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Pressure Switches

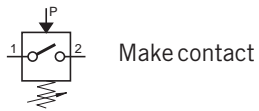
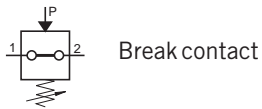
- *Pressure switches, pneumatic*
- *Pressure switches, electronic*

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Pressure Switches G1/8, G1/4

– Pressure switch pneumatic



Switching function:

- Make contact
 - closes the circuit when the set pressure is reached
- Break contact
 - interrupts the circuit when the set pressure is reached

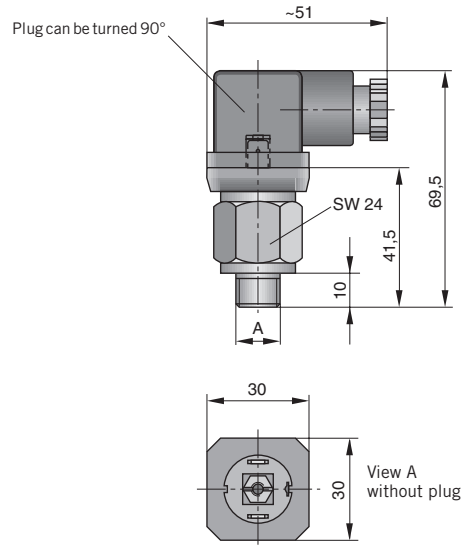


Characteristics

Pressures quoted as gauge pressure

Characteristics	Symbol	Unit	Description
Type			Break contact or make contact – see table at the bottom
Setting range	$p_{min/max}$	bar	See table at the bottom
Safety pressure relief	p_{max}	bar	300
Port size			G1/8, G1/4
Weight (mass)		kg	0.090
Material			
– Housing			Passivated steel
– Diaphragm			Buna N
Medium and ambient temperature range	T_{max}	°C	+100
Switch back difference		%	Max. 5 – 15
Voltage	U	V	Max. 48
Current	I	A	0.5
Electrical connection			Plug contacts, plug
Degree of protection		IP	65 with plug
Switching frequency		s/min	Max. 200

Dimensions



Dimensions and order instructions

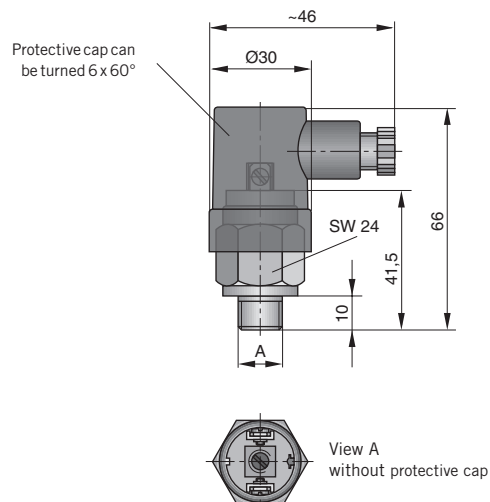
Order Instructions		Port size	Function	Setting range [bar]
Type	Order No.	A		
PR / 0.1-1 NC ST 1/4 48	KL3439	G1/4	Break contact	0.1-1
PR / 0.1-1 NO ST 1/4 48	KL3440	G1/4	Make contact	0.1-1
PR / 1-10 NC ST 1/8 48	KL3437	G1/8	Break contact	1-10
PR / 1-10 NC ST 1/4 48	KL3436	G1/4	Break contact	1-10
PR / 1-10 NO ST 1/8 48	KL3438	G1/8	Make contact	1-10
PR / 1-10 NO ST 1/4 48	KL3435	G1/4	Make contact	1-10

