

ELECTRONIC PRESSURE SWITCH

Swiss based Trafag is a leading international supplier of high quality sensors and monitoring instruments for measurement of pressure and temperature. The Electronic Pressure Switch EPN-S is based on the well-proven EPN transmitter family. It stands for reliable accuracy over a wide temperature range and excellent long-term stability even in harshest environments in the shipbuilding and railway industry. The switchpoint is factory set or can be programmed on site using Trafag's Sensor Communicator SC.



Applications

- Shipbuilding
- Engine manufacturing
- Railways
- Machine tools
- Hydraulics
- HVAC



Features

- Rugged design for harsh environments
- Wide temperature range
- Excellent long-term stability
- Very compact design
- Switchpoint factory set or programmable on site with Trafag Sensor Communicator SC

Technical Data			
Measuring principle	Thin-film-on-steel	Media temperature	-40°C ... +125°C
Measuring range	0 ... 2.5 to 0 ... 600 bar 0 ... 30 to 0 ... 7500 psi	Ambient temperature	Standard: -25°C ... +85°C Option accessory 67: -40°C ... +125°C
Output signal	Transistor (open source)	Approval / conformity	DNV-GL, RMRS EN 50155 (Railways) EN 45545-2 (Fire protection, railways)
Accuracy @ 25°C typ.	± 0.5 % FS typ. (Switchpoint)		

05/2021

Data sheet H72333i

Subject to change

Ordering information/type code

Measuring range ¹⁾	Pressure measurement range [bar]	Over pressure [bar]	Burst pressure [bar]	75	Pressure measurement range [psi]	Over pressure [psi]	Burst pressure [psi]	720	8320 . XX	XX	XX	XX	XX	XX
	0 ... 2.5	5	100	75	G5	0 ... 30	30	720	G5					
0 ... 4	8	100	76	G6	0 ... 50	115	860	G6						
0 ... 6	12	100	77	G7	0 ... 100	170	1450	G7						
0 ... 10	20	200	78	G8	0 ... 150	290	2900	G8						
0 ... 16	32	200	79	G9	0 ... 250	464	2900	G9						
0 ... 25	50	300	80	H0	0 ... 400	725	4350	H0						
0 ... 40	80	300	81	H1	0 ... 500	1160	4350	H1						
0 ... 60	120	500	82	H2	0 ... 1000	1740	5800	H2						
0 ... 100	200	500	83	H3	0 ... 1500	2900	7250	H3						
0 ... 160	320	1000	85	H5	0 ... 2000	4640	10850	H5						
0 ... 250	500	1000	74	G4	0 ... 3000	7250	14500	G4						
0 ... 400	800	1500	84	H4	0 ... 5000	11600	21750	H4						
0 ... 600	1000	2000	86	H6	0 ... 7500	14500	29000	H6						
Sensor	Relative pressure								23					
Pressure connection	G1/4" male (Seal)								17					
	1/4" NPT male								30					
	G1/2" male (DIN 3852-A) ²⁾								21					
	M14x1.5 male (DIN 3852-A) ²⁾								22					
	1/2" NPT male ²⁾								51					
Electrical connection	Male electrical connector EN 175301-803-A (DIN 43650-A)								04					
	Male electrical connector EN 175301-803-A (DIN 43650-A) ³⁾								05					
	Cable with shield: Material: FDR 25 (Raychem) 4 x 0.5mm ² , -40°C ... +125°C, (Cable length see "Accessories") ³⁾								78					
	Cable with shield: Material: Radox Tenuis-TW 600V MM S (EN45545), 4 x 0.5mm ² , -40°C ... +120°C, (Cable length see "Accessories") ³⁾								88					
Output signal	1 Transistor out: switchpoint "ON": ... (bar); switchpoint "OFF": ... (bar); delay time: standard 5 (ms), ... (ms) range: 5...10000 (ms)								T1					
	Option: Switchpoint factory set ≤250 bar (switchpoint > 250 bar on request)													
Accessories	Pressure peak damping element ø 0.4 mm								44					
	Pressure peak damping element ø 1.0 mm								40					
	Female electrical plug EN 175301-803-A (DIN43650-A)/NBR, -40°C ... +90°C, for cable diameter 4 ... 9 mm, flammability standard UL94-V0								46					
	Female electrical plug EN 175301-803-A (DIN 43650-A)/silicone, -40°C ... +125°C, for cable diameter 4 ... 9 mm, flammability standard UL94-V0								56					
	Female electrical plug EN 175301-803-A (DIN43650-A)/NBR, -40°C ... +90°C, for cable diameter 4 ... 9.5 mm, flammability standard UL94-V2								58					
	🚂 Railways version (500 VAC/DC), with shielded cable only								11					
	Higher operating temperature: -40°C ... +125°C								67					
	Special electrical connection: Pin 1 +, Pin 2 Out, Pin 3 - (only for switching output and male electrical connector code 04 EN 175301-803-A / DIN 43650-A)								F9					
	Special electrical connection: Pin 1 +, Pin 2 -, Pin 3 Out (only for switching output and male electrical connector code 05 EN 175301-803-A / DIN 43650-A)								97					
	Cable length 1.5 m								1M					
	Cable length 3.0 m								3M					
	Cable length 5.0 m								5M					

