

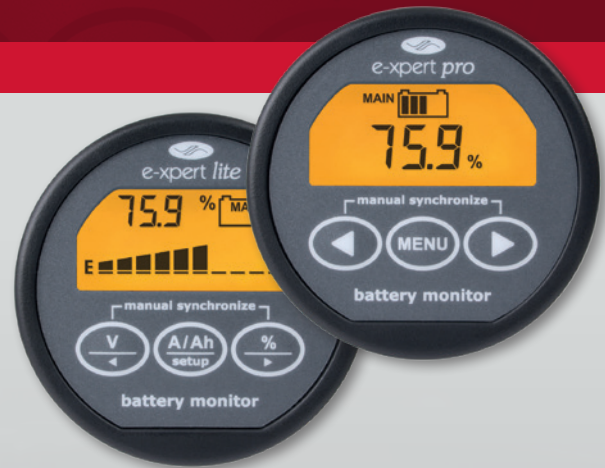
Description

Defining the amount of energy available in a battery is a complex task since battery age, discharge current and temperature all influence the actual battery capacity. All Expert battery monitors are equipped with high performance measuring circuits, which in combination with complex software algorithms, are used to exactly determine the remaining capacity of your battery.

In general, our entry model Expert Lite is focussed on a simple readout by utilizing most of the display area to show a large battery state of charge bar graph. Although it still offers great accuracy, the feature set is more limited compared to the higher end Expert Pro and Expert Modular. This makes the Expert Lite the ideal instrument for less technical end-users and relatively simple battery installations.

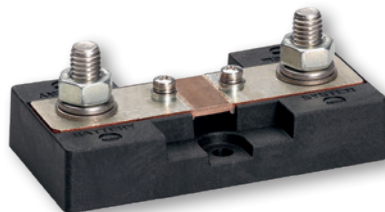
The Expert Pro is physically identical to the Expert Lite, but offers a larger amount of features and a more detailed display. Most of the additional features are very useful when installing the battery monitor in more advanced battery systems. Programming voltage or state of charge alarms more extensively, recalling certain history events or the capability to extend the input voltage range with an

optional voltage prescaler, are some of the additional features offered by the Expert Pro. The Expert Pro-hv is identical to the Expert Pro, with the exception of the input voltage range which is extended up to 70Vdc. All models are equipped with an internal programmable alarm relay, to run a generator when needed or to turn off devices when the battery voltage exceeds programmable boundaries. A passive 500A shunt is standard included in the package.



Features

- Read your battery bank like a fuel gauge
- Provides critical information about the status of your battery bank
- Displays voltage, current, consumed amphotours, remaining battery capacity and time remaining (Pro only)
- Two battery inputs
- Large display with backlight
- Quick nut mounting construction
- Programmable alarm relay
- Shunt selection capability, enables flexible system integration
- Communication/expansion port (Pro only)
- History event storage (Pro only)
- Splash proof frontpanel
- 500 Amp shunt included
- CE and e-mark certified
- 24 month warranty



Applications

- Electric Vehicles
- Marine applications
- Solar power systems
- Industrial systems
- Electric forklifts
- Mobile entertainment systems
- Service vehicles
- Recreational vehicles
- Remote homes

Standard included 500A shunt

Expert Lite available screens



State of Charge

Shows the exact state of charge of your battery in percent. This is the most essential reading, as it represents the true status of your battery, being calculated by the advanced Expert algorithms.



Volts

This is a simple reading to show the battery voltage under load, idle or charge. It is a quick reflection of the state of your battery, but does not really let you know the true battery condition.



Amps

The Amp reading is an excellent way to check the load intensity on your battery. It allows you to minimize the current draw of non essential loads, or to check if your battery is actually being charged.



Amp hours

Shows the accumulated amp-hours consumed from the battery over a set period of time. This value will start from zero again, after the battery has been fully charged.

