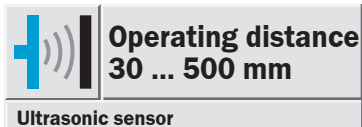


Contact-free level measurement with ultrasonic level switch - UP30



The UP30 ultrasonic level sensor exploits its strengths in particular in smaller pressurised containers, where it is neither influenced by heavy contamination nor media deposits and monitors both limit levels and continuous filling heights regardless of the electrical properties of the media – contact-free and reliably.

Measurement principle:

The ultrasonic sensor cyclically emits short, high-frequency sound pulses. These are radiated at the speed of sound. They are reflected when they meet the surface of the medium and return to the ultrasonic sensor in the form of an echo. The ultrasonic sensor calculates the distance from the time elapsed between emission of the sound pulses and

receipt of the echo signals. This is provided to users as both an analog level signal and a switching signal.

Features:

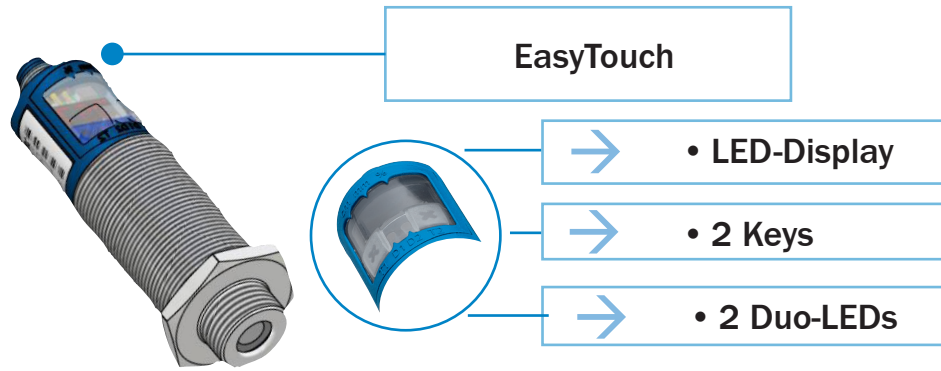
UP30 automatically detects the load put to the analogue output and switches to current output or voltage output respectively.

All settings are done with two push-buttons and a three-digit LED-display (TouchControl). Light emitting diodes (three-colour LEDs) indicate all operation conditions.

- Choosing between rising and falling output characteristic is possible.
- The sensors are adjustable manually using the numerical LED-display or may be trained using Teach-in processes.
- Useful additional functions are set in the Add-on-menu.
- Using the Control+ adapter (optional accessory) all TouchControl and additional sensor parameter settings may be made by a Windows-Software.

Advantages:

- non-contact level measurement up to 500 mm
- display for rapid and flexible adjustments
- a single sensor provides analog and switching outputs
- measurement in small pressure containers up to 6 bar



Technical Data

Operating distance	30 ... 500 mm (700mm)
Ultrasonic frequency	320 kHz
Resolution	0,18 mm
Reproducibility	± 0,15 %
Accuracy ¹⁾	≤ 2 %
Supply voltage V_s ²⁾	DC 9 ... 30 V
Residual ripple	± 10 %
Current consumption ³⁾	≤ 80 mA
Switching outputs, reversible ⁴⁾	PNP: $U_V - 2 V, I_{max} = 200 mA$
Analogue output, reversible ⁴⁾⁵⁾	$Q_A: 4 ... 20 mA/0 ... 10 V$
Response time ⁶⁾	110 ms
Switching frequency	6 Hz
Switching hysteresis	3 mm
Standby delay	< 300 ms
Connection type	M12, 5-polig
Enclosure rating	IP 67
Ambient temperature	Operation -25 °C ... +70 °C Storage -40 °C ... +85 °C
Ultrasonic convertor	PTFE-foil, Viton-O-Ring
Process connection	G 1/2
Pressure resistance/ area of use	0,5 - 6 bar gauge pressure
Weight	150 g
Housing material	Stainless steel 1.4571, PBT, TPU

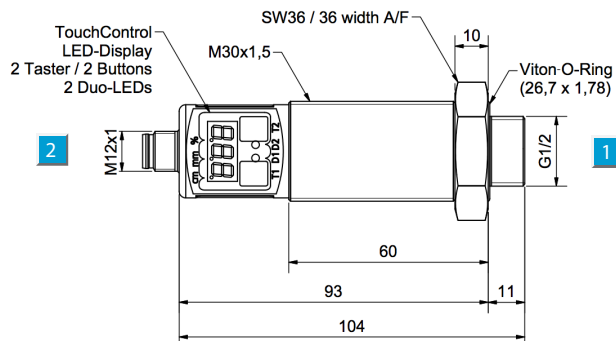
¹⁾ Temperature compensation (can be switched off), or without temperature compensation 0.17%/°K

