

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
Accuracy @ 25°C typ.	± 0.5 % FS typ. (Switchpoint)		

07/2018

Data sheet H72333g

Subject to change

Ordering information/type code

				8320 . XX			XX	XX	XX	XX	XX
Measuring range ¹⁾	Pressure measurement range [bar]	Over pressure [bar]	Burst pressure [bar]		Pressure measurement range [psi]	Over pressure [psi]	Burst pressure [psi]				
	0 ... 2.5	5	100	75	0 ... 30	30	720	G5			
	0 ... 4	8	100	76	0 ... 50	115	860	G6			
	0 ... 6	12	100	77	0 ... 100	170	1450	G7			
	0 ... 10	20	200	78	0 ... 150	290	2900	G8			
	0 ... 16	32	200	79	0 ... 250	464	2900	G9			
	0 ... 25	50	300	80	0 ... 400	725	4350	H0			
	0 ... 40	80	300	81	0 ... 500	1160	4350	H1			
	0 ... 60	120	500	82	0 ... 1000	1740	5800	H2			
	0 ... 100	200	500	83	0 ... 1500	2900	7250	H3			
	0 ... 160	320	1000	85	0 ... 2000	4640	10850	H5			
	0 ... 250	500	1000	74	0 ... 3000	7250	14500	G4			
	0 ... 400	800	1500	84	0 ... 5000	11600	21750	H4			
	0 ... 600	1000	2000	86	0 ... 7500	14500	29000	H6			
Sensor	Relative pressure							23			
Pressure connection	G1/4" male (Seal)							17			
	1/4" NPT male							30			
	G1/2" male (DIN3852-A) ²⁾							21			
	M14x1.5 male (DIN3852-A) ²⁾							22			
	1/2" NPT male ²⁾							51			
Electrical connection	Male electrical plug: EN 175301-803-A (DIN43650-A)							04			
	Cable with shield: Material: FDR 25 (Raychem) 4 x 0.5mm ² , -40°C ... +125°C, (Cable length see "Accessories")							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")							88			
Output signal	1 Transistor out: switchpoint "ON": ... (bar); switchpoint "OFF": ... (bar); delay time: standard 5 (ms), ... (ms) range: 5...10000 (ms)							T1			
Accessories	Pressure peak damping element ø 0.4 mm							44			
	Pressure peak damping element ø 1.0 mm							40			
	Female electrical connector EN 175301-803-A (DIN43650-A)/NBR, -40°C ... +90°C							58			
	🚂 Railways version (500 VAC/DC), with shielded cable only							11			
	Higher operating temperature: -40°C ... +125°C							67			
	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⁾ Please ask us



Programming device Sensor Communicator SC

Ordering No.

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

Manual see

- Sensor Communicator SC: www.trafag.com/H73699 (EN) and www.trafag.com/H73698 (DE)

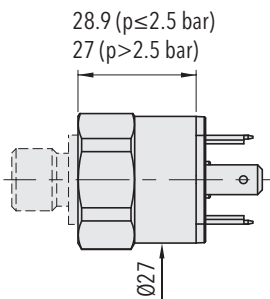


Specifications		
Accuracy	Accuracy @ 25°C typ.	± 0.5 % FS typ. (Switchpoint)
	Temperature dependence switching point	Switchpoint @ +25°C: ± 0.5 % FS typ. Switchpoint @ -25°C ... +85°C: ± 1.0 % FS typ. Switchpoint @ -40°C ... +125°C: ± 1.3 % FS typ. (Accessory 67: higher operating temperature -40°C ... +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 strenght @ 25°C during 5 min.	integrated
	Current consumption	≤ 15 mA
Environmental conditions	Media temperature	-40°C ... +125°C
	Ambient temperature	Standard: -25°C ... +85°C Option accessory 67: -40°C ... +125°C
	Protection	Electrical connection 04: IP65 (IP67) Electrical connection 78/88: IP69K
	Humidity	Max. 95 % relative
	Vibration	15 g (50...2000 Hz)
	Shock	50 g / 11 ms
EMC Protection	Emission	EN/IEC 61000-6-3
	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 plug	See ordering information
	Weight	~ 85 ... 110 g
	Mounting torque	25 Nm

