

Relative and differential pressure switch type 610

Pressure range
-1 ... -320 mbar / 1 ... 500 mbar



Type 610 pressure switches are especially suited to the monitoring of non-flammable gases in general industrial equipment.

Exemplary accuracy is maintained throughout the high pressure range of this switch.

- High accuracy (especially the upper pressure ranges with 17 ideally designed pressure range incrementations)
- Ease of accurate adjustment by customer
- Repeatability of switching points up to $< \pm 0.1$ mbar
- Rugged mechanics with high operating reliability and switching capacities up to 10 A

Technical overview

Pressure range

Relative	1 ... 500 mbar
Negative	-1 ... -320 mbar

Operating conditions

Medium	Air and neutral gases	
Temperature	NBR	0 ... +80 °C
	FPM	-10 ... +80 °C
	EPDM	-10 ... +80 °C
	Q (Silicone)	-40 ... +80 °C
	Storage	-40 ... +80 °C
Tolerable overload	See order code selection table	
Lowest turn-on pressure	≥ 1 mbar	
Lowest switching difference	≥ 0.5 mbar	

Materials

Case	Duroplast	
Materials in contact with the medium	Diaphragm	NBR based
		EPDM
		FPM
		Silicone
	To base Inox and diaphragm	Inox 1.4301, 1.4305, 1.4310, 1.4104
To base, galvanized sheet steel and Diaphragm	Inox 1.4310, brass, aluminium	
To base, nickel-plated brass and Diaphragm	Inox 1.4301, 1.4310	
With medium in pressure chamber P2:	Brass, nickel plated brass, CuSn, Bakelit PF-PH, polyamide and polyacetale, AgCdO, NBR, galvanized steel	

Electrical overview

Nominal voltage	250 VAC	
Nominal current for resistive loading	1 A	10 A
Nominal current for motor loading	0.5 A	3 A
Contact system	Changeover contact	
Service life	mechanically	10 ⁶ switching cycles

Protection standard

IP 30	IP 65 on request
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Repeatability

±5% of the switching point with diaphragm NBR / Silicone	minimum ± 0.1 mbar
±10% of the switching point with diaphragm FPM / EPDM	minimum ± 0.2 mbar

Electrical connection

Screw terminals	
Tab connectors (AMP)	6.3 mm
Cable gland PG9 (not part of scope of delivery / see accessories)	

Pressure connection

Pipe Ø 6mm and thread	G ¼ M12x1
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Installation arrangement

Pressure connections downwards

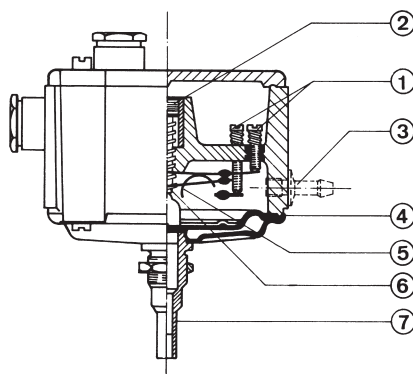
Remark: By changing the mounting position the switching points also change. The adjustment ranges are in relation with the mounting position.

Weight

~ 260 g

Packaging

Single packaging in cardboard



Legend to cross-section drawing

- 1 Adjustment of switching difference
- 2 Adjustment of switching points
- 3 Connection for differential pressure
- 4 Diaphragm
- 5 Switchover contact element
- 6 Compression spring
- 7 Pressure or vacuum connection

