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Датчики загрязненности VSA 24-SM Buhler

Capacity Sensor
VSA 24-SM-2,2/2,9 / VSA 24-SH-2,2/2,9

The capacity sensor is a microprocessor controlled pressure switch with two alarm outputs for alert and shut-off.

A display of LED's with different color illuminates under a transparent cover. After power is turned on, green LED's start flashing, indicating that the system is active. A pressure sensor continuously controls the pressure loss in the filter head and a temperature sensor simultaneously registers the temperature of the fluid . After the oil has reached the operating temperature (which is typically above 86°F), the green LED's stop flickering. The sensor then is in operational mode.
After the dirt holding capacity of the filter element has been reduced to approx. 25%, yellow LED's light up. If 100% of the capacity has been reached, red LED's appear in addition. As soon as the yellow and/ or red LED's are lit up, the electrical alarm outputs are activated.

The signal points can be set closer to the cracking pressure of the bypass valve due to the high accuracy of the pressure sensor. This allows more use of the total dirt holding capacity and saves operational cost at the same time.

Since there is no flow across the filter if the system is running idle, no pressure loss can be measured. Therefore the visual and electrical alarms are self-locking until either power has been cut off or the Reset-button is pressed, at the latest after the next replacement of the filter element.

Furthermore, the device has a self-checking function. In case of malfunction, the red LEDs start blinking and signal output 2 is activated without switching on the yellow LEDs. As an option the capacity sensor monitors if the system starts-up without the filter element installed.

- **Two alarm outputs**
- **Signal suppression during cold start and temporary pressure peaks**
- **Visual/ electrical indication**
- **Self-checking**
- **High 360° visibility of LED's**
- **Indication of status and fault**
- **M12 connector**
- **Reset function**

Technical Data

Mechanical Data:

Max. operating pressure	10 bar	
Operating temperature	-20 °C to +85 °C	
Model	**VSA 24-SM**	**VSA 24-SH**
Thread	M30x1,5	G1/2
For filter case type	Mahle	Hydac
Material		
Screw-in casing	1.4305	1.4305
Top	Al-eloxiert / PC (Transparent)	
Gaskets	CU / NBR	NBR
Weight	200 g	

Electrical Data:

Connector	M12x1 (5-pol.)
Operating voltage	24 V DC ± 10%
Current consumption	< 100 mA
Protection class	IP67 (with mounted connector)
Alarm	
Display	optisch (LED's) / electrical
Enable	≥ 30 °C (temp. of medium)
Signal outputs	2
Output 1 (NO)	Alarm at 75% (2.2 bar)
Output 2 (NC)	Shut-off at 100% (2.9 bar)
Max. switching current	1 A at 24 V DC

Function:

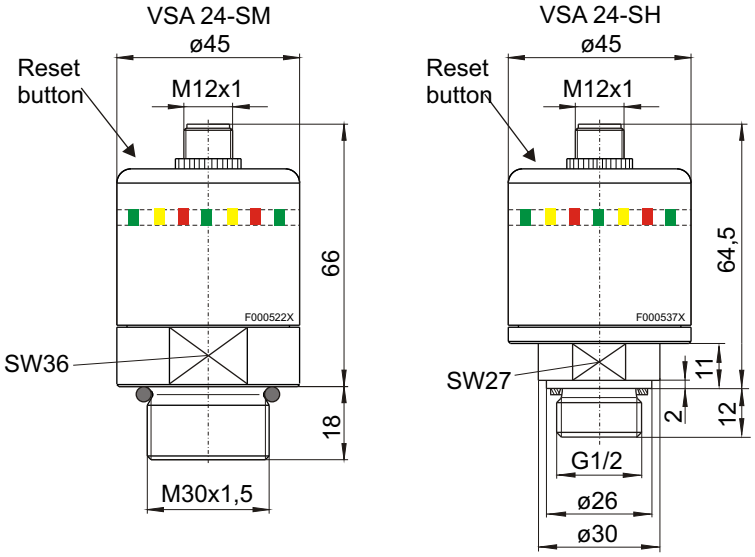
The capacity provides a display of LED's of different colours. The LEDs visualize the operating status and faults.

green LED	continuously on	- sensor is ready for operation
yellow LED	continuously on	- output 1 is closed (alarm at 2.2 bar)
red LED	continuously on	- output 2 is open (alarm at 2.9 bar)
green LED (_ ■ _ ■ _ ■ _ ■ _)	flashing approx. 2x per second	- temperature < 30°C; unit not yet ready for operation! (signal outputs are blocked)
red LED (_ ■ _ ■ _ ■ _ ■ _) yellow LED	flashing approx. 2x per second OFF	- defective pressure or temperature sensor (output 2 is open)

If the alarm outputs are activated by temporary over pressure, the signals will not be cleared before system shut off, pressing the reset button or oil-temperature falling below 20°C.

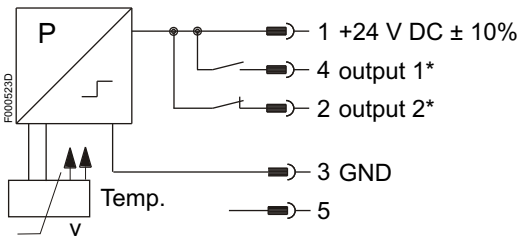
The alarms are only activated if the measured pressure loss (2,2 and 2,9 bar) lasts for min. 4 seconds.
Thus short-term pressure peaks can not trigger false alarms.

Dimensions



After filter replacement press Reset button

Wiring Diagram



* output 1 = activates at 2,2 bar (contact normally open at rising pressure)

* output 2 = shut off at 2,9 bar (contact normally closed at rising pressure)

Order information

	Part-No.
Capacity sensor VSA 24-SM-2,2/2,9	1310099
Capacity sensor VSA 24-SH-2,2/2,9	1310199

Accessories

Connection plug* M12x1 (5-pol.), length 3,0 m	9144050018

* Right-angle plug and copper strands

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