

# PICOSTAT PRESSURE SWITCH

Swiss based Trafag is a leading international supplier of high quality sensors and monitoring instruments for measurement of pressure and temperature. The 9B4 of the Picostat series is based on our long lasting experience in the shipbuilding and railway sector. This further improved version offers high vibration resistance within a compact body and is suitable for a wide temperature range.



## Applications

- Shipbuilding
- Engine manufacturing
- Railways
- Machine tools



## Features

- Improved vibration resistance
- Compact design
- Rugged housing
- Protection IP65
- Any mounting position possible









Technical Data			
Measuring principle	Bellow	Repeatability	± 0.5 % FS typ.
Measuring range	-0.6 ... 3.4 to 4 ... 40 bar -8 ... 45 to 60 ... 500 psi	Media temperature	Standard: -25°C ... +125°C with sensor 789/790/791: -40°C ... +125°C
Output signal	1 Floating change-over contact (SPDT)	Ambient temperature	Standard: -25°C ... +125°C with sensor 789/790/791: -40°C ... +125°C
Switching differential	Not adjustable	Approval / conformity	ABS, BV, CCS, DNV, GL, KRS, LRS, NKK, RINA, RMRS, EN60730-1/ EN60730-2-6: Typ 2.B.H

02/2017

Data sheet H72367n

Subject to change

## Ordering information/type code

		9B4 .	XX	XX	XXX	XX	XX
<b>Microswitch</b>	Standard <sup>1)</sup>		42				
	Standard  <sup>1)</sup>		33				
	Gold plated contacts <sup>1)</sup>		84				
<b>Range</b>	<b>Range [bar]</b>	<b>Over pressure [bar]</b>		<b>Range [psi]</b>	<b>Over pressure [psi]</b>		
	-0.6 ... 3.4	12	74	-8 ... 45	174	G4	
	0 ... 4	12	76	0 ... 50	174	G6	
	0 ... 6	12	77	0 ... 100	174	G7	
	1 ... 10	24	78	14 ... 150	348	G8	
	1 ... 16	24	79	14 ... 250	348	G9	
	2 ... 25	40	80	30 ... 400	580	H0	
	4 ... 40	50	81	60 ... 500	725	H1	
<b>Sensor</b>	<b>Sensor material</b>	<b>Sensor housing material</b>		<b>Range</b>			
	Bronze bellows CuSn6  <sup>2)</sup>	Aluminium EN AW-6026 AlMgSiPb0.4 anodized		74		769	
	Bronze bellows CuSn6  <sup>2)</sup>	Aluminium EN AW-6026 AlMgSiPb0.4 anodized		76, 77		770	
	Bronze bellows CuSn6  <sup>2)</sup>	Aluminium EN AW-6026 AlMgSiPb0.4 anodized		78, 79		771	
	Bronze bellows CuSn6  <sup>2)</sup>	Aluminium EN AW-6026 AlMgSiPb0.4 anodized		80, 81		772	
	Bronze bellows (CuSn6)  <sup>3) 4)</sup>	Brass (CuZn39Pb3)		74		789	
	Bronze bellows CuSn6  <sup>3) 4)</sup>	Brass (CuZn39Pb3)		76, 77		790	
	Bronze bellows (CuSn6)  <sup>3) 4)</sup>	Brass (CuZn39Pb3)		78, 79		791	
	Bellows stainless steel (1.4404/AISI316L) <sup>4)</sup>	Stainless steel		76, 77		753	
Bellows stainless steel (1.4404/AISI316L) <sup>4)</sup>	Stainless steel		78, 79		754		
<b>Pressure connection</b>	G1/8" female						02
	G1/4" female						04
	M10x1.0" female <sup>5)</sup>						03
<b>Accessories</b>	Flange with O-Ring <sup>4)</sup>						11
	Female electrical connector EN175301-803-A (DIN43650-A)						46
	Welsh plug G1/4"						74
	Fixing set						V3
	Covering cap						15
	Lead seal (manipulation protection)						16
	Switch point adjustment on customers request						
	Please indicate when ordering:						
	- Switchpoint including measurement unit (kPa, bar, MPa, psi, abs. or rel.)						88
	- Increasing or decreasing						
Damping elements and snubber see data sheet H72258							

