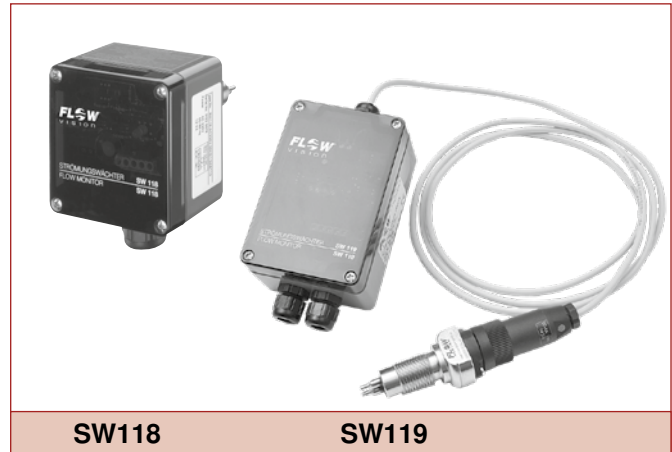


### Description

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
<b>Electrical data</b>			
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
<b>Flow monitoring</b>			
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 <sup>(1)</sup>		± 3 %	± 3 %
Response delay <sup>(2)</sup>		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
<b>Mechanical data</b>			
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 <sup>(3)</sup>		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 <sup>2</sup> /AWG 26)
	max. length	-	100 m/328 ft

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

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

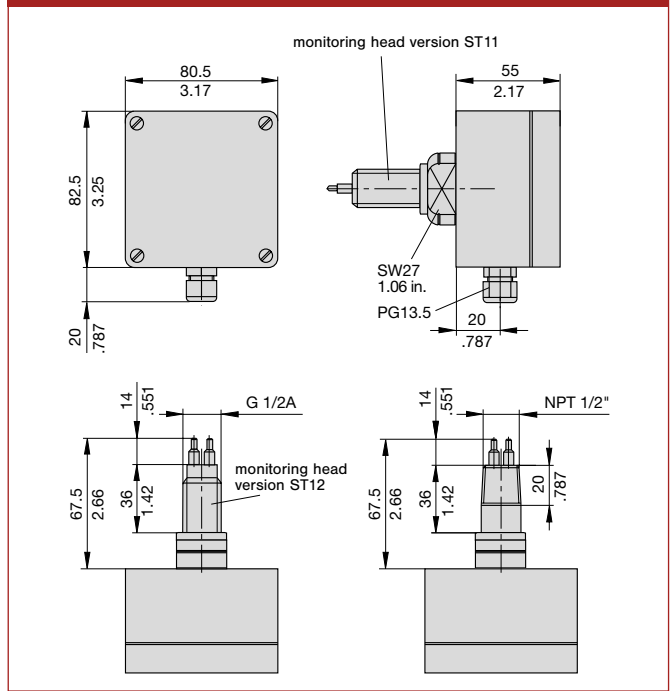
<sup>(3)</sup> Admissible operating pressure to DIN 2401, measured at the max. admissible temperature (= max. medium temperature)

**Ordering information SW118**

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

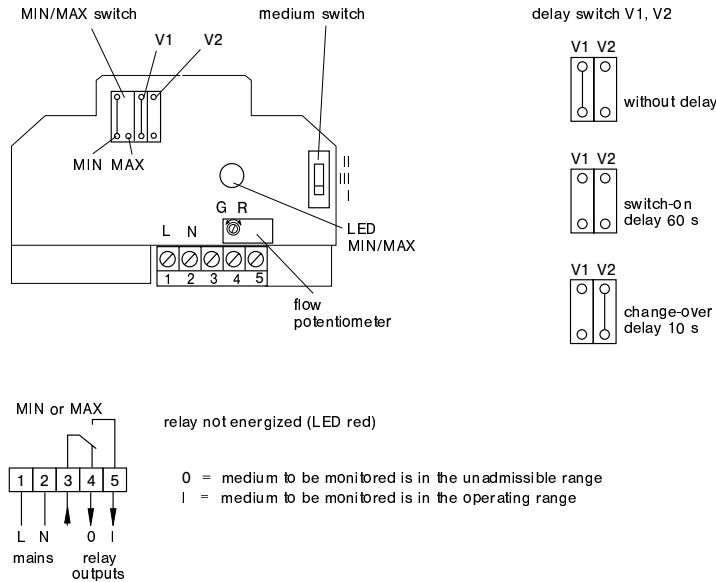
**SW118 - AC230V - MKG1/2A - ST12** ordering example

