Calorimetric flow switches // VE

VES





VEG

Highlights

- No moving parts in the flow
- Switching point possible with extremely low flow rate
- High compressive strength
- Suitable for use in different nominal sizes

Technical data	
Type	**VES (compact version)**
Length of measuring probe	
→ VES08	31 mm
→ VES09	48 mm
→ VES12	100 mm
→ VES13	170 mm
Thread length	
→ VES08	15 mm
→ VES09	29 mm
→ VES12	20 mm
→ VES13	20 mm
Temperature gradient	4 °C/s
Detection range	
→ Water	1...150 cm/s
→ Oil	3...300 cm/s
Stand-by time	Approx. 2...15 s
Response time	
→ VES08 / VES09	Approx. 1...13 s
→ VES12 / VES13	Approx. 5...20 s
Max. pressure rating	200 bar
Medium temperature	-20...85 °C
Ambient temperature	-20...60 °C
Process connection	G½ male
Electrical connection	4-pin-plug connector M12 x 1
Degree of protection EN 60529	IP67
Switching transducer	Integrated

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Technical data

Technical data	
Type	**VES (compact version)**
Display	LEDs: 1 red = alarm, 2 yellow = switching point, 3 - 6 green = flow
Power supply	24 VDC (±10 %)
Current consumption	70 mA
Output signal **Max. output current**	PNP, open collector 400 mA (25 °C)

Technical data		
Type	**VEG (separate version)**	
Length of measuring probe → VEG08 → VEG09	 31 mm 48 mm	
Thread length → VEG08 → VEG09	 15 mm 35 mm	
Temperature gradient	4 °C/s	
Stand-by time	Approx. 2...15 s	
Response time	Approx. 1...13 s	
Max. pressure rating	200 bar	
Medium temperature	-20...85 °C	
Ambient temperature	-20...60 °C	
Process connection	G½ male	
Electrical connection	4-pin-plug connector M12 x 1	
Schutzart EN 60529	IP67	
Switching transducer	**Separate**	
Display	LEDs: 1 red = alarm, 2 yellow = switching point, 3 - 6 green = flow	
Power supply	24 VDC (±20 %) (standard)	230 VAC (+10 % / -20 %) (on request)
Current consumption	80 mA	35 mA
Output signal **Max. switching voltage** **Max. output current** **Max. switching capacity**	Relay, closing contact 230 VAC/250 VDC; 1 A 125 VA / 60 W	Relay, change over contact 230 VAC/60 VDC; 4 A 1000 VA / 60 W

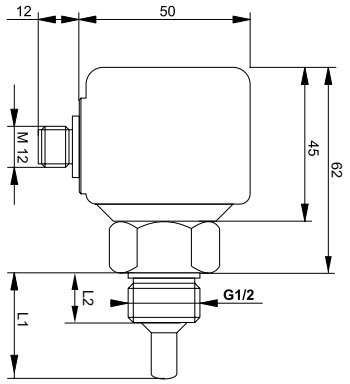
Working range of sensors DN 15...DN 40					
Set point range*					
Pipe size	DN 15	DN 20	DN 25	DN 32	DN 40
Water [l/min]	0.1...18	0.2...33	0.3...52	0.6...91	0.8...124
Water [l/h]	6...1,080	12...1,980	18...3,120	36...5,460	48...7,440
Oil [l/min]**	0.4...36	0.7...66	1...105	2...182	2.5...247
Oil [l/h]**	24...2,160	42...3,960	60...6,300	120...10,920	150...14,820

Working range of sensors DN 50...DN 150					
Set point range*					
Pipe size	DN 50	DN 65	DN 80	DN 100	DN 150
Water [l/min]	1.3...199	2.2...335	3.1...462	5.2...784	11.4...1,707
Water [l/h]	78...11,940	132...20,100	186...27,720	312...47,040	684...102,420
Oil [l/min]**	4...397	6.7...670	9.2...920	15.7...1,568	34...3,414
Oil [l/h]**	240...23,820	402...40,200	552...55,200	942...94,080	2,040...204,840

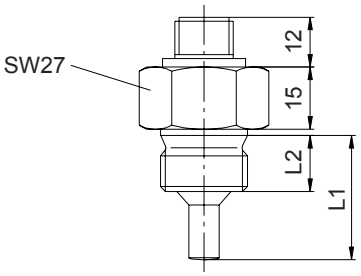
* Detection range water: 1...150 cm/s; oil: 3...300 cm/s
** Oil medium viscosity (approx. 80 mm² / s at 20 °C)

