

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	Bellows	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 ... +85°C with sensor 789/790/791: -40°C ... +85°C
Switching differential	Not adjustable	Approval / conformity	ABS, BV, CCS, DNV-GL, KRS, LR, NKK, RINA, RMRS EN60730-1/ EN60730-2-6: Type 2.B.H

Ordering information/type code

				9B4 .	XX	XX	XXX	XX	XX
Microswitch	Standard ¹⁾				42				
	Standard  ¹⁾				33				
	Gold plated contacts ¹⁾				84				
Range	Range [bar]	Over pressure [bar]		Range [psi]	Over pressure [psi]				
	-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			
Sensor	Sensor material		Sensor housing material		Range				
	Bronze bellows (CuSn6)  ²⁾		Aluminium EN AW-6026 AlMgSiPb0.4 anodized		74		769		
	Bronze bellows (CuSn6)  ²⁾		Aluminium EN AW-6026 AlMgSiPb0.4 anodized		76, 77		770		
	Bronze bellows (CuSn6)  ²⁾		Aluminium EN AW-6026 AlMgSiPb0.4 anodized		78, 79		771		
	Bronze bellows (CuSn6)  ²⁾		Aluminium EN AW-6026 AlMgSiPb0.4 anodized		80, 81		772		
	Bronze bellows (CuSn6)  ^{3) 4)}		Brass (CuZn39Pb3)		74		789		
	Bronze bellows (CuSn6)  ^{3) 4)}		Brass (CuZn39Pb3)		76, 77		790		
	Bronze bellows (CuSn6)  ^{3) 4)}		Brass (CuZn39Pb3)		78, 79		791		
	Bellows stainless steel (1.4404/AISI316L) ⁴⁾		Stainless steel		76, 77		753		
Bellows stainless steel (1.4404/AISI316L) ⁴⁾		Stainless steel		78, 79		754			
Pressure connection	G1/8" female ⁵⁾							02	
	G1/4" female							04	
	M10x1 female ⁵⁾							03	
	G1/4" male ⁵⁾							17	
Accessories	Flange with O-Ring ⁴⁾								11
	Female electrical plug EN 175301-803-A (DIN 43650-A)								46
	Welsh plug G1/4"								74
	Fixing set								V3
	Covering cap								15
	Lead seal (manipulation protection)								16
	Seal HNBR, -25°C ... +125°C (standard seal) ⁶⁾								83
	Seal FKM, -18°C ... +125°C ⁵⁾								61
	Seal EPDM, -40°C ... +125°C ⁵⁾								63
	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								
	Switch point scale								98
	Damping elements and snubber see data sheet H72258								

¹⁾ Switching differential not adjustable²⁾ Media contacting O-Ring³⁾ O-Ring not media contacting⁴⁾ Only with pressure connection 04 (G1/4") others upon request⁵⁾ Upon request, whereas minimum order quantities may apply⁶⁾ For pressure connection G1/4" male upon request

Standard products (extra short lead time)

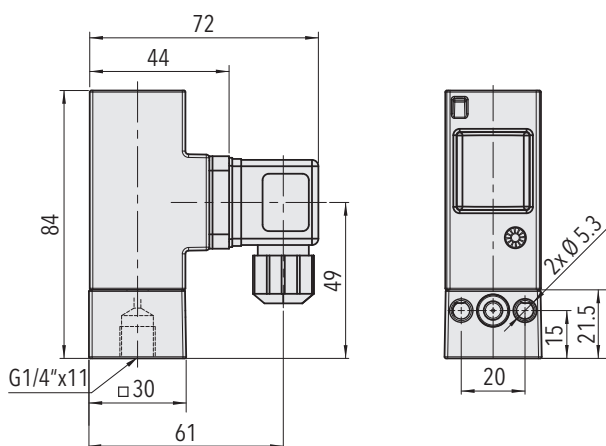
Product No.	Type Code	Pressure range [bar]	Over pressure max. [bar]	Switching differential [bar]
PST4B3.44	9B4 4274 769 04 0000 0000 15 46 V3	-0.6 ... 3.4	12	0.2 ± 0.1 (fixed)
PST4B64	9B4 4277 770 04 0000 0000 15 46 V3	0 ... 6	12	0.2 ± 0.1 (fixed)
PST4B164	9B4 4279 771 04 0000 0000 15 46 V3	1 ... 16	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		
Accuracy	Repeatability	± 0.5 % FS typ.
	Switching differential	See table
	Adjustment range switch point ²⁾	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.
Environmental conditions	Ambient temperature	Standard: -25°C ... +85°C with sensor 789/790/791: -40°C ... +85°C
	Media temperature	Standard: -25°C ... +125°C with sensor 789/790/791: -40°C ... +125°C
	Storage temperature	-20°C ... +40°C
	Protection ¹⁾	IP65
	Humidity	Max. 95 % relative
	Vibration	Switch: IEC/EN 60068-2-6 10...59 Hz: ±0.75 mm Ampl. 59...500 Hz: 5 g
	Shock	50 g / 3 ms
Mechanical data	Sensor	See ordering information
	Housing	Aluminium EN AW-6026 AlMgSiPb0.4 anodized
	Sealing	HNBR 75 Sh, FKM, EPDM
	Housing seal	EPDM 75 Sh
	Male electrical connector	Polyamide (PA)
	Mounting torque	G 1/4": M _A = 32 ... 40 Nm
	Installation	any position
	Weight	~ 160 g
Microswitch	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
Electrical connection	Electrical connections	EN175301-803-A (DIN43650-A)
	Female electrical connector	Cable-Ø: 4 ... 9 mm Terminal screw: 4 x 0.5...1.5 mm ²

