



Electronic Level Switch HNS 526

Description:

The level switch HNS 526 is a non-contact, highly compact sensor for fluid level measurement in stationary applications.

By definition, its functional principle (measurement of sound transmission time) means that it operates with an extremely high resolution and measurement rate.

The HNS 526 is available for measurement ranges up to 6400 mm and is obtainable in different signal output variants (2 switching outputs; 1 switching output and 1 analogue output, either 4 .. 20 mA or 0 .. 10 V).

The sensor can be adjusted simply and conveniently via two push-buttons and a self-explanatory menu structure according to VDMA.

The actual fluid level can be displayed in a 3-digit digital display either in absolute value or in percent (selectable); 2 three-colour LEDs also indicate the operating status.

Special features:

- Non-contact distance measurement
- Measurement range up to 6400 mm
- Various signal output versions available
- Very high resolution and measurement rate
- Integrated temperature compensation
- 3-digit digital display to show the actual distance
- 2 three-colour LEDs to display the operating status
- Switching and switch-back points can be adjusted independently
- Selectable analogue output (optional)
- Only for use in depressurised applications
- Must be installed vertically to the fluid surface

Technical data:

Input data					
Operating range	280;	480;	1600;	4000;	6400 mm
Blind zone	0 .. 30;	0 .. 85;	0 .. 200;	0 .. 350;	0 .. 600 mm
Maximum range	350;	600;	2000;	5000;	8000 mm
Resolution	≤ 0.18 mm				
Output data					
Accuracy	≤ ± 1 % of the actual measured value				
Repeatability	± 0.15 % of the actual measured value				
Analogue output (optional)					
Signal (short-circuit resistant)	selectable: 4 .. 20 mA, $R_{Lmax} = 100 \Omega (U_B \leq 20 V)$ $R_{Lmax} = 500 \Omega (U_B > 20 V)$ 0 .. 10 V, $R_{Lmin} = 100 k\Omega (U_B \geq 20 V)$				
Switch outputs					
Type	PNP transistor output (short-circuit resistant)				
Switching current	max. 200 mA per switching output				
Switching direction	N/O or N/C, adjustable				
Switching cycles	> 100 million				
Reaction time	32; 64; 92; 172; 240 ms				
Environmental conditions					
Operating temperature	-25 °C .. +70 °C				
Storage temperature range	-40 °C .. +85 °C				
CE mark	DIN EN 60947-5-2 DIN EN 60947-5-7				
Vibration resistance to DIN EN 60068-2-6 (10 .. 55 Hz)	≤ 2 g				
Shock resistance to DIN EN 60068-2-27 (11 ms)	≤ 30 g				
Protection class to EN 60529	IP 67				
Other data					
Supply voltage	9 .. 30 V DC without analogue output 20 .. 30 V DC with analogue output				
Time delay before availability	< 300 ms				
Residual ripple	± 10%				
No-load current consumption	≤ 80 mA				
Electrical connection	Male M12x1, 4 pole				
Housing	Brass, nickel-plated; Ultrasonic transducer with PEEK film				
Controls	2 push-buttons				
Display	3-digit, LED-display, 2 three-colour-LEDs				
Weight	150;	150;	150;	210;	270 g

Note: Reverse polarity protection of the supply voltage and short circuit protection are provided.

Setting options:

All the terms and symbols used for setting the HNS 526 as well as the menu structure comply with the specifications of the German Engineering Federation Standard (VDMA 24574-4) for level switches.

In order to prevent unauthorised adjustment of the device, a key-lock can be set.

Setting ranges of the switching points or switch-back points:

Switching point function distance and window function distance

Oper. scanning range	SP1, SP2, FH1, FH2 *	RP1, RP2, FL1, FL2*
280 mm	2 .. 32 cm 2 .. 13 inch	1 .. 31 cm 1 .. 12 inch
480 mm	2 .. 59 cm 2 .. 23 inch	1 .. 58 cm 1 .. 22 inch
1600 mm	2 .. 180 cm 2 .. 71 inch	1 .. 179 cm 1 .. 70 inch
4000 mm	2 .. 465 cm 2 .. 183 inch	1 .. 464 cm 1 .. 182 inch
6400 mm	2 .. 740 cm 2 .. 291 inch	1 .. 739 cm 1 .. 290 inch

Switching point function:

SP1, SP2 = switching points 1 or 2

RP1, RP2 = switch-back points 1 or 2

Window function.

FH1, FH2 = upper switch values 1 or 2

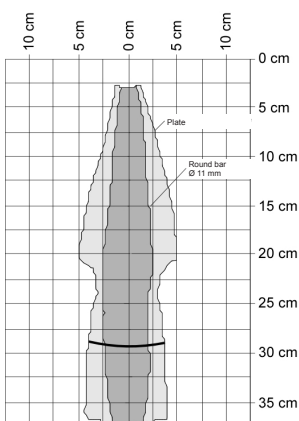
FL1, FL2 = lower switch values 1 or 2

* The increment for all devices is 1 cm or 1 inch.

