

Electronic pressure switch type 548

Pressure range
-1 ... 0 – 40 bar



The μ P-regulated, programmable pressure transmitter type 548 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 548 is based upon the well proven ceramic technology developed by Huba Control over 20 years ago.

- 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	-1 ... 0 bar / 0 ... 40 bar
----------	-----------------------------

Operating conditions

Medium		Liquids and gases
Temperature	Medium / ambient	-20 ... +80 °C
	Storage	-40 ... +80 °C
Overload / Rupture pressure	≤ 10 bar	4.0 x FS
	> 10 bar	3.5 x FS

Materials

Case		Polyarylamid 50% GF black
Materials in contact with medium	Sensor	ceramic Al ₂ O ₃ (96%)
	Pressure connection	Stainless steel 1.4404 / AISI 316L
	Sealing material	FPM

Electrical overview

Output		0 ... 10 V
		4 ... 20 mA
	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.

Programming

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 ceramic 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 ¼	with O-Ring sealing FPM spec.
	7/16 - 20 SAE	
	¼ -18 NPT	
Outside thread	¼ -18 NPT	sealed at back DIN 3852 Form E with profile seal ring FPM spec.
	G ¼	
	R ¼	
	7/16 - 20 UNF	

Installation arrangement

Unrestricted	(Electrical connection not recommended down)
--------------	--

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

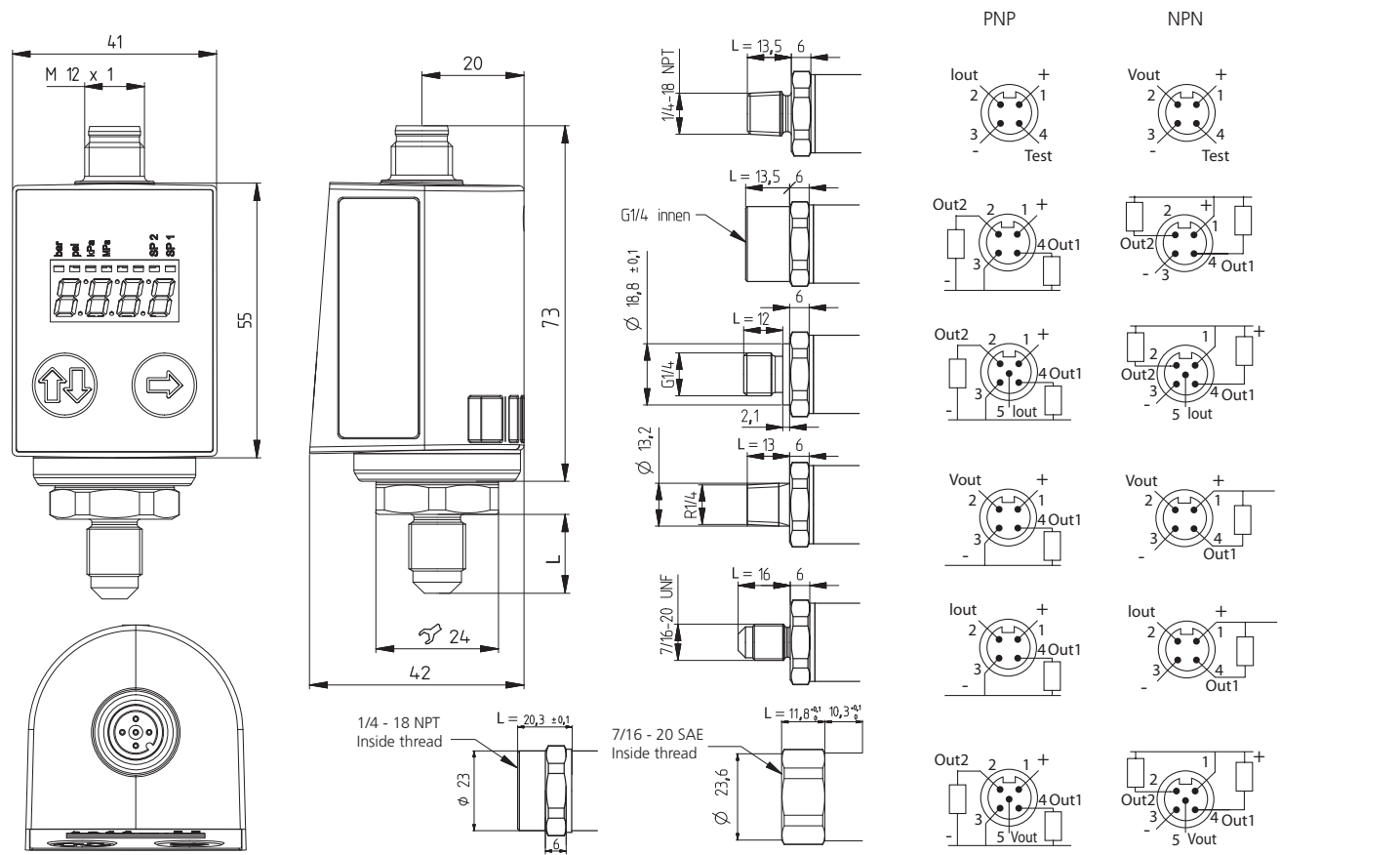
Parameter		Unit	
Characteristic line ¹⁾		% fs	± 1.0
Thermal characteristic ²⁾	max.	% fs/10K	± 0.65
Long term stability acc. IEC EN 60770-1	max.	% fs	± 0.3