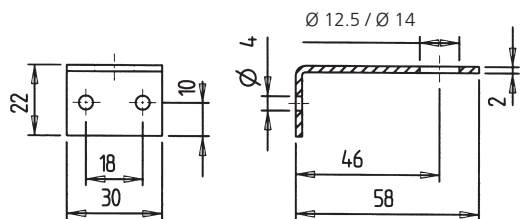
Order code selection table

610. X X X X X

Pressure mode	Relative					9					
	Differential					5					
	Negative					6					
	Negative differential					7					
Pressure range ¹⁾		p max.	pt ²⁾	Switching capacity 250 VAC							
	1 ... 4 mbar	30 mbar	50 mbar	1 A		9,5	0		0		
	4 ... 30 mbar	70 mbar	100 mbar	1 A		9,5	1				
	8 ... 70 mbar	70 mbar	100 mbar	1 ... 10 A		9,5	2				
	7 ... 25 mbar	70 mbar	100 mbar	1 ... 10 A		9,5	3				
	10.5 ... 45 mbar	70 mbar	100 mbar	1 ... 10 A		9,5	4				
	28.5 ... 120 mbar	350 mbar	500 mbar	1 ... 10 A		9,5	5				
	30 ... 160 mbar	350 mbar	500 mbar	1 ... 10 A		9,5	6				
	50 ... 300 mbar	600 mbar	1000 mbar	1 ... 10 A		9,5	7				
	65 ... 500 mbar	600 mbar	1000 mbar	1 ... 10 A		9,5	8				
	-1 ... -2 mbar	-30 mbar	-50 mbar	1 A		6	0		0		
	-2 ... -7.5 mbar	-30 mbar	-50 mbar	1 A		6	1				
	-4.8 ... -11.5 mbar	-70 mbar	-100 mbar	6 A		6,7	2				
	-8 ... -20 mbar	-70 mbar	-100 mbar	6 A		6,7	3				
	-18 ... -47 mbar	-350 mbar	-500 mbar	6 A		6,7	4				
	-42 ... -80 mbar	-350 mbar	-500 mbar	6 A		6,7	5				
	-80 ... -200 mbar	-600 mbar	-1000 mbar	6 A		6,7	6				
	-180 ... -320 mbar	-600 mbar	-1000 mbar	6 A		6,7	7				
	Pressure connection / pressure case	Hose connection ø 6 mm and G ¼			Galvanized sheet steel					2	
		Hose connection ø 6 mm and G ¼			Inox sheet steel					3	
Hose connection ø 6 mm and G ¼				Nickel plated brass					4		
Hose connection ø 6 mm and M12x1				Inox sheet steel					5		
Hose connection ø 6 mm and M12x1				Galvanized sheet steel					6		
Hose connection ø 6 mm and M12x1				Nickel plated brass					7		
Diaphragm material	NBR based									0	
	FPM									2	
	EPDM									4	
	Q (Silicone)									6	
Switching points (optional)	Two factory set switching points		(please specify on order e.g.: W10/8mbar)							W	
	One factory set switching point high		(please specify on order e.g.: U25mbar)							R	
	One factory set switching point low		(please specify on order e.g.: R50mbar)							U	

Accessories ³⁾

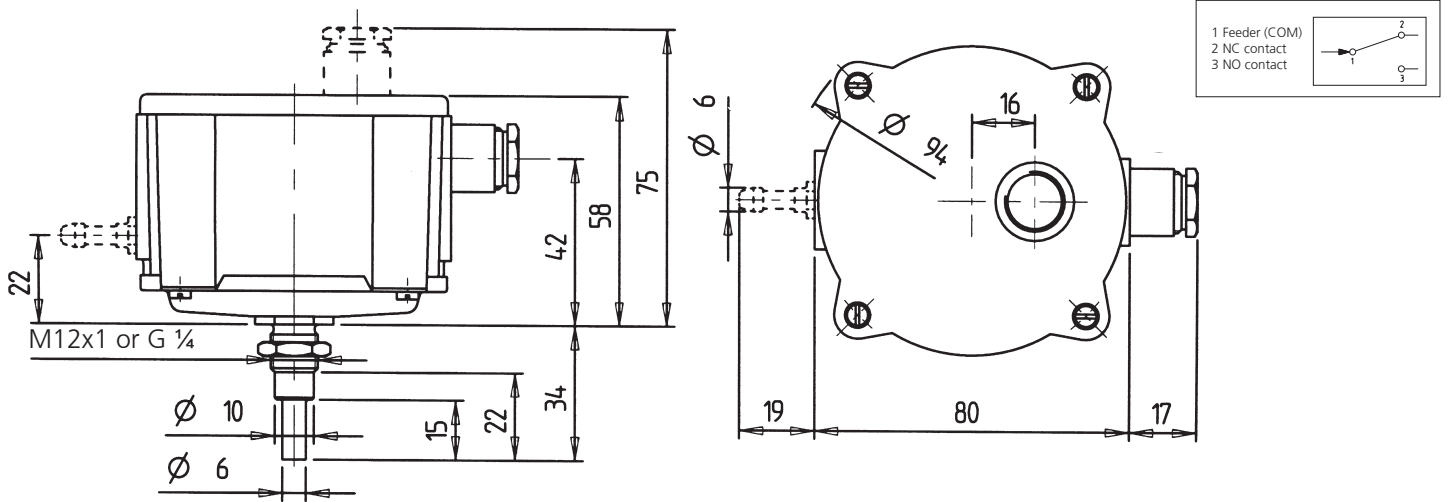
Mounting bracket with hole Ø 12.5 mm for M12x1	Order number
Mounting bracket with hole Ø 14 mm for G ¼	104259
Connector set (Tab connectors AMP)	102872
Cable gland PG9	103479
Calibration Certificate	103559
	104551



