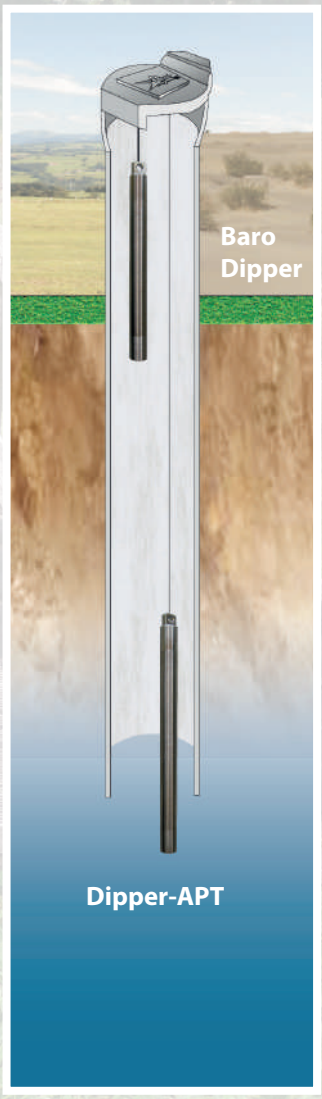
SEBA HYDROMETRIE



Dipper-APT and Baro-Dipper

Reliable measurement of water level and temperature (with absolute pressure sensor)

- Cost-effective measurement of water level and temperature
- Precise and long-term stability
- Slim design, easy operation
- Individually programmable
- Practically maintenance-free
- IP68 – ideal for applications in flood risk areas
- Absolute pressure measurement
- Baro-Dipper for barometric compensation

ISO 9001:2015 QZV We are certified Quality is our standard

C12_Dipper-APT_Baro-Dipper_e 10.02.2025


Pump tests


Groundwater monitoring

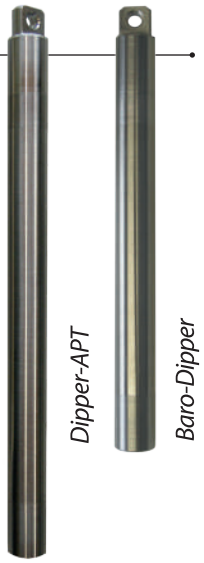

Long-Term Monitoring

Dipper-APT und Baro Dipper

The **Dipper-APT** from SEBA provides automatic groundwater measurements and collection of level and temperature. The groundwater data logger is only 300 mm long and has a diameter of 22 mm – therefore the Dipper-APT is suitable for applications in wells from as little as 1".

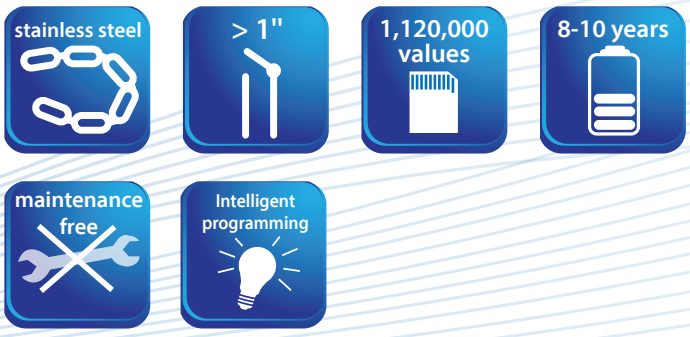
The installation of a **Dipper-APT** groundwater data logger is exceptionally simple and cost effective: In order to monitor and record the level and temperature variation in a well with its flash-memory, the logger is simply attached to the casing with either a thin Kevlar- or steel cable and then lowered down. As the Dipper-APT is not barometrically compensated, an entire monitoring system requires just one additional Baro-Dipper.
This Baro-Dipper is utilised to record the barometric pressure.

