- **-0,025 to 1,6 bar (-0.36 ... 23 psi)**
- **High accuracy**
- **Microswitch with gold plated contacts (intrinsically safe operation)**
- **Robust metal housing**
- **Electrical connection: connector acc. to DIN EN 175301-803 (form A) or M20x1,5 (DIN 46320)**

Technical features

Medium:
For neutral, non-inflammable gases and fluids
Operation:
Diaphragm
Operating pressure:
-0,025 to 1,6 bar (-0.36 ... 23 psi)
Repeatability:
±1% of final value (depending on regulating pressure)
Port size:
G1/4

Sealing:
≤5 x 10^{-3} mbar x l/s
Switching cycles:
10/min
Switching element:
Microswitch with gold plated contacts
Shock-/vibrations:
4 g max. (sinusoidal) / 5 Hz max.
Mounting position:
Optional
Degree of protection:
IP65

Electrical connection:
Cable gland M20 x 1,5
Weight:
1,1 kg (2.4 lbs)
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: stainless steel
Fluid contact parts: stainless steel 1.4305/1.4301
Sealing: diaphragm (NBR)

Technical data
Standard models — 181xxxx (fixed switching pressure difference)

Symbol	Pressure range *1)		Over pressure *2)		Switching pressure difference Lower range minimum		Upper range maximum		Drawing	Model
	(bar)	(psi)	(bar)	(psi)	(bar)	(psi)	(bar)	(psi)	No.	
	0 ... 0,025	0 ... 0.36	0,5	7.2	0,003	0.043	0,004	0.058	1 & 3	1812500
	0 ... 0,06	0 ... 0.87	0,5	7.2	0,004	0.058	0,006	0.087	1 & 3	1812600
	0,004 ... 0,16	0.058 ... 2.3	0,5	7.2	0,004	0.058	0,008	0.11	1 & 3	1812700
	0 ... 0,25	0 ... 3.6	0,5	7.2	0,004	0.058	0,009	0.13	1 & 3	1812800
	0,05 ... 0,6	0.72 ... 8.7	15	217	0,03	0.043	0,06	0.87	1 & 2	1814100
	0,05 ... 1,6	0.72 ... 23	15	217	0,03	0.043	0,12	1.74	1 & 2	1814300

Technical data
Standard models — 181xxxx (adjustable switching pressure difference)

Symbol	Pressure range *1)		Over pressure *2)		Switching pressure difference Lower range minimum		Upper range minimum		maximum		Drawing	Model
	(bar)	(psi)	(bar)	(psi)	(bar)	(psi)	(bar)	(psi)	(bar)	(psi)	No.	
	0 ... 0,025	0 ... 0.36	0,5	7.2	0,008	0.11	0,011	0.13	0,025	0.36	1 & 3	1802500
	0 ... 0,06	0 ... 0.87	0,5	7.2	0,009	0.13	0,015	0.21	0,04	0.58	1 & 3	1802600
	0 ... 0,16	0 ... 2.3	0,5	7.2	0,011	0.15	0,023	0.33	0,12	1.74	1 & 3	1802700
	0 ... 0,25	0 ... 3.6	0,5	7.2	0,011	0.15	0,028	0.40	0,2	2.90	1 & 3	1802800
	0,05 ... 0,6	0.72 ... 8.7	15	217	0,09	1.30	0,16	2.32	0,5	7.25	1 & 2	1804100
	0,05 ... 1,6	0.72 ... 23	15	217	0,13	1.88	0,25	3.62	1,2	17.4	1 & 2	1804300

Special pressure ranges on request
*1) Short-term pressure peakes 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.
*2) Reference pressure is the atmospheric air pressure

Option selector

18★★★★★

Switching pressure difference	Substitute
Adjustable	0
Fixed	1
Pressure range (bar)	**Substitute**
0 ... 0,025	25
0 ... 0,06	26
0,004 ... 0,16	27
0 ... 0,25	28
0,05 ... 0,6	41
0,05 ... 1,6	43