¹⁾ Customized pressure ranges upon request

²⁾ Upon request

³⁾ Switchpoint setting by factory setting only





Ordering No. for "Programming device Sensor Communicator SC"

- Sensor Communicator SC: F88030
- Programming cable with connector EN 175301-803A: F88049

Manuals for Sensor Communicator SC: www.trafag.com/H73699

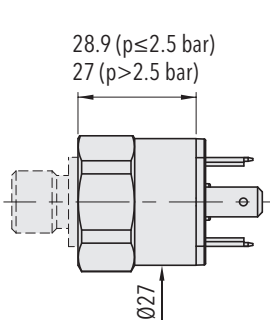


Specifications		
Accuracy	Accuracy @ 25°C typ.	± 0.5 % FS typ. (Switchpoint)
	Temperature dependence switching point	Switchpoint @ +25°C: ± 0.5 % FS typ. Switchpoint @ -25°C ... +85°C: ± 1.0 % FS typ. Switchpoint @ -40°C ... +125°C: ± 1.3 % FS typ. (Accessory 67: higher operating temperature -40°C ... +125°C)
	Long term stability 1 year typ.	≤ ± 0.15 % FS typ.
Electrical data	Supply voltage	24 (9 ... 32)VDC
	Resistance of insulation	>10 MΩ, 250 VDC  >10 MΩ, 500 VDC
	Dielectric strength	250 VAC, 50 Hz  500 VAC, 50 Hz
	Output / supply voltage	Transistor (open source): 24 (9 ... 32)VDC
	Inverse-polarity protection, short-circuit strength @ 25°C during 5 min.	integrated
	Current consumption / power consumption	≤ 15 mA
	Environmental conditions	Media temperature
Ambient temperature		Standard: -25°C ... +85°C Option accessory 67: -40°C ... +125°C
Protection		Electrical connection 04/05: IP65 Electrical connection 78/88: IP69K
Humidity		Max. 95 % relative
Vibration		15 g (50...2000 Hz)
Shock		50 g / 11 ms
EMC protection		Emission
	Immunity	EN/IEC 61000-6-2
Mechanical data	Sensor (wetted parts)	1.4542 (AISI630)
	Pressure connection (wetted parts)	Pressure ranges ≤ 250 bar: 1.4542 (AISI630) Pressure ranges > 250 bar: 1.4301 (AISI304)
	Housing	1.4301 (AISI304)
	Sealing	FKM 70 Sh
	Male electrical connector	See ordering information
	Weight	~ 85 ... 110 g
	Mounting torque	25 Nm