The variations in barometric pressure are compensated subsequently fast and simple with the aid of the DEMASdb software.
For a monitoring network in a geographically defined area, the installation of a single Baro-Dipper may suffice. We are happy to advise and offer solutions to your personal requirements.
With our operation terminals and software applications we offer our clients all the essentials for the set up and operations of an up-to-date groundwater monitoring system from a single source.



Logger

- Ruggedised stainless-steel housing for use in extreme conditions (e.g. monitoring of landfill sites, contaminated land, etc.).
- Slim 22 mm Ø, 300mm lengh for installation in well casings starting at 1"
- Large 16 MB loop memory for 1,120,000 measurement values. (More than enough to be able to turn your attention away from the calendar, even with short measuring intervals.)
- Minimal maintenance required due to low power consumption. Two lithium batteries ensure high operational reliability and have an approximate lifespan of 8-10 years. This reduced maintenance regime saves operational costs and is kind to the environment.



Sensor technology

In order to supplement the brilliant range of SEBA data loggers and to ensure complete reliability of the measurements, SEBA uses oil-free, ceramic pressure sensors with a measurement range of 0-200 m.
They provide precise and reliable measurements, impress with their exellent long-term stability, and are robust and easy to clean. Airpressure variations are compensated for immediately using a special measuring cable with an integrated pressure-compenssation tube.
The high-precision temperature sensor integrated into the Dipper-APT as standard leaves nothing to be desired.

capacitive, ceramic pressure sensor


Flood-proof

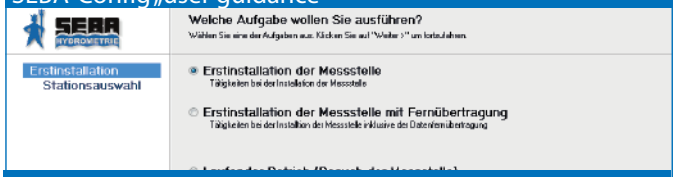

Well control

OPERATION SOFTWARE

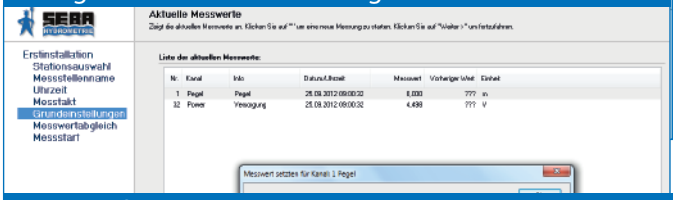
SEBA-Config PC

The new “SEBA- Config” software for Windows, offers the user a comprehensive, “easy to use tool” for initial installation and subsequent operation. Programming a logger has never been easier: Install the Dipper-APT, launch SEBA-config and off you go!
Of course, the Dipper-APT does more than just collect data. In the corresponding mode, it also provides you with exactly the measured data that you actually need: Quicklog mode for pumping tests, results mode for recording incidents of excess levels or shortfalls, determination of average values in the monitoring of surface-water levels, or simply taking measurements at fixed intervals. Voila!
Additionally, with the SEBA-Config software it is possible to insert check values recorded during site visits, so that later back in the office a detailed quality assurance (QA) on the PC is possible.

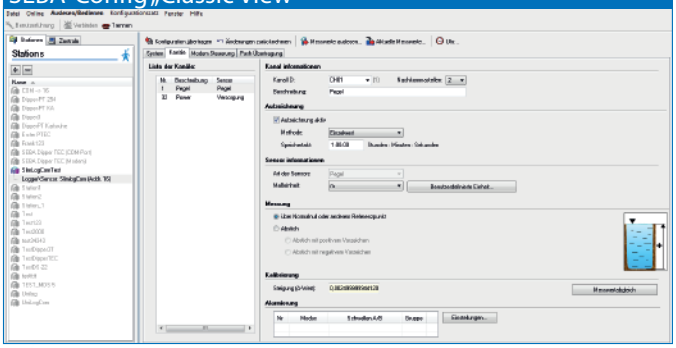
SEBA-Config „user guidance“



Configuration with SEBA-Config



SEBA-Config „Classic View“

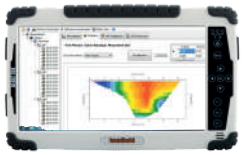
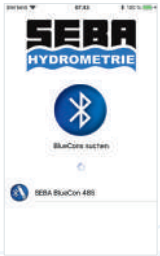


