

# Electro-mechanical allfluid pressure switches

20D Allfluid -1 ... 100 bar / 20DD Differential allfluid 0,2 ... 30 bar  
G1/2 (male)



Microswitch with gold plated contacts (suitable for intrinsically safe operation)  
Electrical connection: connector conforming to DIN EN 175301-803 (form A) or M20x1,5 (DIN 46320)  
For sensing differential pressures with high accuracy and sensitivity (20DD)

## TECHNICAL DATA

**Medium:**  
For neutral, aggressive, non-inflammable gases and fluids

**Temperature:**  
Fluid Ambient  
-10 ... +100°C -25 ... +80°C  
Please contact our technical service for use below +2°C.

**Media viscosity:**  
1000 mm<sup>2</sup>/s max.

**Switching pressure difference/hysteresis:**  
Fixed - option  
Adjustable - option

**Repeatability:**  
±1% of full scale  
(depending on regulating pressure)

**Degree of protection (conforming to DIN 40050):**  
IP65

**Mounting position:**  
Optional

**Resistance to shock and vibration (avoid if possible):**  
4 g max. (sinusoidal)/5 Hz max.

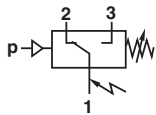
**Sealing:**  
≤10<sup>-7</sup> mbar • l • s<sup>-1</sup>

**Pulsation:**  
Not permitted

**Switching cycles:**  
Max. 20/min.

## MATERIALS

Housing: aluminium diecast  
Sensor: stainless steel  
Sealing: stainless steel-bellows



Switching function:  
Microswitch SPDT (commutator)

Terminals 1 - 3:  
Contacts close on rising pressure

Terminals 1 - 2:  
Contacts open on rising pressure

## 20D Allfluid - fixed switching pressure difference

Operating pressure range <sup>*1)</sup> (bar)	Over pressure <sup>*2)</sup> (bar)	Switching pressure difference		MODELS
		Lower range (bar)	Upper range (bar)	
-1 ... 0	10	0,06	0,07	181 01 15
-1 ... 1	10	0,08	0,09	181 02 15
-1 ... 2,5	10	0,09	0,12	181 04 15
0,05 ... 1	10	0,07	0,08	181 11 15
0,5 ... 4	20	0,30	0,33	181 14 15
0,5 ... 6	20	0,30	0,35	181 15 15
0,5 ... 10	20	0,30	0,40	181 16 15
1 ... 16	50	0,70	0,80	181 17 15
1 ... 25	50	0,70	0,90	181 18 15
5 ... 63	85	1,00	2,00	181 19 15

Connector is not included; special pressure ranges on request

<sup>\*1)</sup> Atmospheric air pressure

<sup>\*2)</sup> Short term pressure peaks should not exceed this value. Normal operation should be within switching pressure range.  
Over pressure equals maximum test pressure.

For further information



[www.norgren.com/info/en5-022](http://www.norgren.com/info/en5-022)

## 20D Allfluid - adjustable switching pressure difference

Switching pressure range *1) (bar)	Over pressure *2) (bar)	Switching pressure difference			MODELS
		Lower range (bar)	Upper range Min. (bar)	Max. (bar)	
-1 ... 0	10	0,12	0,13	0,70	180 01 15
-1 ... 1	10	0,19	0,21	1,00	180 02 15
-1 ... 1,6	10	0,22	0,24	2,50	180 03 15
-1 ... 2,5	10	0,22	0,24	2,50	180 04 15
0,05 ... 1	10	0,15	0,16	0,70	180 11 15
0,1 ... 2,5	10	0,34	0,40	2,00	180 13 15
0,5 ... 4	20	0,80	0,80	2,50	180 14 15
0,5 ... 6	20	0,80	0,90	5,00	180 15 15
0,5 ... 10	20	0,90	1,90	8,00	180 16 15
1 ... 16	50	1,70	2,00	12,00	180 17 15
1 ... 25	50	1,80	2,80	20,00	180 18 15
5 ... 63	85	3,50	4,50	20,00	180 19 15
5 ... 100	150	4,00	9,00	55,00	180 10 15

Connector is not included; special pressure ranges on request.

\*1) Atmospheric air pressure.

\*2) Short term pressure peaks should not exceed this value. Normal operation should be within switching pressure range. Over pressure equals maximum test pressure.

