

OVERVIEW DIGITAL BATTERY AND TANK MONITORS

The battery and tank monitors of the BTM / VTM and BLS / TCS series are designed for direct connection of the sensors on the back of the monitor. This enables a simple, cost-effective and fast installation!

The BTM and BLS monitors also serve as remote monitors for the ACE 12-25, ACE 12-40 and ACE 24-20 chargers.

Communication between monitor, shunt and charger is via a single wire cable using LIN bus technology.

- Clear and concise presentation of all important data on one page
- Large and easy to interpret symbols make it easy to read even from a distance

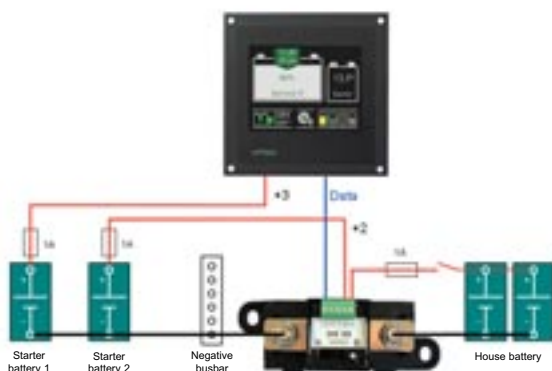
- Intuitive and simple operation
- Apart from the battery measuring shunt, which is installed directly at the battery, no additional components are required.
- Only one single-core connecting cable between monitor and shunt or between monitor and charger
- Colour touch screen
- The monitor can be updated at any time via SD card
- The number of connected tanks is adjustable
- The tank characteristic can be individually adapted - important for non-linear tanks
- Tank sensors from other manufacturers with an output signal of 10-180Ω / 240-33Ω / 0-3 V (TCS) or 0-10 V (BTM/VTM) / 4 - 20 mA can also be connected.



Type	BTM	VTM	BLS	TCS
Dimensions	105 x 105 mm	105 x 105 mm	105 x 75 mm	105 x 75 mm
Screen size	3,5"	3,5"	2,4"	2,4"
Battery capacity	via SHE 300	-	via SHE 300	-
Voltage measurement starter 1	via SHE 300	at monitor	via SHE 300	at monitor
Voltage measurement starter 2	at monitor	at monitor	at monitor	at monitor
Tank measurement	up to 4 tanks	up to 4 tanks	-	up to 3 tanks
Communication with charger	yes, via ACE-LIN		yes, via ACE-LIN	

The electrical connection for battery capacity measurement

The battery monitor BTM/BLS is connected to the active shunt SHE via a single-core cable (LIN-bus).



The active shunt SHE has to be installed between the negative line(s) of the service battery(s) and the negative busbar so that there are no further connections to the negative poles of the house battery(s).

All other connections to other battery groups, loads and charging devices must be connected to the load side of the SHE shunt. This ensures that all currents are detected and that the battery monitor can operate properly.

Upgrade the BTM monitor to a fully-fledged battery charge management system by connecting an ACE Series charger.



ACE-LIN

Order-No.: 0 8000 4975

The ACE-LIN interface enables ACE chargers to communicate with BTM and BLS monitors. The interface is put into operation by clipping it into the prepared holder in the ACE charger and plugging in the connecting cable.

The ACE-LIN interface is only required for the ACE 12/25, ACE 12/40 and ACE 24/20 models. All other models already have an interface.



Shunt SHE 300

BLS-Set Order-No.: 0 7100 3210

Battery Monitor BLS for monitoring a 12/24V house and a 12/24V starter battery. 2.4" TFT colour touch screen graphic display with brightness sensor.

The shunt SHE 300 is included in the scope of delivery of the BLS!

The Battery Monitor BLS is a compact battery monitor for battery systems consisting of a 12/24 V starter battery and one or more 12/24 V house batteries connected in parallel. The 2.4" TFT touch screen displays all important data of the entire battery system at a glance without the need to press a button. The built-in brightness sensor automatically dims the screen at night, saving valuable energy.

- Display of the current voltage, the current charge or discharge current, the remaining time, the battery temperature and the state of charge of the consumer battery(s).
- Further information on the use of the consumer battery(s): No. of charge cycles, deep discharges & mean depth of discharge.
- Warning of a dangerous deep discharge by an adjustable acoustic alarm.
- Suitable for all battery types like acid, GEL, AGM and LiFePO4

Easy Installation

The connection between monitor and shunt consists of a single line, even an existing line can be used.

Easy Commissioning


Just enter the battery capacity of the house battery and the system is ready to use.