**Dimensions SW118**

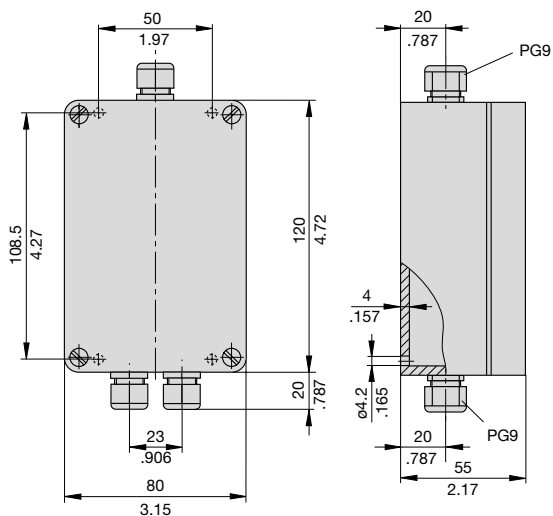


This is a metric design and millimeter dimensions take precedence ( $\frac{mm}{inch}$ )

**Connection diagram SW118**



**Dimensions Electronic Control Unit SW119**

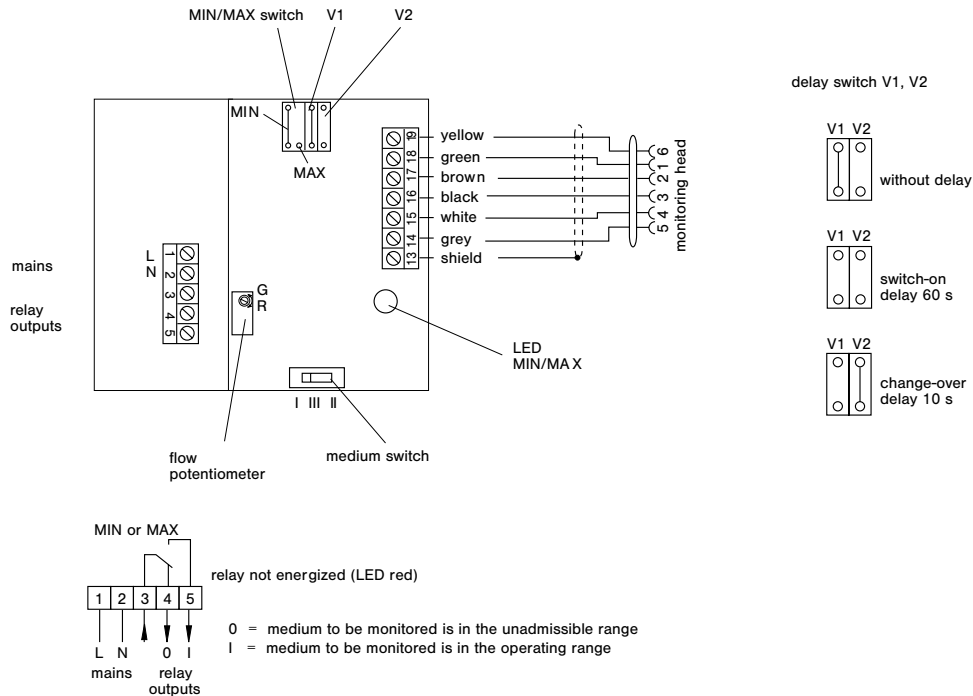


This is a metric design and millimeter dimensions take precedence ( $\frac{mm}{inch}$ )

**Ordering information SW119**

<b>Single Point Flow Monitor</b>		
<b>SW119</b>	for surface mounting, with separate monitoring head	
<b>Input voltage</b>		
<b>AC 230 V</b>	50/60 Hz (standard)	
<b>AC 115 V</b>	50/60 Hz	
<b>AC/DC24 V</b>	(AC: 50/60 Hz)	
<b>SW119 - AC230V</b>	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**

