



Operation via:



Bluetooth LE



Android



Apple



Windows

Dipper-PTEC Data Logger

Reliable measuring of water level, temperature and conductivity

- Reliable and robust
- Precise and long-term stability
- Slim design
- Easy operation
- Upgradable
- Individually programmable
- Practically maintenance-free



Pump tests



Construction Monitoring



Long-Term Monitoring

Dipper-PTEC

Making a good product even better — time and again, this is the challenge that faces our development engineers. Experience, expertise, technical progress, and, of course, feedback from our customers from around the world — this teamwork allows us to achieve new and better developments!

The new Dipper-PTEC provides the user with all the benefits of a modern measuring instrument: a slender and robust construction, a broad measuring range at maximum resolution, reliable and maintenance-free sensor technology, and easy operation. With a multitude of additional technical refinements, the new Dipper-PTEC compares excellently with other devices on the market.

Of course, a modern environmental-monitoring system cannot be operated without practical accessories for programming and data retrieval, as well as powerful data-management and analysis software. As a full-service provider, we are a one-stop shop offering you everything you need to achieve smooth measurement operation — from collection right through to analysis!

Logger

- Robust, stainless-steel housing with high material resistance for use in extreme conditions (monitoring of landfills, contaminated sites, etc.).
- Slender 22 mm Ø for installation in well casings starting at 1.5".
- External power-pack module with 4 x 1.5 V C-type replaceable, commercially available batteries (optional: lithium C batteries for operating times > 5 years)
- Freely programmable channels for water level, temperature, conductivity, salinity, TDS value, water density and battery voltage

stainless steel

> 1"

1,120,000 values

≤ 5 years

maintenance free

Intelligent programming

Sensor technology

What use is the best logger without reliable, long-lasting sensor technology? None whatsoever! In close coordination with our long-term partners, we ensure that our sensors are always state-of-the-art. A glance at the technical details will show that we never compromise on precision and reliability.

conductivity

A four-electrode measuring cell for determining conductivity is a must for anyone who values high reliability and a broad linear measuring range! Since it can even compensate for contamination on the electrodes, the Dipper-PTEC is ideally equipped for stationary use. With a measuring range of 0–300 m, practically all applications are covered. At the same time, in order to ensure the highest possible resolution, the Dipper-PTEC automatically divides the full measuring range into four sectors: 0–200 mS/cm; 0.2–2 mS/cm; 2–20 mS/cm, and 20–200 mS/cm.

salinity

TDS

water-density

waterlevel

Quality is not always a given in pressure sensors — except with us! Our capacitive, ceramic relative-pressure measuring cells, with available measuring ranges of 0–200 m, are precise, reliable, robust, and easy to clean, and stand out with their high levels of long-term stability. For special-purpose tasks (e.g., for pressure measurements in brine), optional piezoresistive absolute-pressure sensors made of titanium are also available — just give us a call!

°C

Temperature measurements are carried out with an NTC30 gauge that is linearized using a polynomial to a high degree of accuracy. The sensor is incorporated into the plastic part of the conductivity sensor, near to the measuring electrode.