## OPTIONS SELECTOR

Operating pressure range	Substitute	181 ★★★			Sensor material	Electrical connection	Substitute
-1 ... 0	01				1.4404	DIN EN 175301-803; G1/2A	10
-1 ... 1	02				1.4404	M20 x 1,5; G1/2A	15
-1 ... 2,5	04						
0,05 ... 1	11						
0,5 ... 4	14						
0,5 ... 6	15						
0,5 ... 10	16						
1 ... 16	17						
1 ... 25	18						
5 ... 63	19						
5 ... 100	10						

## 20DD Allfluid differential pressure switch - fixed switching pressure difference

### Two pressure sensors \*1)

Differential pressure range *2) (bar)	Switching pressure difference		Operating pressure range *3) (bar)	Over pressure *4) (bar)	Switching cycles per minute	Pressure sensor material			Total weight (kg)	Dimensional drawing no.	MODELS
	Lower range (bar)	Upper range (bar)				Housing	Bellows	Other materials			
0,2 ... 1	0,25	0,4	0,5 ... 16	20	10	Stainless steel	Stainless steel	Stainless steel	1,10	2	1819115
0,25 ... 2,5	0,3	0,5	0,5 ... 16	20	10	1.4404	1.4404	1.4404	1,10	2	1819315
0,5 ... 6	0,6	1	1 ... 25	30	10	Stainless steel	Stainless steel	Stainless steel	1,05	3	1819515
0,5 ... 16	0,8	1,4	1 ... 25	30	10	1.4305	1.4401	1.4301	1,05	3	1819715
1,0 ... 30	0,8	2	4 ... 63	70	10				1,05	4	1819815

\*1) Tested in accordance with DIN 89011, 5.2., within the frequency range 25 ... 100 Hz; within the frequency range 2 ... 25 Hz tested with amplitude 1.6 mm.

\*2) The differential pressure is the pressure difference between both pressure sensing elements under operating conditions.

\*3) The working pressure range indicates the required minimum pressure as well as the load on the pressure sensor under operating conditions.

\*4) Short term pressure peaks should not exceed this value. Normal operation should be within switching pressure range. Over pressure equals maximum test pressure.

## ACCESSORIES

Connector	Connector	Brackets	Surge damper	Pressure port - reducing nipple
0585418 (with LED)	0570110	0574772 (steel) 0553908 (stainless steel)	0553258 (stainless steel G1/4) 0574773 (brass/steel) G1/4)	0550083 (G1/4 - G1/2) 0574764 (G1/4 - G3/8) 0574765 (G1/4 - 1/4 NPT)

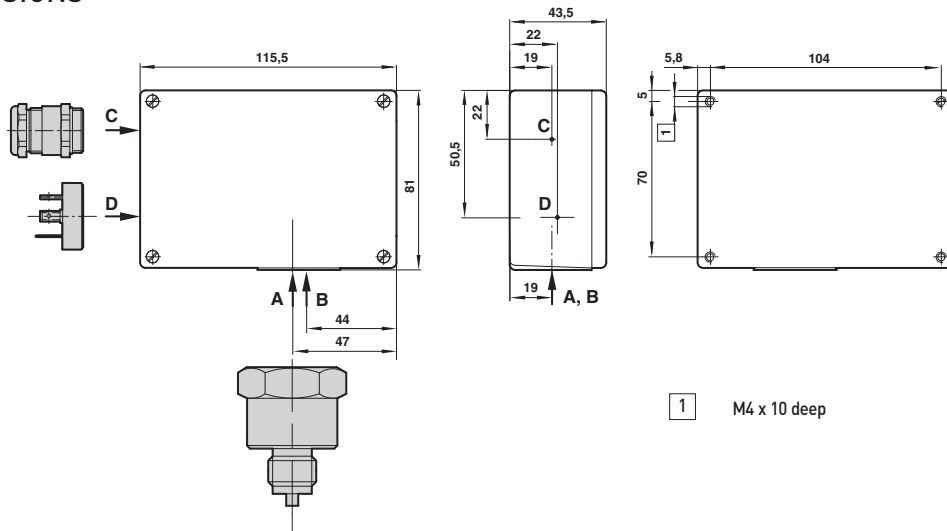
Switching capacity, spark quenching / intrinsically safe with d.c. voltage, see standard 20D of page 5-017

# Electro-mechanical allfluid pressure switches

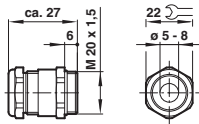
20D Allfluid -1 ... 100 bar / 20DD Differential allfluid 0,2 ... 30 bar  
G1/2 (male)

