

Description

Single point flow monitors with MIN/MAX monitoring function, suitable for water, oil, air and media with similar thermal conductivities (selectable by means of a medium switch). With either no delay, or with a 60 s switch-on delay or a 10 s change over delay.

Features

- Adjustable to a wide range of flow rates
- No moving parts in the flow
- Operation largely independent of pipe diameter
- LED status indication
- Fast response time
- MIN or MAX switch point
- Suitable for water, oil and air



SW118

SW119

TECHNICAL DATA

| General data | | SW118 Single Point Flow Monitor in a compact housing | SW119 Single Point Flow Monitor for surface mounting |
|--|----------------------------|---|---|
| Suitable for | | liquids, gases | liquids, gases |
| Monitoring function | flow rate | 1 switch point (MIN or MAX) | 1 switch point (MIN or MAX) |
| | wire break/circuit failure | | standard |
| Display | flow rate | 1 dual colour LED | 1 dual colour LED |
| Temperature range | medium | -25 ... +70 °C/-13 ... +158 °F | -40 ... +100 °C/-40 ... +212 °F |
| | electronic control unit | -25 ... +50 °C/-13 ... +122 °F | -25 ... +50 °C/-13 ... +122 °F |
| Electrical data | | | |
| Input voltage | | AC 230, 115, 24 V 50/60 Hz +10 %, -15 % DC 24 V ±10 % | AC 230, 115, 24 V 50/60 Hz +10 %, -15 % DC 24 V ±10 % |
| Power consumption | | approx. 1,2 VA | approx. 1,2 VA |
| Relay outputs | flow rate | 1 SPDT contact AC 250 V/DC 30 V, max. load 5 A Overvoltage category II | 1 SPDT contact AC 250 V/DC 30 V, max. load 5 A Overvoltage category II |
| Flow monitoring | | | |
| Flow response level adjustment (steplessly by means of a potentiometer) | | gases: 0,5... 50m/s / 1.64... 164 fps liquids: 0,01 ... 4m/s / .0328... 13.1 fps | gases: 0,5... 50m/s / 1.64... 164 fps liquids: 0,01 ... 4m/s / .0328... 13.1 fps |
| Repeatability ⁽¹⁾ | | ± 3 % | ± 3 % |
| Response delay ⁽²⁾ | | 1 s with water, 1,5 s with oil, 2 s with air selectable delay (no delay, 60 s switch-on delay or 10 s change over delay) | |
| Switch point drift through temperature change of the medium | | approx. ± 0,7 %/°C / ± 1,26 %/°F | approx. ± 0,7 %/°C / ± 1,26 %/°F |
| Mechanical data | | | |
| Type and size of monitoring head | | G1/2A, 1/2"NPT | G1/2A, 1/2"NPT, push-in type MKV |
| Pressure resistance of monitoring head ⁽³⁾ | | 100 bar/1450 psi | 100 bar/1450 psi |
| Degree of protection | monitoring head | IP67 | IP67 (connector) |
| | electronic control unit | IP65 | IP65 |
| Materials | fitting | stainless steel 1.4571/AISI 316Ti | stainless steel 1.4571/AISI 316Ti |
| | sensor | stainless steel 1.4571/AISI 316Ti | stainless steel 1.4571/AISI 316Ti |
| | seals | laser welded | laser welded |
| | electronic control unit | housing | ABS |
| cover | | polycarbonate | polycarbonate |
| Housing dimensions | | 80,5 x 82,5 x 55 mm/ 3.17 x 3.25 x 2.17 in. | 120 x 80 x 55 mm/ 4.72 x 3.15 x 2.17 in. |
| Cable length to monitoring head | standard | - | 2 m/6.56 ft (6 x 0.14 mm ² /AWG 26) |
| | max. length | - | 100 m/328 ft |

⁽¹⁾ Of the set value, at constant temperature and flow conditions, and stable thermal conductivity.

⁽²⁾ Delay with the switch point set to 1,8 m/s and the flow at 2 m/s, after a sudden complete stop.

