

Electronic pressure switch type 540

Pressure range
0 ... 60 – 600 bar



The μ P-regulated, programmable pressure transmitter type 540 has a robust industry design. The parameters are easily adjustable with two function keys in the configuration menu which disposes of up to two programmable switching points.

All systems are equipped with a diagnostic function. The large 4 digit LED display assures a good accuracy of reading. The pressure switch type 540 is based upon the Huba Control developed thick film technology where the pressure measuring cell is fully welded.

- Compact, rugged construction
- High over pressure
- Clearly readable display
- Sensitive operation keys
- Diagnostic function
- with analogue signal available
- by up to 2 programmable switching outputs

Technical overview**Pressure range**

Relative	0 ... 60 – 600 bar
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Operating conditions

Medium		Liquids and gases
Temperature	Medium / Ambient	-20 ... +80 °C
	Storage	-40 ... +80 °C
Overload		3 x fs (max. 1500 bar)
Rupture pressure		6 x fs (max. 2500 bar)

Materials

Case		Polyarylamid 50% GF black
Materials in contact with medium	Sensor	Stainless steel
	Pressure connection	Stainless steel 1.4404 / AISI 316L

Electrical overview

Output		0 ... 10 V
		4 ... 20 mA
	Open-collector switching output for max. 200 mA, contact NO or contact NC	
Power supply		17 ... 33 VDC
Load	0 ... 10 V	> 10 kOhm
	4 ... 20 mA	< 500 Ohm
Current consumption		max. 50 mA
Polarity reversal protection	Short circuit proof and protected against polarity reversal. Each connection is protected against crossover up to max. supply voltage.	
Response time		≤ 5 ms

Protection class

Protection class III

Displays (rotatable by 180°)

7 Segment LED, 4 digits for the indication of pressure measuring values and parameter values.

Point-LED for state indication of switching points.

Point-LED for indication of programmed measuring unit.

Programmring

All settings can made in unpressurised state or during the operation. Ex works with standard setting.

Analogue output: characteristic line adjustable of 75 ... 125% FS

Digital output: Measuring range

rising pressure 8 ... 100% fs

falling pressure 5 ... 97% fs

P or N-switching, open-close-contact, rise delay time eligible Rise delay time 0 – 50 s, Switch off delay time 0 – 50 s, Response time 5 ... 500 ms.

Diagnostic function

Manual operation with keyboard: Test of sensor circuit and of stainless steel cell. Version available with diagnostic function.

Version with diagnostic input (shunt-cal): feed-back with 50% fs signal 12 mA or 5 V.

Protection standard

IP 65 and IP 67 acc. IEC 60529

Electrical connection

Connector M12x1

Pressure connection

Inside thread	G 1/4	wiht O-Ring sealing FPM spez.
	7/16 - 20 SAE	
	1/4 -18 NPT	
Outside thread	1/4 -18 NPT	
	G 1/4	sealed at back DIN 3852 Form E with profile seal ring FPM spez.
	R 1/4	DIN 2999
	7/16 - 20 UNF	

Installation arrangement

Unrestricted	(Electrical connection not recommended down)
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Tests / Admissions

Electromagnetic compatibility	CE conformity acc. EN 61326-2-3
UL acc. 61010-1	
Shock acc. IEC IEC 68-2-27	100 g, 11 ms half sine wave, all 6 directions, free fall from 1 m on concrete (6x)
Vibration acc. IEC 68-2-6	20 g, 15 ... 2000 Hz, 15 ... 25 Hz with amplitude ± 15 mm, 1 Octave/min. all 3 directions, 50 constant load

Weight

~ 120 g

Packaging

Single packaging in cardboard

Accuracy

Parameter		Unit	
Characteristic line ¹⁾		% fs	± 1.0
Thermal characteristic ²⁾	max.	% fs/10K	± 0.65
Long term stability acc. IEC EN 60770-1	max.	% fs	± 0.3

