

- Gold-plated contacts in microswitch
- High number of switching cycles
- Vibration resistant to 15g
- Microswitch approved by UL and CSA
- Intrinsically safe operation

Technical Data

Fluid:

Neutral, gaseous and liquid fluids
(Special versions for water application)

Operation:

Diaphragm

Port sizes:

G1/4 (BSP), 1/4 NPT, Flange

Operating Pressure Ranges:

-1 to 30 bar

Ambient Temperature:

-10 to + 80 °C (NBR)
0 to + 80 °C (FKM)

Operating Viscosity:

Up to 1000 mm²/s (±450ssu).

Fluid Temperature:

-10 to +80°C (NBR)
0 to + 80 °C (FKM)

Maximum temperature at switching element:

+80°C

Repeatability:

±3%, for vacuum ± 4% of final value

Electrical Connection:

- Acc. to DIN 43650 A or
- Acc. to IEC 947-5-2 (M 12 x 1)

Switching Element:

Microswitch (gold plated contacts)

Degree of Protection:

IP65 for conn. DIN 43650
IP67 for conn. M 12 x 1

Mounting:

Optional

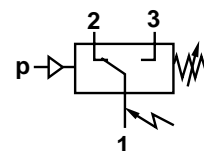
Material:

- Sensor: Aluminium
- Seal: FKM / NBR

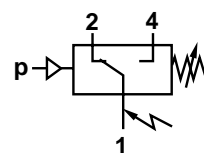


Ordering Information

To order, quote part number from table overleaf, e.g. a G1/4" ported switch with a pressure range of -1 to 0 bar is 0880100.



Switching function:
Microswitch SPDT
Terminals 1 - 3:
Contacts close on rising pressure.
Terminals 1 - 2:
Contacts open on rising pressure.



Switching function
M12 x 1:
Microswitch SPDT
Terminals 1 - 4:
Contacts close on rising pressure.
Terminals 1 - 2:
Contacts open on rising pressure.



Pneumatic applications / 18 D variations with electrical connection DIN 43650 A

Part Number	Pressure Range (bar) ^{††}	Switching Pressure Difference ^{**} (bar) ^{††}		Maximum Over Pressure [*] (bar) ^{††}	Switching (Cycles per min)	Pressure Sensor Materials		Fluid Connection		Weight (kg)	Dimension Drawing No.
		Lower Range	Upper Range			Housing	Seal Dyn./Static	Type	Size		
0880100	-1 – 0	0,15	0,18	80	100	AL	FKM [†]	Female	G1/4	0,2	01
0880110	-1 – +1	0,25	0,35	80	100	AL	FKM [†]	Female	G1/4	0,2	01
0880120	-1 – 0	0,15	0,18	80	100	AL	FKM [†]	Female	1/4 NPT	0,2	01
0880126 ^{Δ †††}	-1 – 0	0,15	0,18	80	100	AL	FKM [†]	Female	G1/4	0,2	01
0881100	-1 – 0	0,15	0,18	80	100	AL	FKM [†]	Flange	-	0,2	03
0880200	0,2 – 2	0,15	0,27	80	100	AL	FKM [†]	Female	G1/4	0,3	01
0880220	0,2 – 2	0,15	0,27	80	100	AL	FKM	Female	1/4 NPT	0,2	01
0880226 ^{Δ †††}	0,2 – 4	0,2	0,5	80	100	AL	FKM	Female	G1/4	0,2	01
0881200	0,2 – 2	0,15	0,27	80	100	AL	NBR	Flange	-	0,2	03
0880300	0,5 – 8	0,25	0,65	80	100	AL	NBR	Female	G1/4	0,2	02
0880320	0,5 – 8	0,25	0,65	80	100	AL	NBR	Female	1/4 NPT	0,2	02
0880326 ^{Δ †††}	0,5 – 8	0,25	0,65	80	100	AL	NBR	Female	G1/4	0,2	02
0881300	0,5 – 8	0,25	0,65	80	100	AL	NBR	Flange	-	0,2	03
0880400	1 – 16	0,30	0,90	80	100	AL	NBR	Female	G1/4	0,2	02
0880420	1 – 16	0,30	0,90	80	100	AL	NBR	Female	1/4 NPT	0,2	02
0880426 ^{Δ †††}	1 – 16	0,30	0,90	80	100	AL	NBR	Female	G1/4	0,2	02
0881400	1 – 16	0,30	0,90	80	100	AL	NBR	Flange	-	0,2	03
0880600	1 – 30	1,0	5,00	80	100	AL	NBR	Female	G1/4	0,2	02
0880620	1 – 30	1,0	5,00	80	100	AL	NBR	Female	1/4 NPT	0,2	02

