

- **Microswitch with gold-plated contacts (silver plated for field mounting)**
- **Electrical connection:
Connector acc. to DIN 43650 or terminal in combination with cable gland acc. to DIN 46320 or NPT thread**

Technical Data
Fluid:

Neutral gases and liquids (water, hydraulic oil, lubricants, light gas oil)

Mounting:

Optional

Port sizes:

G 1/4 female, 1/4 NPT female

Operating pressure:

- 0,025 to 25 bar

Ambient temperature:

-10 °C to +60 °C
-10 °C to +80 °C (field)

Operating viscosity:

Max. 1000 mm²/s

Fluid temperature:

0 °C to +80 °C

Maximum temperature at switching element:

+80 °C

Sealing:

> 10⁻⁷ mbar · l · s⁻¹

Repeatability:

±1% of final value (referred to pressure control)

Vibrations/Shock: max. 5 Hertz / 4 g /sinosoidal

To be avoided

Switching cycles:

max. 10/minute

Degree of protection:

IP65

Materials:

Housing – aluminium die cast
aluminium die cast, tin plated (field)

Sensor – Steel 1.0333
St. st. 1. 4305/1.4301
Brass

Sealing:

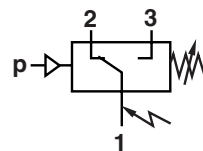
Plastic diaphragm (Perbunan) or Viton (FKM)

Electrical connection/sensor combinations:

See table overleaf


Ordering example

See page 2


Switching function:

Microswitch SPDT

Terminals 1-3:

Contacts close on rising pressure

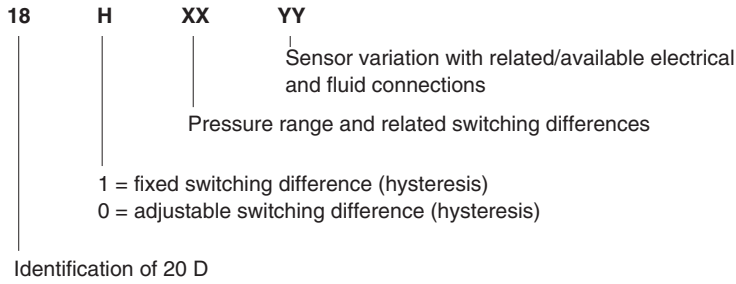
Terminals 1-2:

Contacts open on rising pressure



General Information / Selection criteria

The catalog number is composed of:



Order example:

for a pressure switch with a set point of 150 mbar rising, fixed switching difference, G 1/4 female connection suitable for water in an indoor location, electrical connection Pg 13,5 order part number **1812805**

Pressure range codes (XX) for 181 models (fixed switching difference)

XX Code	Pressure range (bar)	Over Pressure (bar)	Switching pressure differences	
			lower range (bar)	upper range (bar)
25	0 – 0,025	0,5	0,003	0,004
26	0 – 0,06	0,5	0,004	0,006
27	0 – 0,16	0,5	0,004	0,008
28	0 – 0,25	0,5	0,004	0,009
41	0,05 – 0,6	15	0,03	0,06
42	0,05 – 1,0	15	0,03	0,09
43	0,05 – 1,6	15	0,03	0,12
44	0,05 – 2,5	15	0,04	0,15
45	0,3 – 4	40	0,2	0,4
46	0,3 – 6	40	0,3	0,5
47	0,5 – 10	40	0,3	0,6
48	1 – 16	50	0,4	1,2
49	1 – 25	50	0,4	1,5

Special pressure ranges

Bar	Part no.
- 0,025 to 0	18H25YY.0000.010.00
- 0,060 to 0	18H26YY.0000.010.00
- 0,160 to 0	18H27YY.0000.010.00
- 0,250 to 0	18H28YY.0000.010.00
- 0,025 to 0,025	18H25YY.0000.020.00
- 0,060 to 0,060	18H26YY.0000.020.00
- 0,160 to 0,160	18H27YY.0000.020.00

Pressure range codes (XX) for 180 models (adjustable switching difference)

XX Code	Pressure range (bar)	Over Pressure (bar)	Switching pressure differences		
			lower range (bar)	upper range (bar) Minimum	Maximum
25	0 – 0,025	0,5	0,008	0,011	0,025
26	0 – 0,06	0,5	0,009	0,015	0,04
27	0 – 0,16	0,5	0,011	0,023	0,12
28	0 – 0,25	0,5	0,011	0,028	0,2
41	0,05 – 0,6	15	0,09	0,16	0,5
42	0,05 – 1,0	15	0,11	0,18	0,8
43	0,05 – 1,6	15	0,13	0,25	1,2
44	0,05 – 2,5	15	0,14	0,25	2,0
45	0,3 – 4	40	0,5	0,8	2,0
46	0,3 – 6	40	0,6	1,0	4,0
47	0,5 – 10	40	0,6	1,1	6,0
48	1 – 16	50	1,2	2,5	12,0
49	1 – 25	50	1,2	3,3	20,0