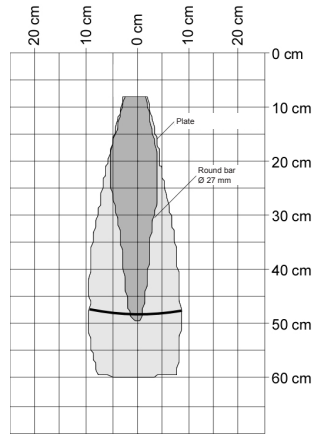
Recording ranges (for different objects):

The grey areas show the detection range for a very large reflector, e.g. a fluid surface, providing the sensor is ideally positioned. Outside the grey area, it is not possible to evaluate the ultrasonic reflections.

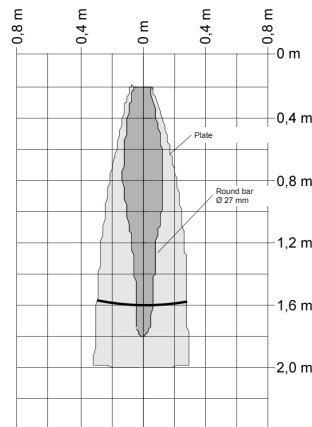
Operational scanning range 280 mm:



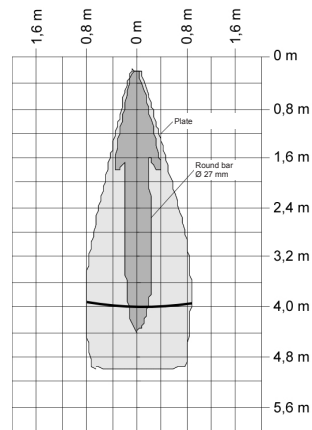
Operational scanning range 480 mm:



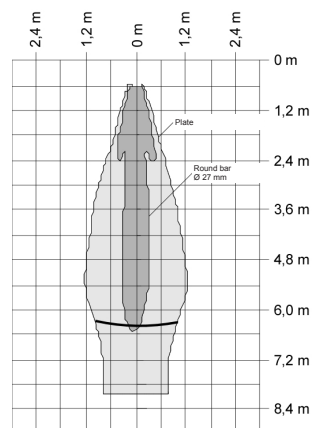
Operational scanning range 1600 mm:



Operational scanning range 4000 mm:



Operational scanning range 6400 mm:

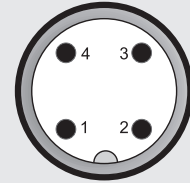


Additional functions:

- Switching mode of the switching outputs adjustable (switching point function or window function)
- Switching direction of the switching outputs adjustable (N/C or N/O function)
- Switch-on delay adjustable from 0 to 20 seconds
- Energy saving mode

Pin connections:

M12x4, 4 pole



Pin	HNS 526-2	HNS 526-3
1	+UB	+UB
2	SP2	I/U
3	0 V	0 V
4	SP1	SP1

Model code:

HNS 5 2 6 - X - XXXX - 000 - F

Mechanical connection

2 = M30x1.5

Electrical connection

6 = Male M12x1, 4 pole
(connector not supplied)

Output

2 = 2 switching outputs

3 = 1 switching output and 1 analogue output

Operational scanning range in mm

0280; 0480; 1600, 4000, 6400

Modification number

000 = Standard

Design, front face of sensor

F = Foil

Note:

On instruments with a different modification number, please read the label or the technical amendment details supplied with the instrument.

Accessories:

Appropriate accessories, such as electrical connectors, can be found in the Accessories brochure.

Note:

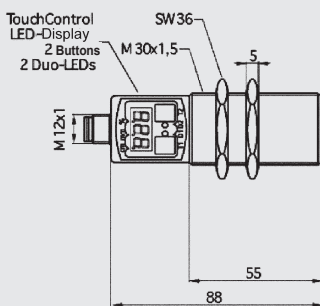
The information in this brochure relates to the operating conditions and applications described.

For applications or operating conditions not described, please contact the relevant technical department.

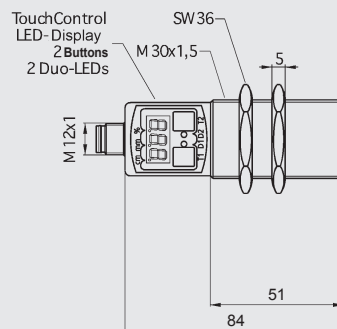
Subject to technical modifications.

Dimensions:

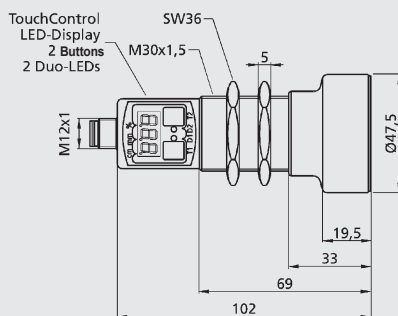
Operational scanning range:
280 mm



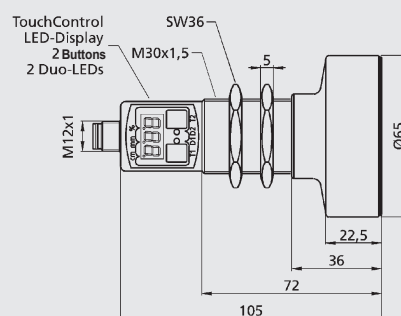
480 mm, 1600 mm



Operational scanning range:
4000 mm



6400 mm



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