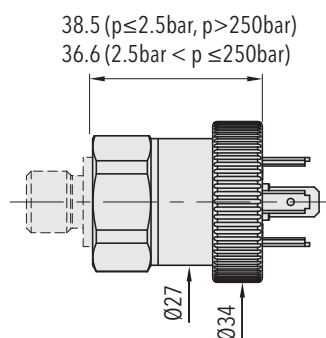
Switching output

Output signal	1 Transistor (open source)
Switchpoint setting	Switchpoint factory set or programmable on site with Trafag Sensor Communicator SC
Setting range	0 ... 100 % FS
Switching hysteresis	≥ 1 % FS
Switching current	≤ 0.5 A @ -40°C ... +85°C ≤ 0.4 A @ +85°C ... +125°C (only with accessory 67: higher operating temperature -40°C ... +125°C)
Switching resistance	≤ 3Ω
Delay time	Standard adjustment: 5 ms Adjustable with Trafag Sensor Communicator (only electrical connection 04): 5 ms ... 10 s
Lifetime	>100 x 10 ⁶ cycles

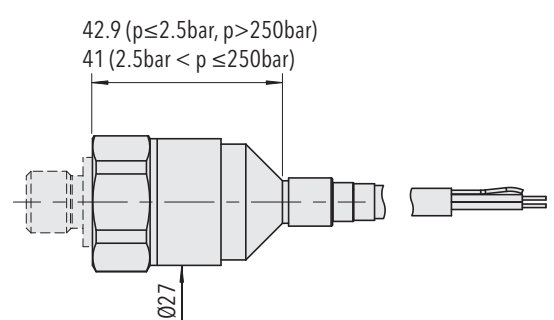
Dimensions



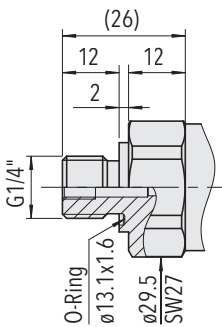
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Switchpoint factory set or programmable on site with Trafag Sensor Communicator SC



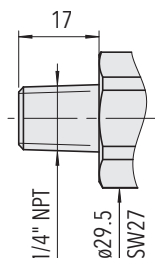
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Switchpoint factory set



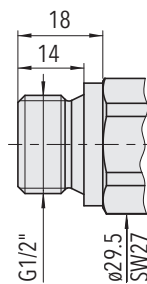
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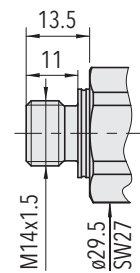
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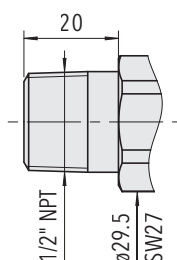
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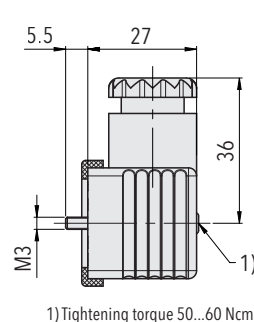
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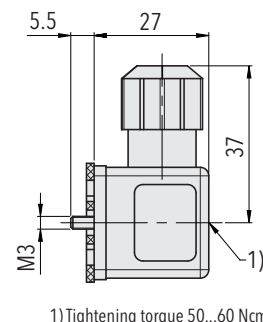
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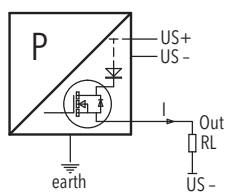
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Electrical connection

		Protection / electrical connection		
		IP65 *)	IP65 *)	IP69K
		Industrial standard EN175301-803A 04 	Industrial standard EN175301-803A 05 	IP69K Cable **) 78/88 Shield
Output signal		F9	97	
	8320.XX.XXXX.XX.T1	1 2 3 ⊕	1 3 2 ⊕	brown blue black yellow / green

*) Provided female electrical plug is mounted according to instructions

**) Ventilation via cable end



Connection of loads to switch contacts

Additional information

Documents

Data sheet	www.trafag.com/H72333
Instructions	www.trafag.com/H73333
Flyer	www.trafag.com/H70652