SEBA-ConfigApp

The users of tablet PCs and smartphones can also use SEBA-Config on their devices.
With SEBA-ConfigApp for iOS and Android operating systems, programming is clear and simple. With just one click, the retrieved time series are delivered to the user in the form of graphs and/or a list for plausibility checking.

Connectivity options

SEBA loggers can be downloaded and programmed with any operation terminal of your choice.

Operation Terminal	Mode of Transmission	Operation software
Notebook (Windows)	**Interface Converter (RS 485/USB)**	**SEBA-Config**
		
HDA-Pro (Windows)	**Interface Converter (RS 485/USB)**	**SEBA-Config**
		
Tablet (Android, iOS)	**Bluetooth®** **BlueCon 2**	**SEBA-ConfigApp**
	 	  
Smartphone (Android, iOS)	**Bluetooth®** **BlueCon2**	**SEBA-ConfigApp**
	 	  


Monitoring well


Subsurface installation

To be used with ...

Are you already using Dipper-APT, but need current data without having to travel constantly to your measuring sites to download it?
Do you want to save on operating costs for maintaining your monitoring network?
Do you have underground and/or above-ground measuring sites with a pipe diameter of 2" or more? Then we have the solution!

Dipper-PT with data transmission:

SlimCom

With the SEBA „SlimCom" remote data transmission module with integrated 4G or LTE-M modem, your data can now come to your office. Simply insert a data card, connect the "SlimCom" to the Dipper-PT(EC) and program the destination address. Whether in routine operation or in the case of an incident: your "SlimCom" sends you all relevant data independently to a communication server of your choice. Using freely programmable time slots, you can also adjust parameters remotely or retrieve data conventionally.

The RDT modules SlimCom 4G and SlimCom LTE-M are operated with standard, easily replaceable 1.5 V alkaline manganese batteries. Optionally, the use of commercially available 3.6 V lithium batteries is also possible and makes sense if long service lives of several years are to be achieved without changing the batteries (example: hourly measurement of water level and temperature, 1 x daily remote data transmission via LTE-M: approx. 5 years). Maximum operational safety is achieved through the energetic decoupling of the SEBA's data logger Dipper-PT and the SlimCom. If a malfunction does occur, this will not affect the operability and functionality of your Dipper PT. Your data is safe!

Furthermore, not only does the Dipper and "SlimCom" system detect when alarm conditions have been breached, but it also reacts promptly to them by transmitting data at shorter intervals (dynamic push). This ensures that you have always things under control. Especially when it really matters.

Maintenance and battery replacement are also very easy with the „SlimCom": With the help of a hanging ring integrated in the SEBA cap (optional), the „SlimCom" can be easily removed from the measuring point. Routine battery replacement is also completely uncomplicated with the practical bayonet lock.
the practical bayonet lock.

Visualisation- and Management Software

DEMASdb and DEMASvis

Ultimately, you want to be able to work effectively with the collected data on your own PC. Right? Experience shows that this can be a rather tedious process with the usual spreadsheet programs. With our “DEMASdb” data-management software and “DEMASvis” for visualizing and processing time series, you have everything you need! Your data flows freely and without hindrance from your measuring site to your database archive, with no cumbersome conversion processes — this saves huge amounts of time, money and patience when it comes to data handling.

DEMASdb is a graphical database interface designed especially for the purpose of recording, archiving and managing measured data. DEMASdb is suitable for both large and small monitoring networks. Whether it is online or offline data, DEMASdb channelizes all incoming measured data, stores these in the built-in database, and therefore brings order to the system.

