EN

DATASHEET

SOL-ARK EXTERNAL REVENUE GRADE METER SKU: 900-00080

RGM FOR HYBRID INVERTER - RESIDENTIAL NORTH AMERICA

Accuracy for when it really counts.



The Sol-Ark External Revenue Grade Meter (RGM) Kit gives installers an accurate, integrated solution for measuring bidirectional energy flow. Designed for compatible Sol-Ark Residential Hybrid Inverters, it combines revenue-grade metering with direct Modbus communication and MySolArk telemetry.

The compact retrofit-friendly design simplifies installation while providing the verified production and consumption data required for utility programs, renewable energy credits, and other performance-based incentives.

Key Features

- ANSI C12.1 revenue-grade system accuracy
- Measures bidirectional energy, power, voltage, and current
- RS-485 Modbus communication
- Data accessible through the MySolArk platform
- Split-core CTs simplify retrofit installation
- Compact, installer-friendly design
- Supports utility and Solar Renewable Energy Certificate (SREC) reporting requirements

Compatible with these Sol-Ark Residential Hybrid Inverters:

12K-2P-N | 12K-2P-LL | 15K-2P-LV | 18K-2P-LV

The Sol-Ark External Revenue Grade Meter includes:

- Meter
- 2 x 200 A current transformers

Note: The Sol-Ark Inverter will require a firmware update to enable RGM functionality. Free access to the firmware update is included with RGM purchase.

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1 Accuracy

Meter accuracy specifications exclude errors introduced by current transformer accuracy and phase-angle error. Unless otherwise noted, specifications assume 100 to 690 V_{AC} line voltage, power factor 1.0, 48 to 62 Hz, 23 °C ± 5 °C ambient temperature, and CT current from 1% to 100% of rated current.

Parameter	Test Conditions	Typical	Maximum
Active energy	Elapsed time ≥ 10 s	±0.2%	±0.5%
Active power	Averaging ≥ 1 s	±0.3%	±0.5%
RMS voltage	Averaging ≥ 1 s	±0.3%	±0.5%
RMS current	Averaging ≥ 1 s	±0.2%	±0.5%
Frequency	Averaging ≥ 1 s	±0.05%	±0.2%
Power factor	Averaging ≥ 1 s; PF > 0.5	±0.5%	±1.0%

2 Measurement and Modbus Communication

Measurement

Update rate: approximately 0.1 second; energy registers update every 1.0 second
Startup: measurements and energy accumulation begin in ~100 ms
Creep limit: 0.04% (1/2500th) of full-scale

Communication

Protocol: Modbus RTU (binary)
Interface: isolated RS-485, half-duplex, two-wire plus common
Baud rates: 1200 to 115200
Response time: 5 to 25 ms; Modbus enabled in ~300 ms

3 Electrical and Current Transformer Inputs

General Electrical

Line frequency: 45 to 65 Hz
Line-to-neutral: 90 to 347 V_{AC}
Line-to-line: 120 to 600 V_{AC}
Measurement category: CAT III, 600 Vac
Meter power supply: 6 to 24 V_{DC} or 12 to 24 V_{AC}; 1.0 W maximum
Maximum surge: 2 kV per EN 61000-4-5; 6 kV ANSI C12.1 combination wave

Current Transformer Inputs

Kit CT rating: 200 A split-core current transformers
Nominal CT input: 0.33333 V_{AC} RMS at rated current
Absolute maximum input: 5.0 V_{AC} RMS
Input impedance: 23 kΩ at 50 to 60 Hz
Over-current limit: 200% of rated current; accuracy is reduced above this level

4 Regulatory and Physical Specifications

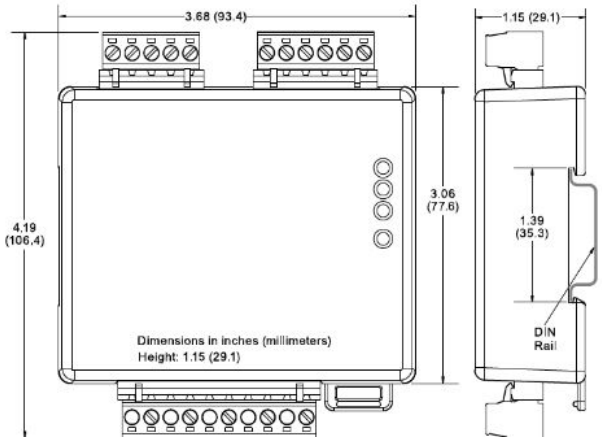
Regulatory

Safety: UL Listed U.S./Canada, file E312220; UL/IEC 61010-1 and CAN/CSA-C22.2 No. 61010-1-12
FCC: Class B, FCC Part 15
RoHS: Directive 2011/65/EU compliant

Physical

Connectors: Euroblock; up to 12 AWG / 2.5 mm^2
Enclosure: ABS/PC; UL 94 V-0
Dimensions: 4.19 × 3.68 × 1.15 in (106.4 × 93.4 × 29.1 mm)
Weight: 134 g (4.7 oz)

Installation Note: See the latest Sol-Ark RGM and Inverter installation documentation for wiring, CT orientation, commissioning, and inverter firmware requirements.



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