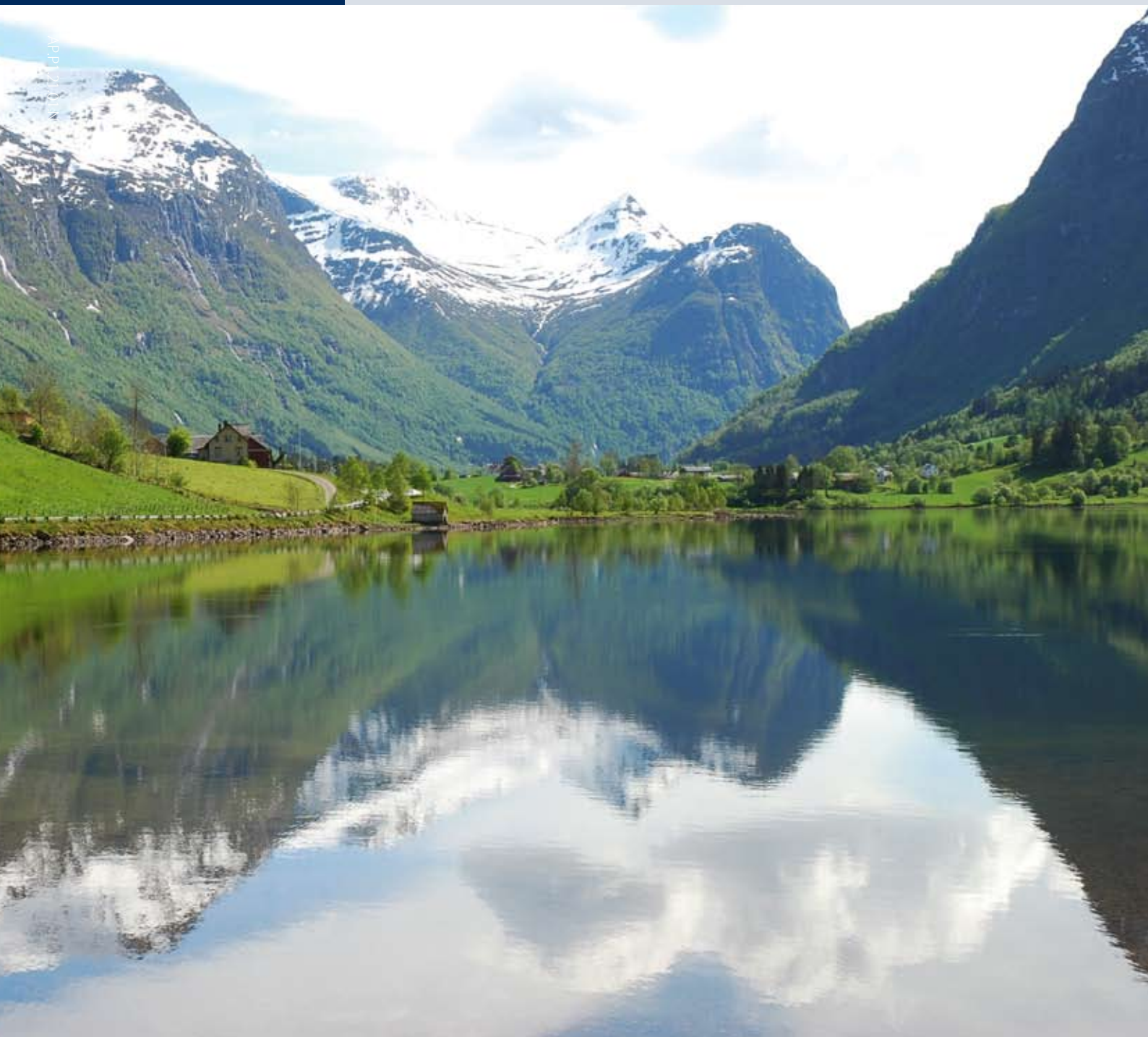


# Ground water monitoring and communication solutions

## Diver<sup>®</sup> /e-SENSE<sup>®</sup>



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All it takes for environmental research