Pneumatic applications

18 D variations with electrical connection M 12 x 1^{***} (Max. allowable voltage 30 V)

Part Number	Pressure Range (bar) ^{††}	Switching Pressure Difference ^{**} (bar) ^{††}		Maximum Over Pressure [*] (bar) ^{††}	Switching (Cycles per min)	Pressure Sensor Materials		Fluid Connection		Weight (kg)	Dimension Drawing No.
		Lower Range	Upper Range			Housing	Seal Dyn./Static	Type	Size		
0880149 ^{ΔΔ/Δ}	-1 – 0	0,15	0,18	80	100	AL	FKM	Female	G1/4	0,2	04
0880160 ^Δ	-1 – 0	0,15	0,18	80	100	AL	FKM	Female	G1/4	0,2	04
0880260 ^Δ	0,2 – 2	0,15	0,27	80	100	AL	FKM	Female	G1/4	0,2	04
0880360 ^Δ	0,5 – 8	0,25	0,65	80	100	AL	FKM	Female	G1/4	0,2	06
0880460 ^Δ	1 – 16	0,30	0,90	80	100	AL	FKM	Female	G1/4	0,2	06
0880660 ^Δ	1 – 30	1,00	5,00	80	100	AL	FKM	Female	G1/4	0,3	06
0881160 ^Δ	-1 – 0	0,15	0,18	80	100	AL	FKM	Flange	-	0,2	05
0881260 ^Δ	0,2 – 2	0,15	0,27	80	100	AL	FKM	Flange	-	0,2	05
0881360 ^Δ	0,5 – 8	0,25	0,65	80	100	AL	FKM	Flange	-	0,2	05
0881460 ^Δ	1 – 16	0,30	0,90	80	100	AL	FKM	Flange	-	0,2	05

Water applications / 18 D variations with electrical connection DIN 43650

Part Number	Pressure Range (bar) ^{††}	Switching Pressure Difference ^{**} (bar) ^{††}		Maximum Over Pressure [*] (bar) ^{††}	Switching (Cycles per min)	Pressure Sensor Materials		Fluid Connection		Weight (kg)	Dimension Drawing No.
		Lower Range	Upper Range			Housing	Seal Dyn./Static	Type	Size		
0880219	0,2 – 2	0,15	0,27	80	100	Brass	FKM	Female	G1/4	0,2	01
0880240	0,2 – 2	0,15	0,27	80	100	Brass	FKM	Female	1/4 NPT	0,2	01
0880323	0,5 – 8	0,25	0,65	80	100	Brass	FKM	Female	G1/4	0,2	02
0880340	0,5 – 8	0,25	0,65	80	100	Brass	FKM	Female	1/4 NPT	0,2	02

* Observe switching range. Do not subject switch to max. allowable pressure during normal operation. Even short pressure peaks must not exceed this value.

** Max. values.

*** Plug not supplied. If required see table overleaf.

[†] Static seal: O-ring (NBR)

^{††} 1 bar = 14.503 psi.

^Δ Free of laquer impairing substances.

^{ΔΔ} Switching function reversed (Signal with rising vacuum).

