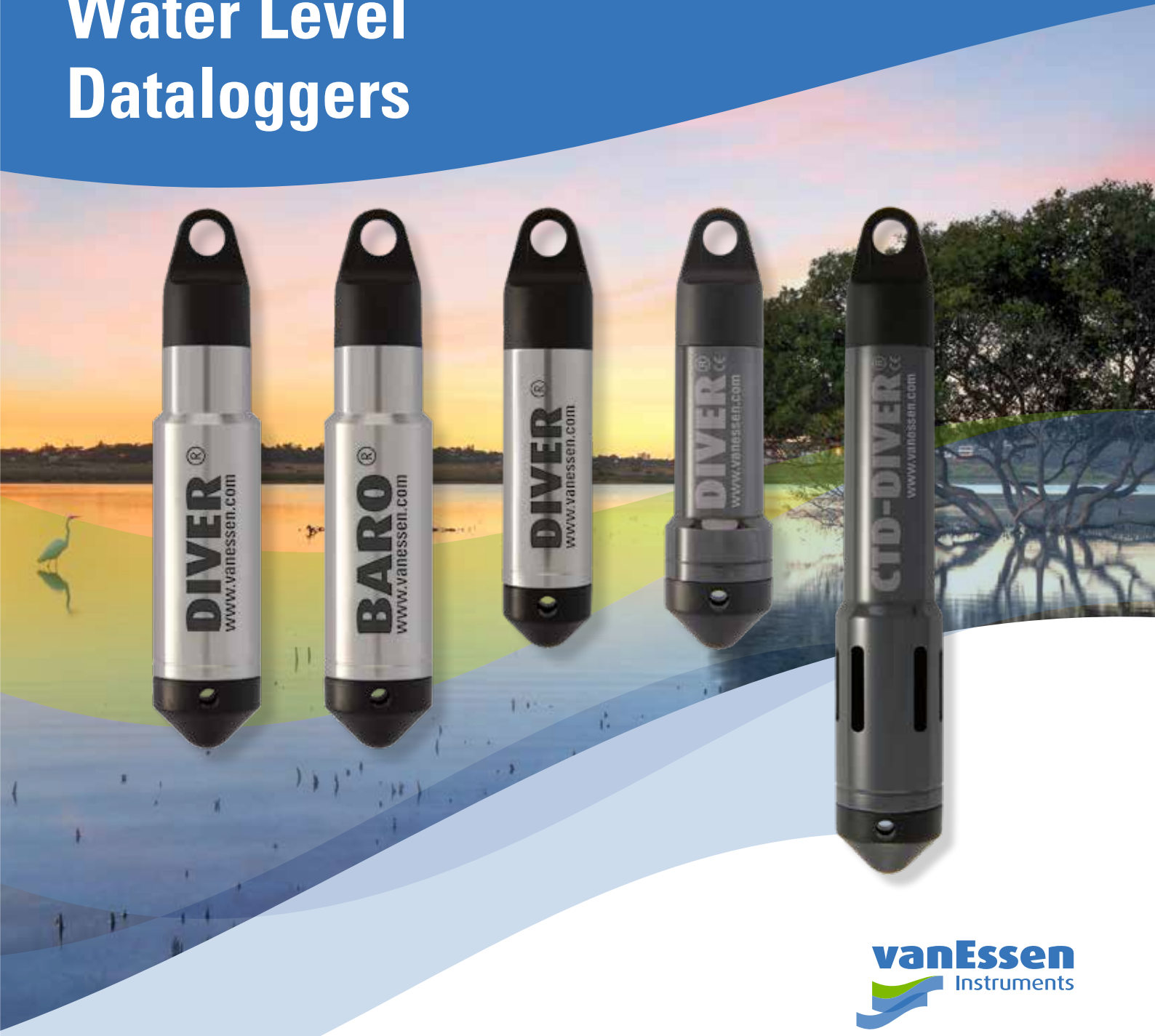
Water Level Dataloggers



vanEssen Instruments

TD-Diver

- Long-term groundwater monitoring
- Watershed and recharge monitoring
- Storm water discharge

Superior Long-term Performance

The TD-Diver is based on an ingenious and proven concept and is acknowledged as the most reliable instrument for the autonomous measuring and recording of groundwater level and temperature.
Its internal working memory of 72,000 measurements per parameter provides sufficient capacity to perform one measurement every 15 minutes for over 2 years.
For each measurement, the Diver registers the date and time, groundwater level, and temperature.

