

- > -1 ... 63 bar  
( -14 ... 913 psi)
- > For Ex zones 1 and 2  
(gases) category II2G  
type of protection Ex  
db eb IIC T6
- > For Ex zones 21 and 22  
(dusts) category II2D  
type of protection Ex tb  
IIIC T80°C IP65

- > Microswitch with gold  
plated contacts
- > Robust metal housing  
in weather-resisting  
version


**Technical features**
**Medium:**

For neutral, non-inflammable  
gases and fluids

**Operating pressure:**

-1 ... 63 bar

**Operation:**

Softseal piston, stainless steel bellow

**Repeatability:**

±1% of final value

(depending on regulating pressure)

**Port size:**

G1/2

**Sealing:**

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

**Pulsation:**

Not permitted

**Switching pressure difference:**

Optional: fixed or adjustable

**Switching element:**

Microswitch with gold plated  
contacts

**Mounting position:**

Optional

**Degree of protection:**

IP65

**Electrical connection:**

Cable gland M20x1,5

**Shock-/vibrationproof:**

4 g max. (sinusoidal)/5 Hz max

**Switching cycles:**

20/min. maximum

**Ambient/Media temperature:**

-10° ... +75°C (+14° ... +167°F)

Air supply must be dry enough to

avoid ice formation at temperatures  
below +2°C (+35°F)


**Material:**

Housing: Aluminium diecast


Sensor: Brass or stainless steel

Sealing: Stainless steel-bellows

**Technical data - fixed switching pressure difference**

Symbol	Operating pressure *1) (bar)	Over pressure *2) (bar)	Switching pressure difference (typical)		Pressure sensor material	Weight (kg)	Sensor	Model
			Lower range (bar)	Upper range (bar)				
	-1 ... 0	10	0,20	0,23	1.4404	1,1	B	1840115
	-1 ... 1	10	0,20	0,25	1.4404	1,1	B	1840215
	-1 ... 2,5	10	0,22	0,26	1.4404	1,1	B	1840415
	0,05 ... 1	10	0,16	0,18	1.4404	1,1	B	1841115
	0 ... 1,6	10	0,16	0,20	1.4404	1,1	B	1841215
	0,1 ... 2,5	10	0,18	0,22	1.4404	1,1	B	1841315
	0,5 ... 4	20	0,50	0,55	1.4404	1,1	B	1841415
	0,5 ... 6	20	0,60	0,70	1.4404	1,1	B	1841515
	0,5 ... 10	20	0,70	0,90	1.4404	1,1	B	1841615
	1 ... 16	50	1,00	1,40	1.4404	1,1	F	1841715
	1 ... 25	50	1,30	1,80	1.4404	1,1	F	1841815
	5 ... 63	150	2,00	5,00	1.4404	1,1	H	1841915

**Technical data - adjustable switching pressure difference**

Symbol	Operating pressure *1) (bar)	Over pressure *2) (bar)	Switching pressure difference (typical)			Pressure sensor material	Weight (kg)	Sensor	Model
			Lower range (bar)	Upper range minimal (bar)	maximal (bar)				
	-1 ... 0	10	0,19	0,25	0,80	1.4404	1,1	B	1850115
	-1 ... 1	10	0,20	0,30	1,00	1.4404	1,1	B	1850215
	-1 ... 2,5	10	0,20	0,28	2,50	1.4404	1,1	B	1850415
	0,05 ... 1	10	0,16	0,18	0,80	1.4404	1,1	B	1851115
	0 ... 1,6	10	0,10	0,16	1,00	1.4404	1,1	B	1851215
	0,1 ... 2,5	10	0,18	0,22	2,00	1.4404	1,1	B	1851315
	0,5 ... 4	20	0,50	0,60	2,50	1.4404	1,1	B	1851415
	0,5 ... 6	20	0,60	0,70	5,00	1.4404	1,1	B	1851515
	0,5 ... 10	20	0,70	0,90	8,00	1.4404	1,1	B	1851615
	1 ... 16	50	1,60	1,90	12,00	1.4404	1,1	F	1851715
	1 ... 25	50	1,60	2,20	20,00	1.4404	1,1	F	1851815
	5 ... 63	150	2,00	5,00	20,00	1.4404	1,1	H	1851915

\*1) Atmospheric air pressure.

