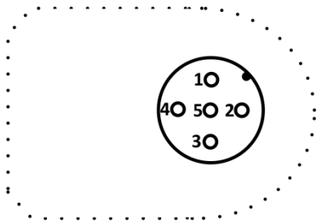
Electrical Connection

The sensor must be wired with a 4-cord cable with an M12 connection plug. Colour codes in the diagram below are related to the cables delivered by HB. The supply voltage is limited to 24V AC/DC.



Supply 24 V AC/DC
1 = Brown +
2 = White -
3 = Blue – DO, Alarm, PNP/NPN, 1A
4 = Black – AO, Control output, 4-20 mA
5 = Gray – Data communication

LED Indication

LED indication:

1) Green LED indicates 24 V AC/DC power supply
2) Red LED indicates ALARM at 100 %

LED signal	ON/OFF/Frequency	Functionality
Green	ON	Power supply
	OFF	No power supply
Red	ON	Alarm to be activated at 100% level. The liquid level has to drop below hysteresis
	OFF	No alarm

Further Information

Extended and detailed manuals are available on our homepage www.hbproducts.dk.

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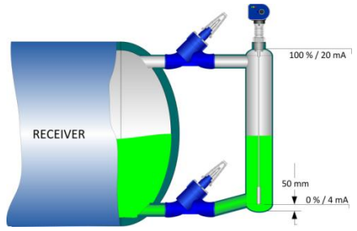
Quick Installation Guide for: HBLT-WIRE

Mechanical Installation



The sensor is installed in the standpipe or directly in the tank. The sensor length is determined by standpipe length or tank height. Please **leave 50 mm** space between the let and the bottom of the pipe. Steel wire and Teflon hose most be cut to desired length with wire cutters or a bolt cutter, in the end where the let must be installed. Teflon hose must be mounted outside on the wire.

Standpipe must be insulated to avoid boiling in the stand pipe.

To install the HBLT-wire, you must use a 2.5 mm Allen key, shifting spanner, wire cutter and liquid gasket.

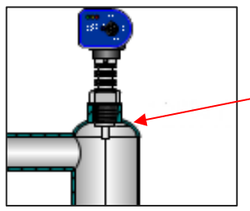
Loosen the electronic part from mechanical part.

Define the sensor length from the standpipe height. Shorten the wire and Teflon hose to required length.

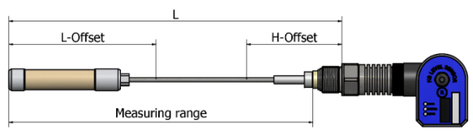
Teflon hose must be 20 mm shorter than the wire.

Make sure that wire is in bottom of the hole.

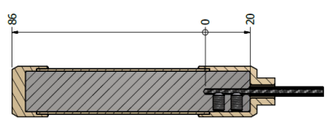
Tighten the 2 setscrews to fix the wire.



When sealing the conical thread, you must use liquid conductive sealant, which creates a ground connection between the standpipe/tank and the sensor, since the sensor uses the standpipe/tank as reference. If Teflon is used, it must only be used on part of the thread so that the ground connection is established. If you are in doubt regarding the ground connection, measuring the resistance between the tank and sensor is recommended. This should be approx. 0 ohms. For cylindrical thread, an alu sealing ring is included.



L = Programmable sensor length
L= Wire length + 86 mm
Teflon hose most be 20 mm shorter than wire length.
Insert wire in let part and tighten the 2 setscrews. Turn the top cover plastic part on the metal part (right-hand thread).