⁽³⁾ Admissible operating pressure to DIN 2401, measured at the max. admissible temperature (= max. medium temperature)

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Ordering information SW118

| | |
|---|---|
| Single Point Flow Monitor | |
| SW118 | in a compact housing, with integral monitoring head |
| Input voltage | |
| AC 230 V | 50/60 Hz (standard) |
| AC 115 V | 50/60 Hz |
| AC/DC24 V | (AC: 50/60 Hz) |
| Process connection | |
| MK G1/2A | (standard) |
| MK 1/2"NPT | |
| Monitoring head material | |
| ST11 | only NPT thread |
| ST12 | only G1/2A (standard) |
| SW118 - AC230V - MKG1/2A - ST12 ordering example | |

Ordering information SW119

| | |
|--|---|
| Electronic Control Unit | |
| Single Point Flow Monitor | |
| SW119 | for surface mounting, with separate monitoring head |
| Input voltage | |
| AC 230 V | 50/60 Hz (standard) |
| AC 115 V | 50/60 Hz |
| AC/DC24 V | (AC: 50/60 Hz) |
| SW119 - AC230V ordering example | |

Monitoring Head MK thread-mounted

| | |
|---|-----------------------|
| Fitting size | |
| MK G1/2A | (standard) |
| MK 1/2"NPT | |
| Material | |
| ST11 | only NPT thread |
| ST12 | only G1/2A (standard) |
| MK G1/2A - ST12 ordering example | |

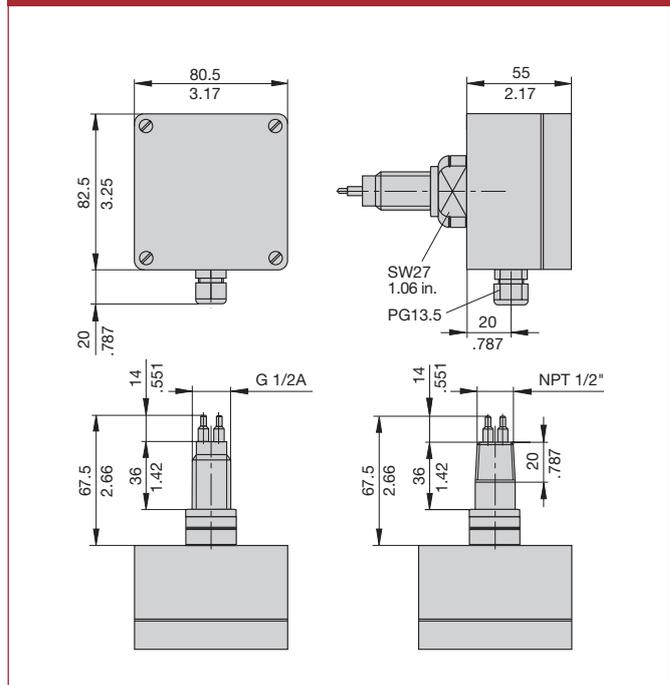
Monitoring Head MKV push-in type
(see separate page)

SW119 – Cable type 2 with connectors

| | |
|--|--|
| Cable and plug | between monitoring head and control unit |
| Do + Ka type 2 | 7-pole round connector, PVC insulated cable type LiYCY 6x0.14 mm ² (AWG 26), RAL 7032 |
| Available cable lengths | |
| ...m | 2 m, 3 m, 5 m, 8 m, 10 m, 15 m, 20 m, 25 m, 30 m, 40 m, 50 m, 60 m, 70 m, 80 m, 90 m and 100 m (up to max. 100 m/328 ft) |
| Do + Ka type 2 - 2 m/6.56 ft ordering example | |

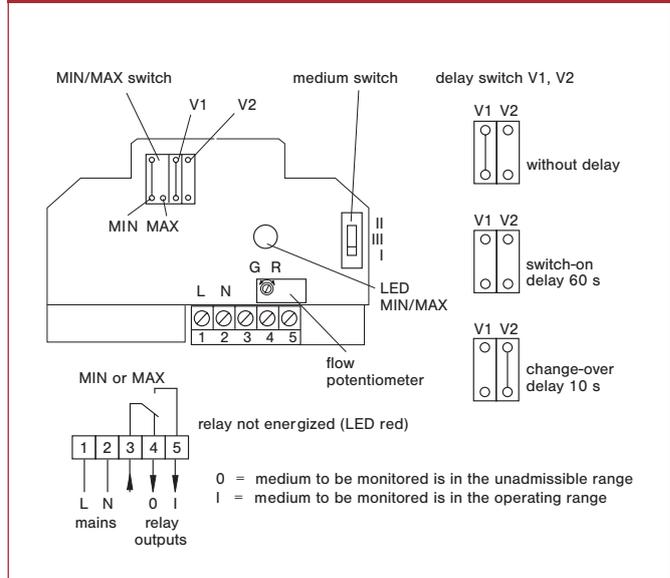
See data sheet monitoring head MKV.