# Technical specifications

## MiniDiver

<b>Measuring frequency</b>	: 0.5 sec up to 99 hours (fixed only)
<b>Memory capacity</b>	: 24,000 measurements (non-volatile)
<b>Material housing</b>	: stainless steel 316L
<b>Material pressure sensor</b>	: ceramic (Al <sub>2</sub> O <sub>3</sub> )
<b>Temperature range</b>	: -20 °C up to 80 °C
• <b>accuracy</b>	: ± 0.1 °C (OT)
• <b>resolution</b>	: 0.01 °C
• <b>compensated range</b>	: 0 °C up to 40 °C
<b>Battery life</b>	: 8-10 years (dependent on use)
<b>Dimensions</b>	: Ø 22 mm x 90 mm
<b>Weight</b>	: 70 grams

Type	11.11.01.02	11.11.01.04	11.11.01.06	11.11.01.08
Measuring range	10mH <sub>2</sub> O	20mH <sub>2</sub> O	50mH <sub>2</sub> O	100mH <sub>2</sub> O
• typ. accuracy**	± 0.05% FS***	± 0.05% FS	± 0.05% FS	± 0.05% FS
• resolution	0.25 cmH <sub>2</sub> O	0.4 cmH <sub>2</sub> O	1 cmH <sub>2</sub> O	2 cmH <sub>2</sub> O

BaroDiver	11.11.55.01
Measuring range	1.5 mH <sub>2</sub> O
• typ. accuracy**	± 0.5 cmH <sub>2</sub> O
• resolution	0.25 cmH <sub>2</sub> O



## MicroDiver

<b>Measuring frequency*</b>	: 0.5 sec up to 99 hours
<b>Memory capacity</b>	: 48,000 measurements (non-volatile)
<b>Material housing</b>	: stainless steel 316L
<b>Material pressure sensor</b>	: ceramic (Al <sub>2</sub> O <sub>3</sub> )
<b>Temperature reach</b>	: -20 °C up to 80 °C
• <b>accuracy</b>	: ± 0.1 °C (OT)
• <b>resolution</b>	: 0.01 °C
• <b>compensated range</b>	: 0 °C up to 40 °C
<b>Battery life</b>	: 8-10 years (dependent on use)
<b>Dimensions</b>	: Ø 18 mm x 90 mm
<b>Weight</b>	: 50 grams

Type	11.11.02.02	11.11.02.04	11.11.02.06	11.11.02.08
Measuring range	10 mH <sub>2</sub> O	20 mH <sub>2</sub> O	50 mH <sub>2</sub> O	100 mH <sub>2</sub> O
• typ. accuracy**	± 0.15% FS***	± 0.15% FS	± 0.15% FS	± 0.15% FS
• resolution	0.25 cmH <sub>2</sub> O	0.4 cmH <sub>2</sub> O	1 cmH <sub>2</sub> O	2 cmH <sub>2</sub> O

BaroDiver	11.11.55.01
Measuring range	1.5 mH <sub>2</sub> O
• typ. accuracy**	± 0.5 cmH <sub>2</sub> O
• resolution	0.25 cmH <sub>2</sub> O



\*) Various measuring methods available (steady, variety dependent, averages and pump tests)

\*\*) Within temperature compensated range

\*\*\*) Full Scale

# Technical specifications

## CeraDiver

<b>Measuring frequency*</b>	: 0.5 sec up to 99 hours
<b>Memory capacity</b>	: 48,000 measurements (non-volatile)
<b>Material housing</b>	: ceramic (ZrO <sub>2</sub> )
<b>Material pressure sensor</b>	: ceramic (Al <sub>2</sub> O <sub>3</sub> )
<b>Temperature reach</b>	: -20 °C up to 80 °C
<b>• accuracy</b>	: ± 0.1 °C (OT)
<b>• resolution</b>	: 0.01 °C
<b>• compensated range</b>	: 0 °C up to 40 °C
<b>Battery life</b>	: 8-10 years (dependent on use)
<b>Dimensions</b>	: Ø 22 mm x 90 mm
<b>Weight</b>	: 55 grams

Type	11.11.03.02	11.11.03.04	11.11.03.06	11.11.03.08
Measuring range	10 mH <sub>2</sub> O	20 mH <sub>2</sub> O	50 mH <sub>2</sub> O	100 mH <sub>2</sub> O
• typ. accuracy**	± 0.05% FS***	± 0.05% FS	± 0.05% FS	± 0.05% FS
• resolution	0.25 cmH <sub>2</sub> O	0.4 cmH <sub>2</sub> O	1 cmH <sub>2</sub> O	2 cmH <sub>2</sub> O

