

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...50 m/s / 1.64...164 fps standard flow speed referred to 20 °C and 1,01325 bar liquids: 0,01 ... 4 m/s / .0328...13.1 fps	gases: 0,5...50 m/s / 1.64...164 fps standard flow speed referred to 20 °C and 1,01325 bar liquids: 0,01 ... 4 m/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.

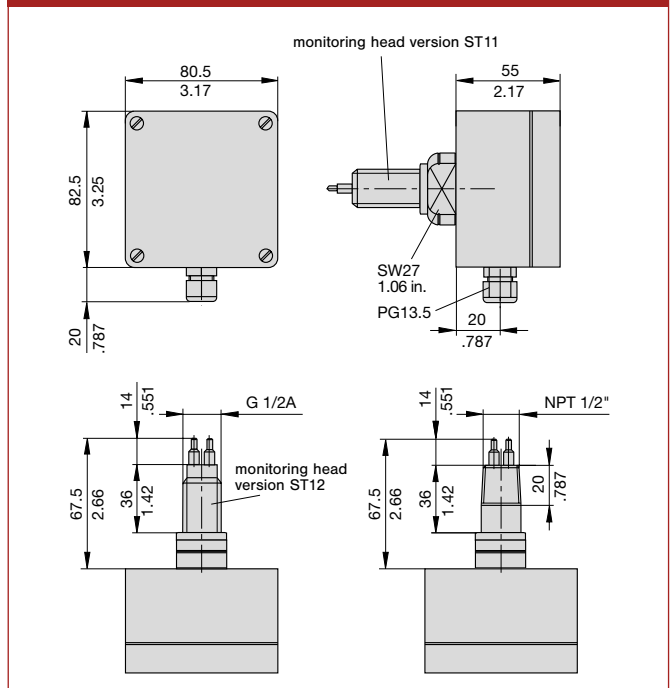
⁽²⁾ Delay with the switch point set to 1,8 m/s and the flow at 2 m/s, after a sudden complete stop.

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

Ordering information SW118

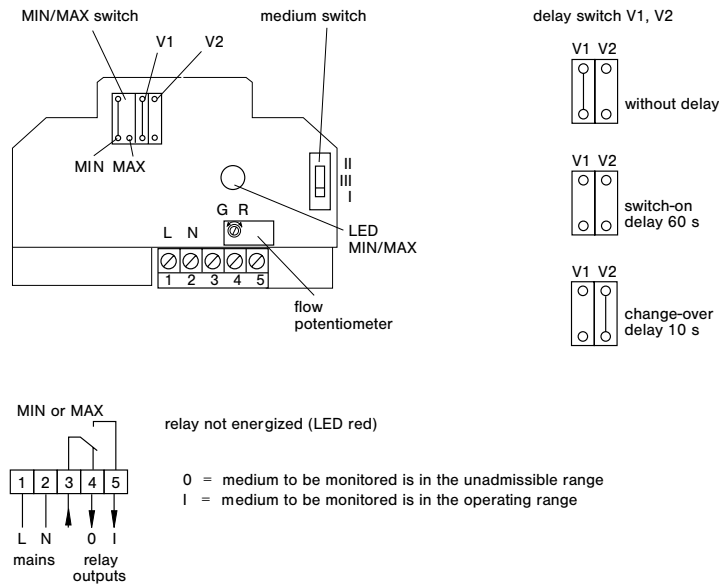
Single Point Flow Monitor	
SW118	in a compact housing, with integral monitoring head
Input voltage	
AC 230 V	50/60 Hz (standard)
AC 115 V	50/60 Hz
AC/DC24 V	(AC: 50/60 Hz)
Process connection	
MK G1/2A	(standard)
MK 1/2"NPT	
MK G3/4A	
MK 3/4"NPT	
Monitoring head version	
ST11	thread not set off (see dimensions)
ST12	thread set off, only G1/2A or G3/4A (standard)
SW118 - AC230V - MKG1/2A - ST12 ordering example	