Dimensions SW118

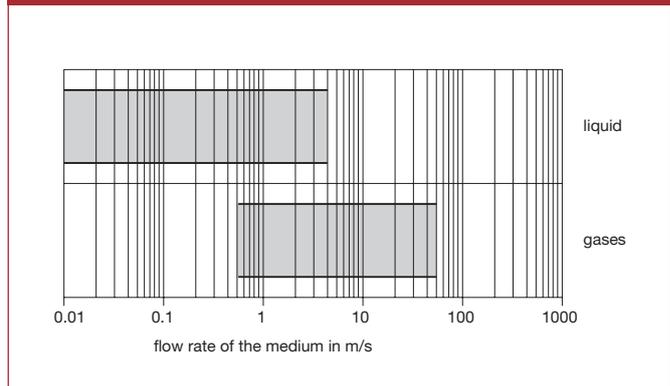


This is a metric design and millimeter dimensions take precedence ($\frac{mm}{inch}$)

Connection diagram SW118



Flow ranges



Calorimetric monitoring head



MKV-13

Technical data

| | |
|-------------------------------------|--------------------------------------|
| Type of head | push-in |
| Nominal shank dia. | 18 mm/.709 in. without thread |
| Length of shank | 300 mm/11.8 in. |
| Length of sensor | 14 mm/.551 in. |
| Suitable for (medium) | liquids and gases |
| Temperature range *) | -40 ... +100 °C/-40 ... +212 °F |
| (of medium) | |
| Pressure resistance ⁽¹⁾ | 100 bar/1450 psi |
| (of monitoring head) | |
| Pressure resistance ⁽¹⁾ | 25 bar/363 psi |
| (installation) | (with threaded installation bush) |
| Degree of protection ⁽²⁾ | IP67 |
| Material (wetted) | stainless steel 1.4571, FKM (o-ring) |
| Cable to electronic unit | Do + Ka type 2 – 2 m/6.56 ft |
| | (up to max. 100m/328 ft) |
| Weight | 710 g/1.57 lb |

⁽¹⁾ Admissible operating pressure DIN 2401, measured at max. temperature (= max. medium temperature)

⁽²⁾ with mating connector

^{*)} max. +80 °C/+176 °F in the connector area

Description

Extended calorimetric monitoring head with variable immersion depth for use in larger pipe sizes (DN50 plus).

Caution: Fix with locking set 01 (see accessories).

Features

- Temperature range: -40 ... +100 °C/-40 ... +212 °F
- Material: stainless steel 1.4571