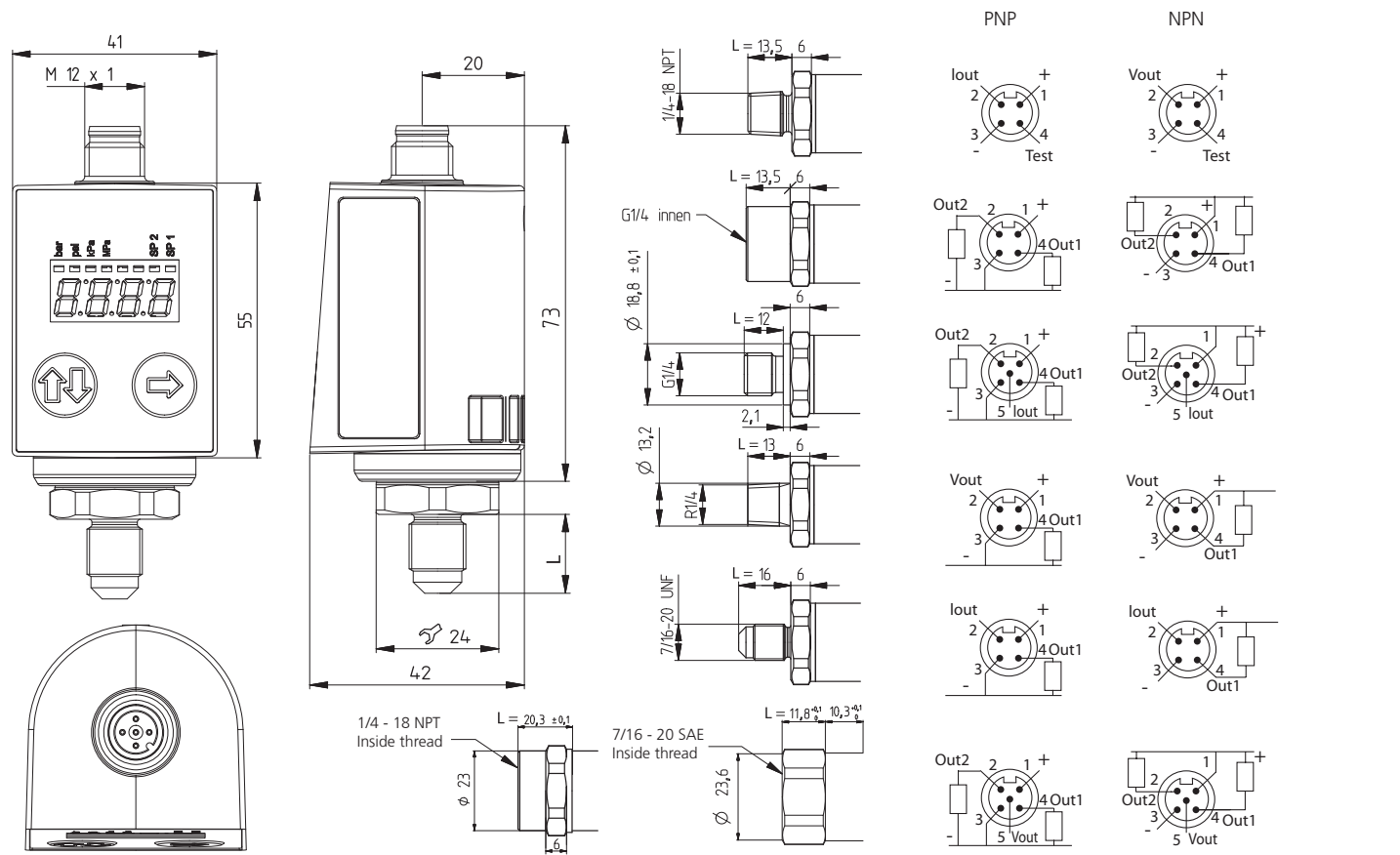
Test conditions: 25 °C, 45% RH, power supply 24 VDC