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

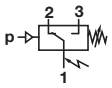
Accessories

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

Accessories

Connector DIN EN 175301-803	Connector with LED
	
	Page 4
0570110 (Form A)	0585418

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)	U min	Max. permissible persistent current Imax [A] at U *1) M20 x 1,5 DIN EN 175301-803, form A					Electrical life-time
			[V]	30 V	48 V	60 V	125 V	250 V	
Standard *3) (contractors, solenoids)	a.c.	Ohmic	12	0,1	0,1	0,1	0,1	0,1	≥ 2 x 10^5 Switching cycles
	a.c.	Inductive, cos φ ≈ 0,7	12	3	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				

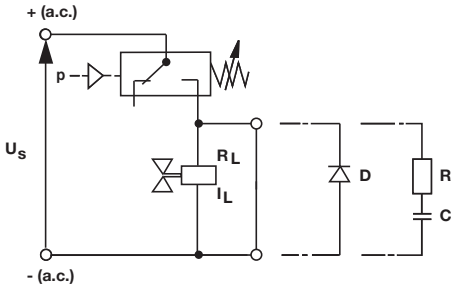
Reference number: 20/min, Reference temperature: +20°C.
Spark quenching with diode with DC and inductive load:
I min = 1 mA; I max = 1,5 x I max of table
Creepage and air paths correspond to insulation group B according to VDE Reg. 0110 (except contact clearance of microswitch).

*1) Higher currents (5 A max) will cause a reduction of the durability of the micro-switch contacts. Futhermore 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 AC = 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

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 trr ≤ 200 ms)

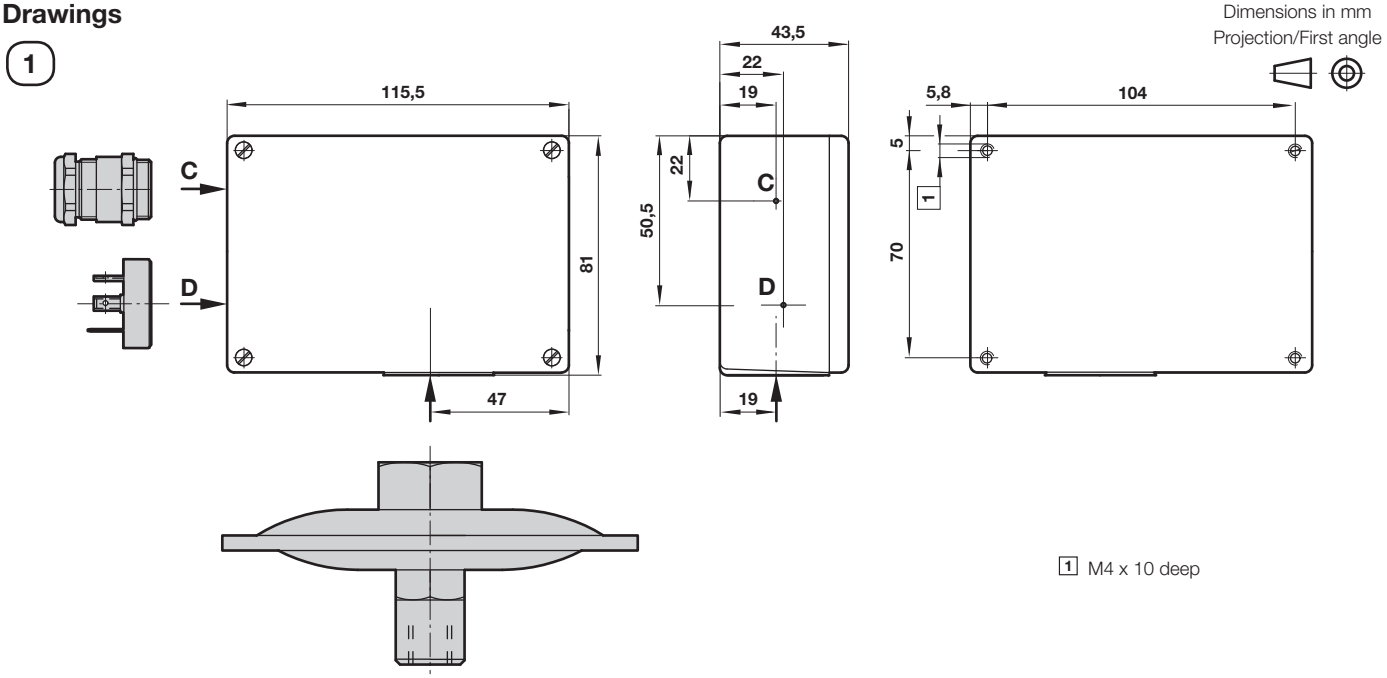
2. RC link in parallel to load in parallel to switching contact.
Dimensioning principles:
R_L in Ω ≈ 0,2 x R_{Load} in Ω
C in [µF] ≈ I_{Load} in [A]