Technical Specification

Length	110 mm
Diameter	22 mm
Weight	104 grams
Memory	72,000 measurements with backup; continuous and fixed length memory
Wetted parts	
housing	stainless steel 316L
o-rings	Viton ®
pressure sensor	piezoresistive ceramic
cap / nose cone	Nylon PA6 30% glass fiber / ABS
Battery life	up to 10 years (dependent on usage)
Sample interval	½ second to 99 hours
Sample methods	fixed

Temperature

Range	-20 to 80	°C
Calibrated	0 to 50	°C
Accuracy*	± 0.1	°C
Resolution	0.01	°C

Pressure

Part number	DI 801	DI 802	DI 805	DI 810
Range	10	20	50	100 mH_2O
Accuracy*	± 0.5	± 1.0	± 2.5	± 5.0 cmH_2O
Resolution	0.06	0.09	0.19	0.36 cmH_2O

* typical accuracy

Baro-Diver

- Atmospheric pressure
- Wetlands monitoring
- Flood management

Reference of Choice

The Baro-Diver ensures that you accurately capture changes in atmospheric pressure. Conveniently priced and easy to deploy, one Baro-Diver covers a radius of up to 15 km, depending on the topography.
The Baro-Diver can also be used for measuring shallow water levels up to approximately 0.9 meter.
The Baro-Diver has an internal working memory capable of storing 72,000 measurements per parameter. For each measurement, the Baro-Diver simultaneously registers barometric pressure, air temperature, date and time.

Technical Specification

Length	110 mm
Diameter	22 mm
Weight	104 grams
Memory	72,000 measurements with backup; continuous and fixed length memory
Wetted parts	
housing	stainless steel 316L
o-rings	Viton ®
pressure sensor	piezoresistive ceramic
cap / nose cone	Nylon PA6 30% glass fiber / ABS
Battery life	up to 10 years (dependent on usage)
Sample interval	½ second to 99 hours
Sample methods	fixed

Temperature

Range	-20 to 80	°C
Calibrated	-10 to 50	°C
Accuracy*	± 0.1	°C
Resolution	0.01	°C

Pressure

Part number	**DI 800**	
Range	1.5	mH_2O
Accuracy*	± 0.5	cmH_2O
Resolution	0.03	cmH_2O

*typical accuracy

Micro-Diver

- Engineering and construction
- Shallow water monitoring
- Aquifer characterization

Compact Size

Measuring only 88 mm in length and 18 mm in diameter, the Micro-Diver is the smallest Diver capable of accurately recording groundwater levels and temperature.
The Micro-Diver is specifically designed for monitoring wells or drive-points too small to accommodate larger dataloggers.
In addition to its compact size, the Micro-Diver's memory capacity can store up to 48,000 measurements per parameter - almost one measurement every ten minutes for an entire year.

Technical Specification

Length	88 mm
Diameter	18 mm
Weight	45 grams
Memory	48,000 measurements; fixed length memory
Wetted parts	
housing	stainless steel 316L
o-rings	Viton ®
pressure sensor	piezoresistive ceramic
cap / nose cone	Nylon PA6 30% glass fiber / ABS
Battery life	up to 10 years (dependent on usage)
Sample interval	½ second to 99 hours
Sample methods	fixed, event dependent, averaging, and pumping test

Temperature

Range	-20 to 80	°C
Calibrated	0 to 50	°C
Accuracy*	± 0.1	°C
Resolution	0.01	°C

Pressure

Part number	**DI 601**	**DI 602**	**DI 605**	**DI 610**
Range	10	20	50	100 mH_2O
Accuracy*	± 1.0	± 2.0	± 5.0	±10.0 cmH_2O
Resolution	0.06	0.09	0.19	0.36 cmH_2O

*typical accuracy

Cera-Diver

- Estuary monitoring
- Heap leach
- Underground plume monitoring

Corrosion Proof

Monitoring groundwater under potentially corrosive conditions, such as brackish water and seawater, requires a robust and durable datalogger.
The ceramic-shelled Cera-Diver is designed specifically for such environments. This highly reliable and compact Diver measures groundwater levels with a typical accuracy of ±0.05% full scale.
The Cera-Diver is equipped with a memory for 48,000 measurements per parameter.

