Product information
SebaFlow Battery

NEW

The world's first battery-powered ultrasonic flow and pressure monitoring system.

The SebaFlow-BAT expands and optimizes the SebaKMT device series SebaFlow. As the first manufacturer of comprehensive measuring systems to date, SebaKMT will now be launching a completely self-sufficient, battery-operated ultrasonic flow meter on the market in end-2020.

Following as direct requirements from our customers working in the fields of pipe network planning, as well as balancing and accounting, we defined the most important requirements:

- **no permanent power supply needed**
- **floodable IP 68 housing variant**
- **reliable daily data transmission**
- **measurement equipment can be flexibly configured and adapted to certain needs**

Addressed fields of applications – or, who actually needs it?

- Pressure and flow measurements on inner-city drinking water networks. It complements the permanently supplied "Classic" SebaFlow systems, that these measuring points can now also be used without access to permanent power supply.

- Pressure and flow measurements on supply-/ or distribution lines.

- Pressure and flow monitoring to locate leaks on fire extinguishing lines, e.g. underneath airport runways.

- Periodic night minimum or night consumption measurements.

The customer´s problem with the power supply

Increasingly, customers are faced with the problem of not having access to a permanent or at least intermitting power supply in the form of e.g. street lamps, even within cities with good or very good existing infrastructure.

The SebaFlow-BAT now offers a battery-operated ultrasonic flow measurement with a running time of at least 1 year in a complete system. The measuring point can already be extended with an additional pressure sensor. Further additional sensor implementations, such as quality measuring probes, are already in preparation and will expand the applications in the future.

Starting from a measuring interval of 5 minutes (sufficient even for accounting), the SebaFlow-BAT, with its integrated 100 Ah lead-crystal battery, achieves a running time of at least 1 year. With appropriate application, which does not aim at the most precise accounting, the running time at 10 minutes intervals is extended to well over 1 year.

Basically, the 5 Minute intervals serve as the default setting. By default, the measured values are transmitted once in 24 hours. A further upload within the 24h can be called in if necessary. It should be noted that it is precisely the higher pulse currents associated with data uploads that negatively affect battery life. Thus, with a set interval of less than 5 minutes (and possibly active second upload) no guarantee can be given by SebaKMT regarding the battery life of 1 year.

In addition to the 5 or 10 Minute intervals, the SebaFlow-BAT systems can be configured freely, starting from 1 minute to 60 minute. When using a pressure sensor in parallel – SebaKMT provides the Jumo PT-30 (10bar / flat-flush optionally) – the pressure measurements are transmitted at the same interval as those of the flow measurement.

Another measurement variant is the night consumption measurement. This offers a periodic continuous measurement of e.g. 2 - 4 o'clock. The SebaFlow-BAT is initially in energy-saving „sleep mode" and starts a continuous measurement with a definable start and end time. Perfectly suited, for example, for the detection of night minima or their rising trends.

Outdoor fit? Of course!

In addition to the previously known above-ground cabinet with just IP43 classification, the SebaFlow-BAT appears in a new robe made of rugged stainless steel.

The IP 68 classified stainless-steel housing passes even the toughest cases and leak tests. With a depth of 1.2 m over 68 hours, the complete SebaFlow-BAT can withstand even prolonged flooding. Important for operation e.g. in maintenance shafts of airports or below sidewalks.

In addition to the two housing variants, the SebaFlow-BAT can be installed and operated completely without housing when in pumping stations, high tanks or other protected environments. In such cases, all assemblies are simply mounted on the supplied mounting plate. This, in turn, can be safely mounted, e.g. on walls.

IP 43 above-ground cabinet

IP 68 stainless-steel rugged housing

Technichal data in general

SEBAFLOW-BAT	
Inputs	Connection Fluxus, MID's or other sensors possible general standard industrial inputs RS485 (to date only for Fluxus F501 PowerSaver available) 4-20mA 0-10V
Pressure measurement	Only individual values, no pressure shocks recognizable Pressure sensor supplied by LOG-DU optional Jumo PT30 10bar front flush (drinking water approval)
Measurement modes	Permanent: 24 h measurement with selectable interval (1 - 60 min.) Periodic: Time range measurement e.g. 2-4 am with selctable interval (1 - 60min.)
Measurement interval	Selectable between 1 minute to 60 minutes
Programming	Short range radio 868/913/916 MHz with LOG Ri/Ri+, PocketServer Remote configuration by POSEYEDON
Visualising	POSEYEDON
Data transfer	4G (LTE) 1 or 2 data uploads per 24 hours No CSV upload possible (CSV upload requires permanent supply)
Alerting	Critical battery condition Fail of power supply Flow limits exceeded or fallen below
Firmware update	On site by LOG Ri/Ri+ and Laptop Remote configuration by POSEYEDON
Accounting / Balancing	1, 3, 5, 10 minutes intervals PC Software SDV-3 POSEYEDON
VA Stainless Steel Housing	
Dimensions (without base)	500 x 500 x 220 mm
Protection class	IP 68
Above-floor Cabinet	
Dimensions (without base)	350 x 280 x 1310 mm
Protection class	IP 43

What features does POSEYEDON offer?