\*2) Short-term pressure peaks are not allowed to exceed this limit value during operation. Operative utilization of the limit value is not permitted.  
The limit value corresponds to the maximum testing pressure




Option selector

18 ★ ★ ★ 15

Switching pressure difference	Substitute
Fixed	4
Adjustable	5


Switching pressure range (bar)	Substitute
-1 ... 0	01
-1 ... 1	02
-1 ... 2,5	04
0,05 ... 1	11
0 ... 1,6	12
0,1 ... 2,5	13*
0,5 ... 4	14
0,5 ... 6	15
0,5 ... 10	16
1 ... 16	17
1 ... 25	18
5 ... 63	19

Zubehör

<p><b>Surge damper</b></p>  <p>Page 4</p> <p>0551894 (stainless steel G1/2)</p>	<p><b>Pressure port – reducing nipple</b></p>  <p>Page 4</p> <p>0553831 (stainless steel G1/2 » 1/2 NPT)</p>	<p><b>Brackets</b></p>  <p>Page 4</p> <p>0574772 (steel)</p> <p>0553908 (stainless steel)</p>
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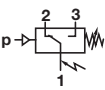
Cable gland in scope of delivery

**Cable gland**  
Page 4



Thread	Cable Ø	Material	Protection class (ATEX)	Model
M 20x1,5	6 ... 14 mm	Nickel plated brass	II2GD Ex e	0589654

Switching function



Connector  
DIN EN 175301-803,  
form A  
Microswitch SPDT  
Terminals 1 - 3:  
Contacts close  
on rising pressure.  
Terminals 1 - 2:  
Contacts open  
on rising pressure.

## Switching capacity

### Commutator with gold plated contacts

Load level	Current type	Load type *2)	Max. permissible persistent current I <sub>max</sub> [A] at U *1)		Electrical life-time
			M20 x 1,5 30 V	250 V	
Standard *3) (contractors, solenoids)	a.c.	Ohmic	7	5	≥ 2 x 10 <sup>5</sup> Switching cycles
	a.c.	Inductive, cos φ ≈ 0,7	3	0,03	
	d.c.	Ohmic	7	0,4	
	d.c.	Inductive, L/R ≈ 10 ms	3	0,03	

Reference number: 20/min, Reference temperature: +20°C.

Spark quenching with diode with DC and inductive load:

I<sub>min</sub> = 1 mA; I<sub>max</sub> = 1,5 x I<sub>max</sub> of table

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

\*1) Higher currents (5 A max) will cause a reduction of the durability of the micro-switch contacts. Furthermore additional measures has to be taken to fulfil the EMV regulation 2004/108/EG by the manufacturer

\*2) Spark quenching/overload protection will be necessary using inductive loads.

\*3) Gold-plating not required as it would decay.

Max. perm. in-rush current (appr. 30 ms) I<sub>AC</sub> = max. 15 A

### Recommended circuit

#### Spark quenching and EMV intrinsically safe

1. Diode D in parallel to inductive load.

Observance of correct polarity (positive pole to cathode).

Dimensioning specifications for quenching diode:

Rated voltage at diode:  $U_D \geq 1,4 \times U_S$

Rated current at diode:  $I_N \geq I_{Load}$

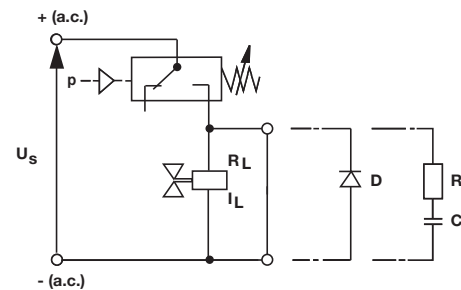
Selection of a quick switching diode (recovery time  $t_{rr} \leq 200$  ms)

2. RC link in parallel to load in parallel to switching contact.

Dimensioning principles:

$R_L$  in  $\Omega \approx 0,2 \times R_{Load}$  in  $\Omega$

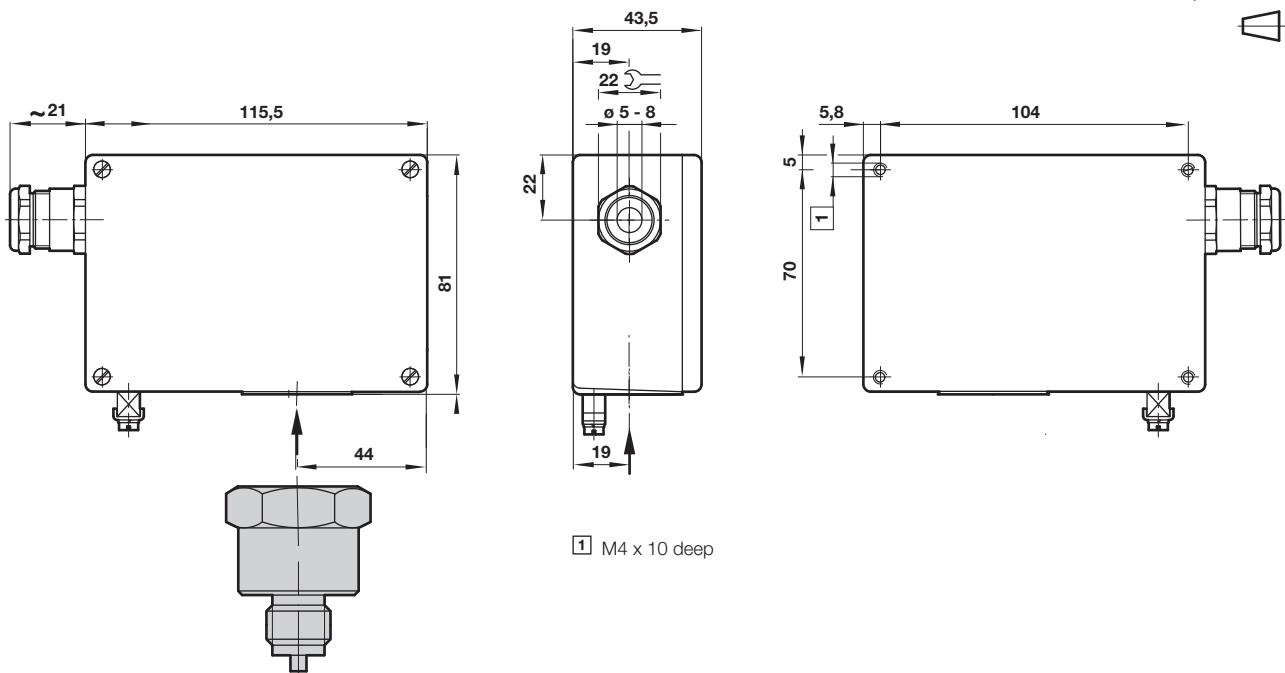
$C$  in  $[\mu F] \approx I_{Load}$  in  $[A]$