Technical Specification

Length	90 mm
Diameter	22 mm
Weight	50 grams
Memory	48,000 measurements; fixed length memory
Wetted parts	
housing	ceramic (ZrO_2)
o-rings	Viton ®
pressure sensor	piezoresistive ceramic
cap / nose cone	Nylon PA6 30% glass fiber / ABS
Battery life	up to 10 years (dependent on usage)
Sample interval	½ second to 99 hours
Sample methods	fixed, event dependent, averaging, and pumping test

Temperature

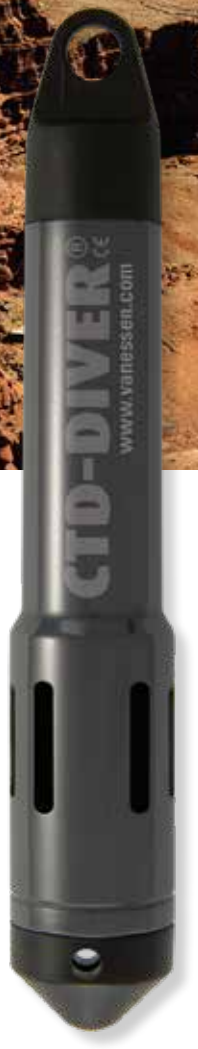
Range	-20 to 80	°C
Calibrated	0 to 50	°C
Accuracy⁺	± 0.1	°C
Resolution	0.01	°C

Pressure

Part number	**DI 701**	**DI 702**	**DI 705**	**DI 710**
Range	10	20	50	100 mH_2O
Accuracy⁺	± 0.5	± 1.0	± 2.5	± 5.0 cmH_2O
Resolution	0.06	0.09	0.19	0.36 cmH_2O

⁺ typical accuracy

CTD-Diver



- Mine tailings
- Pollution monitoring
- Water quality monitoring

3 Parameters in 1 Housing

Where there is a need to monitor groundwater levels and saltwater intrusion, injected wastewater, or contamination from chemical discharges and landfill sites, the CTD-Diver with its rugged, corrosion proof ceramic housing, is the instrument of choice.
The CTD-Diver is equipped with a four-electrode conductivity sensor that measures electrical conductivity from 0 to 120 mS/cm. There are two options for measuring conductivity: true or specific conductivity at 25 °C. Additionally, pressure and temperature are measured and recorded.

Technical Specification

Length	135 mm
Diameter	22 mm
Weight	95 grams
Memory	144,000 measurements with backup; continuous and fixed length memory
Wetted parts	
housing	ceramic (ZrO_2)
conductivity sensor	platinum electrodes
o-rings	Viton ®
pressure sensor	piezoresistive ceramic
cap / nose cone	Nylon PA6 30% glass fiber / ABS
Battery life	up to 10 years (dependent on usage)
Sample interval	1 second to 99 hours
Sample methods	fixed, event dependent, averaging, and pumping test

Temperature

Range -20 to 80	°C
Calibrated 0 to 50	°C
Accuracy* ± 0.1	°C
Resolution 0.01	°C

Conductivity

Range 1	0 to 120 mS/cm
Range 2	0 to 30 mS/cm
Accuracy*	± 1% of reading
Resolution	0.1% of reading

Pressure

Part number	DI 281	DI 282	DI 283	DI 284	
Range	10	50	100	200	mH_2O
Accuracy*	± 0.5	± 2.5	± 5.0	±10.0	cmH_2O
Resolution	0.06	0.19	0.36	0.72	cmH_2O

