

# MERLIN EXPERT MODULAR BATTERY MONITOR

Merlin's Expert Modular is our latest generation, highly advanced battery monitor. It consists of an intelligent shunt, a remote control, and a display unit. The shunt has a Grid Optimized footprint for perfect integration with our DC Modular products.

Defining the amount of energy available in a battery is a complex task since the battery age, discharge current and temperature influence the actual battery capacity. Merlin's Expert Series range of 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.

Merlin's Expert Modular can monitor up to three battery banks as well as measuring DC currents up to 600Amps (500Amp continuous) and voltages up to 70Vdc. This battery monitor is also compatible with lead based and lithium batteries (LiFeP04), so any lead- or lithium based battery bank from 12V up to 48V can be monitored.

Merlin's Expert Modular battery monitor not only shows the true state of charge of your battery system but it also offers a large amount of additional features to optimally supervise your battery system and control external equipment.

- **Critical information provided**  
about the status of your battery bank in a simple readout layout, like a fuel gauge.
- **Three battery inputs**  
where battery banks 2 and 3 can be configured for other purposes, like mid-point voltage measurement, keyswitch input, or backlight control.
- **Quick installation**  
requiring only one supply wire to the intelligent shunt base and a single 'Quicklink' cable between the shunt base and the control/display unit (CDU).
- **Multiple display options**  
showing voltage, current, consumed amp-hours, remaining battery capacity, time remaining and power.
- **Programmable alarm relay**  
to run a generator when needed or to turn off devices when the battery voltage exceeds programmable boundaries.
- **Communication / expansion port**  
allows optional PC interfacing, access to a windows-based dashboard, and batch programming.
- **Supplied with a 500A shunt**  
as part of the standard kit.
- **CE and E-mark certification**  
for legal use aboard vehicles.



<b>PART #</b>	<b>30-5012</b>
<b>PRODUCT NAME</b>	<b>EXPERT MODULAR</b>
<b>SUPPLY</b>	
SUPPLY VOLTAGE RANGE	7 .. 70VDC
SUPPLY CURRENT:	
@VIN= 12VDC	10MA
@VIN= 24VDC	6MA
<b>INPUT</b>	
INPUT VOLTAGE RANGE (AUX)	1 .. 70VDC
INPUT VOLTAGE RANGE (MAIN)	7 .. 70VDC*
INPUT CURRENT RANGE	-600 .. +600A**
BATTERY CAPACITY RANGE	10 .. 10000AH
<b>TEMPERATURE</b>	
OPERATING TEMPERATURE	-20-c .. +50°C
STORING TEMPERATURE	-30°C .. +70°C
<b>READOUT RESOLUTION</b>	
VOLTAGE (0 .. 35V)	± 0.01V
VOLTAGE (36 .. 70V)	± 0.01V
CURRENT ( 0 .. 100A)	± 0 .1A
CURRENT (101 .. 600A)	± 1A
CURRENT (601 .. 999A)	N/A
AMPHOURS (0 .. 100AH)	± 0.01AH - 10AH (VARIABLE)
AMPHOURS (100 .. 999AH)	± 0.01AH - 10AH (VARIABLE)
POWER ( 0 .. 42KW)	± 0.01AH - 1KW (VARIABLE)
STATE-OF-CHARGE (0 .. 100%)	± 1%
TIME REMAINING (0 .. 24HRS)	± MINUTE
TIME REMAINING (0 .. 240HRS)	± 1 HOUR
MAINTENANCE HOURS (0 .. 10000HRS)	± 1 HOUR
TEMPERATURES (-20°C .. +50°C)	± 0.5°C
<b>ACCURACY</b>	
VOLTAGE MEASUREMENT	± 0.3%
CURRENT MEASUREMENT	± 0.4%
<b>GENERAL</b>	
DISPLAY DIMENSIONS (MM)	64 X 52 X 36
DISPLAY WEIGHT (KG)	0.07
SHUNT DIMENSIONS (MM)	100 X 100 X 65
SHUNT WEIGHT (KG)	0.26
PROTECTION CLASS	IP20 (FRONT PANEL ONLY IP65)
STANDARDS	CE MARKED MEETING EMC DIRECTIVE 2004/108/EC AND LVD 2006/95/EC COMPLYING WITH EN60335-1, ROHS 2002/95/EC AND E4-95/54/EC

\* WHEN INPUT +81 IS ONLY USED FOR SUPPLY AND +82 FOR MAIN BATTERY VOLTAGE MEASUREMENT. THE INPUT VOLTAGE RANGE FOR THE MAIN BATTERY IS 1 .. 70VDC.

\*\* +/- 600A IS THE MAXIMUM RATING FOR 20 MINUTES. THE CONTINUOUS INPUT CURRENT RANGE IS +/- 500A.