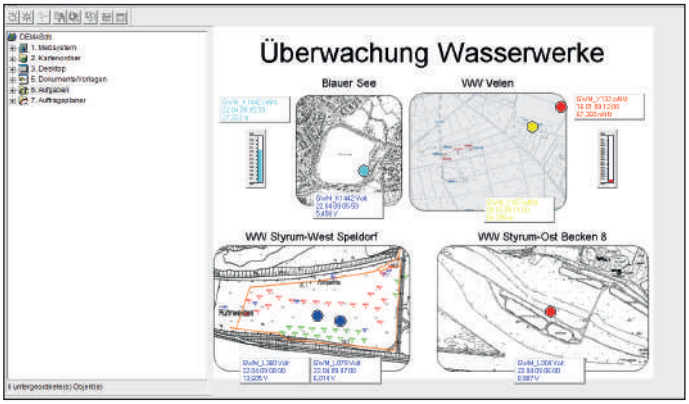
Alternatively, DEMASdb can also be linked to existing SQL databases (e.g., Oracle, Microsoft SQL Server, MySQL). DEMASdb is also multiuser capable: a large number of users can access the data set, and yet the system ensures that all data remains consistent. Configurable user rights can be used to impose restrictions on partially authorized or unauthorized users.

With the DEMASdb’s export function, you can convert your time series into various formats and pass them on to third parties.

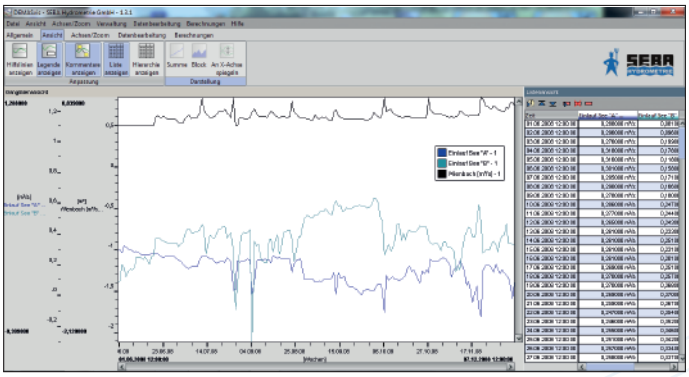
DEMASvis can be supplied both as a single-workstation application and as a module in conjunction with DEMASdb. A simple click on the desired measuring site in the Stations Explorer opens DEMASvis in order to display the collected data in a clear form as a graph or list. Furthermore, a multitude of editing and calculation functions are available to you, along with extensive correction options (reference correction, drift correction, and more).

Interested? Download both tools from our download archive at www.seba-hydrometrie.com and give them a try!

DEMASdb



DEMASvis



The System in Operation

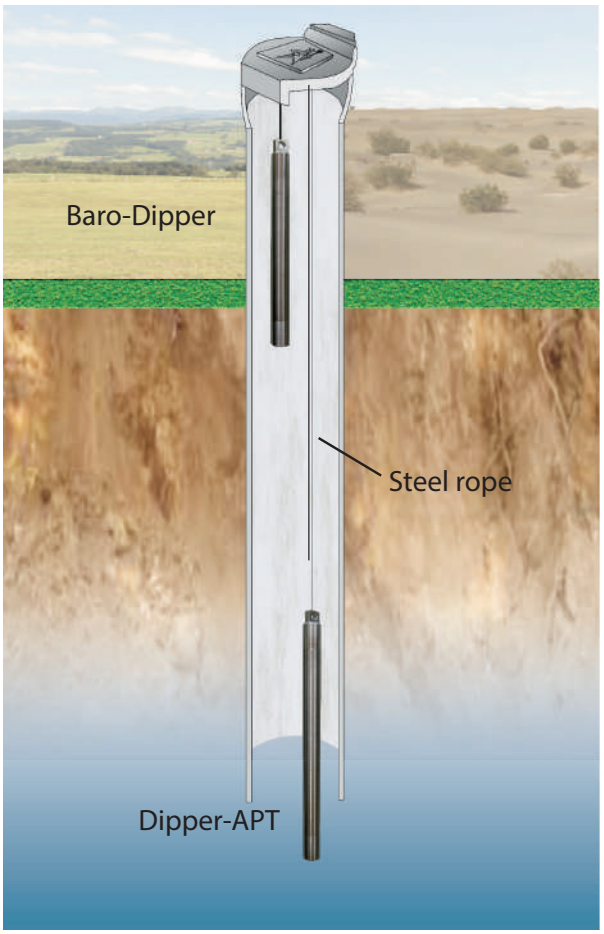
Interaction of Dipper-APT and Baro-Dipper