- Visualization of pressure and flow
- Daily consumption of the past 7 days clearly displayed in DetailView
- „Water Meter" display in DetailView
- Battery health status in DetailView (battery logger + cpmlete battery system)
- Display main flow direction of the measuring point as well as display of the current flow direction on map view.

Can SebaFlow-BAT also work without data transmission to POSEYEDON or similar server systems?

Yes, SebaFlow-BAT can be read out on site via SDV or PocketServer.

Technical data in detail

SEBALOG DU	
Measuring Interval	1 min - 60 min
Communication	Short Range Radio 868 MHz (Europe) 913/916 MHz (depending on country) Mobile Radio (GSM/GPRS/LTE) 850/900/1800/1900/2100 MHz
Alarm	Via SMS and E-Mail, additional data upload to FTP server
Operating Time	Approx. 12 months (with 10 min measuring interval, actual duration depending on use)
Temperature range	-20 °C...+60 °C
Power Supply (external)	11...16 V DC
Power Supply (internal)	2 Lithium Battery Type Saft LSH 20 (3,6 V)
Channels	1 Flow Measuring Channel 1 Pressure Measuring Channel 2 In/Output Channels (Optional)
Interfaces Flow Measuring Channel	RS485 (only for FLUXUS F501) 4-20 mA Current Interface 0-10 V Power Input
Interfaces Pressure Measuring Channel	4-20 mA Current Interface (Can be supplied by SEBALOG D-U) 0-10 V Power Input (Can be supplied by SEBALOG D-U)
FLUXUS F501-EnergySaver M/K	
Flow Velocity	0,01… 25 m/s
Pipe Diameter	M: 80 - 400 mm / K: 400-3100 mm
Repeatability	0,25 % of measured value ± 0,01 m/s
Accuracy	± 1,5 % of measured value ± 0,01 m/s
Dimensions	180 x 140 x 71 mm
Weight	1,5 kg
Protection class	IP 66
Power Supply	11...16 V DC
Temperature Range	-10 °C...+60 °C
Communication Interface	RS485
JUMO dTRANS p30	
Input	0..10 bar Relative pressure
Output	4..20 mA zl
Connection	G 1/2 Front Flush
Connection Material	CrNi (Stainless steel)
Electrical Connection Type	Connector DIN EN 175301-803, Form A
Measurement Range	0,00… 10 bar
Power Supply	DC10..30V
Linearity	0,500

Function overview

Functions	SeabFlow-BAT	SebaFlow „Classic"
Battery powered	Yes	No
Flow measurement (Fluxus) via ModBus	Yes	No
Flow measurement via current loop	Yes	Yes
Pressure monitoring in parallel (no transients)	Yes	No
Pulse values	No	Yes
CSV uploads	No	Yes
Remote configuration via POSEYEDON **	Yes	Yes
LTE 4G data transfer ***	Yes	No
Battery-Low Alarm	Yes	Yes
Flow-Limit Alarm	Yes	Yes
Remoteupdates via POSEYEDON or on site	Yes	Yes
Create accounting/balances in POSEYEDON	Yes	Yes
Flexible power supply (batt./perm.)	Yes	No

Future functional extensions:

- Data transfer via NB-IoT, LoRa-WAN
- On site programming via Bluetooth®
- Programming via smartphone app
- Build in color display
- Flexible power supply (e.g. Solar Panel)
- Channels for additional sensors
- Real time measurement via POSEYEDON
- Real time measurement via Radio or BT
- Flow measurement via pulse signals
- ModBus parameterisation
- ModBus data read out
- External alarms
- External alarms with exceptions
- GPS synchronization (e.g. pressure monitoring)
- Measurement interval < 1 minute
- Pressure shock recognition
- CSV upload
- Step-Test application

* no guarantee for 1 year battery life time
** Fluxus is not remote configurable!
*** NB-IoT, LoRa-WAN coming soon!