

Oil Switch - 90...240 VAC

Category: HBSO

Split design which allows for easy installation and diagnostics. The electronic part can be easily disconnected by 2 screws.

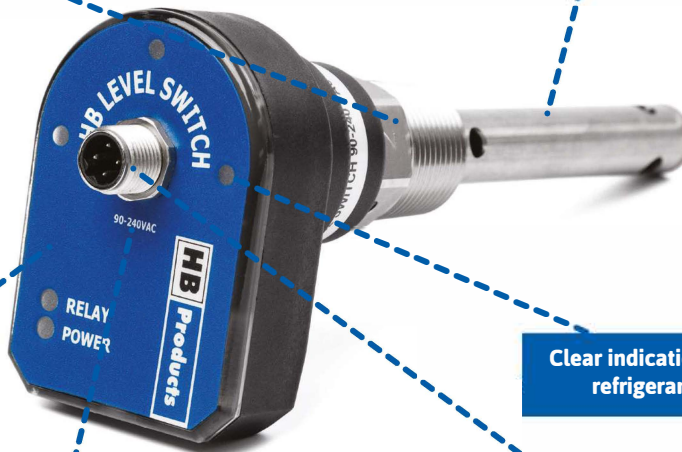
Designed for the industrial refrigeration industry - max pressure 150 bar.

Proven sensor technology with solid state output contact function NO or NC.

Clear indication with LED when refrigerant is detected.

Universal power supply 90...240 VAC.

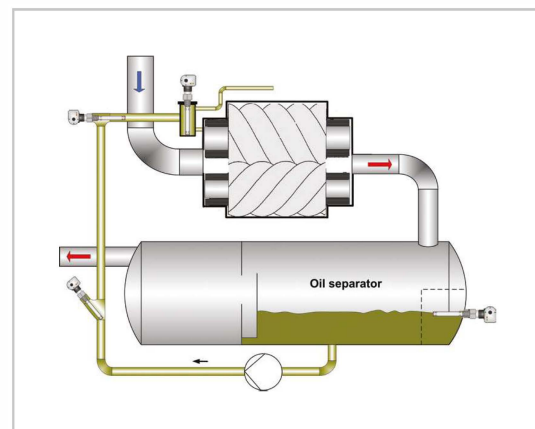
5 m cable included.



Functional description:

HBSO1 (PAO, POE & mineral oil) and HBSO2 (PAG oil) is a level switch for detecting common lubricating oils in refrigeration systems. Typically it is installed in/on the compressor and the oil separator, but it is also suited for installation in other locations in the oil system. The sensor's measurement principle makes it unique for these purposes, since the properties of the measurement principle allows it, among other things, to detect oil without detecting refrigerant. It is calibrated so that it is unaffected by oil spray and only allows a small amount of foam. The sensor is also constructed to resist high pressure and temperatures.

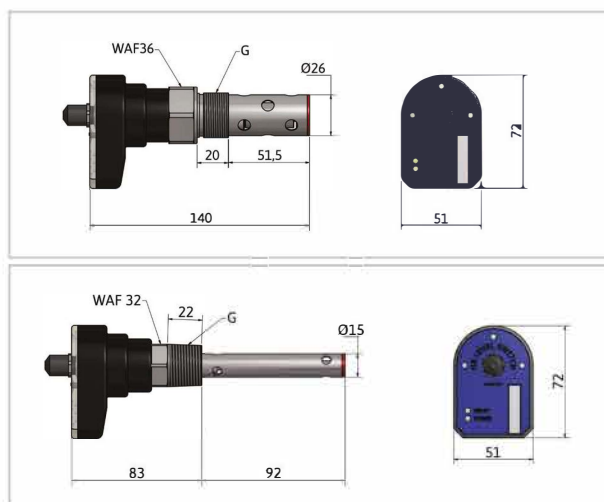
The switch has a built-in local power supply for direct use on grid supply 90...240 VAC. A solid state relay can also operate a valve directly.