Order code selection table				540	X	X	X	X	X	X	X	X	X	X
Pressure range ¹⁾ (adjustment in bar)	bar	psi	MPa											
	0 ... 60	0 ... 870	0 ... 6	9	4	0	S							
	0 ... 100	0 ... 1450	0 ... 10	9	4	1	S							
	0 ... 160	0 ... 2320	0 ... 16	9	4	2	S							
	0 ... 250	0 ... 3625	0 ... 25	9	4	3	S							
	0 ... 400	0 ... 5800	0 ... 40	9	5	4	S							
0 ... 600	0 ... 8700	0 ... 60	9	5	5	S								
Pressure range ¹⁾ (adjustment in psi)	psi	bar	MPa											
	0 ... 750	0 ... 52	0 ... 5.17	9	D	0	S							
	0 ... 1000	0 ... 69	0 ... 6.90	9	D	1	S							
	0 ... 2000	0 ... 138	0 ... 13.79	9	D	2	S							
	0 ... 3000	0 ... 207	0 ... 20.69	9	D	3	S							
	0 ... 5000	0 ... 345	0 ... 34.48	9	E	4	S							
0 ... 7500	0 ... 517	0 ... 51.72	9	E	5	S								
Pressure indication	bar	factory calibration in bar								0				
	psi	factory calibration in bar								1				
	MPa	factory calibration in bar								3				
Output	1 analogue output	4 ... 20 mA	diagnostic input							0	0			
	1 analogue output	0 ... 10 V	diagnostic input							1	0			
	1 analogue output	4 ... 20 mA	1 digital output							2	1,2			
	1 analogue output	0 ... 10 V	1 digital output							3	1,2			
	2 digital outputs									4	1,2			
	2 digital outputs	4 ... 20 mA	1 analogue output							5	1,2			
2 digital outputs	0 ... 10 V	1 analogue output							6	1,2				
Electrical connection ²⁾	without digital output									0				
	M12x1 NPN									1				
	M12x1 PNP									2				
Pressure connection	Inside thread	7/16 -20 SAE									A	0	1	
	Inside thread	G 1/4 with O-ring sealing FPM spez.									1	0	1	
	Inside thread	1/4 -18 NPT									D	0	1	
	Outside thread	7/16 -20 UNF									2	0	1	
	Outside thread	1/4 -18 NPT									3	0	1	
	Outside thread	G 1/4 sealed at back DIN 3852 Form E, with profile seal ring FPM spez.									4	0	1	
	Outside thread	R 1/4 acc. DIN 2999									7	0	1	

Accessories ³⁾

Straight-wire box for connector M12x1 with cable ⁴⁾	5-pole	200 cm	Order Number
Calibration certificate (available for analogue output, only)			114564
			104551

Dimensions in mm / Electrical connections



¹⁾ Other pressure on request **SUNSTAR 自动化** <http://www.sensor-ic.com/> TEL: 0755-83376489 FAX: 0755-83376182 E-MAIL: szss20@163.com ²⁾ Delivery without female connector ³⁾ Without UL-Listing cable with UL-Listing on request

Huba Control

FOR FINE PRESSURE AND FLOW MEASUREMENT

Huba Control AG
Headquarters

Industriestrasse 17
5436 Würenlos
Telefon +41 (0) 56 436 82 00
Telefax +41 (0) 56 436 82 82
info.ch@hubacontrol.com

Huba Control AG
Niederlassung Deutschland

Schlattgrabenstrasse 24
72141 Walddorfhäslach
Telefon +49 (0) 7127 23 93 00
Telefax +49 (0) 7127 23 93 20
info.de@hubacontrol.com

Huba Control SA
Succursale France

Rue Lavoisier
Technopôle Forbach-Sud
57602 Forbach Cedex
Téléphone +33 (0) 387 847 300
Télécopieur +33 (0) 387 847 301
info.fr@hubacontrol.com

Huba Control AG
Vestiging Nederland

Hamseweg 20A
3828 AD Hoogland
Telefoon +31 (0) 33 433 03 66
Telefax +31 (0) 33 433 03 77
info.nl@hubacontrol.com

Huba Control AG
Branch Office United Kingdom

Unit 13 Berkshire House
County Park Business Centre
Shrivenham Road
Swindon Wiltshire SN1 2NR
Phone +44 (0) 1993 776667
Fax +44 (0) 1993 776671
info.uk@hubacontrol.com

www.hubacontrol.com