<sup>1)</sup> Switching differential not adjustable

<sup>2)</sup> Media contacting O-Ring

<sup>3)</sup> O-Ring not media contacting

<sup>4)</sup> Only with pressure connection 04 (G1/4") others upon request

<sup>5)</sup> Please ask us

## Standard products (extra short lead time)

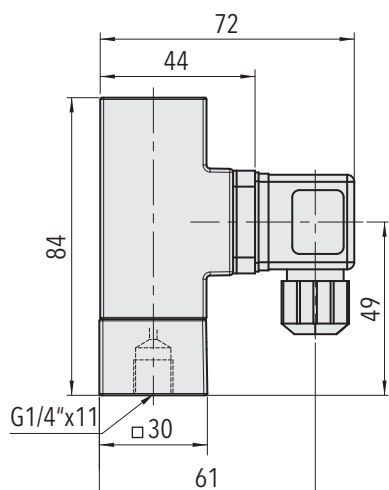
Product No.	Type Code	Pressure range [bar]	Over pressure max. [bar]	Switching differential [bar]
PST4B3.44	9B4 4274 769 04 0000 0000 15 46 V3	-0.6 ... 3.4	12	0.2 ± 0.1 (fixed)
PST4B64	9B4 4277 770 04 0000 0000 15 46 V3	0 ... 6	12	0.2 ± 0.1 (fixed)
PST4B164	9B4 4279 771 04 0000 0000 15 46 V3	1 ... 16	24	0.4 ± 0.2 (fixed)
PST4B254	9B4 4280 772 04 0000 0000 15 46 V3	2 ... 25	40	1.0 ± 0.6 (fixed)
PST4B404	9B4 4281 772 04 0000 0000 15 46 V3	4 ... 40	50	1.2 ± 0.8 (fixed)
PST4B3.4F4	9B4 4274 769 04 0000 0000 11 15 46 74 V3	-0.6 ... 3.4	12	0.2 ± 0.1 (fixed)
PST4B6F4	9B4 4277 770 04 0000 0000 11 15 46 74 V3	0 ... 6	12	0.2 ± 0.1 (fixed)
PST4B16F4	9B4 4279 771 04 0000 0000 11 15 46 74 V3	1 ... 16	24	0.4 ± 0.2 (fixed)
PST4B25F4	9B4 4280 772 04 0000 0000 11 15 46 74 V3	2 ... 25	40	1.0 ± 0.6 (fixed)
PST4B40F4	9B4 4281 772 04 0000 0000 11 15 46 74 V3	4 ... 40	50	1.2 ± 0.8 (fixed)
PST4B6S4	9B4 4277 753 04 0000 0000 15 46 V3	0 ... 6	12	0.2 ± 0.1 (fixed)
PST4B16S4	9B4 4279 754 04 0000 0000 15 46 V3	1 ... 16	24	0.4 ± 0.2 (fixed)

Specifications		
<b>Accuracy</b>	Repeatability	± 0.5 % FS typ.
	Switching differential	See table
	Adjustment range switchpoint <sup>2)</sup>	10% ... 90% FS
	Temperature dependence switching point	-25°C ... +125°C: ca. -0.1% FS/°C typ. < -25°C: ca. -0.25% FS/°C typ.
<b>Environmental conditions</b>	Ambient temperature	Standard: -25°C ... +125°C with sensor 789/790/791: -40°C ... +125°C
	Media temperature	Standard: -25°C ... +125°C with sensor 789/790/791: -40°C ... +125°C
	Storage temperature	Standard: -30°C ... +125°C with sensor 789/790/791: -45°C ... +125°C
	Protection <sup>1)</sup>	IP65
	Humidity	Max. 95% relative
	Vibration	Switch: IEC/EN 60068-2-6 10...59 Hz: ±0.75mm Ampl. 59...500 Hz: 5g
	Shock	50g/ 3 ms
<b>Mechanical Data</b>	Sensor	See ordering information
	Housing	Aluminium EN AW-6026 AlMgSiPb0.4 anodized
	Sealing	HNBR 75 Sh
	Housing seal	EPDM 75 Sh
	Male electrical plug	PA, Polyamide
	Mounting torque	G 1/4": M <sub>A</sub> = 32 ... 40 Nm
	Installation	any position
	Weight	~ 160 g
<b>Microswitch</b>	Rating	See table
	Resistance of insulation	500 VDC > 10 MΩ
	Dielectric strength	>1.5 kV AC/60 s terminal ground >500 VAC/60 s via open contacts
<b>Electrical connection</b>	Electrical connections	EN175301-803-A (DIN43650-A)
	Female electrical connector	Cable-Ø: 4 ... 9 mm Terminal screw: 4 x 0.5...1.5 mm <sup>2</sup>

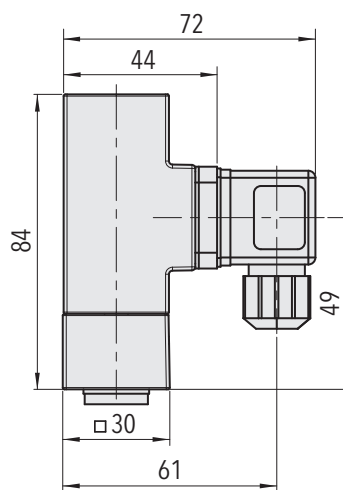
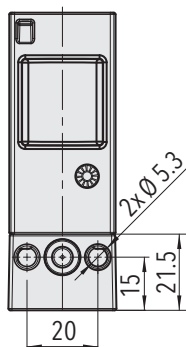
<sup>1)</sup> Provided female connector is mounted according to instructions

