Level sensors/transmitters for different types of liquids

Liquid level sensor/transmitter 24V AC or DC Liq. temp max 80°C Ambient temp -30-50°C	Oil	R744 CO2 R600 Butane R600a Isobutane R290 Propane	Synthetic refrigerants HFC/HFO/CFC	R717 NH3, Water, Alcohols	Dirty water In a metal vessel/tank
Rigid probe analog output only	HBLC-OIL 200-3000 mm ¾" ⚠Ex	HBLC-CO2 200-3000 mm ¾" ⚠Ex	HBLC-HFC 200-3000 mm ¾" ⚠Ex	HBLT-A2 (max 50°C recommended) HBLT-A3 all temperatures 200-3000 mm ¾" 1" ⚠Ex	HBLC 200-2000 mm ¾"
Rigid probe analog and direct control output	HBSLC-OIL/C HBSLC-OIL/S HBSLC-OIL/PWM 200-3000 mm ¾"	HBSLC-CO2/C HBSLC-CO2/S HBSLC-CO2/PWM 200-3000 mm ¾"	HBSLC-HFC/C HBSLC-HFC/S HBSLC-HFC/PWM 200-3000 mm ¾"	HBSLT-A2/C HBSLT-A2/S HBSLT-A2/PWM 200-3000 mm ¾" 1"	HBSLC/C HBSLC/S HBSLC/PWM 200-2000 mm ¾"
Wire/Flex probe analog output only	HBLT-FLEX 300-2000 mm ¾" ⚠Ex	HBLT-FLEX 300-2000 mm ¾" ⚠Ex	HBLT-W-Wire 600-6000 mm ¾" ⚠Ex	HBLT-W-Wire 600-6000 mm ¾" ⚠Ex	HBLT-W-Wire 600-6000 mm ¾" ⚠Ex
Wire/Flex probe analog and direct control output	HBSLT-FLEX/C HBSLT-FLEX/S HBSLT-FLEX/PVM 300-2000 mm ¾"	HBSLT-FLEX/C HBSLT-FLEX/S HBSLT-FLEX/PVM 300-2000 mm ¾"	HBSLT-W-Wire/C HBSLT-W-Wire/S HBSLT-W-Wire/PWM 600-6000 mm ¾"	HBSLT-W-Wire/C HBSLT-W-Wire/S HBSLT-W-Wire/PWM 600-6000 mm ¾"	HBSLT-W-Wire/C HBSLT-W-Wire/S HBSLT-W-Wire/PWM 600-6000 mm ¾"
Low-cost probe analog output only	HBLC- thin 200-1600 mm ¾" ½"	On request	HBLC- Fgas 200-1600 mm ¾" ½"	HBLC 200-2000 mm ¾" ⚠Ex	HBLC 200-2000 mm ¾" ⚠Ex
Low-cost probe analog and direct control output	On request	On request	On request	HBLC/C HBLC/S HBLC/PWM 200-2000 mm ¾"	HBLC/C HBLC/S HBLC/PWM 200-2000 mm ¾"

⚠Ex Indicate the switch is available in an ATEX/IECEx version

½" ¾" 1" Connection diameter available

Settings and Connections

Settings

All the sensors has numerous settings for making the measurement more accurate provide alarms etc.

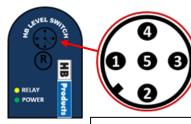The sensor can be connected to a PC with HB tool installed using an USB/M12 connection cable.

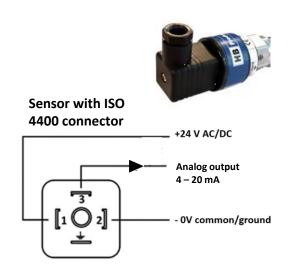The tool can be downloaded for free from our web page.

Sensors with analog output

All sensors has an analog output

Sensor with M12 connector

1: +24 VDC or 24VAC (Brown)
2: - common or 24VAC (White)
3: Remote input 4-20 mA (Blue)
4: Analog output 4-20 mA (Black)
5: Run-in signal (Grey)

Sensor with ISO 4400 connector

+24 V AC/DC

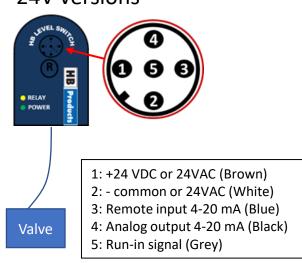Analog output 4 – 20 mA

- 0V common/ground

Sensors with direct valve control and analog output

Sensors with an output cable can control a valve directly. Three different versions exist

/C for modulating valve
/S for stepper motor
/PWM for pulse modulating valve

24V versions

Valve

1: +24 VDC or 24VAC (Brown)
2: - common or 24VAC (White)
3: Remote input 4-20 mA (Blue)
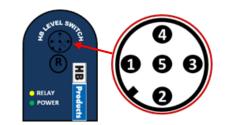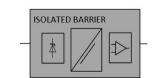4: Analog output 4-20 mA (Black)
5: Run-in signal (Grey)

ATEX/IECEx approved sensors with IEC 61076-2-101 M12 plug

Most of the 24V sensors are available in an ATEX/IECEx approved version. The switch has a two-wire analog output which will grow linear to the level from 4 to 20 mA. The switch has settings which can be changed when connecting it to the HB-tool.

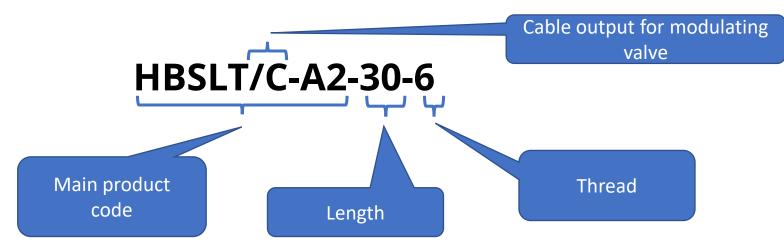The sensor is used together with a barrier to comply with ATEX/IECEx requirements.

ISOLATED BARRIER

1: +24 VDC (Brown)
2: not used
3: not used
4: Analog output (Black)
5: not used

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Product ordering codes and thread connections

Cable output for modulating valve

HBSLT/C-A2-30-6

Main product code

Length

Thread

Thread codes (stamped on the sensor)

1 = ½" NPT
2 = ¾" NPT
3 = ½" BSPT
4 = ¾" BSPT
5 = ½" BSPP
6 = ¾" BSPP
7 = 1 1/8" UNEF
8 = 1" BSPP
9 = 1" NPT
10 = 1 ¼" BSPP
11 = 1 ½" BSPP
12 = 1 ½" NPT
13 = ¼" BSPP
14 = ¼" NPT
15 = 3/8" NPT
16 = 1 ¼" UNF

Other commonly used codes

U: union connection instead of V track with set screws (standard)
L: Long version
IP: ice proof (low temperature version)
LT: Low temperature version
MT: Medium temperature version
HT: High temperature version
HP: Heat pump version
HFC: suited for HFC,HFO,CFC and other synthetic refrigerants
/C: Built in controller for modulating valve
/S: Built in controller for stepper motor valve
/PWM: Built in controller for pulse width modulating valve
SSR-1: Solid state relay output for 24V DC/AC supply
SSR-2: Solid state relay output for 90-240 V AC supply

NPT (National Pipe Taper)
BSPT (British Standard Pipe Taper ("R"))
BSPP (British Standard Pipe Parallel ("G"))
UNEF (Unified National Extra Fine)
UNF (Unified National Fine)

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