Dimensions in mm

Characteristics Pressures quoted as gauge pressure

Characteristics	Symbol	Unit	Description
Type			Break contact oder Make contact – see table at the bottom
Setting range	$p_{\min/\max}$	bar	See table at the bottom
Safety pressure relief	p_{\max}	bar	300
Port size			G1/8, G1/4
Weight (mass)		kg	0.075
Material			
– Housing			Passivated steel
– Diaphragm			Buna N
Mediums- und Ambient temperature range	T_{\max}	°C	+100
Switch back difference		%	Max. 5 – 15
Voltage	U	V	Max. 48
Current	I	A	0.5
Electrical connection			Flat pin plug, protective cap
Degree of protection		IP	65 with protective cap
Switching frequency		s/min	200

Dimensions



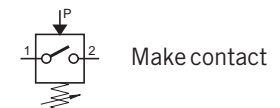
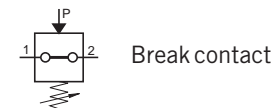
Dimensions and order instructions

Order Instructions	Order No.	Port size A	Function	Setting range [bar]
PR / 0.2-1 NO SR 1/4 48	KL3445	G1/4	Make contact	0.2-1
PR / 0.1-1 NC SR 1/4 48	KL3454	G1/4	Break contact	0.1-1
PR / 0.1-1 NO SR 1/4 48	KL3455	G1/4	Make contact	0.1-1
PR / 1-10 NC SR 1/8 48	KL3452	G1/8	Break contact	1-10
PR / 1-10 NC SR 1/4 48	KL3451	G1/4	Break contact	1-10
PR / 1-10 NO SR 1/8 48	KL3453	G1/8	Make contact	1-10
PR / 1-10 NO SR 1/4 48	KL3450	G1/4	Make contact	1-10

Dimensions in mm

Pressure Switches G1/8, G1/4

– Pressure switch pneumatic



Switching function:

- Make contact
 - closes the circuit when the set pressure is reached
- Break contact
 - interrupts the circuit when the set pressure is reached

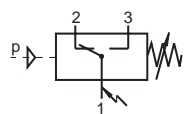


Pressure Switches G1/8, G1/4

Series G1/4-..I
Series G1/4-..P

Characteristics

Actuation: Pneumatic



Features

- suited for intrinsically safe operation
- especially compact design
- high switching frequency
- attractive design
- Shockproof up to 30 g

Pin 1 – 3:

rising pressure makes contact

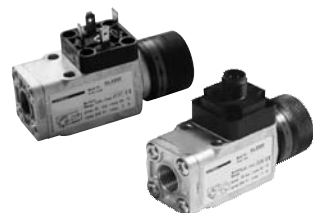
Pin 1 – 2:

rising pressure breaks contact

Delivery includes:

The flange version (surface roughness of flange surface 12µm) is supplied with an O-ring 5 x 1.5mm and 2 screws 5 x 35 DIN 912. Minimum thread length to be used: 4 mm.

Max. diameter of the pressure opening 3 mm.



Characteristics

Characteristics	Symbol	Unit	Description			
Type – thread version			G1/4-0I*	G1/4-2I	G1/4-8I	G1/4-16I
Type – lange version			G1/4-0P*	G1/4-2P	G1/4-8P	G1/4-16P
Setting range	$p_{min/max}$	bar	-1 to 0	0.2-2	0.5-8	1-16
Safety pressure relief	p_{max}	bar	80	80	80	80
Port size			Type I: G1/4 internal thread, Type P: flange			
Mounting			2 through-holes Ø 5.2			
Installation			In any position			
Weight (mass)		kg	0.275			
Medium			Filtered compressed air (10µm), lubricated or unlubricated			
Material						
Housing			Special aluminium die casting, powder-coated			
Diaphragm, Seals			Buna N			
Medium and ambient temperature range	T_{min} T_{max}	°C	-10 +80			
Consistency		%	±2 in relation to end-of-range value			
Switch back difference			See diagram			
Hysteresis, vacuum version		%	<15			
Vibration resistance		g	10 (10 ... 2000 Hz)			
Shock resistance		g	30			
Voltage	U	V	Max. 250			
Voltage type			AC and DC			
Operating current and operating voltage for category of use			AC12 to VDE0660 4A at 250 VAC AC14 to VDE0660 1A at 250 VAC DC12 to VDE0660 3A at 28 VDC DC13 to VDE0660 1A at 28 VDC			
CE marking			To EC Directive 73/23/EWG			
Electrical connection			Plug to DIN EN 175301-803, Form A, ISO4400 or M12x1 – 4-pin			
Degree of protection		IP	65			
Switching element			Pole-changing switch with catch spring as switching element, with self-cleaning contacts			
Switching frequency		s/min	Max. 200			

* for vacuum operation

Selection and Mounting Notes

Range selection:

Selection is optimal when the switching points are in the middle of the switching range.

