

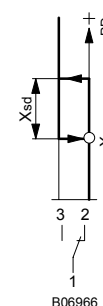
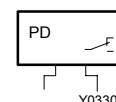
## DSD: Differential-pressure switch

Used for controlling and monitoring differential pressure in liquids, vapours and gases, and for monitoring the flow in circulation pumps.

Compact housing of light metal with transparent, impact-proof, thermoplastic cover; for wall mounting; setting screw for the lower switching point, sealable; micro-switch with single-pole change-over, gold-plated silver contacts; pressure sensor with two Bourdon tubes; all parts that come into contact with the medium are of stainless steel; pressure connection Rp 1/8, female thread. Housing-mounted plug cable connector (included in delivery). Touch protection as per EN 60730. For flexible cable of 6 - 10 mm external diameter.



T07384



Type	Range bar	Switching difference bar	Max. sensor values		Weight kg
			bar	°C	
Differential-pressure switch with variable switching difference					
<b>DSD 137 F001</b>	0,2...1,0	0,20...1,4	6	110	0,63
<b>DSD 140 F001</b>	0,4...2,5	0,40...1,6	10	110	0,63
<b>DSD 143 F001</b>	0,5...6,0	0,45...2,2	12	110	0,63
<b>DSD 152 F001</b>	1,0...16	0,60...3,4	25	110	0,63
Differential-pressure switch with fixed, small switching difference					
<b>DSD 134 F101</b>	0,05...0,4	0,04	6	110	0,63
Contact rating:- as silver contacts 1)	10(3) A, 250 V~ 50 W, 250 V=				
minimum	100 mA, 24 V				
as gold-plated contacts 2)	160 mA, 50 V				
minimum	4 mA, 5 V				
Permissible vacuum loading DSD 152	-0,7 bar -1,0 bar				
		Ambient temperature	-20...70 °C		
		Degree of protection	IP 65 (EN 60529)		
		Protection class	I (IEC 60730)		
		Wiring diagram	<a href="#">A01499</a>		
		Dimension drawing	<a href="#">M06967</a>		
		Fitting instructions	<a href="#">MV 505424</a>		

### Accessories

- 0190403 005\*** Brass connector with cap nut (*Serto* system), 2 pieces required
- 0259984 000\*** Bracket for 3-point fixing
- 0292110 001\*** Two throttle screws, Rp 1/8, for arresting pressure surges; stainless steel.
- 0296936 000\*** Fixing bracket for top-hat rails EN 50022, 35 × 7,5 or 35 × 15

\*) Dimension drawing or wiring diagram are available under the same number

- 1) If under inductive load, take RC circuit into account  
 2) If the contacts are loaded with more than 160 mA, 50 V, the gold plating suffers irreparable damage. They then lose the properties of gold contacts, and operate thenceforth as silver contacts

### Operation

When the pressure falls below the lower switching point (variable setpoint  $X_S$ ), the contacts change over from 1-3 to 1-2. When the pressure rises by the switching difference  $X_{Sd}$  above the lower switching point, the contacts change from 1-2 to 1-3.

The switching difference can be set externally using a grub screw: one turn changes the switching difference by approx. 20 % of its whole range.

**Additional information**

Materials that come into contact with the medium are of stainless steel (material nos. 1.4104, 1.4435, 1.4541).

**Additional technical details**

Reproducibility of $X_s$		$\pm 2\%$ of the range
Influence coefficient on switching difference <sup>2)</sup>	0,017	$\cos \varphi = 1$ : 10 A, 250,000 switching operations 5 A, 400,000 switching operations 2 A, approx. $10^6$ switching operations
Radio suppressed	as per EN 55014	$\cos \varphi = 0.6$ : 3 A, 400,000 switching operations $\cos \varphi = 0.3$ : <sup>1)</sup> 3 A, 250,000 switching operations 2 A, 400,000 switching operations 1 A, 700,000 switching operations
Complies with:-		Mechanical life: $> 1 \times 10^6$ switching operations
Directive 2006/95/EC	EN 60730-1/ EN 60730-2-6	
EMC directive 2004/108/EC	EN 61000-6-1/ EN 61000-6-2 EN 61000-6-3/ EN 61000-6-4	
Not covered by the PED directive	Art. 1.3.6 of the PED	

1)  $\cos \varphi < 0.3$ : substantial reduction in life expectancy; with RC circuitry, life expectancy is as for  $\cos \varphi > 0.3$  (see also technical notes).

