



SMA Multicluster Technology



Flexible and cost-effective off-grid systems



Multicluster-Box 6 for a maximum of 2 clusters

MC-Box 12 for 3 ...



MODULAR CONCEPT FOR SUCCESS

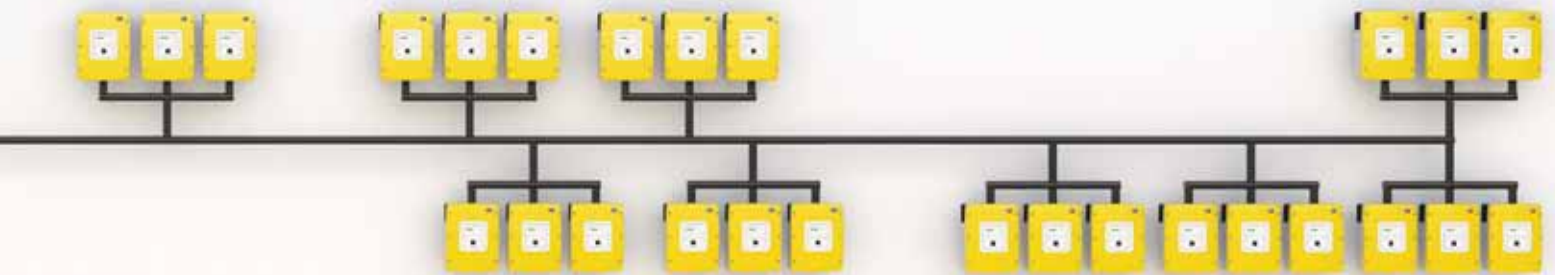
With the SMA Multicluster-Box and modular stand-alone power system, 30 to 300 kW power range stand-alone grids can be flexibly planned, are easily installed and can be expanded at any time. The technology, which has been proven and tested worldwide, guarantees a stable and high-performance energy supply and provides the customary supply quality of the big power grids. What about the cost? This system costs less than the conventional off-grid diesel generator supply. SMA stand-alone systems use locally available renewable energy sources thus significantly reducing fuel and maintenance costs. They are easy to plan, easy to install and easy to service and with better than ever reliability.



... or 4 clusters

MC-Box 36 for 5, 6, 7, 8 ...