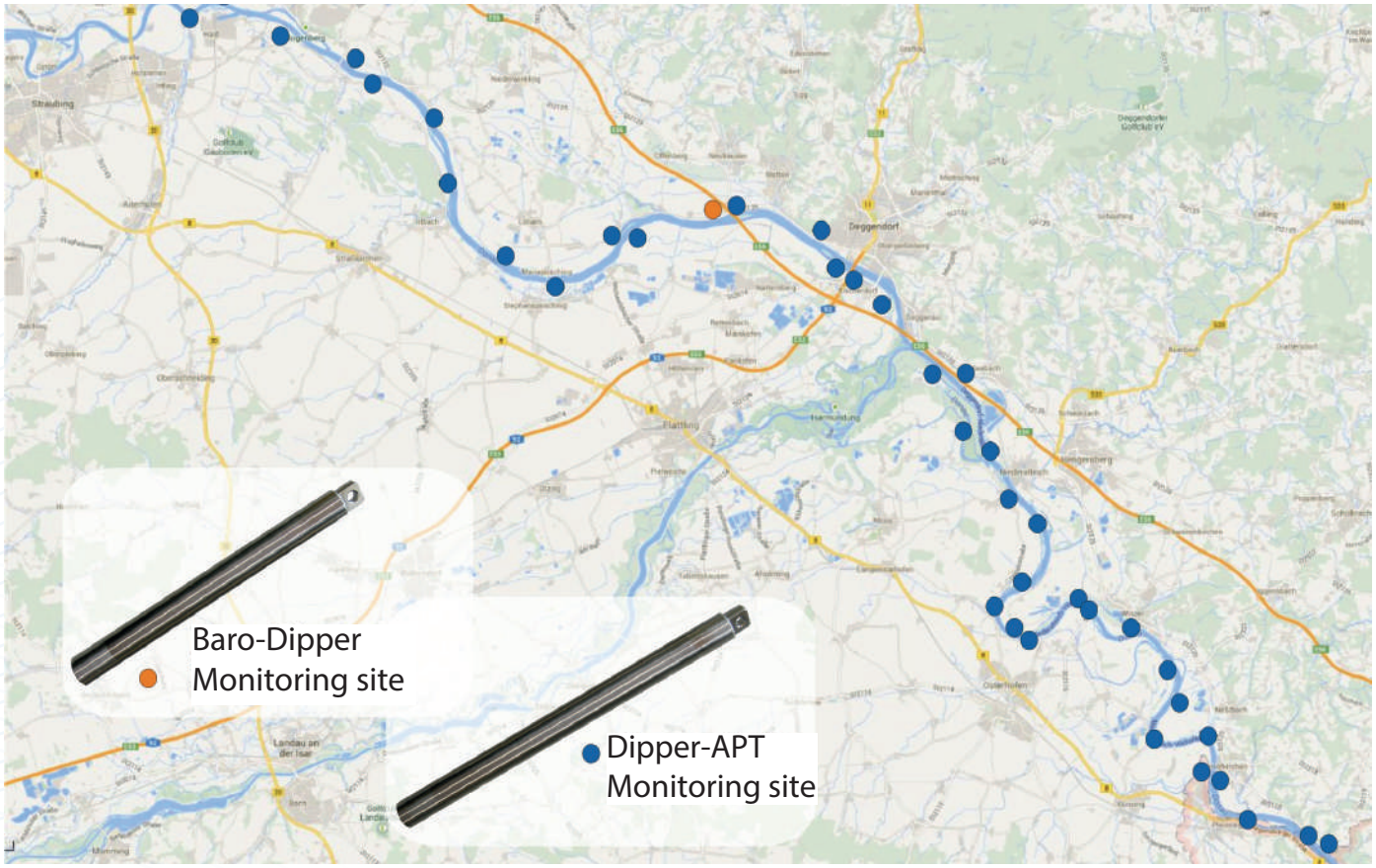
The water level variations are recorded with the Dipper-APT. In order to monitor the barometric pressure variations, one Baro-Dipper is installed in each monitoring network.