*typical accuracy

Remote Monitoring

Remote Monitoring

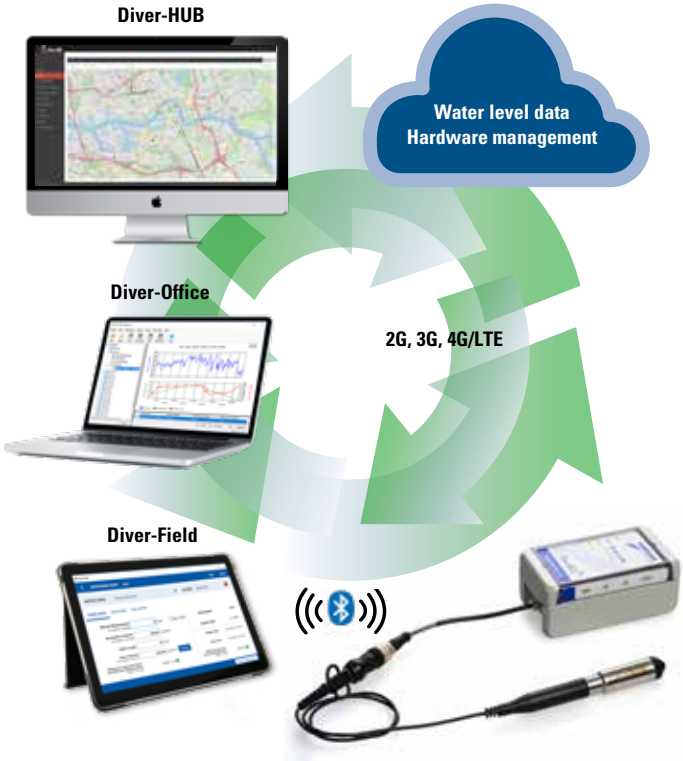
The Diver-NETZ remote monitoring system integrates field instrumentation with wireless communication and data management to effectively manage groundwater resources. A key part in this system is the Diver-Link, a compact 4G/LTE telemetry unit. The Diver-Link is suitable for continuous long- and short-term monitoring projects.

Seamless Integration

Diver-Link is easy-to-install in a variety of borehole locations such as flush mount and stick-up wells. The Diver-Link transmits data from up to 3 Diver dataloggers over a cellular network. Easily integrate Diver-Link into the Diver-HUB web portal for real-time management of site data, monitoring equipment and water levels.

Configuration and Management Made Simple

Configuration and management of the unit is easily done through the Diver-HUB web portal. Deployment of the Diver-Link simply consists of inserting the battery and connecting a Diver to it. In the field, Diver-Link can be operated through Bluetooth Smart or using the magnetic function keys to activate the unit. Future firmware updates are automatically executed 'over-the-air', so there is no need for additional site visits.



Smart Monitoring Technology

- Urban water management
- Water resources management
- Mining
- Surface water
- Remediation

Van Essen Instruments
offers a complete portfolio
with regards to technology as well as advice in the field of groundwater monitoring networks.
Reliable and accurate sensors are being combined with the latest developments in the field of wireless communication and data visualization. Van Essen Instruments not only offers high-quality groundwater data but also solutions to manage a groundwater monitoring network more effective and efficient.

Diver-Suite

Diver-Suite from Van Essen Instruments provides a robust line of Diver dataloggers for groundwater and environmental professionals. The Diver dataloggers accurately measure and record fluctuations in groundwater levels, temperature and conductivity.

Suitable for Any Environment

From the technologically advanced TD-Diver to the corrosion resistant CTD-Diver, Diver dataloggers are hermetically sealed to external influences. Electrical and/or environmental effects cannot affect the measurement results. With an extended battery life up to 10 years, this translates to long-term uninterrupted service.
Divers can be used from 300 meters below to 5,000 meters above sea level without the need to reprogram the datalogger. All Divers operate from -20 to 80 °C.

Accurate Measurements

Divers monitor groundwater pressure with a typical accuracy of ±0.05% full scale range from 0 to 50 °C. The CTD-Diver is equipped with a four-electrode sensor for recording conductivity with an accuracy of ±1% of reading.

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