Dimensions SW118

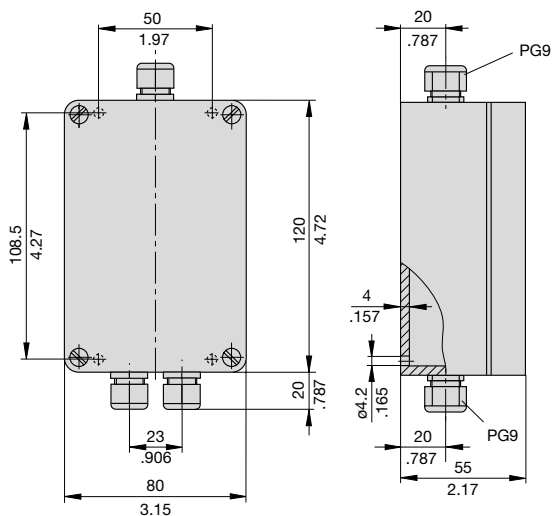


This is a metric design and millimeter dimensions take precedence ($\frac{mm}{inch}$)

Connection diagram SW118



Dimensions Electronic Control Unit SW119

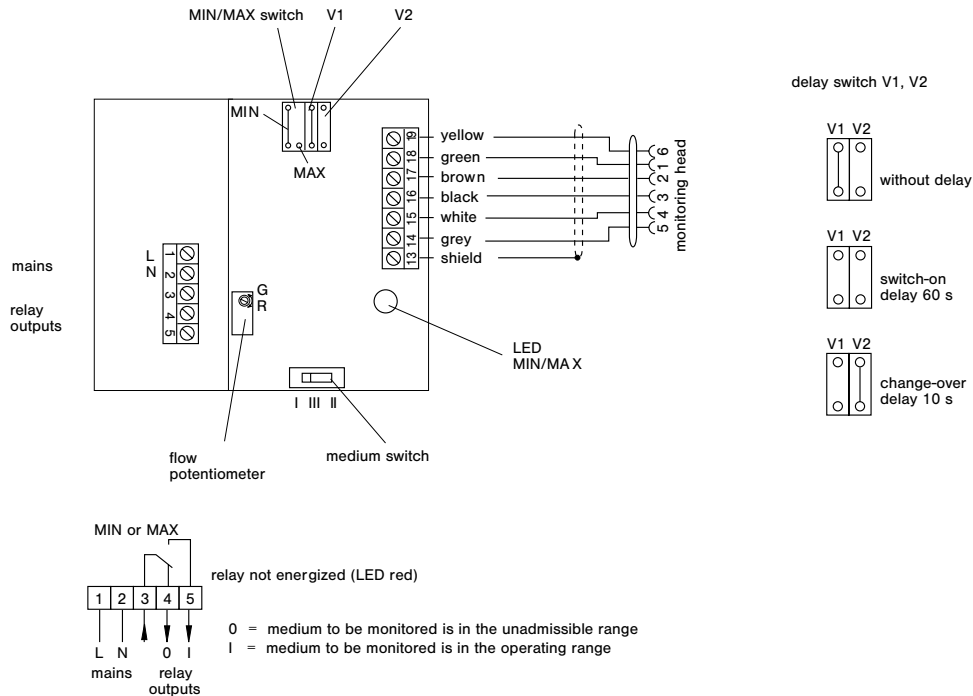


This is a metric design and millimeter dimensions take precedence ($\frac{mm}{inch}$)

Ordering information SW119

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	

Connection diagram SW119



All dimensions without tolerances are for reference only. In the interest of improved design, performance and cost effectiveness the right to make changes in these specifications without notice is reserved. Product markings may not be exactly as the ordering codes. Errors and omissions excepted.

Calorimetric monitoring head



MKG

Ordering information

Fitting size

MK G1/2A (standard)

MK 1/2"NPT

MK G3/4A

MK 3/4"NPT

Monitoring head version

ST11 thread not set off (see dimensions)

ST12 thread set off, only with G1/2A or G3/4A (standard)

MK G1/2A - ST12 ordering example

Description

Calorimetric screw-in monitoring head for flow monitor SW119.