Expert Pro / Pro-hv available screens



State of Charge

Shows the exact state of charge of your battery in percent. This is the most essential reading, as it represents the true status of your battery, being calculated by the advanced Expert algorithms.



Volts

This is a simple reading to show the battery voltage under load, idle or charge. It is a quick reflection of the state of your battery, but does not really let you know the true battery condition.



Amps

The Amp reading is an excellent way to check the load intensity on your battery. It allows you to minimize the current draw of non essential loads, or to check if your battery is actually being charged.



Amp hours

Shows the accumulated amp-hours consumed from the battery over a set period of time. This value will start from zero again, after the battery has been fully charged.



Time Remaining

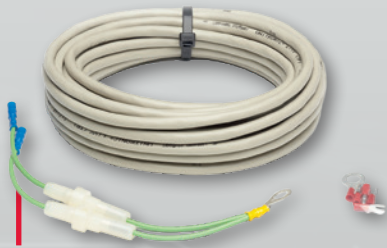
Smart software calculates the time remaining in your battery based upon the current load. This can be used as a good guide to when your battery has reached the discharge floor and must be recharged.



Temperature

This reading is only available when an external temperature sensor is connected to the battery monitor and shows you the actual battery temperature.

Accessories



Professional Connection Kit 10m

art # 5055440

The Expert professional connection kit makes life easier during installation of your battery monitor. It contains all necessary items for a professional and safe connection of the Expert battery monitor to your battery and shunt.



Temperature Sensor Kit 3m (Pro/Pro-hv only)

art # 5055310

By connecting the temperature sensor kit to your Expert Pro or Expert Modular, the exact temperature of your battery can be determined, resulting in even more precise battery monitoring. Also available in 10m length.



USB Communication Kit (Pro/Pro-hv only)

art # 5092100

This kit enables you to control, readout and configure the Expert Pro from your Windows PC. Another possibility is to use the PC as a datalogger to record all measured parameters for further analysis.



RS-232 Communication Kit (Pro/Pro-hv only)

art # 5055200

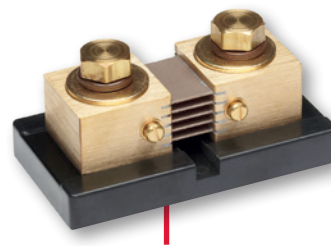
This kit enables you to control, readout and configure the Expert Pro from your Windows PC. Another possibility is to use the PC as a datalogger to record all measured parameters for further analysis.



1:5 Active Prescaler Kit (Pro only)

art # 5055511

The Expert Pro 1:5 Active voltage prescaler kit, extends the input voltage range of the expert pro to enable implementation in 48 VDC up to 120 VDC battery systems (maximum input voltage is 175VDC).



1200A/50mV Shunt Kit (Pro/Pro-hv only)

art # 5055180

The Expert pro 1200A/50mV Shunt kit, can be used in applications where the battery current would exceed the maximum ratings of the standard supplied 500A shunt.

