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## Датчики давления MDS Buhler

# MDS Mechanical Pressure Switch



## *Mechanical Pressure Switches with adjustable switching output for monitoring pneumatic or hydraulic pressure*

- Robust and compact unit
- Adjustable switching point
- High precision
- Up to 350 bar max. working pressure (more upon request)
- Electromechanical signal transducer
- M12 and M3 plug connection per DIN EN 175301-803
- Changeover contact function
- Long life

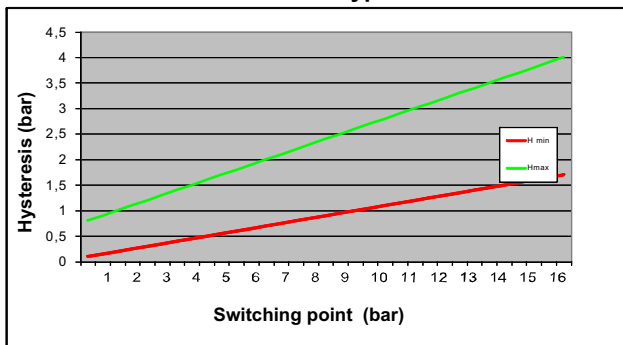


# Technical Specifications MDS Series

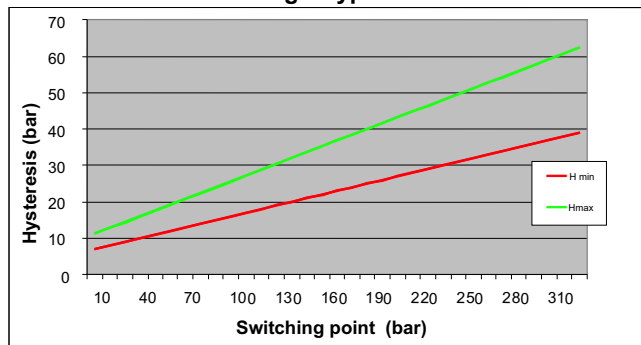
<b>Mediums</b>	self-lubricating fluids like hydraulic oils and lubricants, compressed air		<b>Mounting position</b>	any
			<b>Response</b>	min. velocity of pressure rise 0.01 bar/s
<b>Process connection</b>	G1/8"	G1/4"	<b>Switching point</b>	
Gasket seal	according to DIN3852-E		Accuracy	± 2% of range value at room temperature
Fastening torque	20 Nm	25 Nm	Reproducibility	same as accuracy
<b>Measuring principle</b>	Membrane spring-loaded ≤16 bar,	Plunger spring-loaded ≥ 16 bar	<b>Ambient conditions</b>	
Max. operating pressure	60 bar	350 bar	Temperature range	-20... +80°C
<b>Materials</b>	Membrane: NBR	Plunger: steel	Environment / operation	A-10G / 10-500 Hz
Gasket	---	PTFE, NBR	Vibration resistance	I-100G/6 ms
Housing	Steel, galvanised steel, galvanised		Shock resistance	
<b>Switching output</b>	Changer		<b>Weight</b>	0,15 kg
Number	1			
Switching element	micro switch with silver plated contacts			
Max. switching frequency	100/min			
Switching power with plug	<b>M3</b>	<b>M12</b>		
DC to 28 V	2 A	2 A		
AC to 250 V	4 A	---		