²⁾ Limit values
³⁾ Without load
⁴⁾ Outputs short-circuit protected

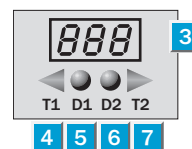
⁵⁾ Automatic switching between voltage and current outputs dependet on load
4 ... 20 mA: $R_L \leq 100 \Omega$ at $9 V \leq U_B \leq 20 V$; $R_L \leq 500 \Omega$ at $U_B \geq 20 V$;
0 ... 10 V: $R_L \geq 100 k\Omega$ at $U_B \geq 15 V$, short-circuit protected

⁶⁾ Recovery time 32 ms ... 180 ms according to EMV EN 50319

Dimensions



Adjustments possible



- 1 Process connection G1/2
- 2 Connection plug M12
- 3 Control and display panel
- 4 Setting key 1
- 5 LED 1
- 6 LED 2
- 7 Setting key 2

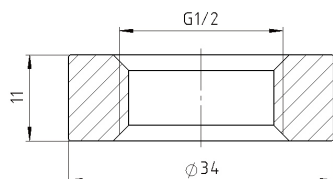
Order information

Type	Order no.
UP30-211118	6037768

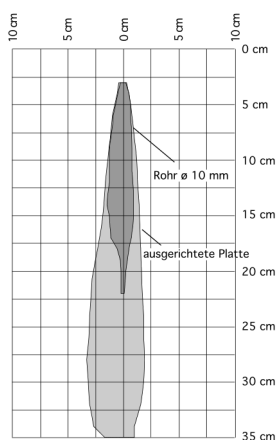
Accessories

Software incl. adapter, cable & CD-Rom	
Type	Order no.
Connect +	6037782

Welded flange G 1/2	
Type	Order no.
1.4404	4057890

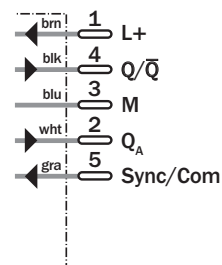
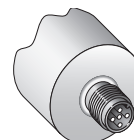


Detection range



Connection type

5-pin, M12



Cables and connectors

Female connector M12, 5-pin, straight

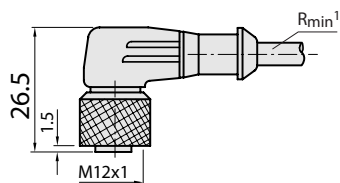
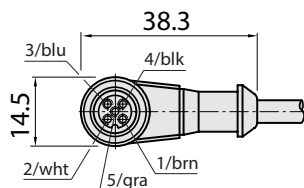
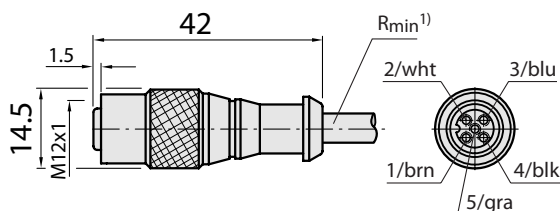
5 x 1 mm², sheath PVC

Type	Order no.	Contacts	Cable length
DOL-1205-G02M	6008899	5	2 m
DOL-1205-G05M	6009868	5	5 m
DOL-1205-G10M	6010544	5	10 m

Female connector M12, 5-pin, angled

5 x 1 mm², sheath PVC

Type	Order no.	Contacts	Cable length
DOL-1205-W02M	6008900	5	2 m
DOL-1205-W05M	6009869	5	5 m
DOL-1205-W10M	6010542	5	10 m



¹⁾ Minimum bend radius in dynamic use
R_{min} = 20 x cable diameter

Female connector M12, straight

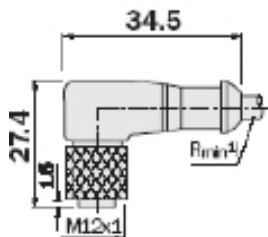
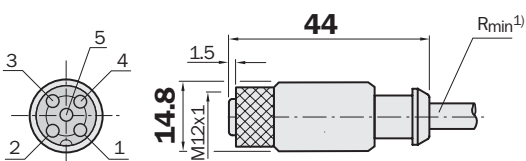
5 x 1 mm², sheath PUR halogenfree

Type	Order no.	Contacts	Cable length
DOL-1205-G02MC	6025906	5	2 m
DOL-1205-G05MC	6025907	5	5 m
DOL-1205-G10MC	6025908	5	10 m

Female connector M12, 5, angled

5 x 1 mm², sheath PUR halogenfree

Type	Order no.	Contacts	Cable length
DOL-1205-W02MC	6025909	5	2 m
DOL-1205-W05MC	6025910	5	5 m
DOL-1205-W10MC	6025911	5	10 m



¹⁾ Minimum bend radius in dynamic use
R_{min} = 20 x cable diameter

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