

- > -1 ... 25 bar  
Port size: G1/4
- > Microswitch with gold plated contacts
- > Intrinsically safe operation
- > **Electrical connection:**  
connector acc. to DIN EN 175301-803 (form A) or cable gland



### Technical features

#### Medium:

For neutral, non-inflammable gases

#### Operation:

Diaphragm

#### Operating pressure:

-1 ... 25 bar (-14 ... 362 psi)

#### Repeatability:

±1% of final value  
(depending on regulating pressure)

#### Port size:

G1/4

#### Media viscosity:

Up to 1000 mm<sup>2</sup>/s

#### Sealing:

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

#### Pulsations:

Not permitted

#### Switching pressure

#### difference/hysteresis:

Fixed or adjustable

#### Switching cycles:

20/min maximum

#### Life cycle of mechanical parts:

10<sup>7</sup> switching cycles

#### Switching element:

Microswitch with gold plated contacts

#### Shock-/vibrations (to avoid if possible):

4 g max. (sinusoidal) / 5 Hz max.

#### Mounting position:

Optional

#### Degree of protection:

IP65 for DIN EN 175301-803

(DIN 43650) form A connection

IP66 with cable gland

#### Electrical connection:

DIN EN 175301-803 (DIN 43650)

form A or cable gland

#### Weight:

1,1 kg (2.4 lbs)

#### Ambient/Media temperature:

Ambient:

-25 ... +80°C (-13 ... +176°F)

Media:

-10 ... +100°C (14 ... +212°F)

Air supply must be dry enough

to avoid ice formation at

temperatures below +2°C (+35°F)

#### Materials:

Housing: aluminium diecast


Sensor: brass

Sealing: stainless steel-bellows

### Technical data

#### Standard models — 181xxxx (fixed switching pressure difference)

#### Electrical connection acc. to DIN EN 175301-803, form A

Symbol	Pressure range *1)		Over pressure *2)		Switching pressure difference				Model
	(bar)	(psi)	(bar)	(psi)	Lower range minimum (bar)	(psi)	Upper range maximum (bar)	(psi)	
	-1 ... 0	-14 ... 0	10	145	0,06	0.87	0,07	1.01	1810100
	-1 ... 1	-14 ... 14.5	10	145	0,06	0.87	0,08	1.16	1810200
	-1 ... 1,6	-14 ... 23.2	10	145	0,08	1.16	0,09	1.30	1810300
	-1 ... 2,5	-14 ... 36.2	10	145	0,08	1.16	0,12	1.74	1810400
	0,05 ... 1	0.72 ... 14.5	10	145	0,06	0.87	0,08	1.16	1811100
	0,1 ... 2,5	1.45 ... 36.2	10	145	0,07	1.01	0,09	1.30	1811300
	0,5 ... 4	7.2 ... 58	20	290	0,20	2.90	0,25	3.62	1811400
	0,5 ... 6	7.2 ... 87	20	290	0,20	2.90	0,30	4.35	1811500
	0,5 ... 10	7.2 ... 145	20	290	0,30	4.35	0,40	5.80	1811600
	1 ... 16	14.5... 232	50	725	0,60	8.70	0,80	11.6	1811700
	1 ... 25	14.5... 362	50	725	0,70	10.1	0,90	13.0	1811800

Connector is not in scope of delivery; special pressure ranges on request

\*1) Setpoints should be ideally in the middle of the switching pressure range. Reference pressure = atmospheric pressure. Switching pressure must not exceed the indicated values.

