 mm length, with 3/8" BSP (M) thermowell connection B2 = Brass / Dia. 9.5 mm, 123 mm length, with 3/8" NPT (M) thermowell connection B3 = Brass / Dia. 9.5 mm, 123 mm length, with 1/2" NPT (M) thermowell connection	2 = SS316 / 2.0 meter

E.g. A Process Temperature switch, with M20x1.5 cable entry as 1 SPDT, fixed differential with scale, having 25°C to 90°C temperature range, with 15 Amp. microswitch, with Brass 9.5 mm diameter bulb, having length 123 mm with 3/8"BSP(M), with 2.0 meter SS316 capillary length shall be specified by

Group 1	Group 2	Group 3	Group 4	Group 5	Group 6	Group 7	Group 8
☐	MZ	3	TF2	T1H	A8	B1	2

Please specify full model number to avoid ambiguity.

MZ DIRECT MOUNTED TEMPERATURE SWITCHES

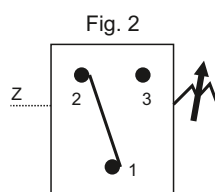


Approximate Weight : 0.700 Kg.

Some Applications :

To detect limiting temperature levels in non-hazardous areas.

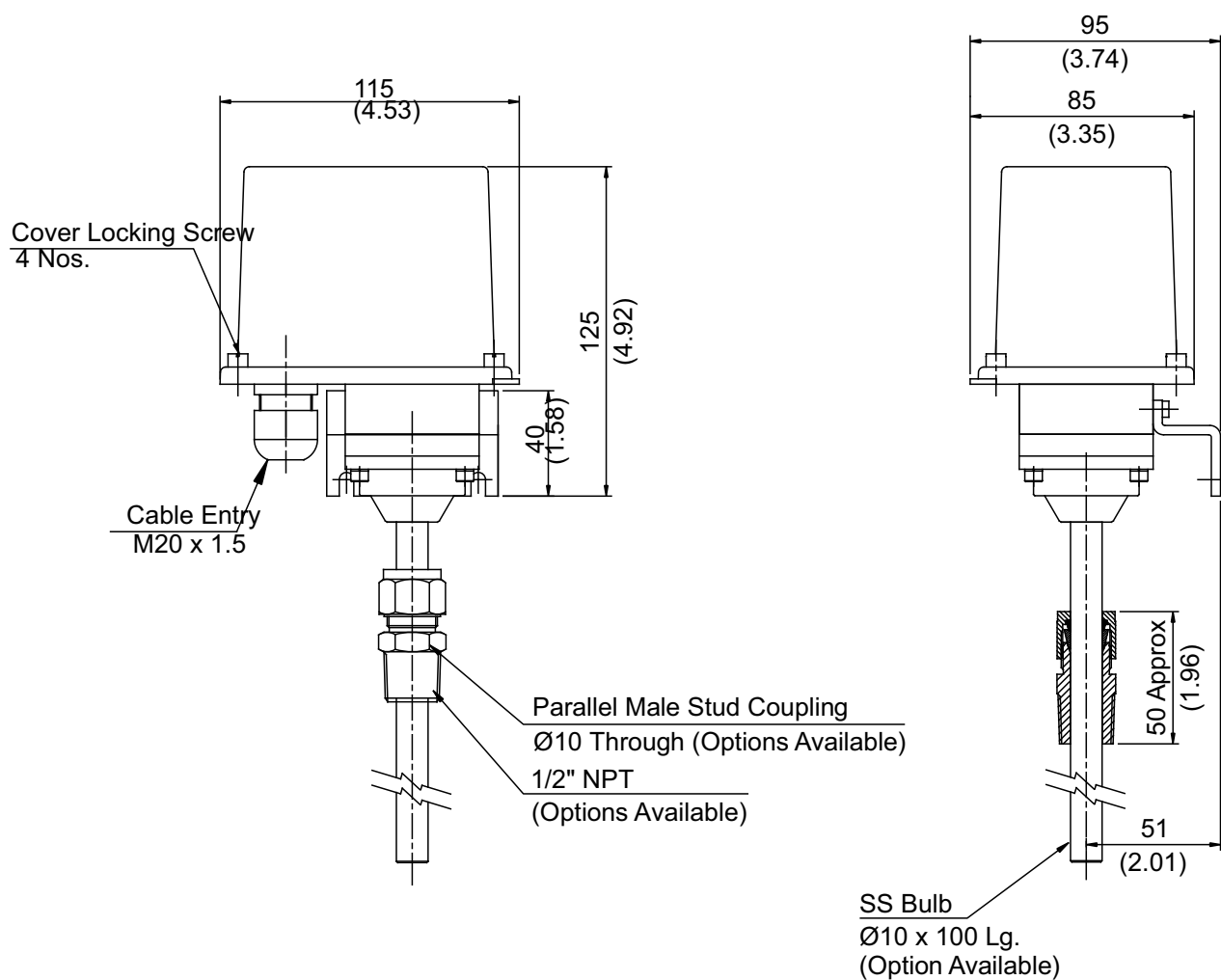
Electrical Connection :