BaroDiver	11.11.55.01
Measuring range	1.5 mH <sub>2</sub> O
• typ. accuracy**	± 0.5 cmH <sub>2</sub> O
• resolution	0.25 cmH <sub>2</sub> O

## CTD-Diver

<b>Measuring frequency</b>	: 1 sec up to 99 hours
<b>Memory capacity</b>	: 48,000 measurements (non-volatile)
<b>Material housing</b>	: ceramic (ZrO <sub>2</sub> )
<b>Material pressure sensor</b>	: ceramic (Al <sub>2</sub> O <sub>3</sub> )
<b>Temperature</b>	: -20 °C up to 80 °C
<b>• accuracy</b>	: ± 0.1°C (OT)
<b>• resolution</b>	: 0.01 °C
<b>• compensated range</b>	: 0 °C up to 50 °C
<b>Conductivity</b>	
<b>• reach</b>	: 0 up to 120 mS/cm
<b>• accuracy</b>	: ± 1% of the measured value or 10 µS/cm, whatever the largest
<b>• resolution</b>	: 0.1% of the measured value or 0.1 µS/cm, whatever the largest
<b>Battery life</b>	: 10 years (dependent on use)
<b>Dimensions</b>	: Ø 22 mm x 135 mm
<b>Weight</b>	: 95 grams

Type	11.11.59.01	11.11.59.02	11.11.59.03
Measuring range	10 mH <sub>2</sub> O	50 mH <sub>2</sub> O	100 mH <sub>2</sub> O
• typ. accuracy**	± 0.05 % FS***	± 0.05 % FS	± 0.05 % FS
• resolution	0.2 cmH <sub>2</sub> O	1.0 cmH <sub>2</sub> O	2.0 cmH <sub>2</sub> O

BaroDiver	11.11.55.01
Measuring range	1.5 mH <sub>2</sub> O
• typ. accuracy**	± 0.5 cmH <sub>2</sub> O
• resolution	0.1 cmH <sub>2</sub> O



\*) Various measuring methods available (steady, variety dependent, averages and pump tests)

\*\*) Within temperature compensated range

\*\*\*) Full Scale

# Communicating with Diver®

## Hardware

### Reading Diver data

There are different options to install Divers in the field or to read out Diver data in the field or the office environment:

If the Diver is installed in the borehole with use of a standard stainless steel or Vectran (non-corrodible) cable, the Diver has to be removed from the borehole to read out the data. The Diver is connected to the computer using a special reading unit.

Next to the standard stainless steel cable used to install a Diver in a borehole, the Diver Data Cable is the other option. With this cable the Diver can be connected to the top of the borehole. This allows reading out the Divers' memory changes without removing the Diver from the well. Diver Data Cables are available in standard lengths for attachment to any Diver type, even up to 200 m length. To connect a laptop PC or the Pocket PC to the wellhead, a 1.5 m interface cable is quickly attached. This allows downloading and / or programming in the field.

### Diver-Mate

Plug-in, download and store data right in the field. Diver-Mate is a simple storage device that connects directly to Diver Data Cables. It is cost-effective and minimizes the need for carrying laptops into the field. Because of the MiniSD Card (512 MB) Diver-Mate stores almost an unlimited number of full Diver memory reads. The instrument is powered by an internal rechargeable battery (charge by USB port), with time to read more than 500 Divers.



## Software

### Diver-Pocket (Reader / Manager)

This Personal Digital Assistant (PDA) software package can be used on a PocketPC for programming Divers and reading stored measurements. Diver-Pocket comes in two variants: 'Diver-Pocket Reader' enables you to read data, while 'Diver-Pocket Manager' also includes the Diver programming facility. For this purpose, the Divers must be connected to a Reading Unit or through an interface cable to the Diver Data Cable.

Requirements: Windows Mobile 2002 or 2003 or Windows Mobile 5, USB Host CF Card.

### Diver-Office

Read-out and program multiple Diver dataloggers in the office and prepare your data for advanced analysis using the Waterloo Hydrogeologic modeling software. Diver-Office simplifies readout and programming of the Diver in the office. Built-in features include CTD-Diver Calibration Wizard and Barometric Compensation Wizard. With Diver-Office you can export to various file formats for advanced analysis (e.g. CSV, MON, NITG, etc.)

Requirements: Windows 2000, XP and Vista, USB port.