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

**Standard models – 180xxx (adjustable switching pressure difference)**  
**Electrical connection acc. to DIN EN 175301-803, form A**

Symbol	Pressure range *1)		Over pressure *2)		Switching pressure difference						Model
					Lower range		Upper range		maximum		
	(bar)	(psi)	(bar)	(psi)	(bar)	(psi)	minimum (bar)	(psi)	(bar)	(psi)	
	-1 ... 0	-14 ... 0	10	145	0,12	1.74	0,13	1.88	0,70	10.1	1800100
	-1 ... 1	-14 ... 14.5	10	145	0,13	1.88	0,14	2.03	1,00	14.5	1800200
	-1 ... 1,6	-14 ... 23.2	10	145	0,17	2.46	0,20	2.90	2,50	36.2	1800300
	-1 ... 2,5	-14 ... 36.2	10	145	0,17	2.46	0,20	2.90	2,50	36.2	1800400
	0,05 ... 1	0.72 ... 14.5	10	145	0,08	1.16	0,11	1.59	0,70	10.1	1801100
	0,1 ... 2,5	1.45 ... 36.2	10	145	0,11	1.59	0,15	2.17	2,00	29.0	1801300
	0,5 ... 4	7.2 ... 58	20	290	0,30	4.35	0,40	5.80	2,50	36.2	1801400
	0,5 ... 6	7.2 ... 87	20	290	0,35	5.07	0,50	7.25	5,00	72-5	1801500
	0,5 ... 10	7.2 ... 145	20	290	0,40	5.80	0,80	11.6	8,00	116	1801600
	1 ... 16	14.5... 232	50	725	0,80	11.6	1,10	15.9	12,00	174	1801700
	1 ... 25	14.5... 362	50	725	1,00	14.5	1,50	21.7	20,00	290	1801800

Connector is not in scope of delivery; special pressure ranges on request

\*1) Setpoints should be ideally in the middle of the switching pressure range. Reference pressure = atmospheric pressure. Switching pressure must not exceed the indicated values.

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

**Option selector**

18★★★★★

Switching pressure difference	Substitute
Adjustable	0
Fixed	1
Pressure range (bar)	Substitute
-1 ... 0	01
-1 ... 1	02
-1 ... 1,6	03
-1 ... 2,5	04
0,05 ... 1	11
0,1 ... 2,5	13
0,5 ... 4	14
0,5 ... 6	15
0,5 ... 10	16
1 ... 16	17
1 ... 25	18

Electrical connection	Substitute
Interface for DIN EN 175301-803 form A connector *1)	00
Cable gland	05

\*1) Connector is not in scope of delivery

**Accessories**

<p><b>Surge damper</b></p> <p>Page 4</p> <p>0553258 (stainless steel G1/4)</p> <p>0574773 (brass/steel G1/4)</p>	<p><b>Pressure port – reducing nipple</b></p> <p>Page 4</p> <p>0550083 (G1/4 » G1/2)</p> <p>0574765 (G1/4 » 1/4 NPT)</p>	<p><b>Brackets</b></p> <p>Page 4</p> <p>0574772 (steel)</p> <p>0553908 (stainless steel)</p>
--	--	--

**Accessories**

<p><b>Connector DIN EN 175301-803</b></p> <p>0570110 (Form A)</p>	<p><b>Connector with LED</b></p> <p>Page 4</p> <p>0585418</p>
---	---

**Switching function**

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

**Switching capacity**  
**Commutator with gold plated contacts**

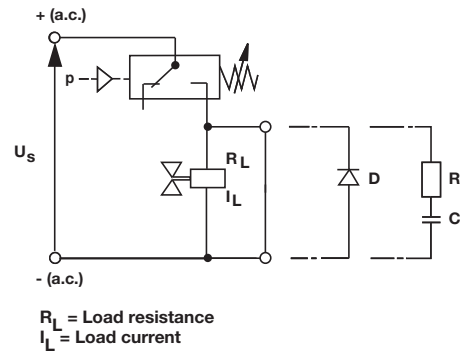
Load level	Current type	Load type *2)	U min [V]	Max. permissible persistent current I <sub>max</sub> [A] at U *1)				Electrical life-time
				M20 x 1,5 30 V	DIN EN 175301-803, 48 V	60 V	125 V	
Standard *3) (contractors, solenoids)	a.c.	Ohmic	12	0,1	0,1	0,1	0,1	≥ 2 x 10 <sup>5</sup> Switching cycles
	a.c.	Inductive, cos φ ≈ 0,7	12	3	3	3	3	
	d.c.	Ohmic	12	5	1,2	0,8	0,4	
	d.c.	Inductive, L/R ≈ 10 ms	12	3	0,5	0,35	0,05	
Minor *4) (electronic circuits)	a.c.	Ohmic	5 *5)	0,1				
	d.c.	Inductive, L/R ≈ 10 ms	5 *5)	0,1	0,01			

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).