Flow Measurement



Well control

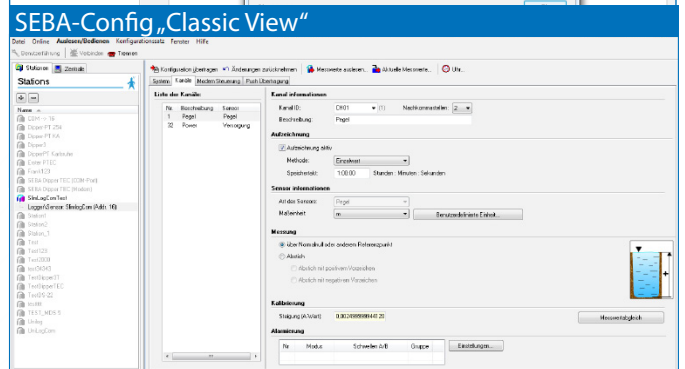
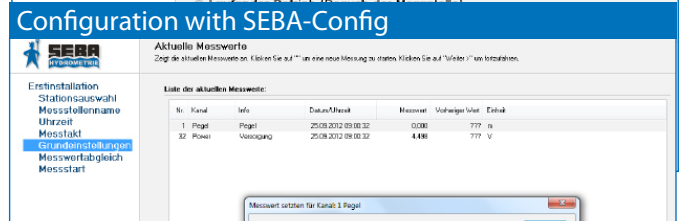
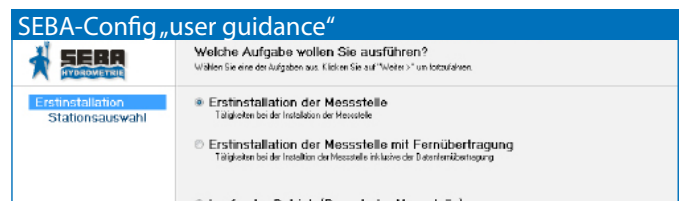
OPERATION SOFTWARE

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-PT, launch SEBA-config and off you go!

Of course, the Dipper-PT 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-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

Notebook (Windows)



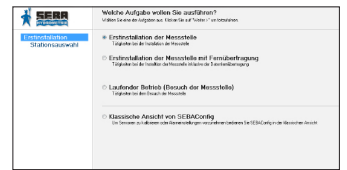
Mode of Transmission

Interface Converter (RS 485/USB)

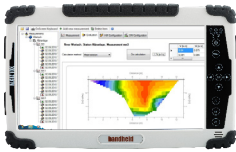


Operation software

SEBA-Config



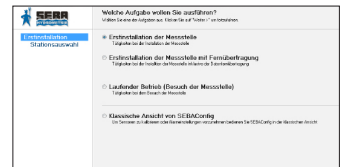
HDA-Pro (Windows)



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-PTEC, 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-PTEC 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).

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.





To be used with...

SEBA-Hydrocenter (Webmodul)

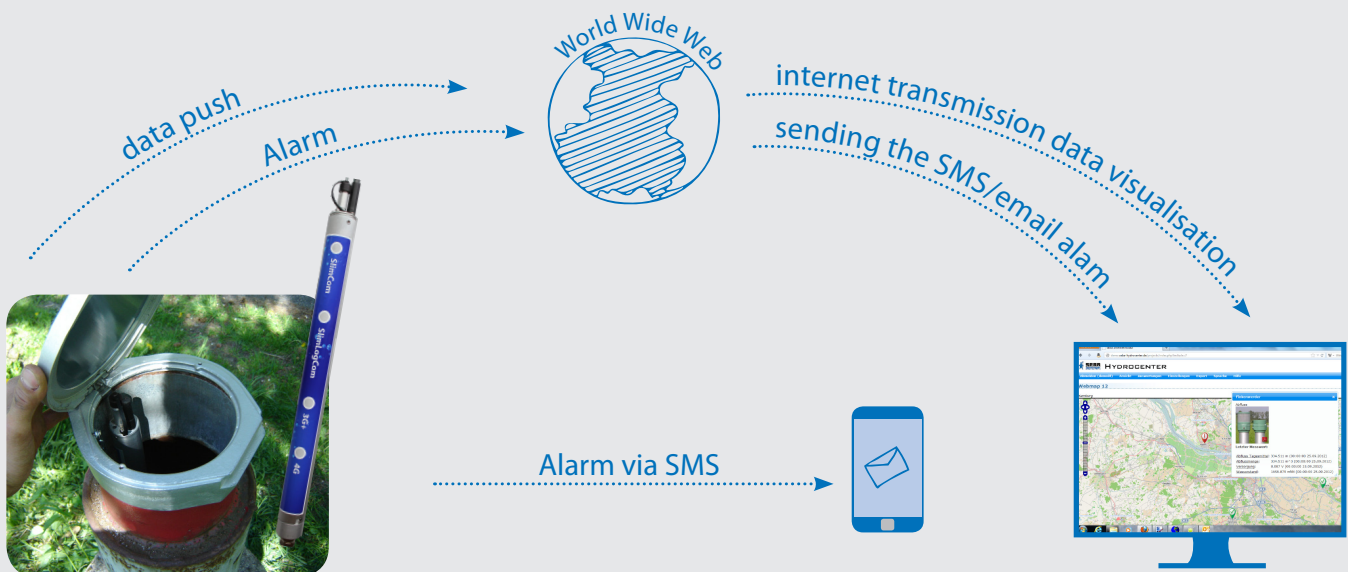
Do you not have a communication server of your own? Would you prefer not to deal with the data management yourself, or are you tired of constantly asking your system administrator for help?