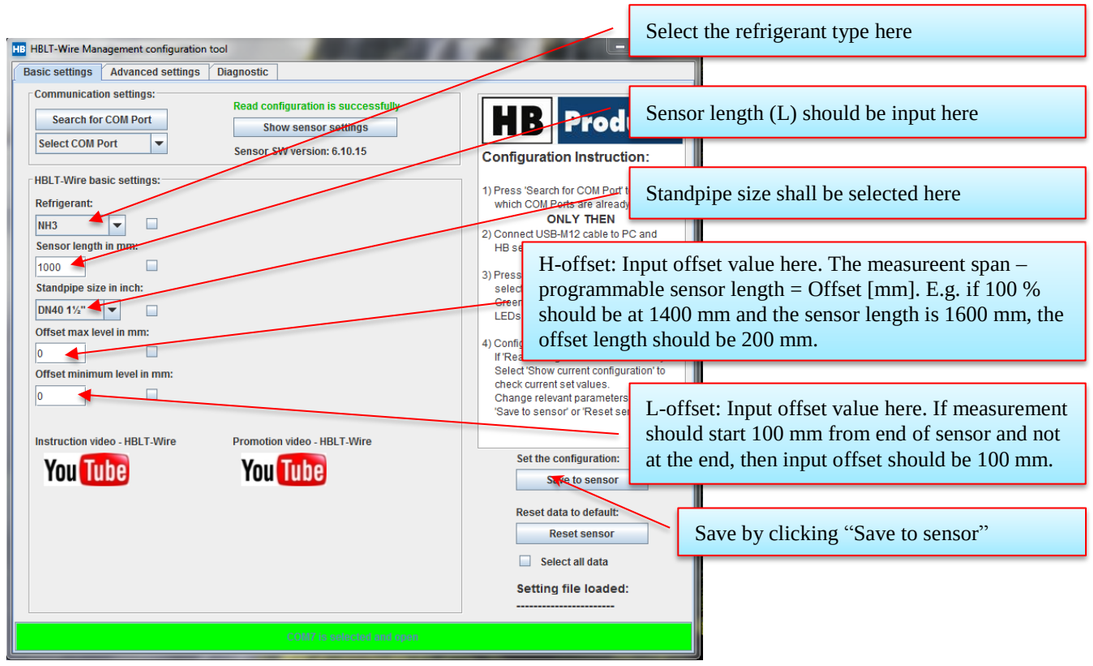


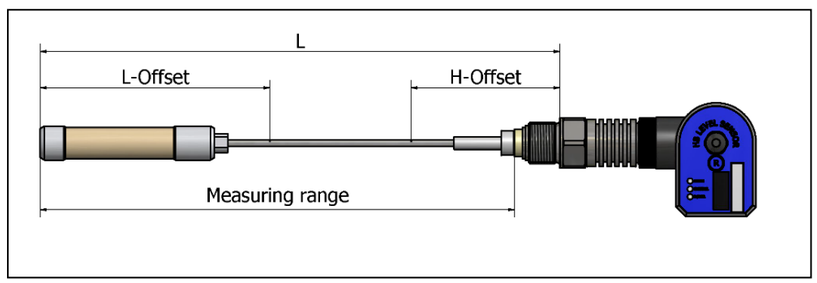
Configuration with PC and HB-TOOL

The HBLT-Wire sensor should be configured to the actual application. The software program can be downloaded at www.hbproducts.dk. Programming cable has been included. The actual sensor settings can be displayed by pressing the "Show current figuration" button.

Setup	Factory settings	Configuration options
Refrigerant	NH3*	NH3/HFC
Sensor probe length	Sensor length*	600…4000 mm
Standpipe size in inches	DN40-1½"*	DN25, DN32, DN40, DN50, DN65, DN80, DN100
Offset from max level	0 mm	0…8000 mm

The above shows the factory settings and configuration possibilities in an HBLT-Wire sensor. *





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Configuration from sensor front

In case a PC is not available, the sensor configuration can be carried out by the sensor push bottom of the front.
To enter the configuration parameters please press the "R" button for 10 seconds and then follow the steps in the table.
The yellow LED will flash in 5 seconds and after this it will be off. When it is ON again the programming can start. No change in 15 sec will interrupt the configuration. In that case please press the "R" button for 10 seconds again.

Bottom Time/sequence	Parameter	Range	Display
>10 sec	Enterring the configuration mode		CAL
1 push	Enterring length configuration mode		-L-
1 push to change the length in cm.	To roll digit 3 from 1-9.	1-9 1 = **1**00 cm, 2 = **2**00 cm, 3 = **3**00 cm	0.00
>5 sec	To switch to digit 2		10.0
1 push to change the length in cm.	To roll digit 2 from 1-9.	1-9 1 = 1**1**0 cm, 2 = 1**2**0 cm, 3 = 1**3**0 cm	
>5 sec	To switch to digit 3		110.
1 push to change the length in cm.	To roll digit 1 from 1-9.	1-9 1 = 11**1** cm, 2 = 11**2** cm, 3 = 11**3** cm	
>5 sec	To switch to refrigeration mode		111
1 push to change refrigeration/liquid type	Change of refrigeration/liquid type	R717= 717 OIL= OIL R134= 134 R507= 507 R404 = 404 R407= 407 R410= 410 R22 = 022 R123ZE = 123	-F-
>5 sec	To swtich to selection of standpipe		
1 push to switch	Size of standpipe to select	DN25 = 025 DN32 = 032 DN40 = 040 DN50 = 050 DN65 = 065 DN80 = 080 DN100 = 100	-O-
>5 sec	Saving all data and leaving calibration mode.		BYE

The sensor configuration is saved when leaving the calibration mode. The "BYE" signal is a confirmation on this.
To view the configuration parameters please press the "R" button for 10 seconds and then press 5 seconds. It will start to show programmed parameter, with a jump each 3 seconds. It will repeat the selected parameters once and then return to the actual value in %.

Bottom Time/sequence	Display
5 sec	-L- / xxx (length)
	-F- / xxx (type of refrigerant)
	-O- / xxx (stand pipe dimension)

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