## 20D Allfluid pressure switch

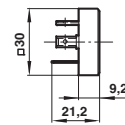
### BASIC DIMENSIONS



Connector M20 x 1,5  
(standard/preferred connector)  
conforming to DIN 46320



Connector conforming  
to DIN EN 175301-803, form A



### Sensor combination

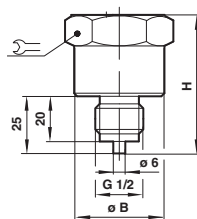
Operating pressure range Code	Sensor type
01	B
02	B
03	B
04	B
11	B
13	B
14	B
15	B
16	B
17	F
18	F
19	H
10	I

### Sensor dimensions

Sensor type	H	B	⌀
B	75	42	32
F	43	37	32
H	53	37	32
I	62	37	32

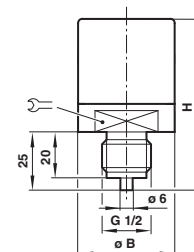
### Sensor type

F, H, I



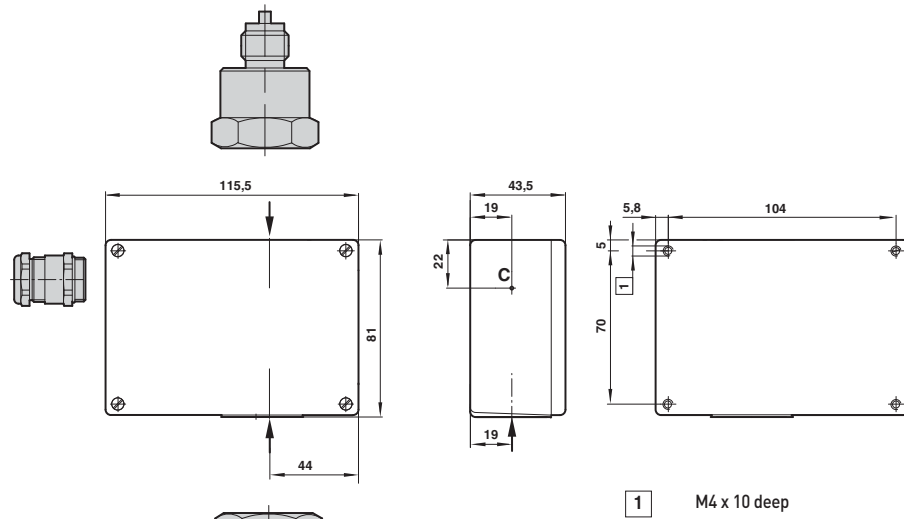
### Sensor type

B

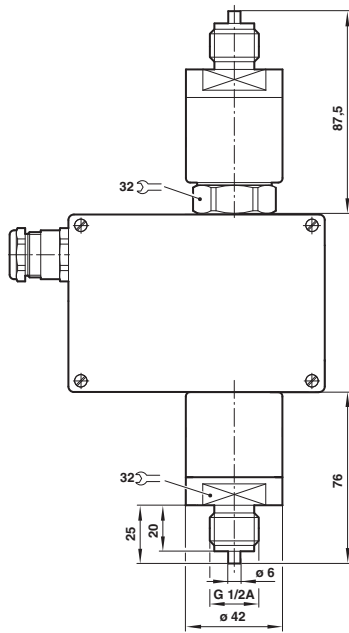


# 20DD Allfluid differential pressure switch

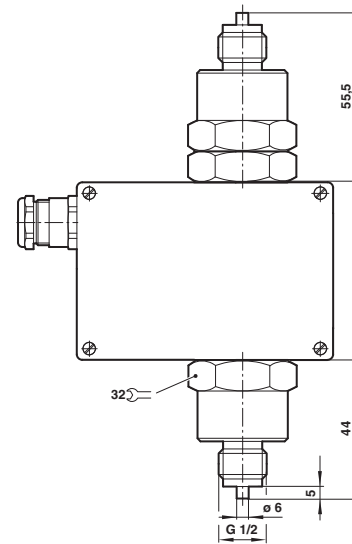
## BASIC DIMENSIONS



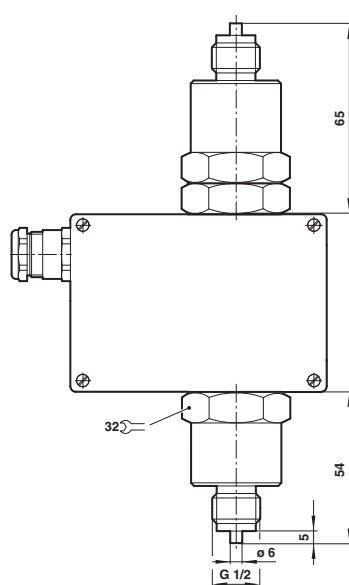
②



③



④



Electrical connector M20 x 1,5 conforming to DIN 46320

