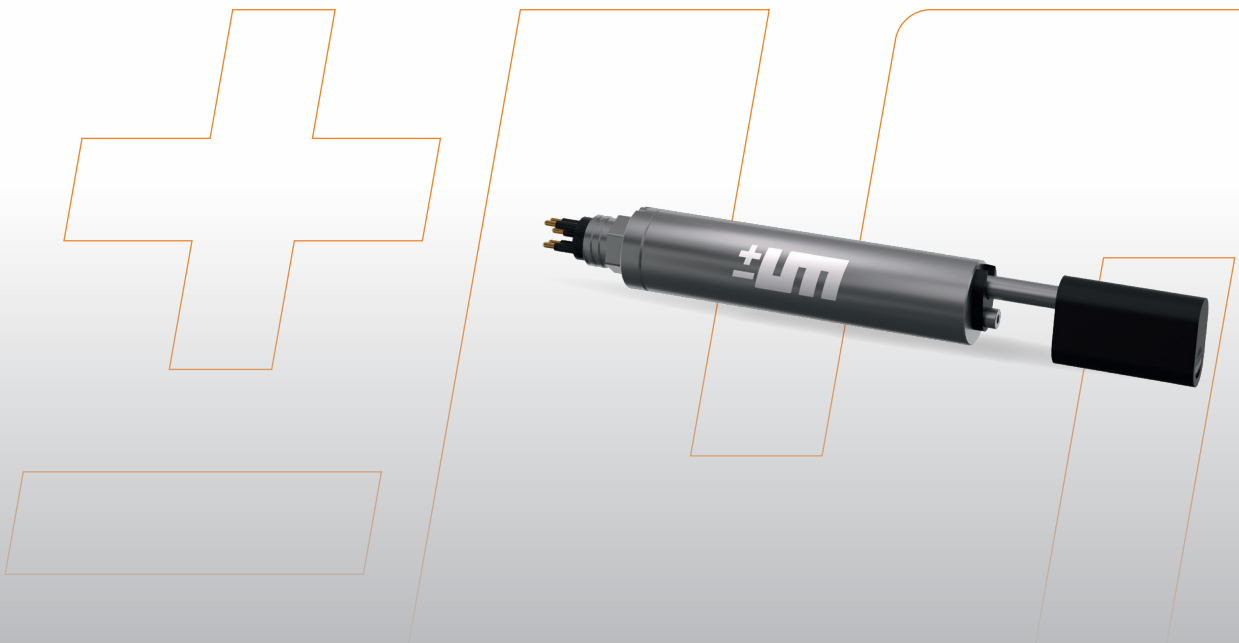


Sensor

Deep-sea conductivity sensor



Sensor



Deep-sea conductivity sensor

7-pin conductivity sensor

The 7-pin conductivity sensor was specifically developed for use in underwater measurement systems and can also be used as a standalone solution. Its optimized design minimizes interference from electric fields and magnetic influences, ensuring precise and stable measurement results.

The sensor and its associated electronics are housed in a titanium enclosure, enabling operation at water depths of up to 6,000 m.

The conductivity cell features seven electrodes arranged in a cylindrical configuration. A central electrode generates the measurement signal in the water, while laterally positioned electrodes detect conductivity. By limiting the measurement field to the interior of the sensor, external influences are reduced. The integrated electronics ensure stable and reliable measurement results.

A key advantage of this measurement cell is its perfectly linear characteristic curve across the entire measurement range, making the sensor ideal for long-term monitoring under demanding conditions.

A multi-core subsea cable is used for power supply and data transmission. To ensure consistently high measurement accuracy, regular cleaning and calibration are recommended to prevent deposits on the electrode surfaces.

Applications

- **Research & development**
Custom measurement setups for oceanography, marine chemistry, geosciences, and environmental studies.
- **Offshore industry**
Integration into customer-specific underwater applications, monitoring systems, and process supervision.
- **Underwater systems manufacturers**
OEM solution for ROVs, AUVs, and stationary deep-sea platforms.
- **Environmental monitoring**
Customizable multisensor systems for real-time data loggers, climate projects, and long-term observations.
- **Custom industrial projects**
Tailor-made solutions for underwater inspection, infrastructure monitoring, and specialized measurements.

Technical details

Measurement principle / sensor design	Quartz glass cell for high-quality measurements; independent of electrical and magnetic fields
Measuring range	Standard 0–60 mS/cm (other ranges available on request)
Dimensions	Diameter 30.0 mm (±0.5 mm), total length approx. 270 mm
Weight (air)	approx. 300 g
Housing material	Titanium
Operating depth	up to 6,000 m
Output signal	RS485 or analog 0–5 V DC (other outputs available on request)
Supply voltage	9–18 V DC (other options on request)
Current consumption	approx. 20 mA
Connector	SubConn MCBH5M titanium version (other versions available on request)



UNION Sensors GmbH
Estlandring 9, D-23560 Lübeck

Tel.: +49 721 6803810

info@union-sensors.com

www.union-sensors.com