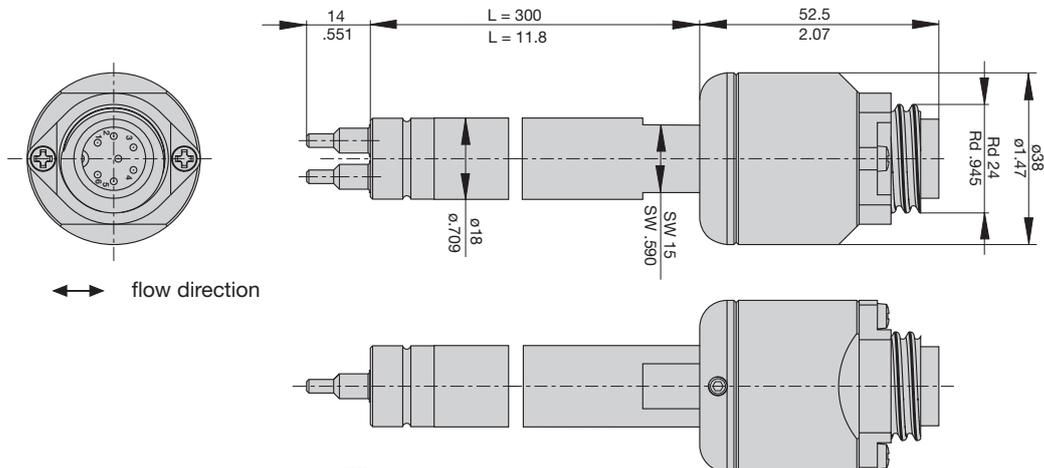
Ordering information

| | |
|--|---|
| Type | MKV Push-in type monitoring head with calorimetric sensors |
| Monitoring head design | 13 Monitoring head with variable immersion depth |
| Medium | X Liquids and gases |
| Material of areas exposed to medium | M1 stainless steel 1.4571 |
| Process connection | 00 without flange; see accessories for cable gland**) |
| Length of shank/thread | L30 300 mm/11.8 in. (standard) other lengths upon request |
| Electrical connection | E30 round connector Rd24, 7-pole (plug and cable to order separately) |
| Certification | T0 without certificate (standard) *) |
| Specification of medium | xxx |
| Ordering example | MKV - 13 X M1 00 L30 E30 T0 - ... |

*) for detailed information please see section 0.

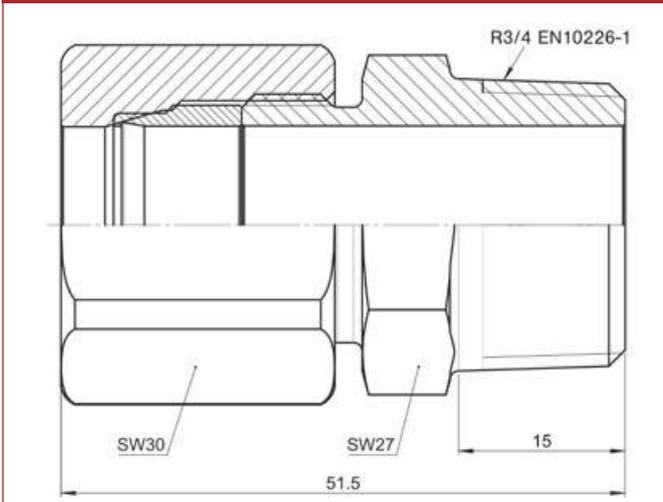
***) see next page.

Dimensions



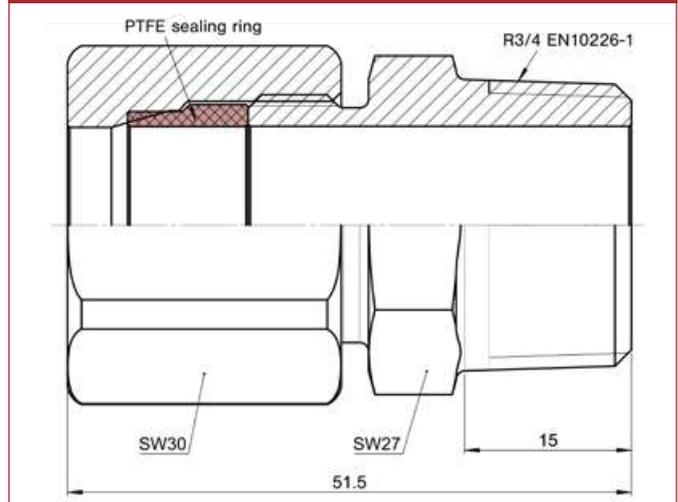
This is a metric design and millimeter dimensions take precedence (mm/inch)

Threaded installation bush



Suitable up to 25 bar/363 psi abs. if used with push-in sensors.
Please observe assembly instructions and safety guidelines!
Metal sealing ring can't be disassembled after assembly.