MZ DIRECT MOUNTED TEMPERATURE SWITCHES



INSTALLATION DRAWING



APPROX. DIMENSIONS IN $\frac{\text{mm}}{\text{inches}}$

MZ DIRECT MOUNTED TEMPERATURE SWITCHES

RANGE SELECTION TABLE

Range Code	Range °C (°F)	Differential* °C (°F)	Maximum Working Temperature °C (°F)
		Approximate Maximum for "A8" microswitch	
T1H	35 - 90 (77 - 194)	15 (59)	150 (302)
T2H	70 - 150 (158 - 302)	20 (68)	200 (392)
T3H	120 - 215 (248 - 419)	30 (86)	300 (572)

Note:

1. The minimum differential increases with the setpoint. The differential values mentioned in the above table are approximate maximum for FSR. The differential value will vary according to the pressure range selected and microswitch type. For actual values of differential please contact sales office.

2. When using 2SPDT switching arrangement, both microswitches may not actuate and/or deactuate at the same point. A small stage gap, normally upto +/- 5% FSR (depending on range code) may be observed. The On-Off differential (hysteresis) typically tends to be atleast double of those published for 1SPDT pressure switches.

If actuation and/or deactuation at same point is critical part of operation, then it can be achieved by using a separate DPDT relay. This relay will need a separate power supply for it's coil.

HOW TO ORDER FLAMEPROOF TEMPERATURE SWITCHES

DIRECT MOUNTED TEMPERATURE SWITCHES

MZ

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Bulletin No. KA220802

Group 1	Group 2	Group 3	Group 4	Group 5	Group 6	Group 7	Group 8
Non standard allocation	Model	Cable Entry Size	Switch Type	Range Code (values in Deg. Cen.)	Microswitch Type	Temp. Bulb Dia./Size	MOC of the Bulb
☐ Reserved for Non-standard Options not covered in Catalogue. Will Be given by Manufacturer, Only after Agreement of Supply details With customer.	MZ = Process pressure switch with a weatherproof enclosure rated IP66 as per IS/IEC 60529 Note : Contact sales office for IP 68 enclosure	1 = Polycarbonate Enclosure 1/2" NPT threads 2 = Polycarbonate Enclosure 3/4" NPT threads 3 = Polycarbonate Enclosure M20 x 1.5 threads 4 = Diecast Al. Enclosure 1/2" NPT threads 5 = Diecast Al. Enclosure 3/4" NPT threads 6 = Diecast Al. Enclosure M20 x 1.5 threads 7 = SS Enclosure 1/2" NPT threads 8 = SS Enclosure 3/4" NPT threads 9 = SS Enclosure M20 x 1.5 threads Note : For dual cable entries contact sales office	TF1 = Temperature Switch, fixed differential without scale TF2 = Temperature Switch, fixed differential with scale in °C TA1 = temperature switch, adjustable differential without scale TA2 = temperature switch, adjustable differential with scale in °C *Available only with option A7 and A9 in Group 6	T1H = 35 - 90 T2H = 70 - 150 T3H = 120 - 215	A8 = General purpose microswitch A7 = 2SPDT microswitches A9 = General purpose microswitch * Please refer note under Range Selection Table	D1 = Direct mounted temperature switch with 150mm bulb length; 12mm bulb diameter; 3/8" BSPM connection. D2 = Direct mounted temperature switch with 150mm bulb length; 12mm bulb diameter; 3/8" NPTM connection. D3 = Direct mounted temperature switch with 150mm bulb length; 12mm bulb diameter; 1/2" NPTM connection. For customised dimensions of the bulb; please contact Sales office	1 = Brass 2 = Stainless Steel

E.g. A Direct Mounted process Temperature Switch, with 1/2"NPT cable entry in aluminum housing as 1 SPDT, fixed differential without scale, having 25°C to 90°C temperature range, with 15Amp. microswitch, with SS316 10mm diameter bulb of 100mm length with 1/2" NPT(M), shall be specified by

Group 1	Group 2	Group 3	Group 4	Group 5	Group 6	Group 7	Group 8
☐	MZ	1	TF1	T1H	A8	D1	1

Please specify full model number to avoid ambiguity.