

# 20 D Series (Allfluid)

For pneumatics, aggressive gases and liquids

-1 to 100 bar



- High accuracy
- Gold-plated contacts
- With Ex-Versions acc. to ATEX 100a
- Weatherproof (silver-plated contacts)
- Power supply connections: DIN 43650 plug or screwed cable gland

## Technical data

- Medium: For neutral and aggressive gases and liquids
- Mounting position: Optional, preferably with pressure connection underneath
- Ambient temperature: -25°C to +80°C, -40°C to +80°C (weatherproof)

Consult our Technical Service for use below +2°C.

- Viscosity: Up to 1000 mm<sup>2</sup>/s (±450 ssu).
- Fluid temperature: -10°C to +100°C
- Temperature at switching element: +80°C
- Seal rate: >10<sup>-7</sup> mbar·l·s<sup>-1</sup>
- Repeatability: ±1% from range end value (depending on pressure regulation)
- Degree of protection: IP 65

## Materials

Brass, stainless steel: see table

## Alternative models

For power plants, part no. 18XXX12 with Harting connector type HAN 7D including 47 K Ω wire breaking monitoring, G1/2 male stainless steel, Pg16

Ex-Versions acc. to ATEX 100a on request

## Fixed switching pressure differences

Switching pressure range (bar)	Over pressure (bar)	Switching pressure difference (bar) <sup>***</sup> Code 00, 10, 20		Switching pressure difference (bar) <sup>***</sup> Code 21		Switching pressure difference (bar) <sup>***</sup> Code 05, 15, 25		Model
		Range start	Range end	Range start	Range end	Range start	Range end	
-1 ... 0	10	0,06	0,07	0,02	0,03	0,06	0,07	18101YY
-1 ... 1	10	0,06	0,08	0,07	0,10	0,07	0,08	18102YY
-1 ... 2,5	10	0,08	0,12	0,09	0,12	0,09	0,12	18104YY
0,05 ... 1	10	0,06	0,08	0,07	0,08	0,07	0,08	18111YY
0,1 ... 2,5	10	0,07	0,09	0,09	0,10	0,11	0,15	18113YY
0,5 ... 4	20	0,20	0,25	0,30	0,33	0,30	0,33	18114YY
0,5 ... 6	20	0,20	0,30	0,30	0,35	0,30	0,35	18115YY
0,5 ... 10	20	0,30	0,40	0,30	0,40	0,30	0,40	18116YY
1 ... 16	50	0,60	0,80	0,70	0,80	0,70	0,80	18117YY
1 ... 25	50	0,70	0,90	0,70	0,90	0,70	0,90	18118YY
5 ... 63	85	0,90	1,50	1,00	2,00	1,00	2,00	18119YY*
5 ... 100	150	2,50	5,00	3,00	7,00	3,00	7,00	18110YY**

## Adjustable switching pressure differences

Switching pressure range (bar)	Over pressure (bar)	Switching pressure difference (bar) <sup>***</sup> Code 00, 10, 20			Switching pressure difference (bar) <sup>***</sup> Code 05, 10, 15, 21, 25			Model
		Range start	Range end Min.	Range end Max.	Range start	Range end Min.	Range end Max.	
-1 ... 0	10	0,12	0,13	0,7	0,12	0,13	0,7	18001YY
-1 ... 1	10	0,13	0,14	1,00	0,19	0,21	1,00	18002YY
-1 ... 2,5	10	0,17	0,20	2,50	0,22	0,24	2,50	18004YY
0,05 ... 1	10	0,08	0,11	0,70	0,15	0,16	0,70	18011YY
0,1 ... 2,5	10	0,11	0,15	2,00	0,20	0,25	2,00	18013YY
0,5 ... 4	20	0,30	0,40	2,50	0,80	0,80	2,50	18014YY
0,5 ... 6	20	0,35	0,50	5,00	0,80	0,90	5,00	18015YY
0,5 ... 10	20	0,40	0,80	8,00	0,90	1,90	8,00	18016YY
1 ... 16	50	0,80	1,10	12,00	1,70	2,00	12,00	18017YY
1 ... 25	50	1,00	1,50	20,00	1,80	2,80	20,00	18018YY
5 ... 63	85	2,00	3,00	20,00	2,30	3,50	20,00	18019YY*
5 ... 100	150	3,50	7,00	55,00	4,00	9,00	55,00	18010YY**