Easy to use

Since all relevant information is summarized on one page, no key has to be pressed. The important information is presented in an understandable way via graphics and enables quick reading.

Technical Data	
Rated Voltage	12 V
Consumption	max. 50 mA @ 12V, Stand-by: 6 mA
Dimensions	W 105 x H 75 x D 28 mm
Cut-out	87 x 65 mm
Current rating	300 A, 600 A 1 min, 1500 A 0,5 s

Expand the BLS monitor by connecting an ACE series charger to create a fully-fledged Battery charge management system!



Shunt SHE 300 **Charger ACE**

BLS-Set Plus Order-No.: 0 7100 3220

Battery Monitor BLS for displaying a 12/24V house and a 12/24V starter battery. 2.4" TFT colour touch screen graphic display with brightness sensor.

The shunt SHE 300 and the interface ACE-LIN are included in the scope of delivery of the BLS-Set Plus!



The ACE-LIN interface integrated into the automatic charger enables the BLS battery monitor to monitor and control the charging process of the ACE automatic charger to optimise charging.

The display also shows the AC mains voltage, the active charging phase, the battery temperature, the charging voltage and the charging current. The charging power can be reduced or the silent mode (fan off) activated at the touch of a button. A temperature alarm, for example, can be defined for further charge monitoring.

The combined digital battery and tank monitor BTM is the successor of the well-known and successful battery monitor series BCM and the tank monitor series TCM.

It's 3.5-inch color touch-screen graphic display provides an overview of the battery system status and the level of up to four tanks and shows the



BTM

Order-No.: 0 7100 4000

Battery, tank and charge monitor BTM. Intuitive, 3.5" colour TFT touchscreen graphic display with brightness sensor for automatic adjustment of display brightness.

The tank sensors, the shunt "SHE 300" and the interface to the charger "ACE-LIN" must be ordered separately.

Operation voltage	8-32 V
Consumption	max. 70 mA @ 12V, Stand-by: 6 mA
Dimensions	L 105 x W 105 x H 35 mm
Cut-out	88 x 88 mm

Digital battery management shunt for installation in the negative line of the house battery. The SHE 300 shunt is compatible with the BTM and BLS monitors. The shunt is powered via the consumer battery's voltage measuring line.

Suitable for continuous charging or discharging currents up to 300 A and battery capacities up to 1000 Ah



SHE 300

Order-No.: 0 7003 0300

Rated current	300 A, 600 A 1 min, 1500 A 0,5 s
Consumption	10 mA@12 V, 5 mA@24 V
Operation voltage	DC 8-40 V
Current range	10 mA - 1500 A
Connection	Bolts M8
Dimensions	L 118 x W 40 x H 65 mm

status of the ACE charger during operation.

It allows the connection of a battery shunt SHE 300 for battery monitoring, the direct connection of 4 tank sensors and the connection of an automatic charger ACE via the interface ACE-LIN.

Suitable for all battery types such as acid, GEL, AGM and LiFePO4.

One monitor and many possibilities.
Whether as a battery monitor, as a tank monitor
or just as a charge monitor, anything is possible.
Everything at once also works!

Battery Monitoring

Precise battery information on the current voltage, charge or discharge current, remaining time, temperature and state of charge of the house battery. Statistical values for the number of charge cycles, deep discharges and average discharge depth give you an overview of the use of the battery. It is possible to monitor the voltage of up to 2 starter battery banks. For further monitoring, individual alarms such as a battery reserve threshold can be defined.



Tank Monitoring

All known philippi tank sensors such as TGT/TGW, UTV, TDS/TDN/TDT and DFS can be connected, even existing tank sensors from other manufacturers with the signals 10-180Ω / 240-33Ω / 0-5 V / 0-10 V / 4-20 mA are possible. Each tank can be individually configured for unambiguous assignment, and adaptation to non-linear tank geometries is also possible. For monitoring purposes, individual minimum or maximum alarm thresholds can be defined for each tank.



Charge Monitoring

An ACE-LIN interface integrated in the ACE automatic charger enables monitoring of the charging process, the display of the mains voltage, the charging phase, the battery temperature and the charging current. Adjustment of power and silent mode (fan off).



Alarm output

An adjustable alarm warns in time of a dangerous deep discharge of your batteries, empty tanks or batteries that are too hot.



In addition to the text display, the alarm message can also activate the internal buzzer as well as the integrated potential-free relay.

Easy Installation

The connection between monitor and shunt consists of a single line, even an existing line can be used.



All tank sensors are connected on the back of the monitor.