... 9, 10, 11 or 12 clusters

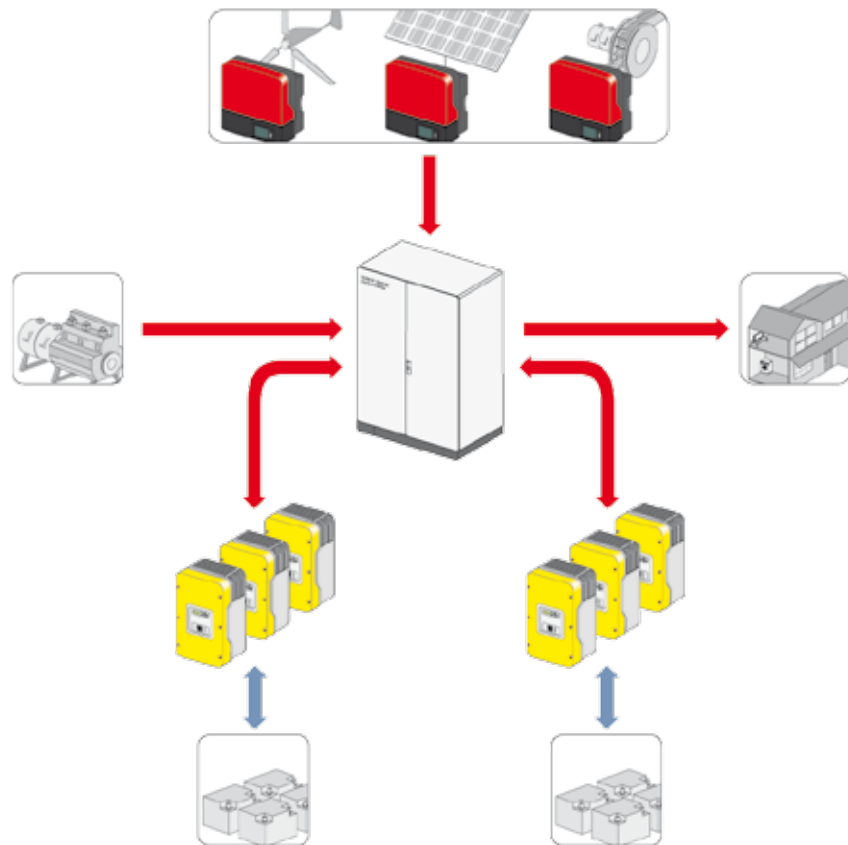




WELL CONNECTED

The heart of the SMA stand-alone power supply system is the Sunny Island inverter. Arranged in clusters of three and connected to a battery, these grid formers are responsible for building a stable AC grid. They ensure voltage and frequency remain within the permissible limits and maintain an equalized energy balance at all times. Nearly any kind of generator can be connected to the AC grid including PV power plants, wind or hydroelectric turbines. Additionally, a conventional backup generator is usually connected to keep the system supplied with energy under all circumstances.

The Multicluster Box is available in various sizes and acts as the central AC distribution to which all the Sunny Island inverters, the renewable and backup generators and the loads are connected. It is delivered ready wired and is equipped with terminals for all components of the stand-alone grid.





Multicaster-Box 12: SMA Solar Academy is a grid-independent, state-of-art equipped seminar facility built to accommodate 400 people and is located at SMA headquarters in Niestetal, Germany.

FLEXIBLE PLANNING

Life is complicated enough so SMA created off-grid systems to make using re-newable energy simple. SMA off-grid systems are made to give you nearly unlimited freedom and flexibility in generating energy from photovoltaic, wind or hydroelectric power, or using all three and with either a diesel backup or with a combined heat and power plant (CHP). Whatever the on-site demands, SMA's off-grid system technology makes it possible to design a customized system. If needs change, whether it be demand in electricity rises or falling prices make expanding the PV plant worthwhile, modification or expansion of the system is a snap.



Multicuster-Box 12: Hydroelectric, wind and photovoltaic power provides 95 percent of the power supply for approximately 100 residents of Eigg Island, Scotland.



Multicuster-Box 6: Multicuster-Box 6 supplies a restaurant, water purification plant and a cell network relay station with electricity in Kizilada in the Gulf of Fethiye, Turkey.



Multicuster-Box 36: Since 2010 the residents of the atoll, Reao in the French Polynesia, have benefitted from a photovoltaic-based stand-alone power supply.





SERVICE MADE EASY

Often a purchase seems like a good deal until of course we take into account the additional time and costs incurred for the care, maintenance and repairs. It is a completely different story with SMA Multicluster systems. Regardless of the system output, the basic structure is always the same, therefore maintenance costs are calculable. The mass produced Sunny Island inverters are technologically advanced, cost-effective and durable. Even if one of the devices needs to be replaced, the total system continues running with only a slight reduction in power output.

There is no special know-how required for operation or replacement of a device and there is no need for heavy transport or lifting equipment. All maintenance can be done by local service staff with only a brief training by SMA technicians. This saves time and money and also increases the local net product in areas remote from the grid. Yet another advantage is the enhanced quality of life a reliable and cheap energy supply brings to off-grid areas.





UNBEATABLE PRICE

How much does it cost to install tons of heavy plant in the jungle of Papua New Guinea if the only access to the site is by mule track? What about the costs of flights and accommodation for the service specialists required to carry out the work? And how far is it actually to the nearest gas station? These examples show that the installation and operation of conventional off-grid power supplies are often accompanied by considerable costs and problems.

A completely different kettle of fish with the stand-alone power system by SMA. Its easy planning, easy transport, easy installation and easy service make project costs calculable right from the beginning. Since hardly any costs for fuel or maintenance occur during operation, either, the systems are already less expensive than conventional, purely diesel-based off-grid systems.



SMA Multicluster technology:

- Maximum planning flexibility
- Easy installation at nearly any location in the world
- Simple expandability of existing systems
- Easy maintenance without a need for special know-how
- SMA Multicluster systems are more cost-effective than any conventional diesel power supply

SMA Solar Technology

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