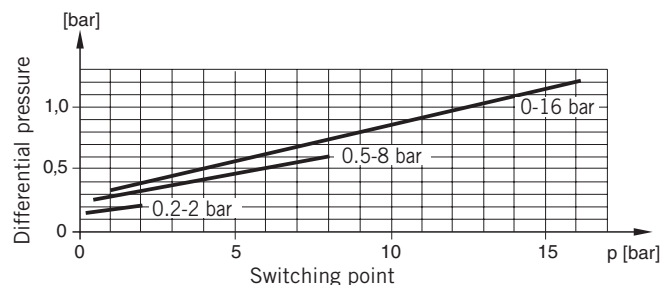
Electrical connection:

Wiring according to VDE regulations.

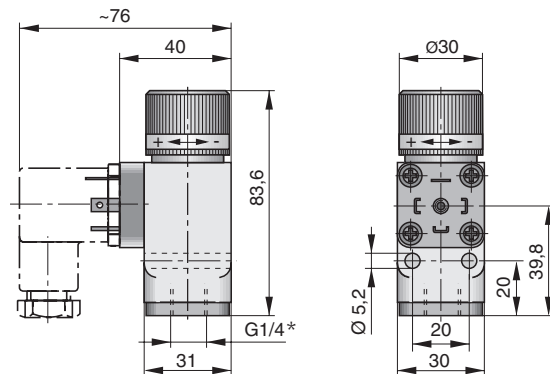
Tightening torque for plug: 0.7 ± 0.1 Nm

Outdoor use only with sufficient protection against critical environmental conditions (e.g. aggressive atmosphere, salty environments, high temperature changes).

Switch back difference



Dimensions – Version with internal thread and plug



* Thread: 11 mm deep

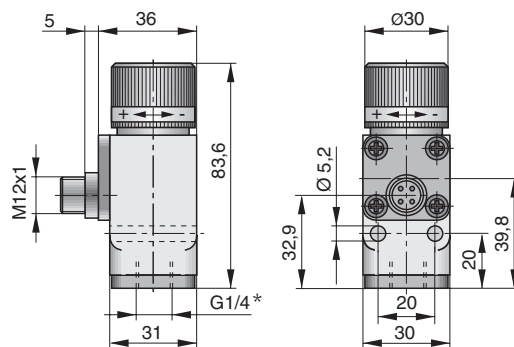
Pressure Switches G1/8, G1/4

Series G1/4-..I

Dimensions
Order Instructions

Version:
With internal thread

Dimensions – Version with internal thread and connector M12x1

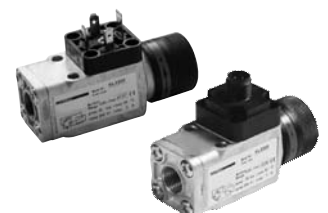


* Thread: 11 mm deep

Order instructions

Setting range [bar]	Order Instructions	
	Type	Order No.
-1 to 0	G1/4-0I-DIN	KL3200
-1 to 0	G1/4-0I-M12	KL3208
0.2 to 2	G1/4-2I-DIN	KL3201
0.2 to 2	G1/4-2I-M12	KL3209
0.5 to 8	G1/4-8I-DIN	KL3202
0.5 to 8	G1/4-8I-M12	KL3210
1.0 to 16	G1/4-16I-DIN	KL3203
1.0 to 16	G1/4-16I-M12	KL3211

