Zertifiziertes QM-System
DIN EN ISO 9001
Zertifikat-Nr. 01017

All-Metal Flow Switches

for liquids

measuring • monitoring • analysing

SMN

Low switchpoint at high flow

- Max. flow: 1-100 l/min switch point at approx. 1 l/min water water falling flow rate
- p_{max}: 350 bar; t_{max}: 100 °C
- Connection: G 1 female, 1" NPT female
- Material: brass or stainless steel

S2

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Description

The KOBOLD model SMN flow switch is used when extremely low flow switch points are required together with minimum pressure loss at high flow rates.
The flow switch operates on the well-known float principle. An orifice float with its integral circular magnet moves within a cylindrical flow tube in the direction of flow and against a spring.
The magnetic field of the float activates a reed contact which is mounted on the outside of the instrument in a sliding protective casing. The special construction of the float and flow tube means that only a low flow is required to raise the float and hence activate the reed contact. If the flow rate increases further and the float reaches the top of its travel an additional flow path opens allowing high flow rates without a significant increase in the pressure loss.

Technical Details

Housing:	SMN-11...: brass, Ms 58 SMN-12...: stainless steel, 1.4301
Float:	SMN-11...: brass, Ms 58 SMN-12...: stainless steel, 1.4301
Sleeve:	SMN-11...: brass, Ms 58 SMN-12...: stainless steel, 1.4301
Spring:	stainless steel
Magnets:	ceramic
Max. temperature:	100 °C
Max. pressure:	SMN-11...: 250 bar SMN-12...: 350 bar
Installation position:	horizontal or vertical (upward direction), flow in direction of the arrow
Contact components:	1 bistable reed contact N/O contact, changeover contact
Electrical connection:	connector DIN EN 175301-803
Electrical switching values:	N/O contact max. 250 $V_{AC/DC}$ / 1,5 A / 100 W / 100 VA changeover contact max. 250 $V_{AC/DC}$ / 1 A / 30 W / 60 VA N/O contact and changeover contact (cCSAus) max. 230 V_{DC} / 0,26 A / 60 W, 60 V_{DC} / 1 A / 60 W, max. 240 V_{AC} / 0,42 A / 100 W, 100 V_{AC} / 1 A / 100 W
Accuracy:	± 5% of full scale

Application in hazardous areas

Mechanics: The apparatus can be used as follows in explosive atmospheres in accordance with the applicable erection regulations on machines, devices and plants, such as e.g. EN 1127-1, EN 60079-14 etc.:

a) In Zone 1 (gas hazard, category 2G) in the explosion groups IIA, IIB and IIC

b) In Zone 2 (gas hazard, category 3G) in the explosion groups IIA, IIB and IIC

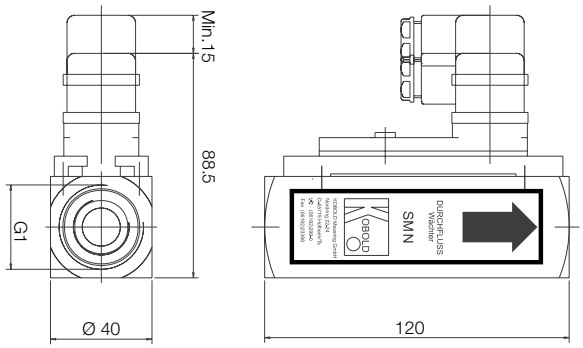
c) In Zone 21 (dust hazard, category 2D) in the explosion groups IIIA and IIIB

d) In Zone 22 (dust hazard, category 3D) in the explosion groups IIIA and IIIB

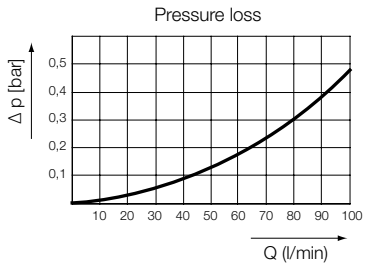
ATEX N/O contact type 41R57 ...G0:
Ex II 3 G Ex ic IIC T4 Gc
Ex II 3 D Ex ic IIIC T125 °C Dc
-20 °C ≤ Ta ≤ 80 °C
max. 250 $V_{AC/DC}$/1,5 A/100 W/100 VA

Dimensions [mm]

(Model SMN with N/O contact)



Pressure loss



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Technical Details (continued)

ATEX changeover contact type 41R57U ...H0:
⟨Ex⟩ II 3 G Ex ic IIC T4 Gc
⟨Ex⟩ II 3 D Ex ic IIIC T125 °C Dc
-20 °C ≤ Ta ≤ 80 °C
max. 250 $V_{AC/DC}$/1 A/30 W/60 VA

Hysteresis: approx. 3.5 mm float movement

Protection: IP 65

Applications

- Water cycles
- High pressure purifiers
- Sanitary technology
- Pumps
- Heating installations
- Cooling circuits
- Prevention of low water levels
- Confining fluid control

Order Details (Example: **SMN-1150 R R25**)

Function	Brass version	St. steel version	Type of contact	Connection
Max. flow: 100 l/min Fix switch point at approx. 1 l/min with falling flow rate	**SMN-1150H...**	**SMN-1250H...**	**..R0..** = 1 N/O contact **..U0..** = 1 changeover contact **..C0..** = 1 N/O contact (cCSAus) **..D0..** = 1 changeover contact (cCSAus) **..G0..** = 1 ATEX N/O contact (type 41R57) **..H0..** = 1 ATEX changeover contact (type 41R57U)	**...R25** = G 1 female **...N25** = 1" NPT female

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