PTFE sealing ring for threaded installation bush

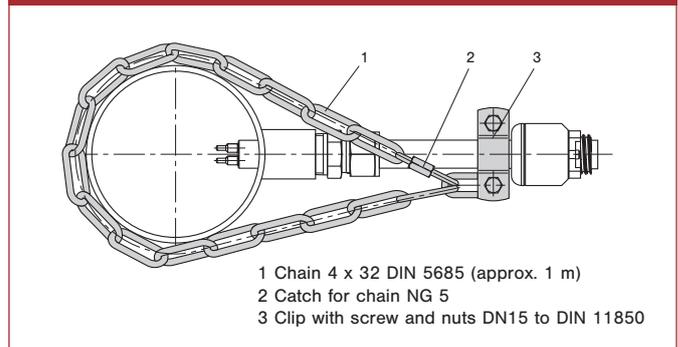


Suitable for threaded installation bush VK-04D8
Applicable up to 2 bar/29 psi abs. if used with push-in sensors and threaded installation bush VK.
Ordering no.: Y50005101

Ordering information – threaded installation bush

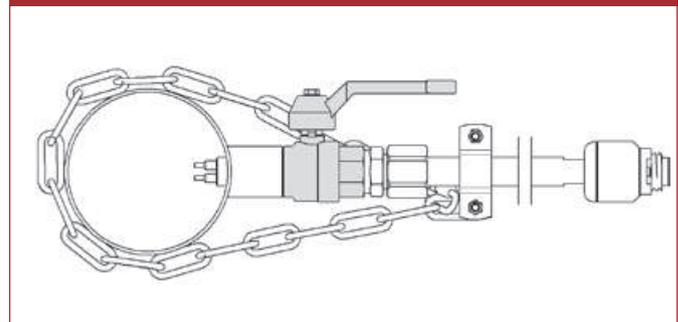
| | | | |
|---------------------------|----------------------------|---|---------------------|
| Type | | | |
| VK | threaded installation bush | | |
| Process connection | | | |
| | 04 | thread R3/4" | |
| Bore | | | |
| | D8 | 18 mm | |
| Material | | | |
| | M1 | stainless steel 1.4571 | |
| | M3 | Hastelloy C22 2.4602 | |
| | M14 | tantalum (coating 50±20 µm), base material 1.4571 | |
| | M... | further materials upon request | |
| VK - | 04 | D8 | M1 ordering example |

Locking set



Locking set for push-in sensors.
Ordering no.: 0Z122Z000204

Ball valve for installation under pressure



Material (body, ball):
Brass nickel plated
Material (ball seal): PTFE
Length: 65 mm
Outside thread: G3/4", L = 13 mm
Inside thread: G3/4", L = 15 mm
Fluid temperature: -20...120 °C
Ambient temperature: 0...80 °C
Pressure: PN 25 bar (up to 80 °C)
Ordering number: BV-02M3-PI

Material (body, ball):
Stainless steel 1.4408, 1.4401
Material (ball seal): PTFE
Length: 78 mm
Outside thread: R3/4", L = 17 mm
Inside thread: Rp3/4", L = 13 mm
Fluid temperature: -30...180 °C
Ambient temperature: 0...80 °C
Pressure: PN 64 bar (up to 80 °C)
Ordering number: BV-02M15-PI

Description

A Cable between push-in type monitoring head MKV and flow monitor SW119.

Cable type 2 with connectors



Do + Ka type 2

SW119 – Cable type 2 with connectors

| | |
|--------------------------------|--|
| Cable and plug | between monitoring head and control unit |
| Do + Ka type 2 | 7-pole round connector, PVC insulated cable type LiYCY 6x0.14 mm ² (AWG 26), RAL 7032 |
| Available cable lengths | |
| ...m | 2 m, 3 m, 5 m, 8 m, 10 m, 15 m, 20 m, 25 m, 30 m, 40 m, 50 m, 60 m, 70 m, 80 m, 90 m and 100 m (up to max. 100 m/328 ft) |
| Do + Ka type 2 | - 2 m/6.56 ft ordering example |

See data sheet monitoring head MKV.

Technical data

Cable type 2

Features: flexible, fully shielded, electrical and thermal properties at +20 °C/+68 °F

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|------------------------|---|
| Conductor resistance: | < 131 Ω/km |
| Insulation resistance: | > 200 MΩ |
| Operating voltage: | max. 350 V |
| Withstand voltage: | 1200 V |
| Max. load: | 1.5 A |
| Temperature range | -10 ... +80 °C/+14 ... +176 °F (processing and operation) -30 ... +80 °C/-22 ... +176 °F (transport and storage) |

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