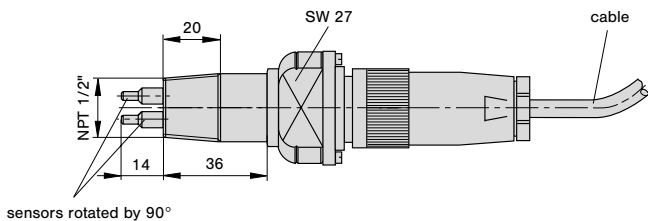
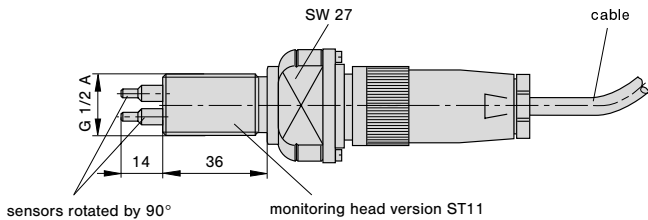
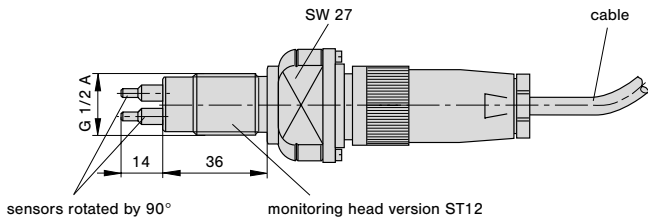
Type of head	screw-in
Length of sensor tip	14 mm/.551 in.
Suitable for (medium)	liquids and gases
Temperature range *)	-40 ... +100 °C/-40 ... +212 °F
(of medium)	
Pressure resistance <sup>(1)</sup>	100 bar/1450 psi
(of monitoring head)	
Degree of protection <sup>(2)</sup>	IP67
Material (wetted)	stainless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

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

<sup>(2)</sup> with mating connector

<sup>\*)</sup> 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 <sup>(1)</sup>	100 bar/1450 psi
(of monitoring head)	
Degree of protection <sup>(2)</sup>	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

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

<sup>(2)</sup> with mating connector

<sup>1</sup> 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**

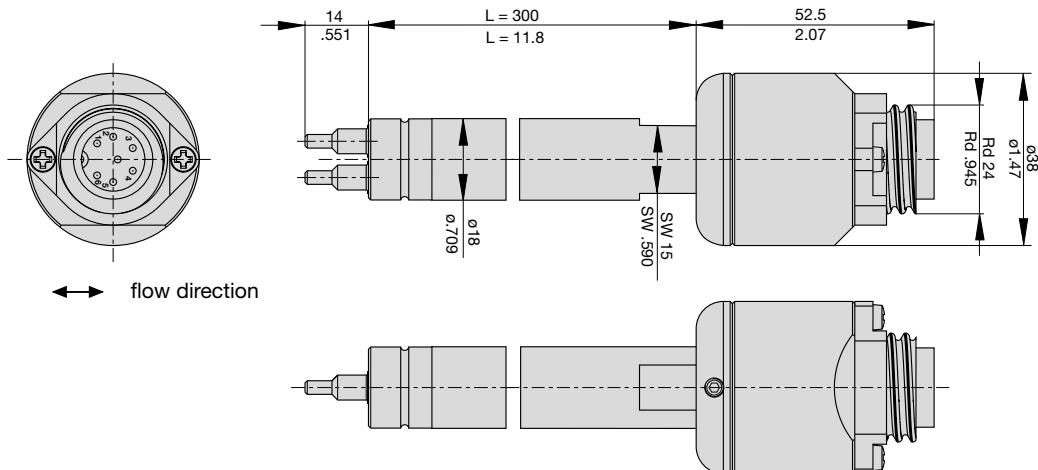
<b>Type</b>	MKV	Push-in type monitoring head with calorimetric sensors
<b>Monitoring head design</b>	13	Monitoring head with variable immersion depth
<b>Medium</b>	X	Liquids and gases
<b>Material of areas exposed to medium</b>	M1	stainless steel 1.4571
<b>Process connection</b>	00	without flange; see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

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

\*) for detailed information please see section 0.

\*\*\*) see next page.

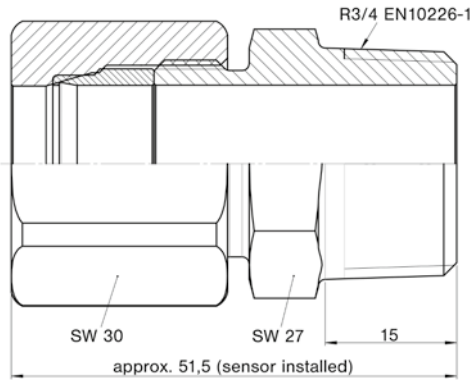
**Dimensions**



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

A

**Threaded installation bush**



**Description and ordering information**

Suitable up to 40 bar/580 psi abs. if used with push-in sensors. Please observe assembly instructions and safety guidelines! Metal sealing ring can't be disassembled after assembly.