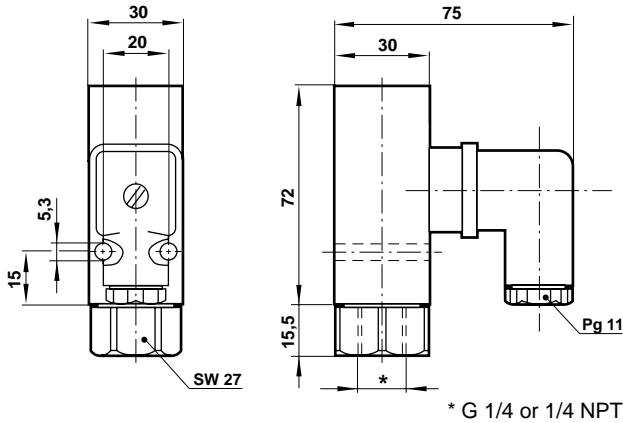
^{†††} Plug 0570110 not included. Pls. order sep.

Key to materials: AI = Aluminium
NBR = Perbunan
FKM = Viton



Dimensional drawing 01

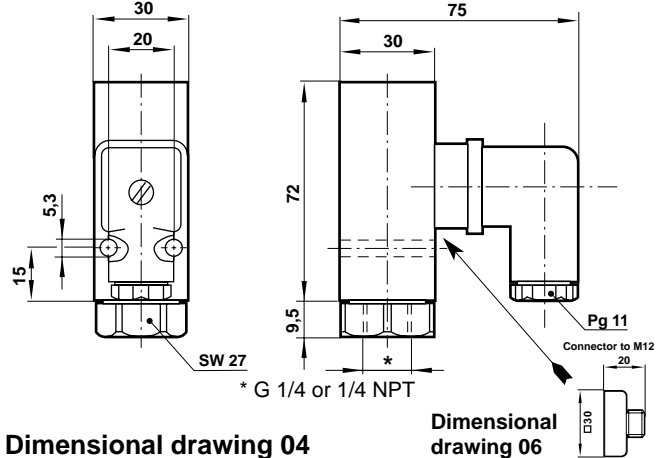
Connection G 1/4 or 1/4 NPT



* G 1/4 or 1/4 NPT

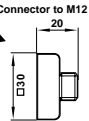
Dimensional drawing 02

Connection G 1/4 or 1/4 NPT



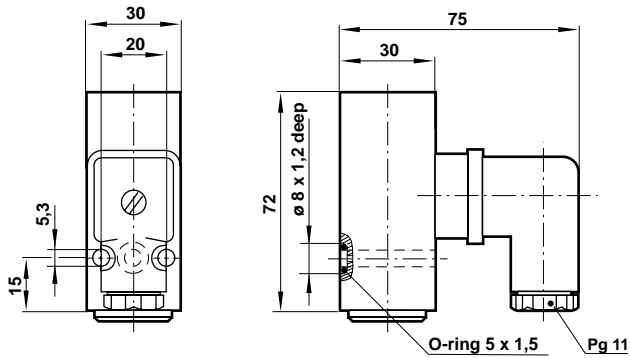
* G 1/4 or 1/4 NPT

Dimensional drawing 06



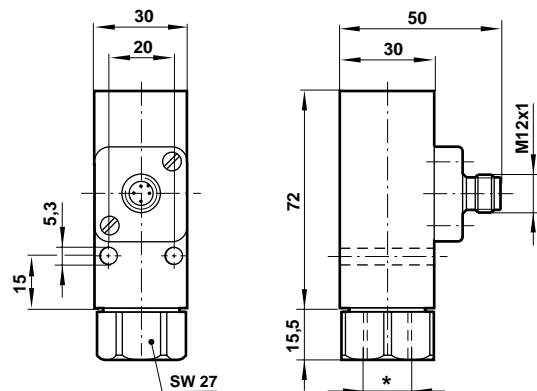
Dimensional drawing 03

Flange type



Dimensional drawing 04

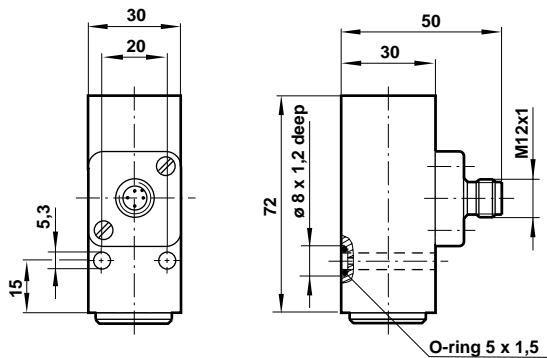
Connection G 1/4 or 1/4 NPT



* G 1/4 or 1/4 NPT

Dimensional drawing 05

Flange type

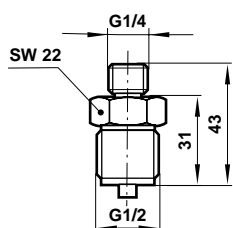


Connector M 12 x 1

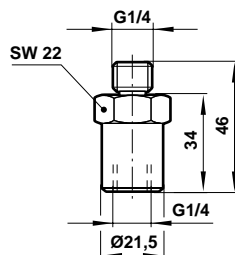
Type 0523055	straight,	without cable
Type 0523057	straight,	2 m cable, 4-core
Type 0523052	straight,	5 m cable, 4-core
Type 0523056	90°	without cable,
Type 0523058	90°	2 m cable, 4-core
Type 0523053	90°	5 m cable, 4-core

Accessories

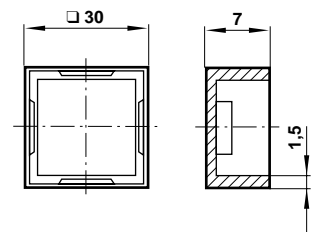
Reducer G 1/2 to G 1/4, external thread Part No. **0550083**



Snubber G 1/4 Part No. **0574773**



Cover Part No. **0554737**





Making and/or breaking capacity

Change-over switch with gold-plated contacts

M 12 x 1
only

Load Level	Type of Current	Type of Load	U _{min} [V]	Maximum Permanent Current I _{max} [A] at U [V]					Contact life
				30	48	60	125	250	
Standard * (e.g. contractors, solenoids)	AC	Resistive load	12	5	5	5	5	5	≥10 ⁷ switching cycles