Sensor variation codes (YY) for part no. 18H25 - 18H28

YY Code	Material	Electrical connection	Fluid connection	Extras
00	Steel/1.0333 / NBR	DIN 43650*	G1/4 female	-
03	Steel/1.0333 / NBR	1/2 NPT	1/4 NPT-F	-
05	Steel/1.0333 / NBR	Pg 13,5	G1/4 female	-
06	Steel/1.0333/NBR	Pg 16	G1/4 female	-
10.0000.001.00	1.4305/1.4301/FKM	DIN 43650*	G 1/4 female	-
11.0000.001.00	1.4305/1.4301/FKM	Pg 16	G 1/4 female	outdoor**
15.0000.001.00	1.4305/1.4301/FKM	Pg 13,5	G1/4 female	-

Sensor variation codes (YY) for part no. 18H41 - 18H49

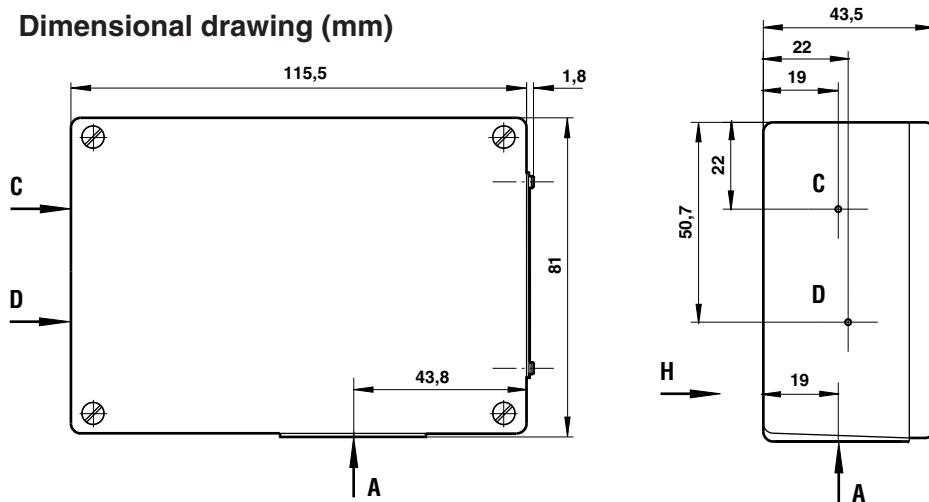
YY Code	Material	Electrical connection	Fluid connection
00	Brass/NBR	DIN 43650*	G1/4 female
03	Brass/NBR	1/2 NPT	1/4 NPT-F
05	Brass/NBR	Pg 13,5	G1/4 female
06	Brass/NBR	Pg 16	G1/4 female

* Connector not within scope of supply. If required pls.order separately 0570110

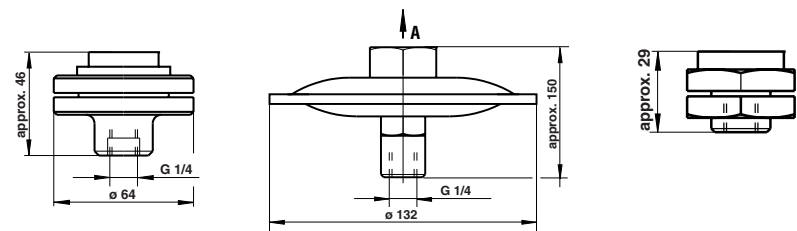
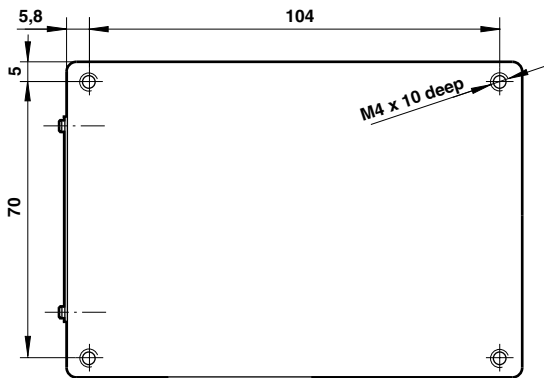
** Water proof



Dimensional drawing (mm)



View H

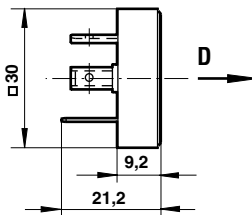


Electrical connection

SW = Across-Flats

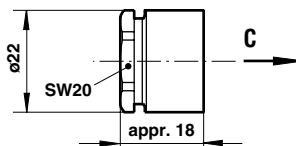
Sensor Variation Code (YY)