The compensation of the barometric variations takes place within the DEMASdb software package. For this purpose we recommend utilising the Baro-Dipper which was specially designed for the measurement of barometric pressure.

At the monitoring site, ideally the Baro-Dipper is downloaded first followed by the Dipper-APT. It is then possible to correct the groundwater values with the aid of DEMASdb, and subsequently to inspect the barometrically compensated values. This allows the optimal on-site inspection of the monitoring site.

Generally, one Baro-Dipper can be sufficient for a monitoring area if no significant variation in barometric pressure takes place within this area (largely depends on the topography).





Technical Data Dipper-APT

General:	32 Bit micro processor	
	16 MB Flash storage (= 1,120,000 measured values)	
	Watch-Dog for monitoring of microprocessor activities	
	RS 485 serial communication interface with protective cap	
	Optional connection with SEBA BlueCon 2	
	Real-time clock	
	Analog input (water level and temperature)	
	Power supply with replaceable Lithium batteries sufficient for approx. 8-10 years (at 60 min. intervals)	
	Operation temperature range: -20 °C ... +70 °C	
Pressure sensor for water level measurements:	**Measuring principle:**	capacitive
Robust ceramic pressure sensor providing long-term stability	**Accuracy:**	± 0,05 %FS
	Long term stability:	± 0.1 %/year
	Temperature stability:	±0.01 %/K
	Measuring ranges:	0…2 bar (≙ ca. 10 m), 0…4 bar (≙ ca. 30 m), 0…10 bar (≙ ca. 90 m), 0…20 bar (≙ ca. 190 m)
Temperature sensor:	**Measuring range:**	-5 °C ... +50 °C ± 0.1 °C
NTC30 with polynomical linearisation	**Accuracy:**	0.3 °C (standard), 0.1 °C (optional)
Cable:	Steel or Kevlar®	
Storage of measured values:	Storage in realtime	
	16 bit resolution	
	Storage of control values with date/time	
	Measuring interval: 1 second up to 45 days	
	Programming: normal measure, averaging, event control, delta mode	
Housing:	**Material:**	Stainless steel, rust-free
	Dimensions:	22 mm Ø, 300 mm length
	IP 68:	hermetically sealed, flood-proof

Technical Data Baro-Dipper

Power Supply internal:	2100 mAh, AA Lithium battery (3,6 V), Energy Consumption in Standby: max. 30 µA Energy Consumption in operation: max. 15 mA, Measuring intervall: 30 seconds ... 1day
Memory:	16 MB Flash memory (approx. 1.120.000 values)
Microprocessor:	32 bit
Interface(s):	RS 485 (Readout and Operation)
Pressure Sensor:	piezoresistive, Silizium
Measuring Range:	10 ... 1100 mbar
Resolution:	15 bit (approx. 0,03 mbar)
Long term stability:	-1 mbar/year
Temperatur dependency:	± 1mbar (0 ... +50 °C)
Operation Temperature:	-40 °C ... 85 °C
Housing Material:	Stainless steel, rust-free
Weight::	approx. 0.3 kg
Dimensions:	Ø 22 mm, lenght: 240 mm

Contact:
Virtual Hydromet | vhydromet@yahoo.com | +91-9412072697