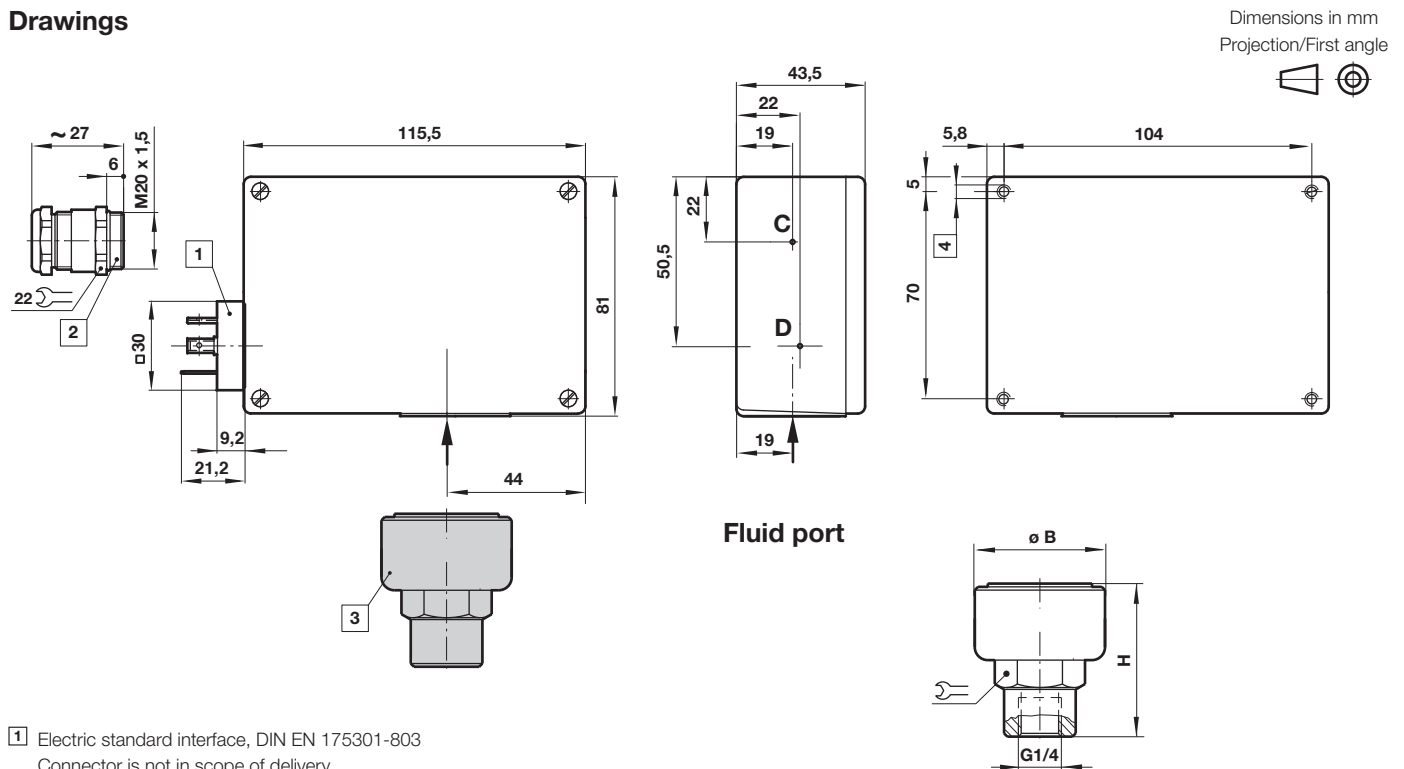
\*1) Higher currents (5 A max) will cause a reduction of the durability of the micro-switch contacts. Furthermore additional measures has to be taken to fulfil the EMV regulation 2004/108/EG by the manufacturer  
\*2) Spark quenching/overload protection will be necessary using inductive loads.  
\*3) Gold-plating not required as it would decay.  
Max. perm. in-rush current (appr. 30 ms) I<sub>AC</sub> = max. 15 A  
\*4) Gold-plating required (will not decay).  
\*5) Lower value of critical voltage guarantees sufficient contact safety.  
Lower voltages permissible under favourable conditions.