$R_L$  = Load resistance  
 $I_L$  = Load current

### Dimensions

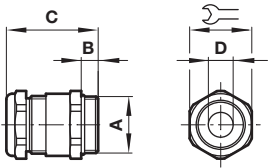
Dimensions in mm  
 Projection/First angle



1) M4 x 10 deep

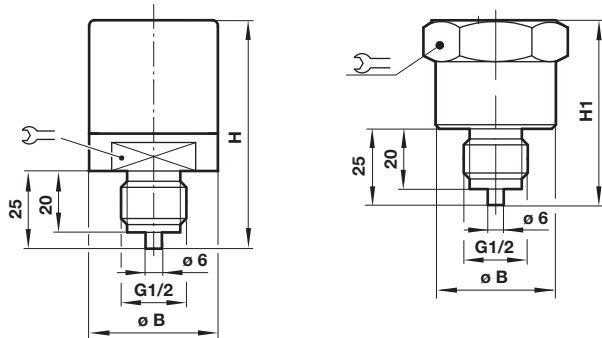
### Cable gland

Dimensions in mm  
Projection/First angle



A	B	C	øD	Model
M20 x 1,5	6,5	35,5	6 ... 14	24 0589654

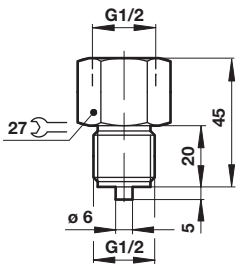
### Fluid port



Operating pressure (bar)	øB	H	H1	Model
-1 ... 0; -1 ... 1; -1 ... 2,5; 0,05 ... 1; 0 ... 1,6; 0,1 ... 2,5	75	42	—	32
0,5 ... 4; 0,5 ... 6; 0,5 ... 10	75	42	—	32
1 ... 16; 1 ... 25	43	—	37	32
5 ... 63	53	—	37	32

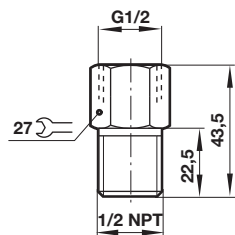
### Surge damper

Model: 0551894



### Pressure port reducing nipple

Model: 0553831

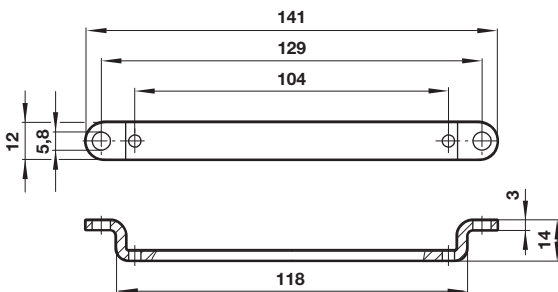


### Brackets (2 brackets and 4 screws)

Model:

0574772 (steel)

0553908 (stainless steel 1.4301 AISI 304)



### Warning

These products are intended for use in industrial compressed air and fluid systems only. Do not use these products where pressures and temperatures can exceed those listed under »**Technical features/data**«. Before using these products with fluids other than those specified, for non-industrial applications, life-support systems, or other applications not within published specifications, consult IMI NORGREN.

Through misuse, age, or malfunction, components used in fluid power systems can fail in various modes. The system designer is warned to consider the failure modes of all

component parts used in fluid power systems and to provide adequate safeguards to prevent personal injury or damage to equipment in the event of such failure.

System designers must provide a warning to end users in the system instructional manual if protection against a failure mode cannot be adequately provided.

System designers and end users are cautioned to review specific warnings found in instruction sheets packed and shipped with these products.