With the SEBA-Hydrocenter, we provide you with a password-protected Internet portal, which presents current measurements in a clearly presented format. The only thing you have to do is place the order. We take on the initial setup, creation of your measuring sites, data provision, and server hosting. This gives you the freedom to concentrate on the essentials!

Advantages for the user:

1. At the office, at home, or on the move, your data is always available online.
2. Current measured data is displayed clearly in the form of lists and multiple graphs
3. Incidents (e.g., missing measured values, critical battery voltage) are displayed visually
4. Measured data can be shared with other authorized users (environmental agencies, engineering firms, consortium members, etc.) in a password-protected format.
5. The geographical locations of the measuring sites are marked on OpenStreetMap
6. The time series can be downloaded to a local PC for further processing.

How the SEBA-Hydrocenter Pro works



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.

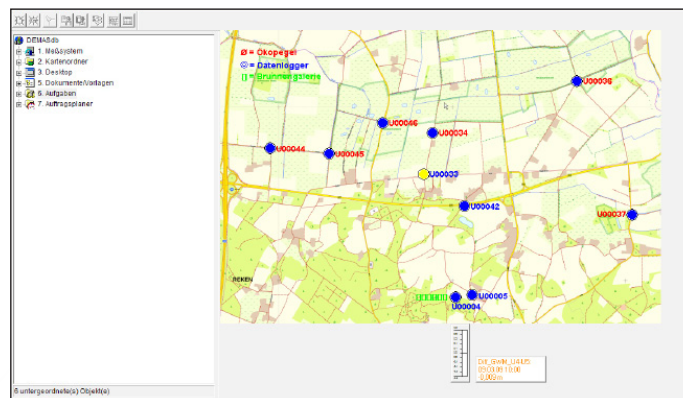
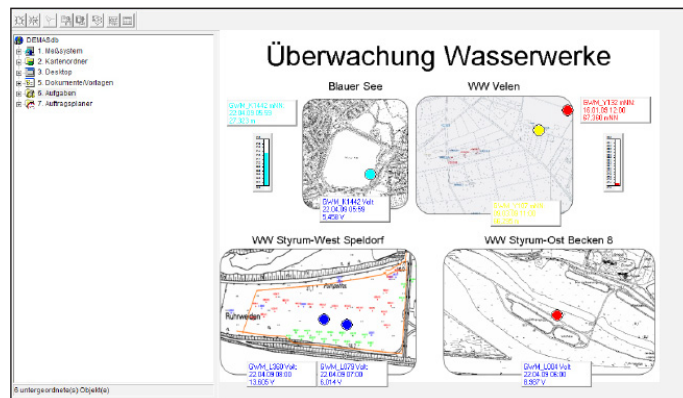
With the DEMASdb's export function, you can convert your time series into various formats and pass them on to third parties.

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).