Connector
acc. to DIN 43650



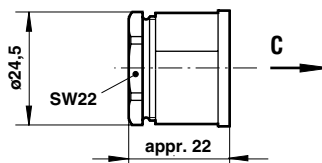
00
10

Cable gland Pg13,5
acc. to 46320



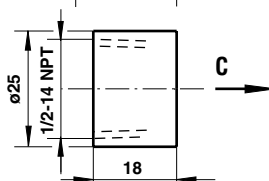
05
15

Cable gland Pg 16
acc. to DIN 46320



11
06

Threaded conn.
NPT NPT



03



Accessories

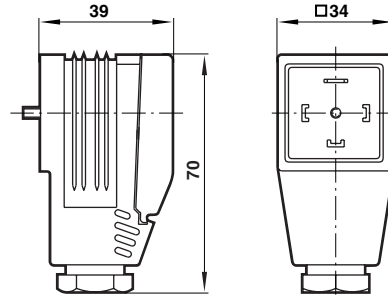
Connectors (black) with light indicator

3-pin + protective conductor.

Connection acc. to DIN 43650 A.

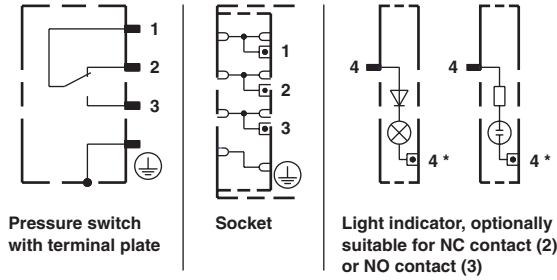
Optionally available for DC or AC.

- with LED lamp 12 to 28 V, Cat. No. **0585418**
- with glow lamp 90 to 130 V, Cat. No. **0585419**
- with glow lamp 180 to 240 V, Cat. No. **0585420**



Pressure switch with pilot lamp

The pilot lamp shows the switching position of the connected pressure switch.

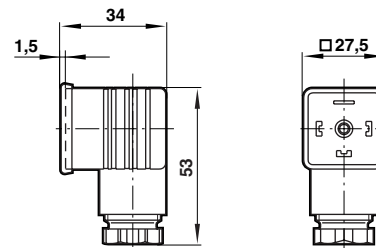


* Special lead (Mp or -) required

3-pin connector with protective conductor

acc. to DIN 43650

Cat. No. **0570110**



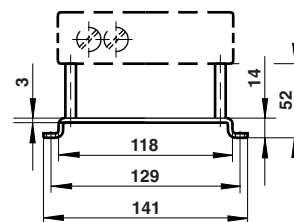
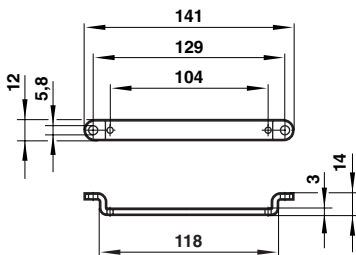
Brackets

Stainless Steel
1.4301 (AISI 304)
Cat. No. **0553908**

Steel
Cat. No. **0574772**

7D mounting support (2 brackets, 4 screws and 4 threaded pieces)

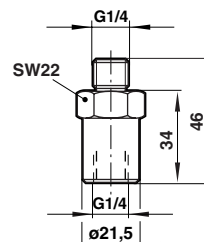
Cat. No. **0574771**



Damping chambers

Stainless Steel
1.4301 (AISI 304)
Cat. No. **0553258**

Brass/Steel
Cat. No. **0574773**



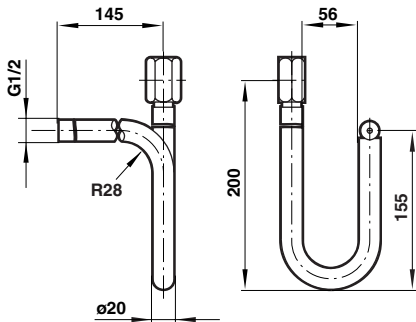


Water trap pipes acc. to DIN 16282

G1/2 circular

Stainless Steel 1.4571 (AISI 316Ti)
Steel

Cat. No. : 0664828
Cat. No. : 0681711

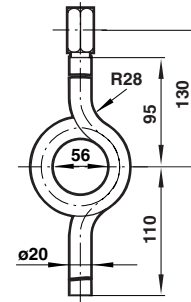


Water trap pipes acc. to DIN 16282

G1/2 circular

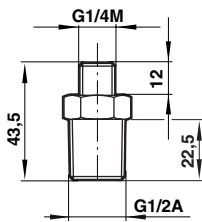
Stainless Steel 1.4571 (AISI 316Ti)
Steel