Technical specifications

Parameter	Expert Lite art # 5055010	Expert Pro art # 5055030	Expert Pro-hv art # 5055040
Supply voltage range	9..35Vdc	9..35Vdc	14..70Vdc
Supply current ¹⁾	7mA @Vin=24Vdc 9mA @Vin=12Vdc	7mA @Vin=24Vdc 9mA @Vin=12Vdc	5mA @Vin=48Vdc 6mA @Vin=36Vdc
Input voltage range (auxiliary battery)	2..35Vdc	2..35Vdc	2..35Vdc
Input voltage range (main battery)	0..35Vdc	0..35Vdc	0..70Vdc
Input current range ²⁾	-999..+999A		-9999..+9999A
Battery capacity range	20..999Ah		20..9990Ah
Operating temperature range		-20..+50°C	
Storage temperature range		-30..+70°C	
Readout resolution: Voltage	± 0.1Vdc (0..35V)	± 0.01Vdc (0..35V)	± 0.01Vdc (0..70V)
Current	± 0.1A (0..100A)		± 0.1A (0..200A)
Current	± 1A (100..999A)		± 1A (200..9999A)
Amphours	± 0.1Ah (0..100Ah)		± 0.1Ah (0..200Ah)
Amphours	± 1Ah (100..999Ah)		± 1Ah (200..9990Ah)
State-of-charge	± 0.1% (0..100%)		± 0.1% (0..100%)
Time remaining	X		± 1minute (0..24hrs)
Time remaining	X		± 1hr (24..240hrs)
Temperature	X		± 0.5°C (-20..+50°C) ³⁾
Voltage measurement accuracy		± 0.5%	
Current measurement accuracy		± 0.8%	
General feature comparison:			
Supported battery voltages	12V/24V	12V/24V	36V/48V
Advanced battery modelling engine	•	•	•
Lithium compatible	•	•	•
State of Charge bar	•	•	•
Alarm relay	•	•	•
Two battery inputs	•	•	•
Time remaining readout	X	•	•
History event storage	X	•	•
Communication port	X	•	•
Temperature sensor input	X	•	•
Meter dimensions	Ø 64 mm (front diameter) / Ø 52 mm (body diameter) / 79 mm (depth)		
Meter weight	95 gr		
Shunt dimensions (length x width x height)	87 x 45 x 35 mm		
Shunt weight	145 gr		
Protection class	IP20 (front panel only IP65)		
Standards	CE marked meeting EMC directive 2014/30/EU and LVD 2014/35/EU complying with EN60335-1, RoHS 2011/65/EU and e4-95/54/EC		

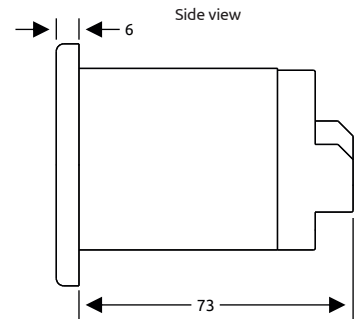
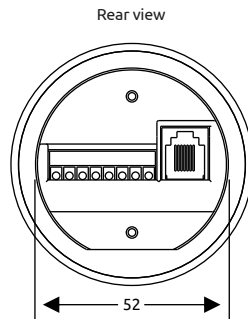
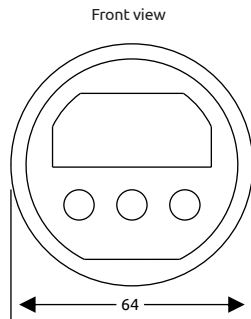
Note: the given specifications are subject to change without notice.

¹⁾ Measured with backlight and alarm relay turned off

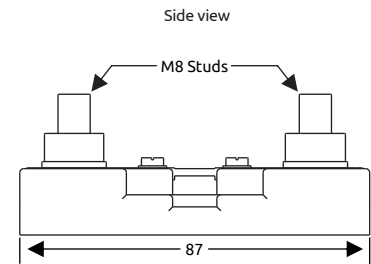
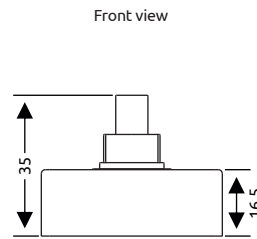
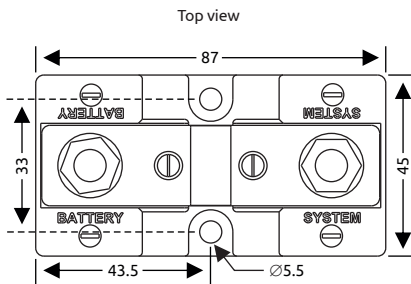
²⁾ Depends on selected shunt. With standard delivered 500A/50mV shunt (350A continuous), the range is limited to -600..+600A

³⁾ Only available when optional temperature sensor is connected

Dimensions (Display)



Dimensions (Shunt)



Measurement units: millimeters

Basic application diagram