**Recommended circuit**  
**Spark quenching and EMV intrinsically safe**

- 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<sub>D</sub> ≥ 1,4 x U<sub>s</sub>  
Rated current at diode: I<sub>N</sub> ≥ I<sub>Load</sub>  
Selection of a quick switching diode (recovery time t<sub>rr</sub> ≤ 200 ms)
- RC link in parallel to load in parallel to switching contact.  
Dimensioning principles:  
R<sub>L</sub> in Ω ≈ 0,2 x R<sub>Load</sub> in Ω  
C in [μF] ≈ I<sub>Load</sub> in [A]



**Drawings**

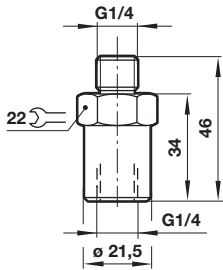


- Electric standard interface, DIN EN 175301-803  
Connector is not in scope of delivery
- Alternative pressure switch range with cable gland
- Fluid port
- M4 x 10 deep

Operating pressure (bar)	B	H	
-1 ... 0/-1 ... 1/-1 ... 1,6/-1 ... 2,5/0,05 ... 10/1 ... 2,5	51	42,5	30
0,5 ... 4/0,5 ... 6/0,5 ... 10	40	47	24
1 ... 16/1 ... 25	47,5	43	41

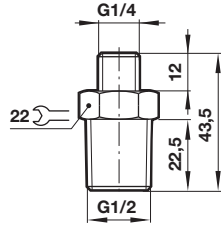
**Surge damper**

Model: 0574773 (brass)  
0553258 (stainless steel  
1.4301 AISI 304)

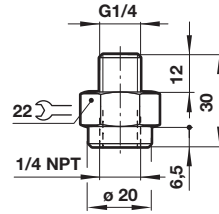


**Pressure port/reducing nipple**

Model: 0550083  
(stainless steel 1.4305  
AISI 303/304 S)



Model: 0574765  
(brass)



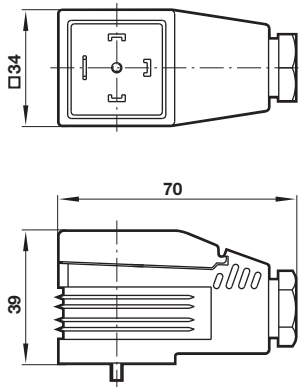
Dimensions in mm  
Projection/First angle



**Connectors (black) with light indicator 3-pin + protective conductor**

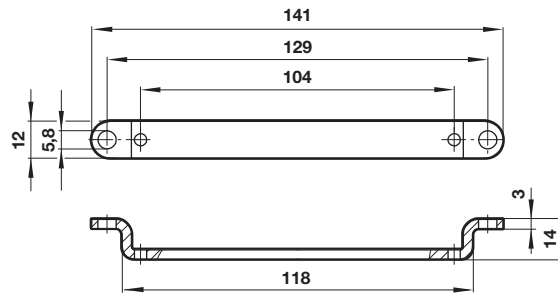
Connection acc. to  
DIN EN 175301-803 (form A)  
Voltage: 12 ... 28 V d.c./a.c.

Model: 0585418



**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 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.