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

Order code selection table					348.	X	X	X	X	X	X	X	X	X	X
Pressure range ¹⁾ (adjustment in bar)	bar	psi	kPa	MPa											
	-1 ... 0	0	-14.5 ... 0	-100 ... 0	-0.1 ... 0	9	0	1	0						
	0 ... 1	0 ... 14.5	0 ... 145	0 ... 100	0 ... 0.1	9	1	1	0						
	0 ... 2.5	0 ... 36.25	0 ... 362.5	0 ... 250	0 ... 0.25	9	1	4	0						
	0 ... 6.0	0 ... 87	0 ... 870	0 ... 600	0 ... 0.6	9	1	7	0						
	0 ... 10	0 ... 145	0 ... 1450	0 ... 1000	0 ... 1.0	9	3	0	0						
	0 ... 16	0 ... 232	0 ... 2320	0 ... 1600	0 ... 1.6	9	3	1	0						
	0 ... 25	0 ... 362.5	0 ... 3625	0 ... 2500	0 ... 2.5	9	3	2	0						
0 ... 40	0 ... 580	0 ... 5800	0 ... 4000	0 ... 4.0	9	3	3	0							
Pressure range ¹⁾ (adjustment in psi)	psi	bar	kPa	MPa											
	-14.5 ... 0	-1 ... 0.00	-100 ... 0	-0.1 ... 0.00	9	A	1	0							
	0 ... 15	0 ... 1.03	0 ... 103	0 ... 0.10	9	B	1	0							
	0 ... 30	0 ... 2.07	0 ... 207	0 ... 0.21	9	B	4	0							
	0 ... 100	0 ... 6.90	0 ... 690	0 ... 0.69	9	B	7	0							
	0 ... 145	0 ... 10.00	0 ... 1000	0 ... 1.00	9	C	0	0							
	0 ... 200	0 ... 13.79	0 ... 1379	0 ... 1.38	9	C	1	0							
	0 ... 300	0 ... 20.69	0 ... 2069	0 ... 2.07	9	C	2	0							
0 ... 500	0 ... 34.48	0 ... 3448	0 ... 3.45	9	C	3	0								
Pressure indication	bar	factory calibration in bar													
	psi	factory calibration in bar													
	kPa	factory calibration in bar													
	MPa	factory calibration in bar													
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⁾	M12x1 without digital output														
	M12x1 NPN														
	M12x1 PNP														
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 114564
Calibration certificate (available for analogue output, only)			104551

Dimensions in mm / Electrical connections



¹⁾ Other pressure on request. 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