R_L = Load resistance
I_L = Load current

Drawings

Dimensions in mm
Projection/First angle

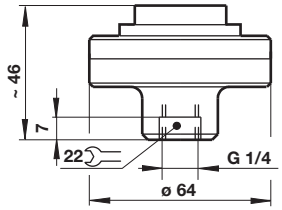


1 M4 x 10 deep

Fluid port

Dimensions in mm
Projection/First angle

2



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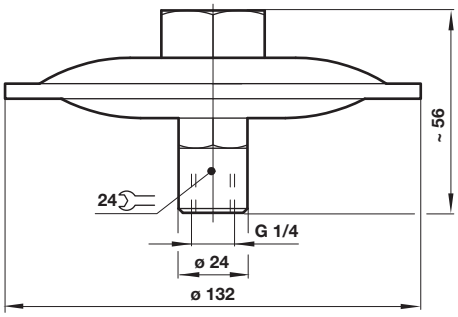
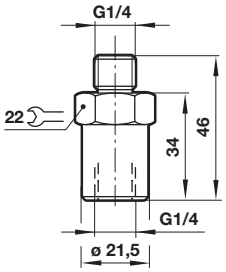


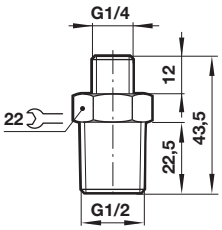
Surge damper

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

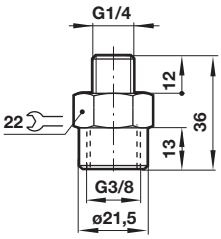


Pressure port/reducing nipple

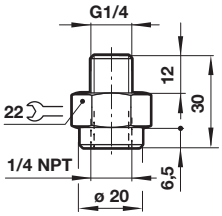
Model: 0550083 (stainless steel 1.4305 AISI 303/304 S



Model: 0574764 (steel)



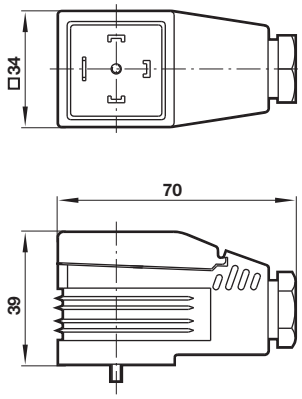
Model: 0574765 (brass)



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

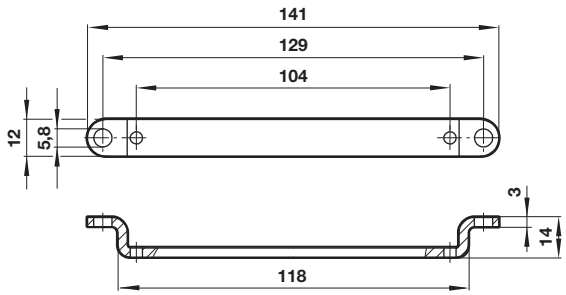
Connection acc. to
DIN EN 175301-803 (form A)
Voltage: 12 ... 28 V d.c./a.c.

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 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.