<sup>2)</sup> Other adjustment ranges upon request

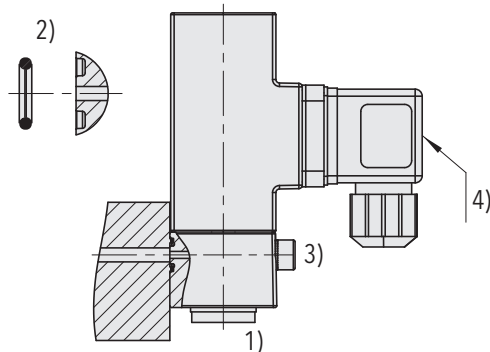
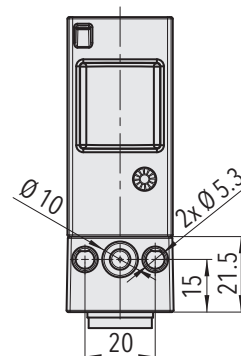
## Dimensions



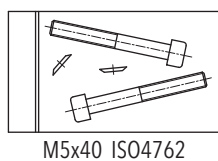
9B4.XXXX.7XX.04.46.V3



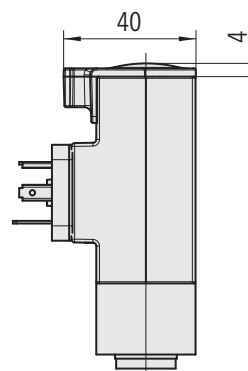
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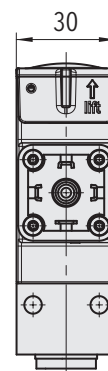
9B4.XXXX.XXX.XX.11



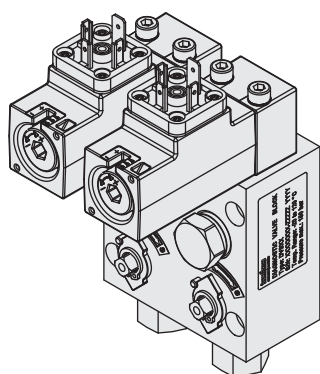
9B4.XXXX.XXX.XX.V3



9B4.XXXX.XXX.XX.15



- 1) Torque: G 1/4":  $M_A = 32 \dots 40 \text{ Nm}$
- 2) O-Ring:  $\varnothing 6.75 \times 1.78$  NBR 90 Sh
- 3) Fixing screw: M5; property class: 8.8; torque: 4.5...6 Nm
- 4) Torque connector center screw: max. 0.4 Nm



Diagnostic Valve Bloc (DVB)  
see specification sheet H72361

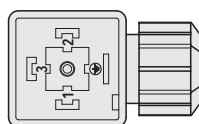
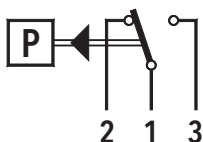
## Switching differential typ. @ 25°C

Measuring range of bellows sensor	[bar] [psi]	-0.6 ... 3.4 -8 ... 45	0 ... 4 0 ... 50	0 ... 6 0 ... 100	1 ... 10 14 ... 150	1 ... 16 14 ... 250	2 ... 25 30 ... 400	4 ... 40 60 ... 500
<b>Microswitch 42/84/33</b>	[bar]	0.2 ± 0.1	0.2 ± 0.1	0.2 ± 0.1	0.4 ± 0.2	0.4 ± 0.2	1.0 ± 0.6	1.2 ± 0.8
Switching differential (not adjustable)	[psi]	4.5	4.5	4.5	9	9	22	26

## Electrical data switch

Type	Features	Rating	
		Resistive Load (Inductive Load)	
		AC	DC
<b>42/33</b> (Standard)	Silver contacts	250 V, 6 (1) A	220 V, 0.25 (0.1) A 110 V, 0.5 (0.2) A 60 V, 1(0.5) A 24 V, 3 (2) A 12 V, 6 (6) A
<b>84</b>	Gold plated contacts, suitable for intrinsically safe control circuits	max. 30 V, 0.1 (0.1) A min. 5 V, 5 mA	

## Electrical Connection



EN175301-803-A

## Additional information

### Documents

Data sheet	<a href="http://www.trafag.com/H72367">www.trafag.com/H72367</a>
Instructions	<a href="http://www.trafag.com/H73367">www.trafag.com/H73367</a>
Flyer	<a href="http://www.trafag.com/H70655">www.trafag.com/H70655</a>