HB Products WE INCREASE UPTIME AND EFFICIENCY IN THE REFRIGERATION INDUSTRY

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

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Quick guide

HBSR-SSR/IP low temperature switch for NH3, HFC and Brine
For detection of refrigerant in low temperature applications such as flow, blast and spiral freezers

Functionality:
The HBSR-SSR/IP switch is made to detect NH3, Brine & HFC in refrigeration systems.
If HBSR-SSR/IP is to be used in a different way, prior approval must be obtained from HB Products.

Download complete manual:
For further information's please download the instruction manual from our homepage: www.hbproducts.dk.

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.

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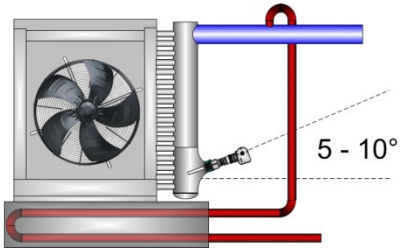
Mechanical installation

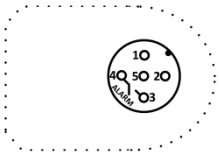


Mechanical specifications:
Ambient temperature: -60…+50°C
Liquid temperature: -60…+100°C
Max. pressure: 100 bar
Material, mechanical: AISI304/PTFE
Thread connection: ¾" NPT

Installation guide:
In case the sensor is installed in a threaded sleeve/pipe stub, this should be welded at 5-10° upwards angle relative to the horizontal, so as to prevent the formation of liquid pockets. The installation length of the sensor must be taken into account, since there must be at least 2mm between the sensor's mechanical part and other fixed or moving parts.

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



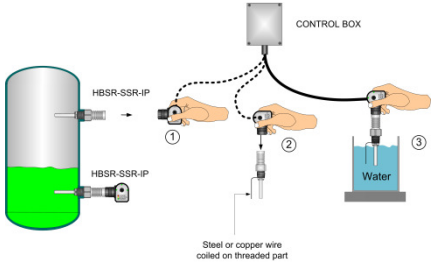
Supply 24V DC
1 = Brown +
2 = White -
3 = Blue - Potential free solid state, 1 A
4 = Black - Potential free solid state, 1 A
5 = Gray Not in use (data only)

Electrical specifications:
Supply: 24 V DC ±10%
Current draw: Max 600 mA
Plug: DIN 0627 – 5 pins
Required supply cable: HBxC-R-IP-M12/5 (included)
Enclosure: IP68
Material, electronics: PA46-GF30

Output types:
Transistor output: Solid state, potential free
Output function: NO or NC (Factory default NC)

Note! Supply cable must be mounted with a torque screwdriver (0,6Nm) 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.

Test of installation



Function and outputs:
3 x green LED indicate refrigerant level
1 x red LED indicates alarm (ALARM)
Yellow LED – calibration signal (CONTROL)
Green LED indicates 24 V DC supply (POWER)

LED activation:
Function of charge output:
NC: There should be no signal when it is in refrigerant.
NO: There should be a signal when it is in refrigerant.

Note! LED is always activated when approx. half of the sensors are covered or immersed in refrigerant, irrespective of the sensor's output function NC/NO.
Note! Fault detection on the electronic function can be carried out without releasing pressure from the system or disassembling the mechanical part of the sensor.