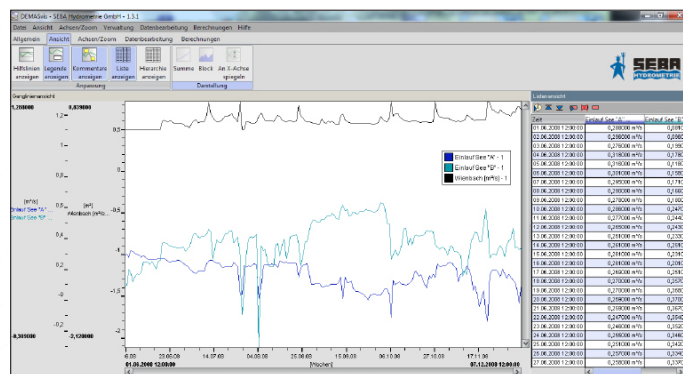
Interested? Download both tools from our download archive at www.seba-hydropetrie.com and give them a try!



DEMASdb



DEMASvis



Technical Data Dipper-PTEC

Electronics:	32-bit microprocessor	
	16 MB Flash storage (= 1,120,000 measured values)	
	Watch-Dog for monitoring of microprocessor activities	
	Real-time clock with back-up battery	
	Operating-temperature range: -25 ... +70 °C	
	Output: RS 485 (SHWP), SDI-12 (option)	
Housing:	Material:	Stainless steel, rust-free
	Dimensions:	22 mm Ø, 320 mm length
	Protection class:	IP 68
Storage of measured values:	Storage of measured values in real time	
	16-bit resolution	
	Storage of control values with date/time	
	Measurement interval: 30 second to 99 hours, optional 2 seconds	
	Programming:	Cyclic operation, Quicklog, determination of averages, event control, control of pump tests (QuickLog mode)
	Max. 32 channels (water level, temperature, conductivity, salinity, TDS value, water density, battery voltage, etc.)	
Power-pack module:	Power supply with 4 x 1.5 V replaceable C-type batteries (alkali-manganese, MN1400, LR14, C) Option: Lithium C cells sufficient for approx. 5 years (at 15 min. intervals)	
	Material (housing pipe):	Aluminum
	Dimensions:	35 mm Ø, 345 mm length
	Protection class:	IP 68
	Installation device for top pieces of min. 2"	
	Option: Installation plates for 2–6" pipe diameter	
	RS 485 serial-communication interface with protective cap	
	Option: connection with SEBA BlueCon 2	
Pressure sensor:	Robust ceramic pressure sensor providing long-term stability	
	Measuring principle:	capacitive
	Accuracy:	± 0.05 % = 1 cm for 20 m measuring range
	Long term stability:	± 0.1 % / year
	Temperature stability:	± 0.01 % / K
	Measuring ranges:	2 / 10 / 20 / 40 / 100 / 200 / 300 m (more upon request)
Temperature sensor:	NTC30 with polynomial linearisation	
	Measuring range:	-5 ... +50 °C ± 0.1 °C
	Measurement accuracy:	+/- 0.1 °C
Conductivity sensor:	Measuring cell:	4-pole with automatic compensation for contamination
	Measuring range (total):	0–200 mS/cm
	Automatic subdivision of measuring range:	0–200 µS/cm; 0.2–2 mS/cm; 2–20 mS/cm; 20–200 mS/cm
	Resolution:	0.03 µS/cm; 0.3 µS/cm; 3 µS/cm; 30 µS/cm
	Measurement accuracy:	+/- 1 µS/cm for 0–200 µS/cm measuring range +/- 0.5 % for 0.2–200 mS measuring range
	Pressure range:	0...50 bar
Special cable:	Shielded round cable with integrated pressurecompensation tube (up to max. 1,000 m length) incl. moisture absorber, two-stage, consisting of drying cartridge and Gore-Tex membrane, RS 484 interface for direct connection to the powerpack module	

Contact:

SEBA Hydrometrie GmbH & Co. KG • Gewerbestraße 61 A • 87600 Kaufbeuren • Germany
 Telefon: +49 (0) 8341 96 48 - 0 • E-Mail: info@seba.de • Web: www.seba.de