Technical data

Power supply		Mechanical specifications	
Voltage	90...240 VAC	Thread connection	½", ¾" & 1 1/8" NPT / BSPP
Current consumption	<10 mA	Material – mechanical parts	AISI 304 / PTFE
Max. current output	Max 50 mA	Material – electronic parts	Nylon 6 (PA)
Plug connection	M12 - DIN 0627	Dimensions	See drawing
Output		Environmental conditions	
Solid state relay output	90-240 VAC-40W	Ambient temperature	-30...+50°C
Output function	NC or NO	Oil temperature	0...+80°C
LED indication		Max pressure	150 bar
Level indication	3 x LED (green)	Protection degree	IP65
Power supply	1 x LED (green)	Vibrations	IEC 68-2-6 (4g)
Relay-on activation	1 x LED (yellow)		
Cable specification (power supply)			
Cable size	5m - 3 x 0,34 mm ²		
Cable glands	PG7 / M8		
Cable resistance	500 Ω/Km		
Approvals			
CE	EN 61000-2		

Mechanical dimensions



Electrical installation



Supply: 90...240 V AC -50/60 Hz

1 = Brown: 90...240V AC supply

2 = White: 90...240V AC supply

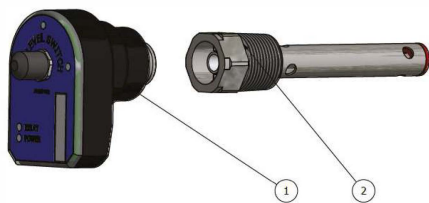
3 = Blue - Potential free solid state, Max 240V AC / 40 W

4 = Black - Potential free solid state, Max 240V AC / 40 W

Ordering code

Output	Thread type (G)	Oil type	Temperature	Ordering code
NO	½" NPT	PAO, POE, mineral	0...80 °C	HBSO1-SSR-2/NO-1
NC	½" NPT	PAO, POE, mineral	0...80 °C	HBSO1-SSR-2/NC-1
NO	¾" NPT	PAO, POE, mineral	0...80 °C	HBSO1-SSR-2/NO-2
NC	¾" NPT	PAO, POE, mineral	0...80 °C	HBSO1-SSR-2/NC-2
NO	½" BSPP	PAO, POE, mineral	0...80 °C	HBSO1-SSR-2/NO-5
NC	½" BSPP	PAO, POE, mineral	0...80 °C	HBSO1-SSR-2/NC-5
NO	¾" BSPP	PAO, POE, mineral	0...80 °C	HBSO1-SSR-2/NO-6
NC	¾" BSPP	PAO, POE, mineral	0...80 °C	HBSO1-SSR-2/NC-6
NO	1 1/8" UNEF	PAO, POE, mineral	0...80 °C	HBSO1-SSR-2/NO-7
NC	1 1/8" UNEF	PAO, POE, mineral	0...80 °C	HBSO1-SSR-2/NC-7
NO	½" NPT	PAG	0...80 °C	HBSO2-SSR-2/NO-1
NC	½" NPT	PAG	0...80 °C	HBSO2-SSR-2/NC-1
NO	¾" NPT	PAG	0...80 °C	HBSO2-SSR-2/NO-2
NC	¾" NPT	PAG	0...80 °C	HBSO2-SSR-2/NC-2
NO	½" BSPP	PAG	0...80 °C	HBSO2-SSR-2/NO-5
NC	½" BSPP	PAG	0...80 °C	HBSO2-SSR-2/NC-5
NO	¾" BSPP	PAG	0...80 °C	HBSO2-SSR-2/NO-6
NC	¾" BSPP	PAG	0...80 °C	HBSO2-SSR-2/NC-6
NO	1 1/8" UNEF	PAG	0...80 °C	HBSO2-SSR-2/NO-7
NC	1 1/8" UNEF	PAG	0...80 °C	HBSO2-SSR-2/NC-7

Spare parts



Position	Specification	Type	Ordering code
1	Electronic parts - HBSO1	NO	HBSO1-SSR-2/NO-EL
		NC	HBSO1-SSR-2/NC-EL
	Electronic parts - HBSO2	NO	HBSO2-SSR-2/NO-EL
		NC	HBSO2-SSR-2/NC-EL
2	Mechanical parts	1/2" NPT	HBSO1-MEK-1
		3/4" NPT	HBSO1-MEK-2
		1/2" BSPP	HBSO1-MEK-5
		3/4" BSPP	HBSO1-MEK-6
		1 1/8 UNEF	HBSO1-MEK-7