Dimensions in mm



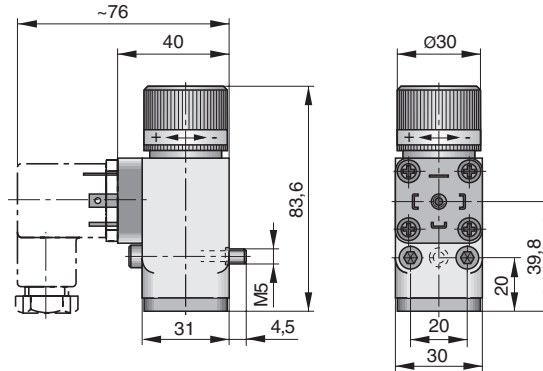
Pressure Switches G1/8, G1/4

Series G1/4-..P

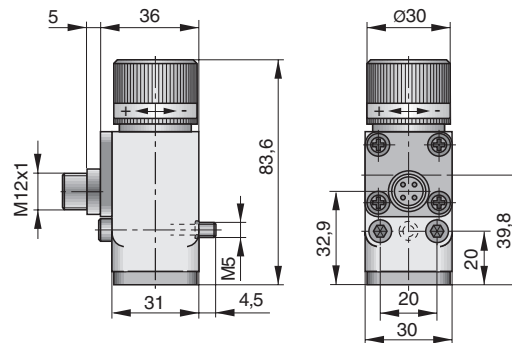
Dimensions
Order Instructions

Version:
Flange version

Dimensions – Flange version with plug



Dimensions – Flange Version with connector M12x1



Order instructions

Setting range [bar]	Order Instructions	
	Type	Order No.
-1 to 0	G1/4-0P-DIN	KL3204
-1 to 0	G1/4-0P-M12	KL3212
0,2 to 2	G1/4-2P-DIN	KL3205
0,2 to 2	G1/4-2P-M12	KL3213
0,5 to 8	G1/4-8P-DIN	KL3206
0,5 to 8	G1/4-8P-M12	KL3214
1,0 to 16	G1/4-16P-DIN	KL3207
1,0 to 16	G1/4-16P-M12	KL3215



Dimensions in mm

Plugs to DIN EN 175301-803, Form A, ISO 4400

Standard version



Version with LEDs



**Pressure
Switches
G1/8, G1/4**

*Accessories
– Plugs*

Plugs to DIN EN 175301-803, Form A, ISO 4400

Description	Type	Order No.
Standard version	GSD-30DS	KL3349
Version with LEDs 24V	GSD-30DSL24V	KL3350
Version with LEDs 230V	GSD-30DSL230V	KL3351

Dimensions in mm



Pressure switches Electronic

Series EDP

Actuation: Electrical

Version:

- with flange connection
- with thread on request

The Type EDP electronically actuated pressure switches are used to convert pneumatic signals into electrical signals.

The pressure range 0-16 bar can be adjusted individually, in either bar or psi.

The pressure switches can be used as threshold value comparators with one hysteresis or as window comparators with two hystereses.

A robust ceramic measuring cell acts as a measured value transducer.

Features:

- simple, menu-driven programming via 3 membrane keys
- 3-digit red LED display (pressure gauge function)
- electronic locking
- versions for specific applications on request

Applications

- Pneumatic control systems
- Pressing technology
- Welding technology
- Packing machines and filling systems
- Test systems
- Clamping systems
- Plastic blow-moulding machinery
- Robotics and handling industry