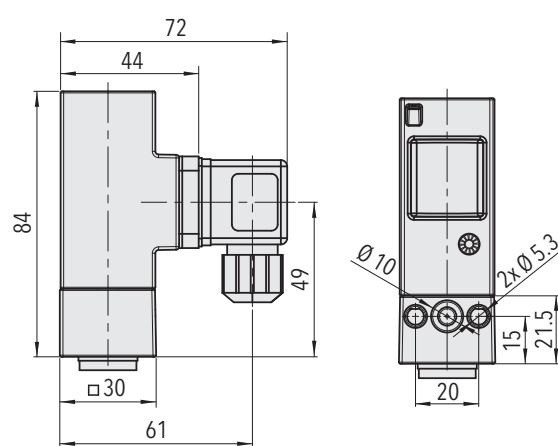
¹⁾ Provided female electrical plug is mounted according to instructions

²⁾ Other adjustment ranges upon request

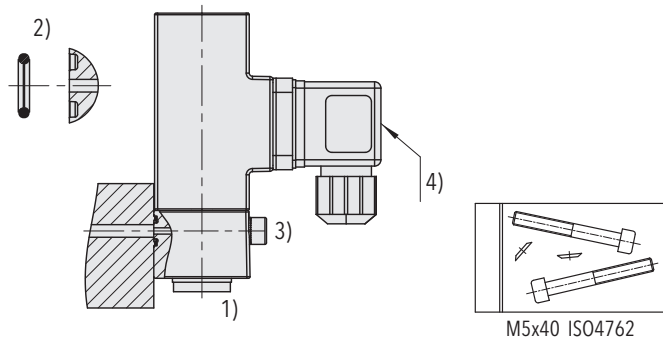
Dimensions



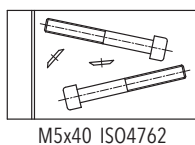
9B4.XXXX.7XX.04.46.V3



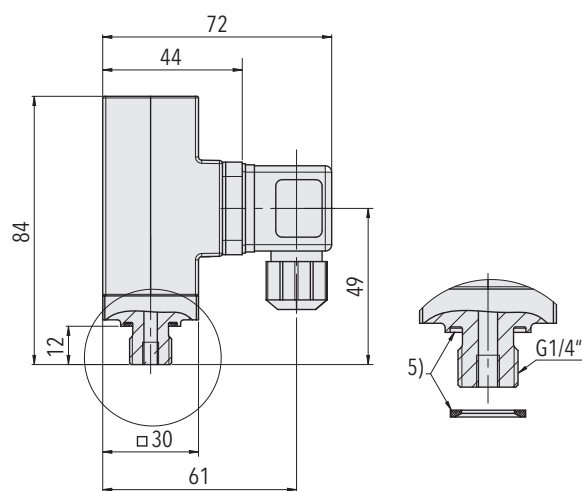
9B4.XXXX.7XX.04.11.46.74.V3



9B4.XXXX.XXX.XX.11

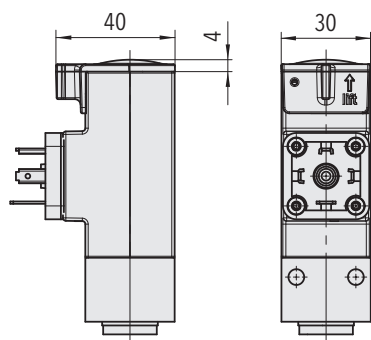


9B4.XXXX.XXX.XX.V3

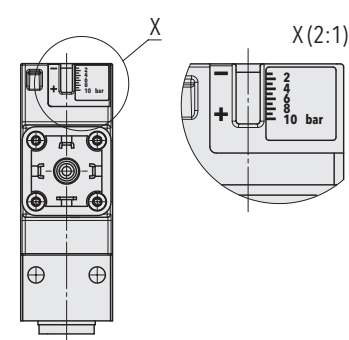


9B4.XXXX.7XX.17.XX

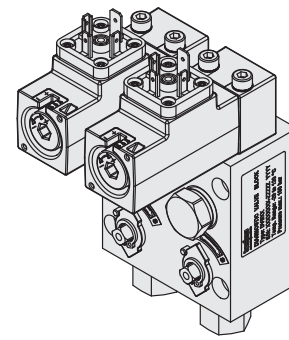
- 1) Torque: G 1/4": $M_A = 32 \dots 40 \text{ Nm}$
- 2) O-Ring: $\varnothing 6.75 \times 1.78 \text{ NBR 90 Sh}$
- 3) Fixing screw: M5; property class: 8.8; torque: $4.5 \dots 6 \text{ Nm}$
- 4) Torque connector center screw: max. 0.4 Nm
- 5) Seal: see accessories



9B4.XXXX.XXX.XX.15



9B4.XXXX.XXX.XX.98



Diagnostic Valve Bloc (DVB)
see specification sheet H72361

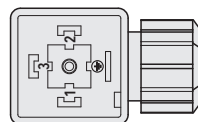
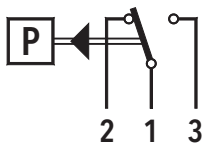
Switching differential typ. @ 25°C

Measuring range 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
Microswitch 42/84/33: Switching differential not adjustable	[bar] [psi]	0.2 ± 0.1 4.5	0.2 ± 0.1 4.5	0.2 ± 0.1 4.5	0.4 ± 0.2 9	0.4 ± 0.2 9	1.0 ± 0.6 22	1.2 ± 0.8 26

Electrical data switch

		Rating Resistive Load (Inductive Load)	
Type	Features	AC	DC
42/33 (Standard)	Silver contacts	250 V, 6 (1) A min. 10 V, min. 30 (30) mA	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 min. 10 V, min. 30 (30) mA
84	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	www.trafag.com/H72367
	Instructions	www.trafag.com/H73367