## Switch-back difference

**Membrane Type**



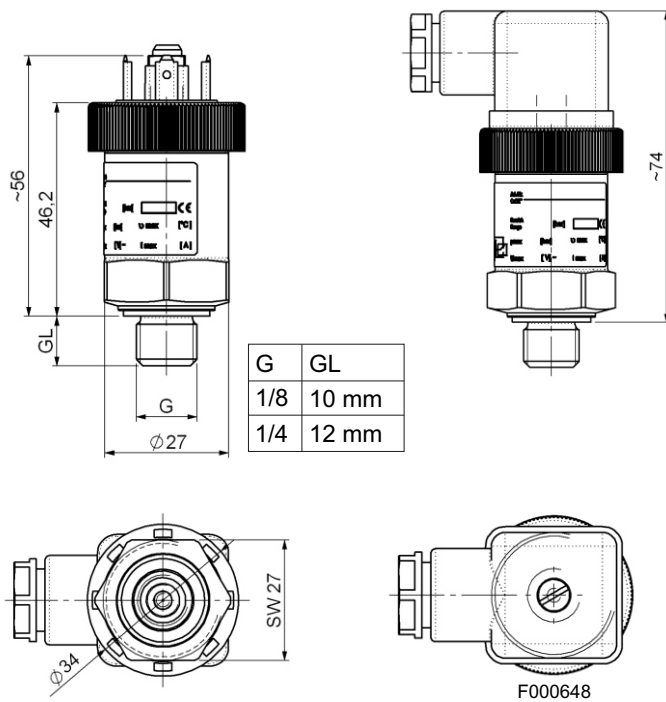
**Plunger type**



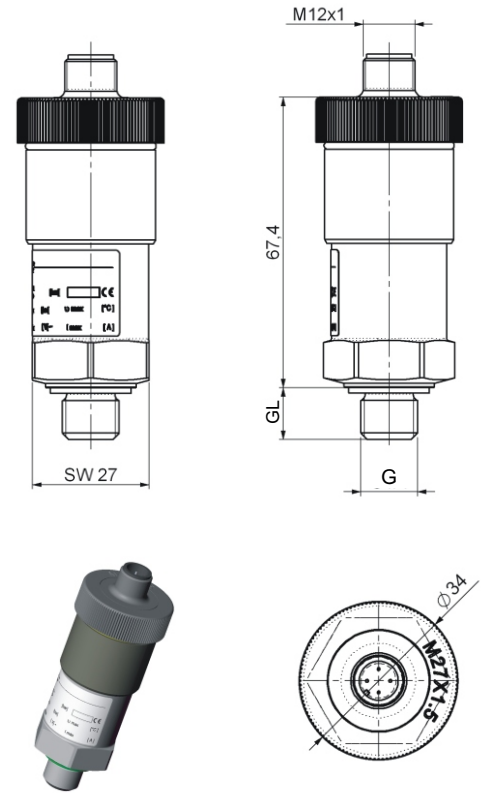
<b>Plug connection</b>	<b>M3 (DIN EN 175301-803)</b> 3 pol. + PE 250V IP65 PG9	<b>M12 (socket)</b> 4 pol. 28V IP67**
Max. voltage		
Protection class		
Cable fitting		**when connected
<b>Pin assignment</b>		

# Dimensions

## Version M3



## Version M12



**Accessories:** Part no.: 9144050047 Connecting cable M12x1, 4-pin, L = 5m  
 Part no.: 9146100159 Contact box M12x1, 90° angle

## Product code for MDS

MDS -  -  -  -

<b>Model</b>				
<b>Connector</b> M3 or M12				
<b>Fluid Port</b> G1/8" or G1/4"				
				<b>Pressure ranges</b> Setting of switching point <sup>1)</sup> (optional)
				<b>Pressure ranges</b> 8: 0,5...8 bar Membrane pressure switch 16: 1...16 bar Membrane pressure switch 120: 10...120 bar Piston pressure switch 250: 20...250 bar Piston pressure switch 320: 30...320 bar Piston pressure switch

<sup>1)</sup> If required, the switching point setting can be executed by the factory. The switching point must be set for rising or falling pressure, i.e. switching point monitoring of 0 bar to switching point (rising) or from max. operating pressure decreasing to switching point (falling). Refer to the following example for the circuitry:

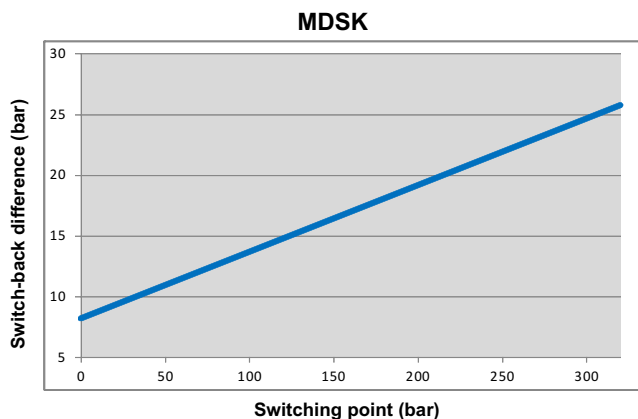
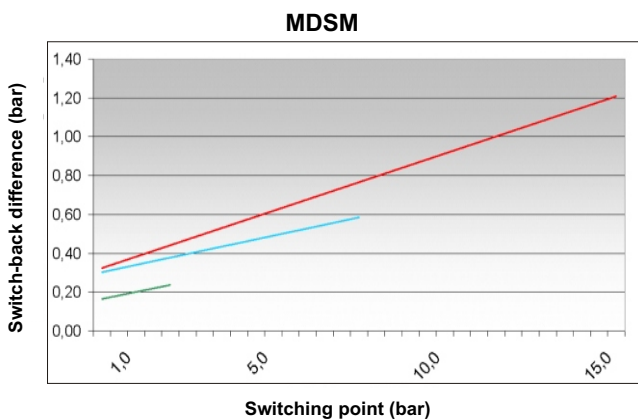
MDS-M3-G1/4-120-80R (switching point 80 bar rising)  
 PIN3-2 closed when switching point is reached

MDS-M3-G1/4-120-80F (switching point 80 bar falling)  
 PIN3-1 closed when switching point is reached

# Technical Specifications MDSM & MDSK Series

	<b>MDSM</b>	<b>MDSK</b>
<b>Mediums</b>	Neutral fluids, compressed air	self-lubricating fluids such as hydraulic oils and lubricants
<b>Process connection</b>	G1/4" inside	G 1/4" rotary, vertical flange DIN ISO 16873 Fastening torque: 25 Nm
<b>Mounting position</b>	any	any
<b>Measuring principle</b>	Spring-loaded membrane	Spring-loaded piston
<b>Max. operating pressure</b>	60 bar	350 bar
<b>Min. velocity of pressure rise</b>	0,01 bar/s	0,01 bar/s
<b>Switching point</b>		
Accuracy/reproducibility	± 2% of range value at room temperature	± 2% of range value at room temperature
<b>Materials</b>		
Measuring element	membrane: NBR	piston: stainless steel 1.4305
Pressure connection	zinc die cast (G1/4" inside)	galvanised steel (G1/4" rotary), zinc die cast (vertical flange)
Housing	zinc die cast	zinc die cast
<b>Switching output</b>		
Number	Changer 1, adjustable with lock	Changer 1, adjustable with lock
Switching element	micro switch with silver plated contacts	micro switch with silver plated contacts
Max. switching frequency	200 / min.	200 / min.
Max. switching power		
with plug	<b>M3</b> <b>M12</b>	<b>M3</b> <b>M12</b>
DC to 28V	3 A      3 A	3 A      3 A
AC to 250V	6 A      ---	6 A      ---
<b>Ambient conditions</b>		
Temperature range		
Environment/operation	-10 °C...+80 °C	-10 °C...+80 °C
Vibration resistance	A-10G/10-500 Hz	A-10G/10-500 Hz
Shock resistance	I-100G/6 ms	I-100G/6 ms
<b>Weight</b>	0,3 kg	0,33 kg

