Ott CBS 500

Applications

Streams, rivers & canals
Reservoirs, lakes & wetlands
Groundwater wells

Ott CBS 500 – Water Level Bubble Sensor

Bubble Sensor for Surface Water and Groundwater

Versatile bubbler system for accurate water level measurement in both surface water and groundwater
Precise and reliable performance with proven air-bubble technology
Low-maintenance design ideal for long-term monitoring installations
Flexible integration into existing monitoring networks and datalogger environments
Optimized for remote and off-grid stations, supporting battery and solar power operation

Proven technology for reliable level data
The Ott CBS 500 uses the proven air bubble principle to measure water level indirectly, making it ideal for surface water and groundwater applications where sensors are exposed to sediment, fouling, or aggressive conditions. No submerged electronics means stable measurements, even in dirty or dynamic water.

Accurate and dependable results
With a resolution of 1 mm and accuracy of up to ±3 mm in shallow ranges, the CBS 500 delivers precise and repeatable water level data across measuring ranges up to 15 m or 30 m.

Low maintenance and long service life
The CBS 500 features an integrated purge function that clears the measuring tube and bubble chamber of minor contamination using a high-volume air pulse. No air-drying unit is required for most applications. This leads to reduced maintenance effort, fewer site visits, and lower total cost of ownership.

Flexible integration into existing networks
With native SDI-1, SDI-12 via RS-485 and Modbus RTU interfaces, the CBS 500 connects easily to OTT, Sutron, and third party dataloggers. Measurement units (metric or imperial) are factory preset and fully configurable. It enables seamless integration into new or existing stations without vendor lock-in.

Built for remote and off-grid stations
The CBS 500 operates on 12/24 V DC and supports battery or solar power. Intelligent pump control minimizes energy consumption while ensuring reliable operation, making it ideal for remote monitoring sites with limited power availability.

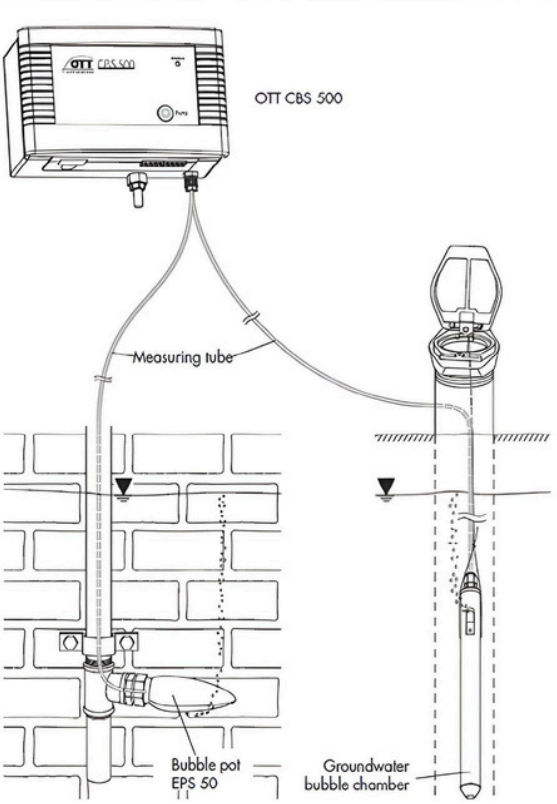
One solution for surface water and groundwater
By selecting the appropriate bubble chamber, the CBS 500 can be used in observation wells, rivers, channels, and reservoirs. Thus, the CBS 500 offers a single, versatile solution for multiple hydrological applications.

Technical Data

CBS 500	Order No. 6320200190	
Measuring range		
Device variant “measuring range 15 m”	0 ... 15 m or 0 ... 1500 mbar	0 ... 50 ft or 0 ... 25 psi
Device variant “measuring range 30 m”	0 ... 30 m or 0 ... 3000 mbar	0 ... 100 ft or 0 ... 50 psi
Resolution	0.001 m · 0.1 cm · 1 mm · 0.1 mbar	0.0033 ft · 0.012 inch · 0.00142 psi
Accuracy		
For measuring range 0 ... 5 m	±3 mm	±0.01 ft
For measuring range 5 ... 15/30 m	±0.065 % of measured value or ±5 mm, whichever value is lower	±0.065 % of measured value or ± 0.164 ft, whichever value is lower
Measuring dynamics (max. level change)	1 m/min	3.28 ft/min
Units	m · cm · mm · mbar · bar	ft · inch · psi · kPa
Interfaces	SDI-12, SDI-12 via RS-485 (V1.4), Modbus RTU via RS-485	

General technical data	
Power supply	10 ... 30 VDC, typ. 12/24 VDC
Current consumption	
Query interval 1 min	Typ. 320 mAh / day (max. 3 700 mAh / day)
Query interval 15 min	Typ. 25 mAh / day (max. 300 mAh / day)
Operating/display elements	
"Pump" membrane button	Call purge function; display error status using LED
"Status" LED	Display operating state/error status
Dimensions (LxWxH)	165 mm x 205 mm x 115 mm
Weight	1500 g
Housing material	ABS
Protection type	IP4X
Measuring tube	
Internal diameter	2 mm and 4 mm or 1/8" (depending on the device variant)
Max. length for 2 mm + ⅛ " internal diameter	100 m
Max. length for 4 mm internal diameter	75 m
Temperature range	
Operation	-20 ... +70 °C
Storage	-40 ... +80 °C
Relative humidity	10 ... 95 %; non-condensing

Installation



Regulatory	
FCC	This device complies with Part 15 of the FCC Rules
CE	This device complies with the essential requirements of the EMC Directive 2014/30/EU
IC	This Class B digital device meets all requirements of the Canadian Regulation, ICES-003, Class B Interference-Causing Equipment Regulations