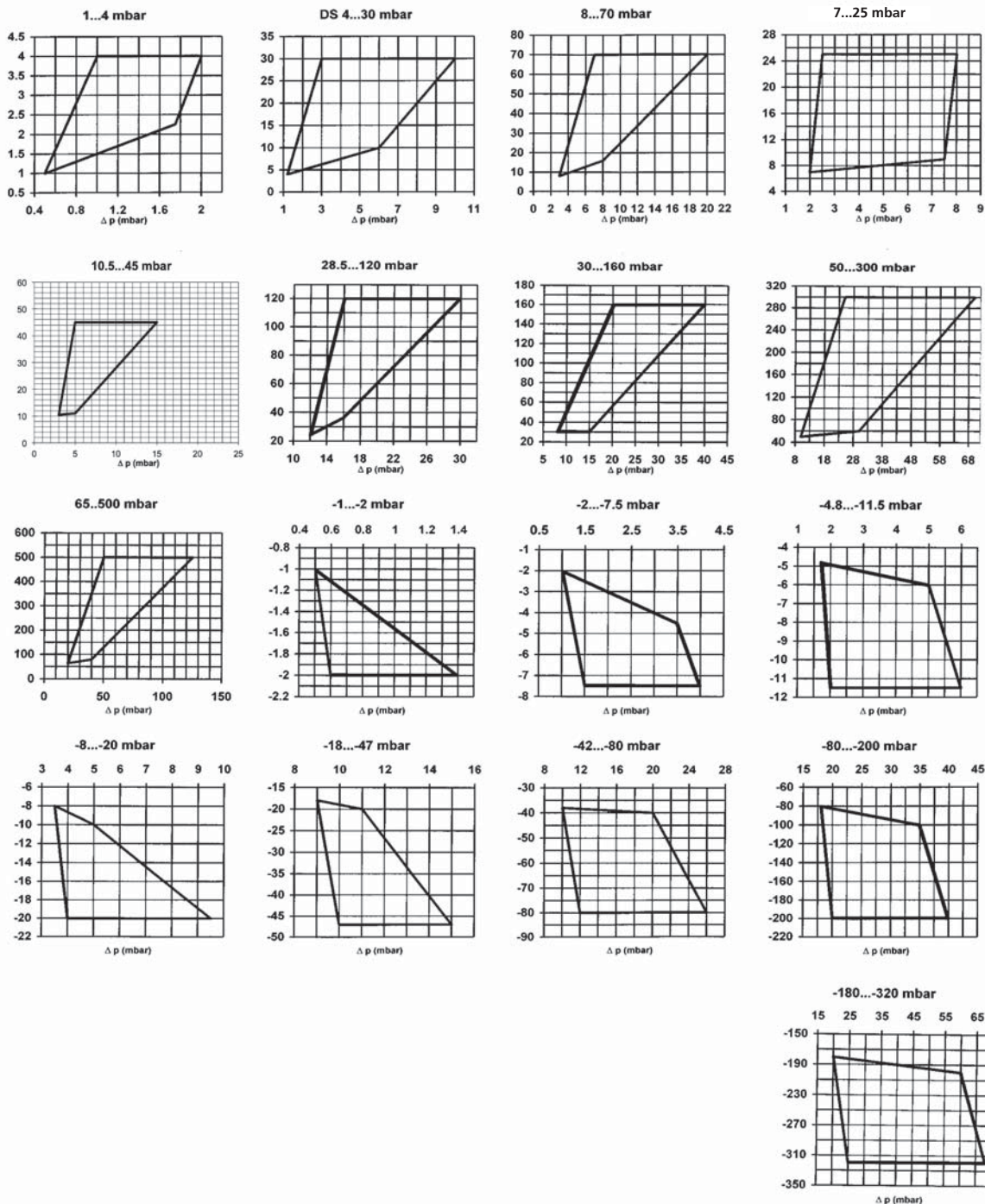
¹⁾ Other pressure range on request

²⁾ pt = test pressure

³⁾ Accessories supplied loose



Setting ranges



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