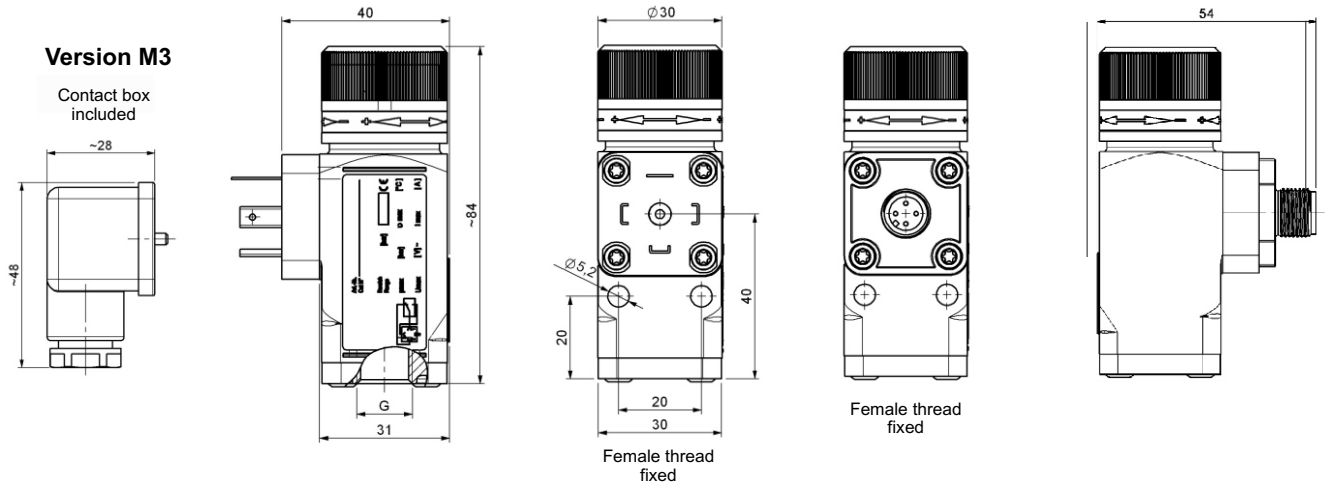
## Switch-back difference:



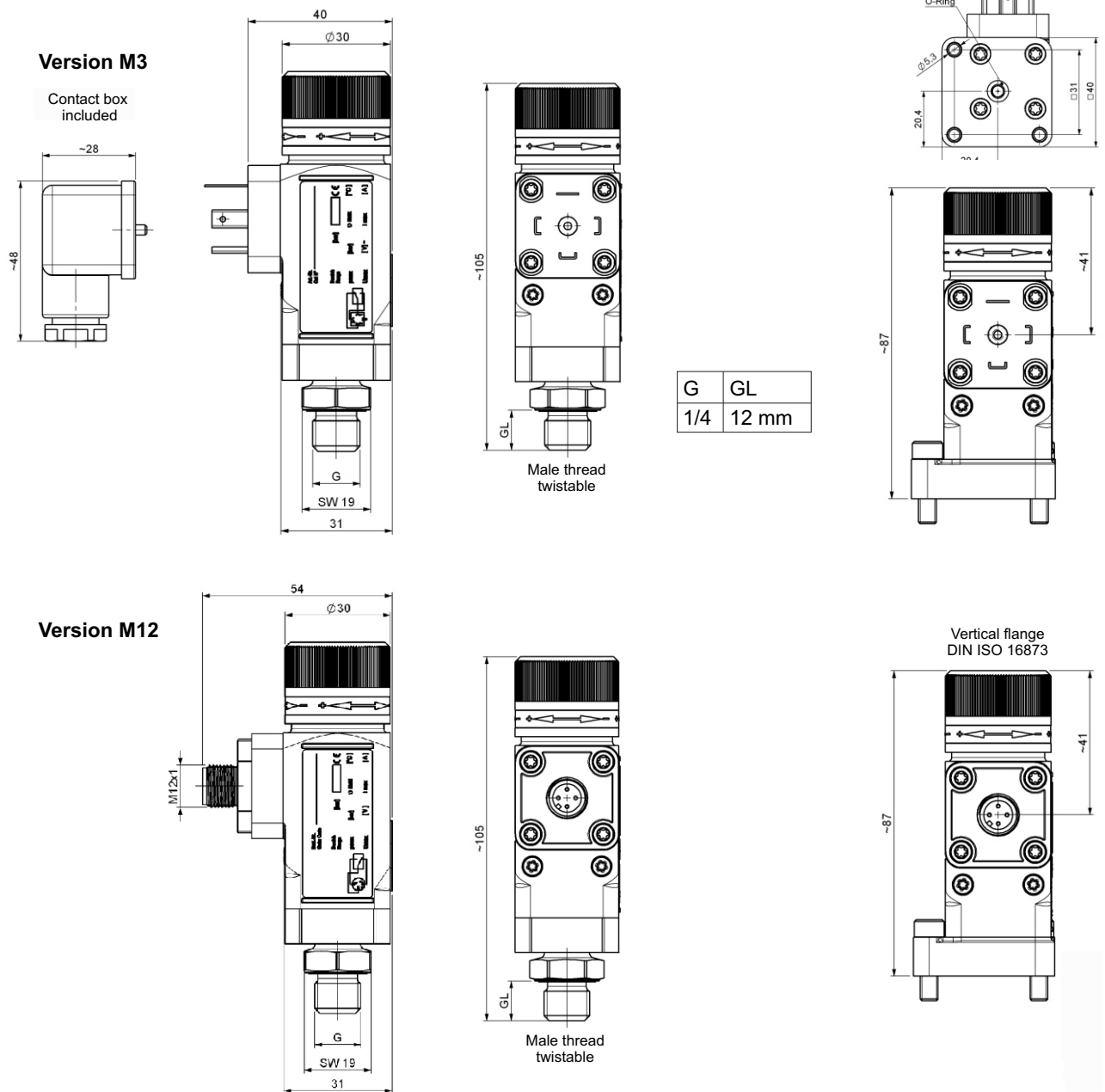
<b>Plug connection</b>	<b>M3</b> (DIN EN 175301-803) 3 pol. + PE	<b>M12</b> (Socket) 4 pol.
Max. voltage	250V	28V
Protection class	IP65	IP67**
Cable fitting	PG9	
		**when connected
<b>Pin assignment</b>		

# Dimensions

## MDSM



## MDSK



- Accessories:**
- Art-Nr.: 9144050047 Connecting cable M1 2x1, 4-pin plug, L = 5m
  - Art-Nr.: 9146100159 Contact box M1 2x1, 90° angle
  - Art-Nr.: 9008429 Double nipple G1/4, stainless steel

## Product code

MDS  -  -  -  -

**Model**

**M** MDSM  
**K** MDSK

**Plug connection**

M3 or M12

**G1/4i** G1/4" inside (MDSM only)  
**G1/4d** G1/4" twistable (MDSK only)  
**VF** Vertical flange per ISO 16873 (MDSK only)

**Pressure ranges**

Setting of switching point <sup>1)</sup>

**Pressure ranges**

8 :	0,5...8 bar	MDSM
16:	1...16 bar	MDSM
120:	10...120 bar	MDSK
250:	20...250 bar	MDSK
320:	30...320 bar	MDSK

<sup>1)</sup> If required, the switching point setting can be executed by the factory. The switching point must be set for rising or falling pressure, i.e. switching point monitoring of 0 bar to switching point (rising) or from max. operating pressure decreasing to switching point (falling). Refer to the following example for the circuitry:

MDSK-M3-G1/4-120-80R (switching point 80 bar rising)  
 PIN1-3 closed when switching point is reached

MDSK-M3-G1/4-120-80F (switching point 80 bar falling)  
 PIN1-2 closed when switching point is reached

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