



Smart Power™ M5

5kW Grid-tied PV Power Conversion System

The **Smart Power M5** from Beacon Power is a newly engineered power conversion system designed specifically for grid-connect photovoltaic applications with battery backup. It offers high-efficiency electronics and instant, continuous backup power capability — day or night — in one integrated, outdoor-rated package.



The **Smart Power M5** is today's best choice for reliable, efficient solar electric power conversion. Its unique hardware and software architecture enables safe, continuous and efficient operation. Even in the event of grid outage, the **Smart Power M5** system with battery backup will continue to provide you with PV and/or battery power for critical loads — making it a truly dependable power source.

The **Smart Power M5** comes as a fully integrated, single-box solution in a compact outdoor-rated enclosure that houses the inverter, battery charge-controller, associated switchgear and ground fault protection. Installation and testing are faster and easier than with separate components and connections.

A single microcontroller with field-reprogrammable setpoints provides complete system adjustment and control. Optional PC-based Smart Power Monitor software lets you track a range of system performance parameters, as well as total PV power generated.

With user friendly programming and data monitoring, flexible operating modes, and intelligent user and wiring interfaces, the **Smart Power M5** is easy to install and operate.

M5 Features

- Highly accurate Maximum Power Point Tracking
- Patented anti-islanding technology
- Front panel LED status display
- Integrated, compact single-box solution
- NEMA Type 3R (rainproof) outdoor rating
- RS485 serial communications link

Smart Power M5 Power Conversion System

Electrical

Continuous power rating @ 40°C	5000 VA
PV operating range	48 – 110 VDC
MPPT control range	50 – 85 VDC
PV open circuit voltage	110 VDC (max.)
Input power	6000 W (max.)
DC input battery voltage	48 VDC (nominal)
DC input battery voltage range	44 – 60 VDC
Continuous charge rate	100 A (max., no AC load)
Battery type	VRLA
Battery temperature sensor	Included; 20' lead
AC output voltage	120 VAC (nominal)
AC output voltage range	106 – 132 VAC
Frequency	60 Hz (nominal)
Total harmonic distortion	Less than 3%
Efficiency	93% (peak) 90% (CEC rating; 75% output)

General

Operating temperature range	-20 to +40°C;
Environmental rating	Indoor and outdoor
Enclosure	Type 3R – rainproof/ sprinkler-proof
Mounting attitude	Vertical wall mount only
Certifications	UL 1741, CSA, FCC Class B- Part 15, IEEE 929, NEC 960, CEC and NYSEDA-eligible
Communications	RJ-11; RS485; proprietary serial protocol
Monitoring system	Smart Power Monitor software (optional)

The **Smart Power M5** is a truly integrated photovoltaic solution. The inverter, charge-controller, switchgear and ground fault protection are housed in one unit for ease of installation and operation.

Physical

Unit weight	120 lbs. (54.5 kg.)
Shipping weight*	150 lbs. (68 kg.)
Unit dimensions	42" H x 16" W x 10" D (107cm H x 41cm W x 26cm D)
Shipping dimensions*	50" H x 23" W x 19" D (127cm H x 58cm W x 48cm D)

*Conforms to UPS and FedEx ground shipment guidelines

Additional System Components

Battery breaker	Required (not included)
Battery box	Required (not included)
String combiner	Required (not included)
Transformer for 240 VAC output	Optional

About Beacon Power

Beacon Power Corporation was established in 1997. We design, develop and deliver sustainable energy storage and power conversion solutions that provide reliable electric power for the renewable energy, telecommunications, distributed generation and UPS markets.

Beacon Power Corporation
234 Ballardvale Street
Wilmington, MA 01887 USA

Tel: 1-888-938-9112
Fax: 1-978-694-9127
www.beaconpower.com