	AC	Inductive load, cos φ ≈ 0.7	12	3	3	3	3	3	
	DC	Resistive load	12	5	1,2	0,8	0,4	-	
	DC	Inductive load, L/R ≈ 10 ms	12	3	0,5	0,35	0,05	-	
Low ** (e.g. electronic circuits)	AC	Resistive load	5 †	0,34	0,2	0,17	0,08	0,04	≥ 10 ⁷ switching cycles
	DC	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 DC and inductive load:

I_{max} = 1.5 x I_{max} of table

I_{min} = 1 [mA]

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

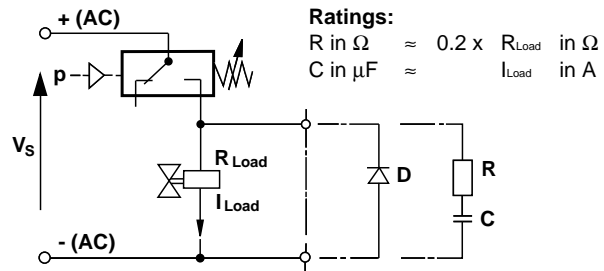
* Gold-plating not required as it would decay. Max. perm. in-rush current (appr. 30 ms) AC_{make} = max. 15A.

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

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

Spark quenching with DC voltage (proposal)

- 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 ≥ 1.4 x U_v
Selection of a quick switching diode (recovery time t_{rr} < [200] ms).
Rated current at diode: I_R ≥ I_{Load}
- RC link in parallel to load in parallel to switching contact.
Suited for DC and AC voltage.



Warning

These products are intended for use in industrial systems only. Do not use these products where pressures and temperatures can exceed those listed under 'Technical 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 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 a failure.

System designers must provide a warning to end users in the system instruction 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 where applicable.