Features

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

Technical data

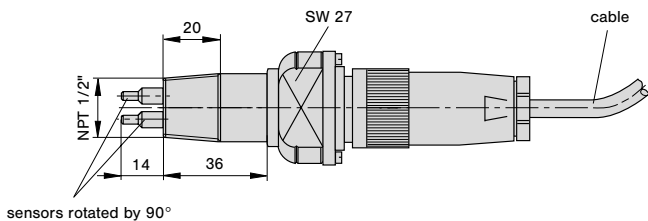
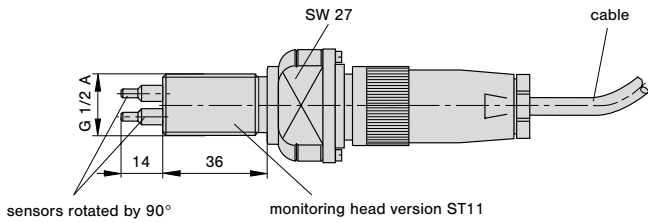
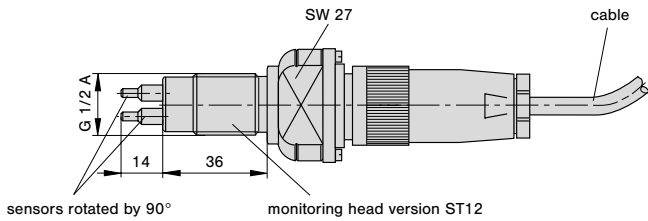
Type of head	screw-in
Length of sensor tip	14 mm/.551 in.
Suitable for (medium)	liquids and gases
Temperature range *)	-40 ... +100 °C/-40 ... +212 °F
(of medium)	
Pressure resistance ⁽¹⁾	100 bar/1450 psi
(of monitoring head)	
Degree of protection ⁽²⁾	IP67
Material (wetted)	stainless steel 1.4571
Cable to electronic unit	Do + Ka type 2 – 2 m/6.56 ft
	(up to max. 100m/328 ft)

⁽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

Dimensions



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)	
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

¹ 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

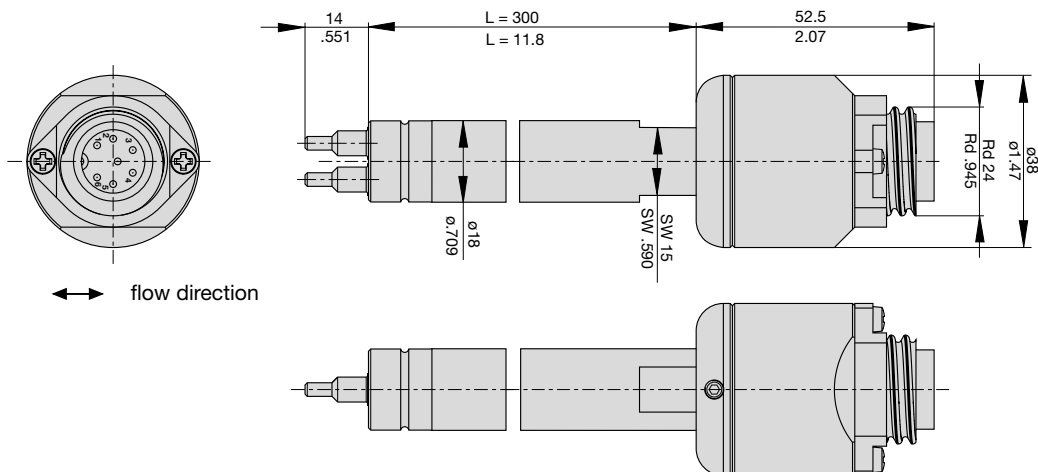
Type	MKV	Push-in type monitoring head with calorimetric sensors
Monitoring head design	13	Monitoring head with variable immersion depth
Medium	X	Liquids and gases
Material of areas exposed to medium	M1	stainless steel 1.4571
Process connection	00	without flange; see accessories for cable gland**)
Length 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	

MKV - 13 X M1 00 L30 E30 T0 - ... ordering example

*) for detailed information please see section 0.