<b>Type</b>	
<b>VK</b>	threaded installation bush
<b>Process connection</b>	
<b>04</b>	thread R3/4"
<b>Bore</b>	
<b>D8</b>	18 mm
<b>Material</b>	
<b>M1</b>	stainless steel 1.4571
<b>M3</b>	Hastelloy C22 2.4602
<b>M...</b>	further materials upon request
<b>VK - 04 D8 M1</b>	ordering example

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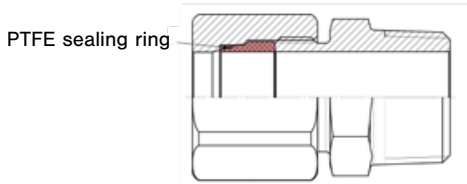
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**PTFE sealing ring for threaded installation bush**



**Description and ordering information**

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

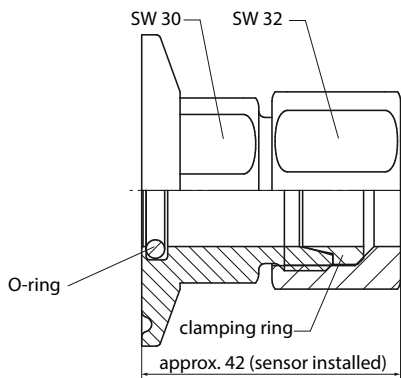
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**Hygiene flange**



**Description and ordering information**

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

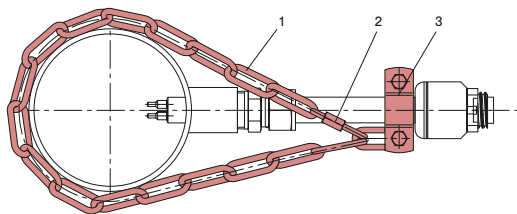
<b>Hygiene flange for push-in sensors</b>	
<b>HEF</b>	Hygiene flange
<b>Process connection</b>	
<b>TF1</b>	Triclamp DIN 32676
<b>Material flange and cap nut</b>	
<b>M1</b>	Stainless steel 1.4571
<b>M2</b>	Hastelloy C4 2.4610
<b>O-ring</b>	
<b>R1</b>	VMQ (Silicone) blue FDA (standard)
<b>R2</b>	VMQ (Silicone)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

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**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

14

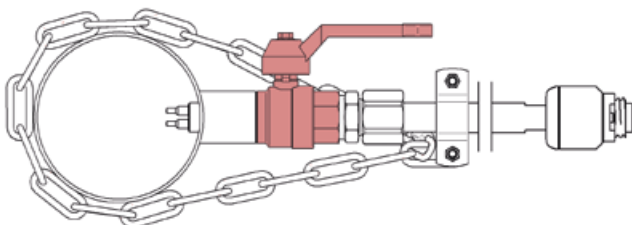
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**Ball valve for installation under pressure**



**Description and ordering information**

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

19

B

**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**

<b>Cable and plug</b>	between monitoring head and control unit
<b>Do + Ka type 2</b>	7-pole round connector, PVC insulated cable type LiYCY 6x0.14 mm <sup>2</sup> (AWG 26), RAL 7032
<b>Available cable lengths</b>	
<b>...m</b>	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)
<b>Do + Ka type 2</b>	- 2 m/6.56 ft ordering example

See data sheet monitoring head MKV.

**Technical data**

<b>Cable type 2</b>	
<b>Features:</b>	flexible, fully shielded, electrical and thermal properties at +20 °C/+68 °F
<b>Conductor resistance:</b>	< 131 Ω/km
<b>Insulation resistance:</b>	> 200 MΩ
<b>Operating voltage:</b>	max. 350 V
<b>Withstand voltage:</b>	1200 V
<b>Max. load:</b>	1.5 A
<b>Temperature range</b>	-10 ... +80 °C/+14 ... +176 °F (processing and operation) -30 ... +80 °C/-22 ... +176 °F (transport and storage)

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