

Liquid Level Switches

Data Sheet

Type: HBSC2, HBSR, HBSO1



Purpose:

HBS capacitive switches are designed for industrial applications and long term function. These compact, cost effective switch designs, provide reliable and accurate detection of fluid levels in equipment such as liquid separators, high and low pressure receivers, economizers, oil coolers, oil pots, and compressors.

Switches operate according to the capacitive principle detecting presence of any kind of conductive or non-conductive liquid.

HBSC2 (top)

Liquid CO₂ switch

HBSR (middle)

Refrigerant switch (NH₃, HFC, Brine)

HBSO1 (bottom)

Oil level switch



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Product Features:

- Suitable for oil, ammonia, CO₂, halocarbon refrigerants and brine
- *“Plug and Play”*
no calibration required
- *“Service Friendly”*
Split design for easy mounting and maintenance without depressurization
- Unaffected by foam, splashing and coating
- Resists high pressures and temperatures
- LED indication when liquid is present
- Output functions available in normally open (NO) or normally closed (NC)



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Technical Data

- Power Supply: 24V DC \pm 10%
- Output Current: Max 50mA
- Output: PNP or NPN
- Output Function: Normally Open (NO)
Normally Closed (NC)
- Ambient Temperature Range: -20°C to 50°C (-4°F to 122°F)
- **HBSC2 Switch (CO₂)**
 - CO₂ Temperature Range: -50°C to 100°C (-58°F to 212°F)
 - Max Operating Pressure: 150 bar (2175 psig)
 - Connection: 3/4" NPT
- **HBSR Switch (NH₃, HFC, Brine)**
 - Refrigerant Temperature Range: -50°C to 100°C (-58°F to 212°F)
 - Max Operating Pressure: 100 bar (1450 psig)
 - Connection: 3/4" NPT
- **HBSO1 Switch (Oil) ①**
 - Oil Temperature Range: 0°C to 85°C (32°F to 185°F)
 - Max Operating Pressure: 150 bar (2175 psig)
 - Connection: 1/2", 3/4" NPT

Note:

Media temperatures below -30°C (-22°F) require the HBHE heating element.

HBSC2: Switches on when liquid CO₂ is present. Ideal for high/low level indication, control alarm or CO₂ applications with pressures up to 170 bar (2465 psig)

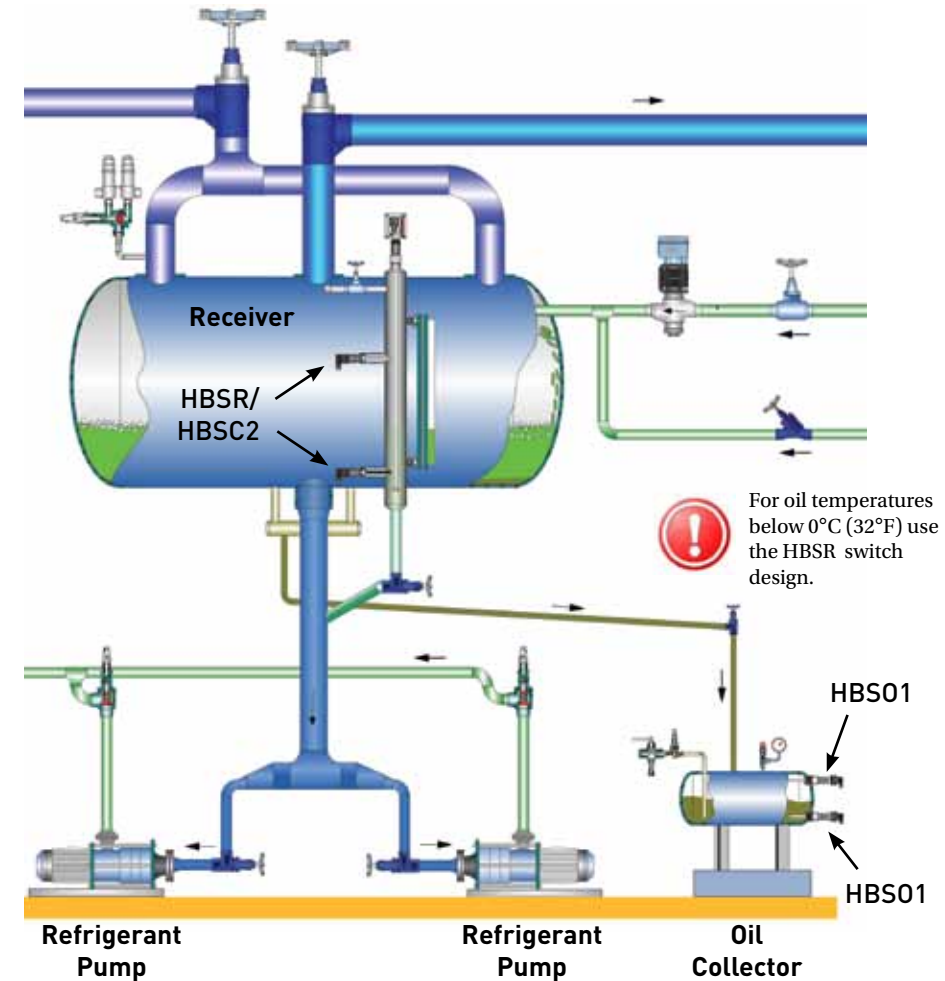


Diagram: Liquid Level Switches (HBS)



No.	Part Description	Material
1	Electronic Head	GF BLK, Nylon 6 (PA), Glass Fiber
2	Thread	S.S. AISI 303
3	Reference Pipe, except HBSR	S.S. AISI 304
4	Inner Electrode	PTFE or S.S. AISI 304

HBSR: Switches on when conductive liquid is present. The switch distinguishes between oil and NH₃/HFC/brine and therefore ideal for automatic oil draining and emptying systems.

HBSO1: Switches on when oil is present. Ideal for oil management and oil level control as well as for compressor protection.

① High Temperature (HBSO1-HT) is available on request (oil temperature 120°C/248°F)