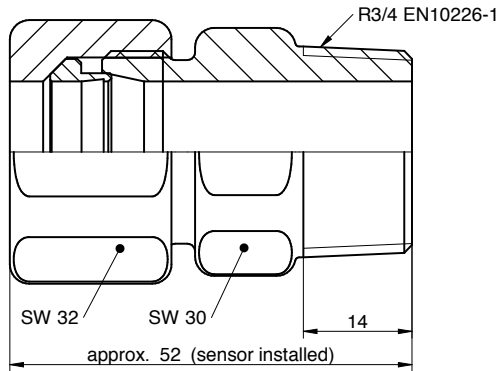
***) see next page.

Dimensions



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

Compression fitting



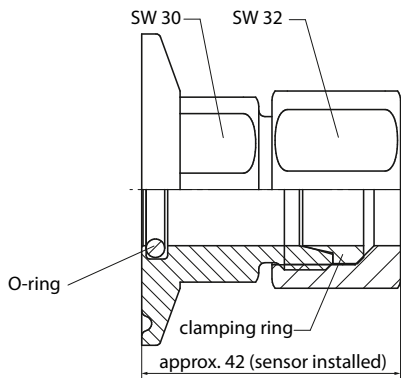
Description and ordering information

Compression fitting for push-in sensors with R3/4 thread

Compression fitting for push-in sensors

EEF	Compression fitting		
	Process connection		
	04	Thread R3/4	
		Material double nipple and cap nut	
		M1	Stainless steel 1.4571
		M2	Hastelloy C4 2.4610
		Material clamping ring	
		CR1	Stainless steel 1.4571 PN 25 bar abs.
		CR2	PTFE PN 5 bar abs.
		CR3	Hastelloy C4 2.4610 PN 25 bar abs.
EEF -	04 -	M1 -	CR1 ordering example

Hygiene flange



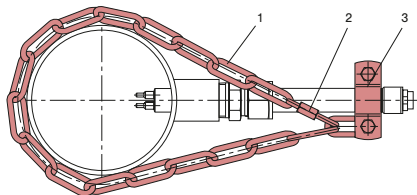
Description and ordering information

Hygiene flange for push-in sensors with front-flush o-ring with FDA approval

Hygiene flange for push-in sensors

HEF	Hygiene flange		
	Process connection		
	TF1	Triclamp DIN 32676	
		Material flange and cap nut	
		M1	Stainless steel 1.4571
		M2	Hastelloy C4 2.4610
		O-ring	
		R1	VMQ (Silicone) blue FDA (standard)
		R2	VMQ (Silicone) white FDA
		Material clamping ring	
		CR1	Stainless steel 1.4571 PN 25 bar abs.
		CR2	PTFE PN 5 bar abs.
		CR3	Hastelloy C4 2.4610 PN 25 bar abs.
HEF -	TF1 -	M1 -	R1 - CR1 ordering example

Locking set



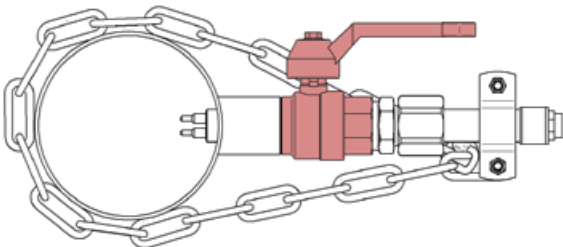
Description and ordering information

Locking set for push-in sensors.

- 1 Chain 4 x 32 DIN 5685 (approx. 1 m)
- 2 Catch for chain NG 5
- 3 Clip with screw and nuts DN15 to DIN 11850

Ordering no.: 0Z122Z000204

Ball valve for installation under pressure



Description and ordering information

Material (body, ball): Brass nickel plated	Material (body, ball): Stainless steel 1.4408, 1.4401
Material (ball seal): PTFE	Material (ball seal): PTFE
Length: 65 mm	Length: 78 mm
Outside thread: G3/4", L = 13 mm	Outside thread: R3/4", L = 17 mm
Inside thread: G3/4", L = 15 mm	Inside thread: Rp3/4", L = 13 mm
Fluid temperature: -20...120 °C	Fluid temperature: -30...180 °C
Ambient temperature: 0...80 °C	Ambient temperature: 0...80 °C
Pressure: PN 25 bar (up to 80 °C)	Pressure: PN 64 bar (up to 80 °C)
Ordering number: BV-02M3-PI	Ordering number: BV-02M15-PI

Description

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
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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