2) see technical notes

**Technical notes**

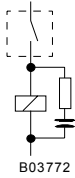
RC circuit under inductive load

For the optimum RC circuitry, refer to the specifications supplied by the manufacturers of the relays, contactors etc. If these are not available, the following rule of thumb can be applied:-

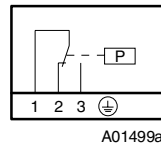
- Capacitance of the RC circuit ( $\mu F$ ) is equal to or greater than the operating current (A).
- Resistance of the RC circuit ( $\Omega$ ) is approx. equal to the resistance of the coil ( $\Omega$ ).

Influence coefficient on switching difference

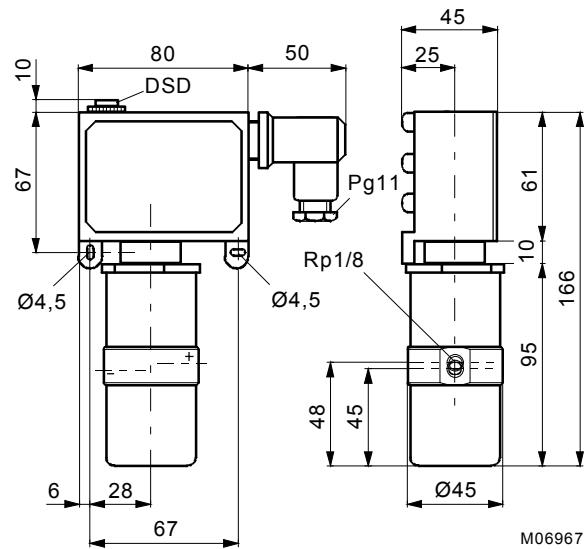
The switching difference is slightly dependent on the setpoint. The switching differences stated in the PDS sheet are typical values at the start of the range. The influence of the setpoint on the switching difference is worked out thus: (setpoint  $X_s$  - start of range)  $\times$  influence coefficient.



**Wiring diagram**

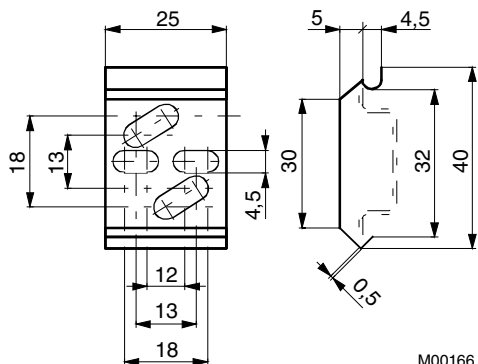


**Dimension drawing**



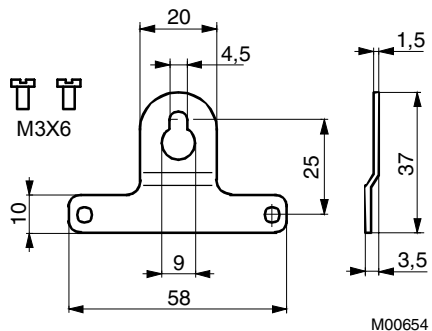
Accessories

296936



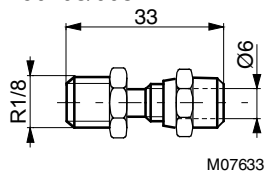
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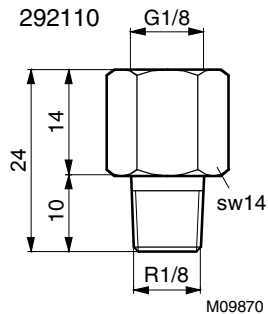
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