Switching output

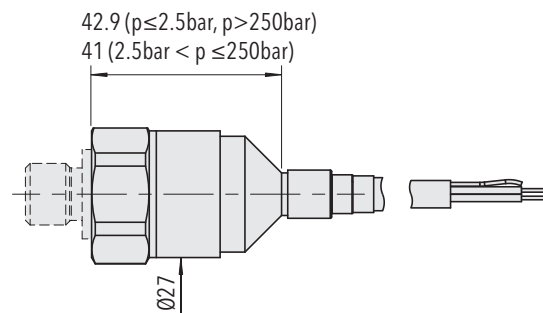
Output signal	1 Transistor (open source)
Switchpoint setting	Switchpoint factory set or programmable on site with Trafag Sensor Communicator SC
Adjustment range	0 ... 100 % FS
Switching hysteresis	$\geq 1 \% \text{ FS}$
Switching current	$\leq 0.5 \text{ A @ } -40^\circ\text{C} \dots +85^\circ\text{C}$ $\leq 0.4 \text{ A @ } +85^\circ\text{C} \dots +125^\circ\text{C}$ (only with accessory 67: higher operating temperature $-40^\circ\text{C} \dots +125^\circ\text{C}$)
Switching resistance	$\leq 3 \Omega$
Delay time	Standard adjustment: 5 ms Adjustable with Trafag Sensor Communicator (only electrical connection 04): 5 ms ... 10 s

Dimensions



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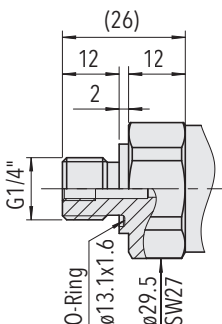
Switchpoint factory set or programmable on site with Trafag Sensor Communicator SC



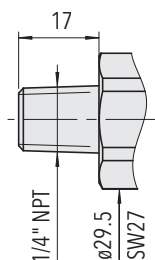
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Switchpoint factory set

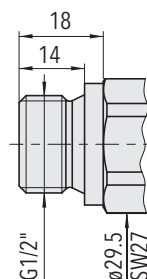
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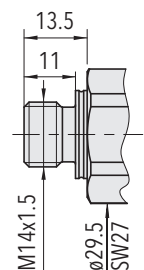
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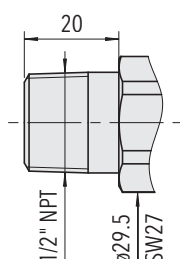
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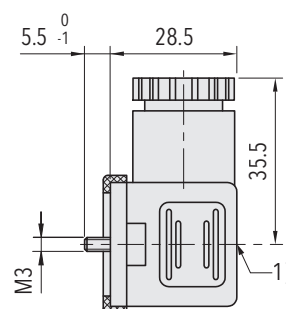
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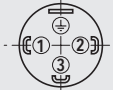
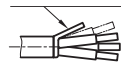
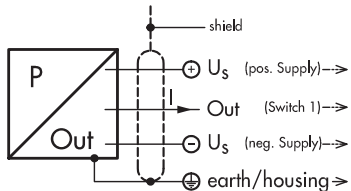
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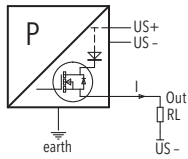
1) Tightening torque 50...60Ncm

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Electrical Connection

Protection / electrical connection	
IP65 (IP67)	IP69K
Industrial standard EN175301-803A 04 	Cable **) 78/88 Shield 
Output signal 	1 brown 2 blue 3 black ⊕ yellow / green

***) 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