\* Not for pressure sensor variants 00 and 05 \*\* Only for pressure sensor variants 10 and 15

\*\*\* Typical values

YY = replace with code from table below

## Variant codes (YY)

Code	Materials	Electrical connection	Fluid port size	Options
00	Brass/stainless steel 1.4404	DIN 43650#	G1/4 Internal thread	-
05	Brass/stainless steel 1.4404	M20 x 1,5	G1/4 Internal thread	-
10	Stainless steel 1.4305, 1.4404	DIN 43650#	G1/2 External thread	-
15	Stainless steel 1.4305, 1.4404	M20 x 1,5	G1/2 External thread	-
20	Stainless steel 1.4571	DIN 43650#	G1/2 External thread	-
21	Stainless steel 1.4571	M20 x 1,5	G1/2 External thread	Weatherproof
25	Stainless steel 1.4571	M20 x 1,5	G1/2 External thread	-

# Plug not included. If required, order model 0570110, see page 384

## 20 D Series (Allfluid)

For pneumatics, aggressive gases and liquids

-1 to 100 bar

Load level	Type of current	Type of load	Umin [V]	Maximum permanent current I <sub>max</sub> [A] at U [V]					Contact life # electrical at I <sub>max</sub> switching cycles	mechanical at I ≈ 0 switching cycles
				30	48	60	125	250		
Standard * (e.g. contractors, solenoids)	a.c.	Resistive load	12	5	5	5	5	5	5 x 10 <sup>4</sup>	>10 <sup>7</sup>
	a.c.	Inductive load, cos φ ≈ 0,7	12	3	3	3	3			
	d.c.	Resistive load	12	5	1,2	0,8	0,4	–		
	d.c.	Inductive load, L/R ≈ 10 ms	12	3	0,5	0,35	0,05	–		
Low ** (e.g. electronic circuits)	a.c.	Resistive load	5‡	0,34	0,2	0,17	0,08	0,04	2 x 10 <sup>5</sup>	> 10 <sup>7</sup>
	d.c.	Inductive load, L/R ≈ 10 ms	5‡	0,1	0,01	–	–			

Reference number of switchings: 30/min, reference temperature: +30°C

Spark quenching with diode with d.c. and inductive load: I<sub>max</sub> = 1.5 x I<sub>max</sub> of table I<sub>min</sub> = 1 [mA]

Creepage and air paths correspond to insulation group B according to VDE reg. 0110 (except contact clearance of microswitch).

\* Gold-plating not required as it would decay. Maximum permitted in-rush current (approximately 30 ms) a.c. make = max. 15A.

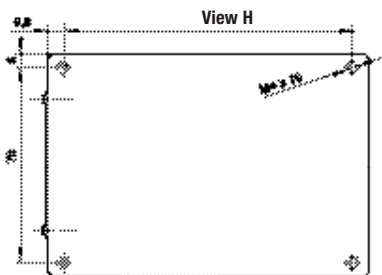
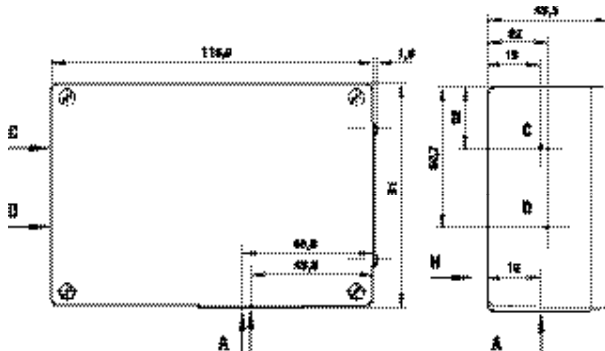
\*\*Gold-plating required (will not decay).

# 50% of the respective switching current I nearly doubles contact life. The mechanical life depends on the field of application.

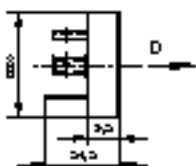
‡ Lower value of critical voltage guarantees sufficient contact safety. Lower voltages permissible under favourable conditions.

