

HB Products – dedicated to optimal solutions for level measurement and control of oil and refrigerants.

HB Products is a development-oriented company, which specializes in the development and production of sensors for industrial refrigeration systems. Apart from expertise within oil and refrigerant control, we have great know-how in the design and optimization of industrial refrigeration systems. This knowledge enables us to develop and produce the best sensors!

Since its start more than 20 years ago, HB Products has attained a strong global position. This is the result of our ability to think in terms of new technological solutions, create trustworthy products, and provide a high level of service.

For further info and guidance please visit our homepage
www.hbproducts.dk



Quick guide

HBAC switch

For detection of oil and leakage in CO₂/NH₃ cascade systems

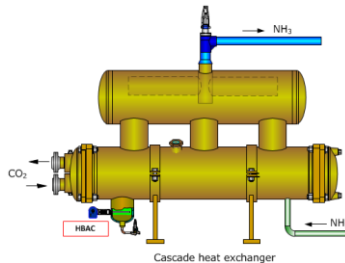


Functionality:

The HBAC switch is made to both detect oil and leakage in CO₂/NH₃ cascade systems. The dual functionality is based on the mA output whereas the leakage detection alone can use the simple digital alarm.

Caution: Only qualified personnel should work with the product. The technician must be aware of the consequences of an improperly installed sensor, and must be committed to adhering to the applicable local legislation.

Mechanical installation



Mechanical specifications:

Ambient temperature: -30...+50°C
Liquid temperature: -60...+80°C
Max. pressure: 100 bar
Material, mechanical: AISI304/PTFE
Thread connection: 3/4" NPT

Installation guide:

Place the sensor in a 1/2" threaded sleeve. It must be placed horizontal. Leave sufficient space around the sensor rod. The sensor must be installed in a pot or where leakage can appear.

Caution! In case of welding work on the unit, please make sure that proper earthing is carried out to avoid damaging the electronics.

Electrical installation



1 brown	+24 VDC or 24 V AC
2 White	- common or 24 V AC
3 Blue	Digital Alarm Output
4 Black	Analog Output 4-20 mA
5 Grey	Communication

The HBAC sensor have both a digital and analog output, alarm setting switches when a Leak occurs. If used for both oil and leakage detection the mA signal is used like this:

- When the sensor is in oil it will deliver less than 8 mA
- When the sensor is in liquid ammonia it will deliver between 8 mA and 16 mA
- When there is leakage, it will deliver more than 16 mA

Electrical specifications:

Supply: 24 V AC/DC ±10%
Current draw: 50 mA
Plug: DIN 0627 – 5 pins
Enclosure: IP65
Material, electronics: PA46-GF30

Output types:

Transistor output: digital +24V on pin3
Output function: NO or NC
Analog 4-20 mA on pin 4

Note! All terminals are protected against improper termination with a supply voltage up to 40 V. If the supply voltage is greater than 40 V the electronics will be damaged.

Testing and Indication of leakage

Leakage detection can be tested by introducing it fully into salty water (3% NaCl) in a grounded metal container.



Function and outputs:

1 x red LED indicates alarm (ALARM)
Yellow LED (not in use)
Green LED indicates 24 V DC supply (POWER)

LED activation:

Function of charge output:
NC: There should be no signal when leakage appears.
NO: There should be a signal when leakage appears.