Technical drawings

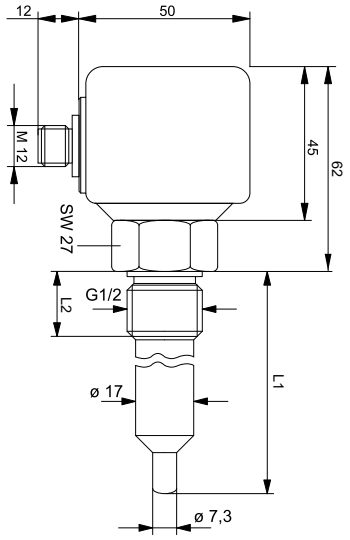
VES08 / VES09 (Compact version)



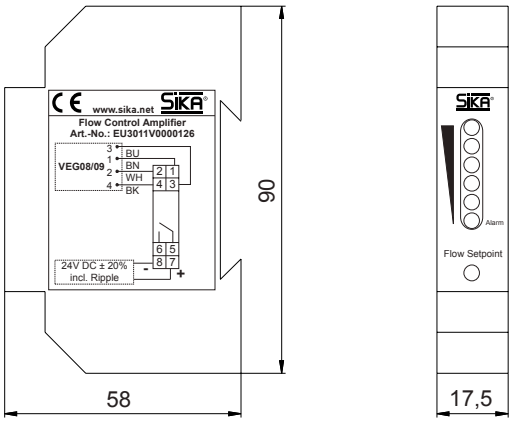
VEG (Separate version)



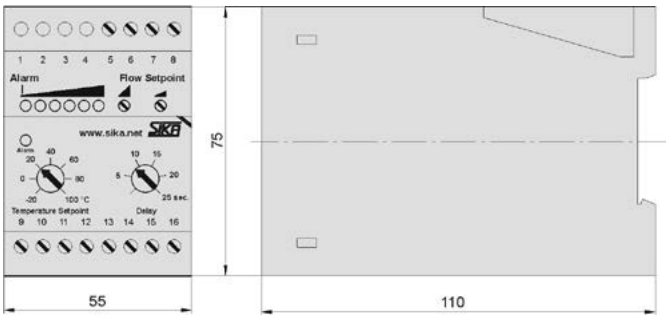
VES12 / VES13 (Compact version)



Switching transducer EU3011V0000126 (24 VDC)



Switching transducer EU3011V0000240 (230 VAC)



Dimensions

Dimensions [mm]		
Type	**Length of measuring probe L_1**	**Thread length L_2**
VES08	31	15
VES09	48	29
VES12	100	20
VES13	170	20
VEG08	31	15
VEG09	48	35

Materials

Materials	Compact version	Separate version
Not in contact with fluid		
Housing	PBT	PC-GF
In contact with fluid		
Probe	Stainless steel 1.4571	

Article numbers

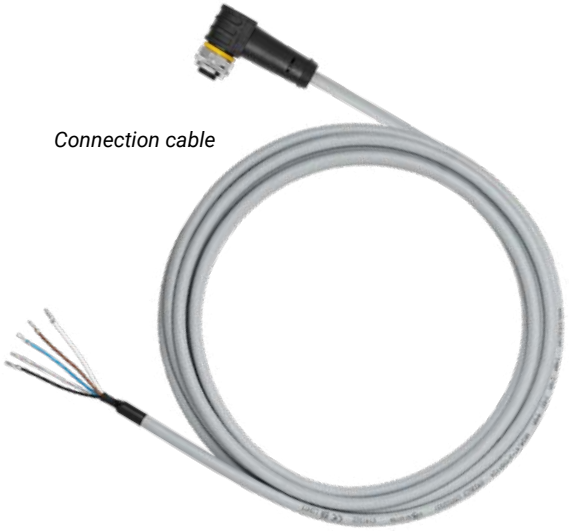
Order code	
Type	**Order number**
VES08 (compact version)	VES08
VES09 (compact version)	VES09
VES12 (compact version)	VES12
VES13 (compact version)	VES13
VEG08 (separate version)	**VEG08**
VEG09 (separate version)	**VEG09**

To order a separate version (VEG), 2 order numbers are required.
The switching transducer has to be selected and ordered separately.

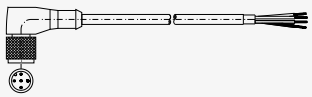
Order code	
Type	**Order number**
Switching transducer (separate version), 24 VDC, 80 mA, Relay, closing contact	**EU3011V0000126**
Switching transducer (separate version), 230 VAC, 35 mA, Relay, closing contact	**EU3011V0000240**

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Accessories



Connection cable

Order code			
Accessories		**Length**	**Order number**
	Connection cable with 5 pin cable socket M12 x 1, angle type moulded lead, sheathing material PUR, shielded, (T_{max} = 80 °C), UL-approval	3 m 5 m 10 m	XVT2053 XVT2009 XVT2070
	5 pin cable socket M12 x 1 angle type, unassembled		VT1331

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