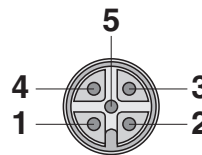


Characteristics			Pressures quoted as gauge pressure	
Characteristic	Symbol	Unit	Description	
Type – flange version			EDP-V	EDP
Setting range	$p_{\min/\max}$	bar	-1 to 0	0-16
Safety pressure relief	p_{\max}	bar	100	100
Port size			Flange connection (see dimension drawing)	
Display			3 digit, red 7-Segment LED-Display, programmable 0°/180°	
Display for operating status			LED red/green	
Linearity		%	< ± 0.2 to 1.5 p_N	
TK zero point		%	< ± 0.2 p_N	
Installation			In any position	
Material				
– Housing			PA, part in contact with medium: Al	
– Measuring cell			Ceramic	
– Seals			Buna N, part in contact with medium: FKM	
Weight (mass)		kg	0.100	
Medium			Filtered compressed air, lubricated or unlubricated, weakly acidic or weakly alkaline fluids	
Ambient temperature range	T_{\min}	°C	-20	
	T_{\max}	°C	+70	
Medium temperature range	T_{\min}	°C	-20	
	T_{\max}	°C	+70	
Voltage	U	V	18 – 32	
Voltage Type			Direct current	
Power consumption		mA	< 80 without switching outlet	
Switching current		A	SP1 max. 1.3 (PIN4) SP2 / ERROR max. 0.3 (PIN2)	
Switching logic			NO / NC programmable	
Switching outlet			Short circuit-proof	
Electrical connection			Plug M12x1	
Degree of protection		IP	67 to EN 60529	

Symbol



Connection diagram



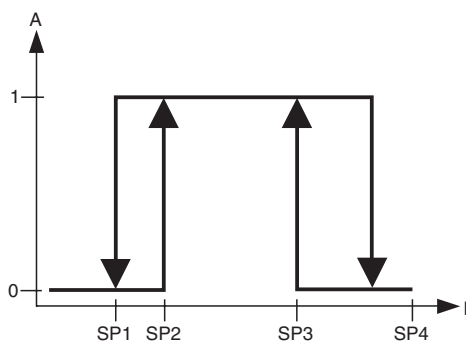
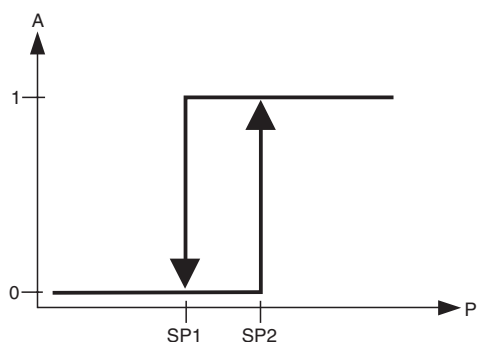
Electrical connection

- 1 = bn (brown) +Uc
- 2 = ws (white) SP2
- 3 = bl (blue) GND
- 4 = sw (black) SP1

Threshold value comparator / window value comparator functions

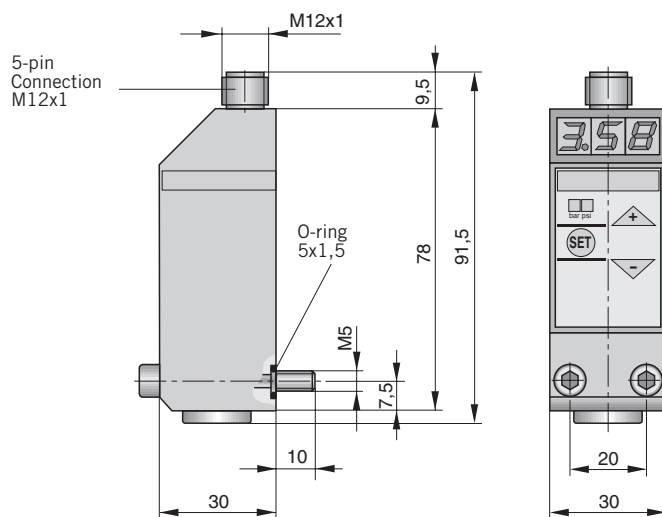
Threshold value comparator with hysteresis

Window comparator with 2 hystereses



The illustrations show the NO (normally open) presetting. For the NC (normally closed) presetting, the diagrams are horizontally mirror-imaged, so that the start value is at 1.

Dimensions – Flange version with M12x1connector



Order Instructions

Setting range [bar]	Order Instructions	
	Type	Order No.
-1 to 0	EDP-V	KL3385
0 to 16	EDP	KL3384

Dimensions in mm

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