Cat. No. : 0681712
Cat. No. : 0681713

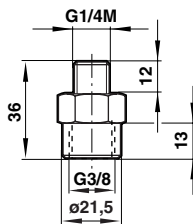


Reducing nipple for pressure connection

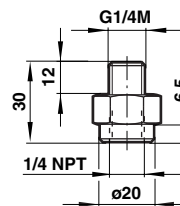
G1/4 male - G1/2 male
St. st. 1.4571
Cat. No. : 0550083



G1/4 male - G3/8 female
Steel
Cat. No. : 0574764



G1/4 male - 1/4 NPT female
Brass
Cat. No. : 0574765

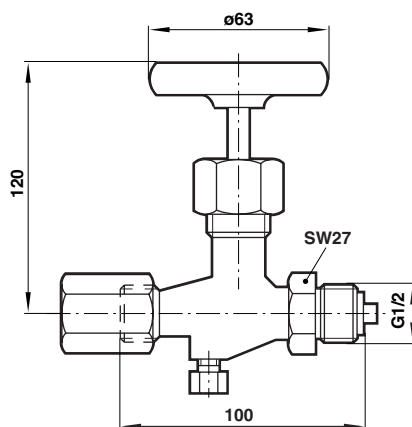


Shut down valve acc. to DIN 16270

G1/2

St. st. 1.4305 (AISI 303/304 S)
Brass

Cat. No. : 0681715
Cat. No. : 0681714

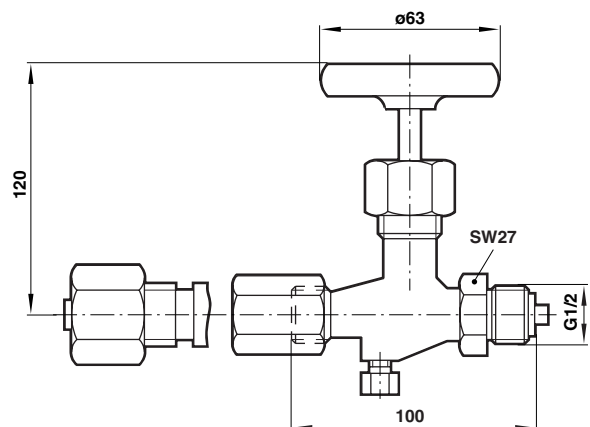


Shut down valve acc. to DIN 16271 with test plug

G1/2

St. st. 1.4305 (AISI 303/304 S)
Brass

Cat. No. : 0681717
Cat. No. : 0681716





Breaking capacity / Change-over switch with gold plated contacts for YY-Codes 00 and 10
(Values for remaining versions on request)

Load level	Current	Load	U _{min} [V]	Maximum permissible continuous current I _{max} [A] at U [V]					Service life ⁴⁾	
				30	48	60	125	250	Electrical at I _{max}	Mechanical at I ≈ 0
Normal ¹⁾ (e.g. contractors, solenoids)	AC	Resistive	12	5	5	5	5	5	5 x 10 ⁴	≥ 10 ⁷
	AC	Inductive, cos φ ≈ 0.7	12	3	3	3	3	3		
	DC	Resistive	12	5	1,2	0,8	0,4	-		
	DC	Inductive, L/R ≈ 10 ms	12	3	0,5	0,35	0,05	-		
Low ²⁾ (e.g. electronic circuits)	AC	Resistive	5 ³⁾	0,34	0,2	0,17	0,08	0,04	2 x 10 ⁵	≥ 10 ⁷
	DC	Inductive, L/R ≈ 10 ms	5 ³⁾	0,1	0,01	-	-	-		

Number of switchings: 30/min.
Temperature: +30 °C

Spark quenching with diode at I/DC and inductive load:
I_{max} = 1.5 x I_{max} of table
I_{max} = 1 (mA)

Creeping and air distances correspond to Insulation Group B of VDE Regulation 0110 (except contact clearance of micro-switch).

Spark quenching with DC voltage (proposal)

- Diode D in parallel to inductive load.
Observance of correct polarity (positive pole to cathode).
Dimensioning specifications for quenching diode:
Rated voltage at diode: U_D ≥ 1.4 x U_v
Selection of a quick switching diode (recovery time t_{rr} < [200] ms).
Rated current at diode: I_R ≥ I_{Load}
- RC link in parallel to load in parallel to switching contact.
Suited for DC and AC voltage.

- Gold coating not required (would be destroyed). Maximum permissible starting current (approx. 30ms) I/AC ON = 15A.
- Gold coating required (will remain intact)
- Lower critical voltage ensuring a sufficient contact reliability. Smaller voltages are permissible under favourable conditions (contact coating free of foreign substances)
- Reduction of the respective current I by 50% approximately doubles service life of contacts.