### Standard housing

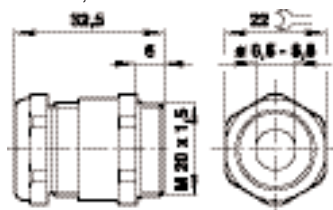
For electrical and pneumatic connectors see below



Electrical connection  
DIN 43650



Electrical connection  
M20 x 1,5

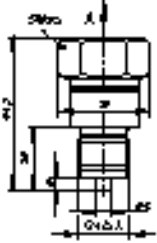


Pressure switches

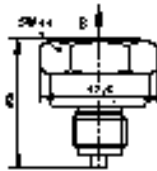
## 20 D Series (Allfluid)

For pneumatics, aggressive gases and liquids  
-1 to 100 bar

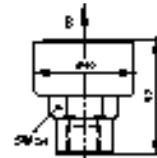
Pressure sensor variations



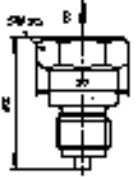
Description	Model
G1/2	10, 15, 20, 21, 25



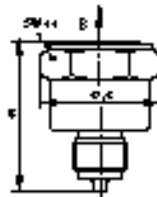
Description	Model
G1/2	10, 15, 20, 21, 25



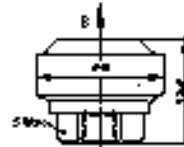
Description	Model
G1/4	00, 05



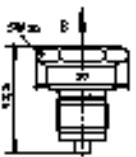
Description	Model
G1/2	10, 15, 20, 21, 25



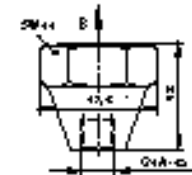
Description	Model
G1/2	10, 15, 20, 21, 25



Description	Model
G1/4	00, 05



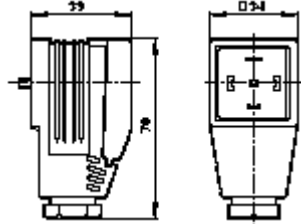
Description	Model
G1/2	10, 15, 20, 21, 25



Description	Model
G1/4	00, 05

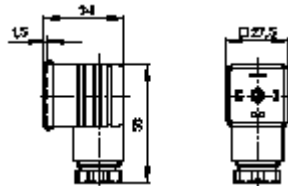
Plug (black) with LED

3 poles mains earth connector according to DIN43650 for d.c. or a.c.



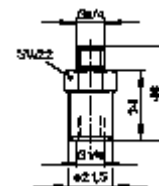
Description	Model
With LED 12 to 28 V	0585418
With fibre lamp 90 to 130 V	0585419
With fibre lamp 180 to 240 V	0585420

3 pole plug with protective earth conductor



Description	Model
DIN 43650	0570110

Surge damper



Description	Model
Stainless steel	0553258
Brass/steel	0574773

Pressure switch with indicator and light insert

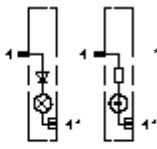
The light insert shows the switching position of the connected pressure switch



Pressure switch with DIN 43650



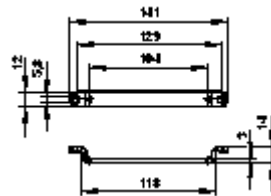
Plug



Plug selectable light insert – connection either on normally closed contact (2 ports) or on normally open contact (3 ports)

\*For contact 4 a special supply line is required

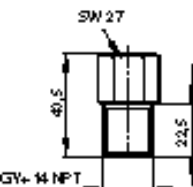
Bracket (2 clips and 4 screws)



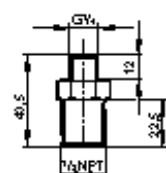
Description	Model
Steel	0574772
Stainless steel	0553908

Reducing nipple for pressure connection

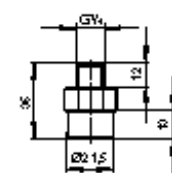
G 1/2 female, 1/2 NPT male  
Stainless steel 1.4305 (AISI 303/304 S)  
Type 0553831



G 1/4 male - G 1/2 male  
Stainless steel 1.4305 (AISI 303/304 S)  
Type 0550083



G 1/4 male - G 3/8 female  
Steel  
Type 0574764



G 1/4 male - 1/4 NPT female  
Brass  
Type 0574765

