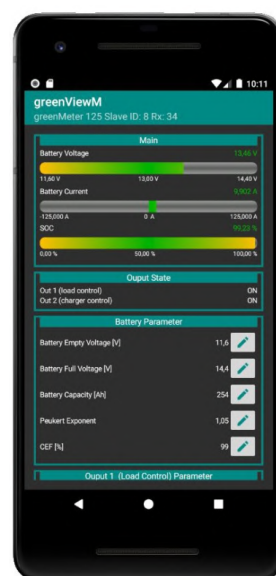




PRECISION BATTERY MONITOR FOR BIDIRECTIONAL CURRENT MEASUREMENT IN OFF-GRID SYSTEMS

greenMeter V2

The **greenMeter** V2 by ECS is a highly precise battery monitor developed for off-grid DC power systems. With a current measurement accuracy of better than 0.04% FS, it reliably detects both large charging/discharging currents and small standby loads. The unit features a low-resistance shunt for minimal voltage drop and power loss. Two programmable solid-state relay outputs allow for automatic shutdown in cases of overcurrent or critical temperature. Thanks to its RS485 interface with Modbus RTU protocol, the greenMeter V2 can be easily integrated into existing systems. Ideal for 12 V to 48 V installations with bidirectional current monitoring and separate voltage sensing lines.



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Product features and advantages

- Ultra-high current measurement accuracy ($< 0.04\%$ Full Scale)
- Precise voltage measurement ($< 0.1\%$ Full Scale)
- Measures current bidirectionally (charging / discharging)
- Detects very small standby currents accurately
- Current measurement range, depending on version: $\pm 125\text{ A}$, $\pm 250\text{ A}$, or $\pm 500\text{ A}$
- Low-resistance shunt to minimize energy loss
- Voltage sensing from -60 V to $+60\text{ V}$
- 2 freely programmable electronic relay outputs (up to $65\text{ V} / 1\text{ A}$)
- RS485 (galvanically isolated) with open Modbus RTU protocol
- Supports up to 247 devices on the bus
- Compatible displays: ECS greenView, Android app (via wifi converter), ECS Kommtool (via USB converter), and third-party software
- Designed for positive-line installation (unlike most monitors)

www.ecs-online.org
mail@ecs-online.org
+49 (0) 6507 9989955

ECS Falko Jahn e.K.
Am Wenigerflur 14
54498 Piesport





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54498 Piesport
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MEASUREMENT IN OFF-GRID SYSTEMS

greenMeter V2

Mechanical data	
Dimensions	approx. 174 mm x 120 mm x 50 mm
Weight	0.85 kg
Cable cross section for inputs and outputs	0.15 – 1.3 mm ²
Holes for high current connection	8.5 mm 10.5 mm
Cross section of busbar	250 mm ²
Protection class	IP30
Electrical data	
Current resolution	0.001 A
Current measurement accuracy	< 0.04 % FS
Voltage measurement accuracy	< 0.1 % FS
Supply voltage	5.0 V ± 2 % (via RS485 BUS connection)
Power consumption	< 100 mW
Maximum voltage at the measuring shunt	-4 bis +60 V
Resistance measuring shunt	125 µOhm (500 A version) 250 µOhm (250 A version) 500 µOhm (125 A version)
Current measuring range	± 500 A ± 250 A ± 125 A
Total maximum error (Includes Offset Error + Linearity error + Temperature drift + Common mode error)	< 0.04 % FS (Guaranteed over temperature range of -10 to +50 °C) (Guaranteed over common-mode range 12 - 48 V)
Offset error	< 0.05 % FS (Guaranteed over temperature range of -10 to +50 °C) (Guaranteed over common-mode range 12 - 48 V)
Voltage measurement	
Battery voltage measuring range	-60 V to +60 V
Total maximum error (Includes offset error + Linearity error + Temperature drift)	0.1% FS (max)
Environmental data	
Operating temperature	-20 °C to +65 °C (maximum current 350 A)
Humidity	Up to 100 %, non-condensing
Storage temperature	-30 °C to +80 °C
Pollution level	2
Communication	
Bus systems	RS485 interface
Protocol	Modbus RTU
Baud rate	Adjustable 9600 to 460800 (factory setting 19200)
Parity	Adjustable even/odd/none (factory setting: even)
Stop bits	1, 1.5 or 2 (factory setting 1)
Switching outputs	
Number and type	2 x Electronic relays, Max 65 V / 1 A



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