

Standalone inverters

# Conergy ISA series



CONERGY



Efficient solutions for independent power supply

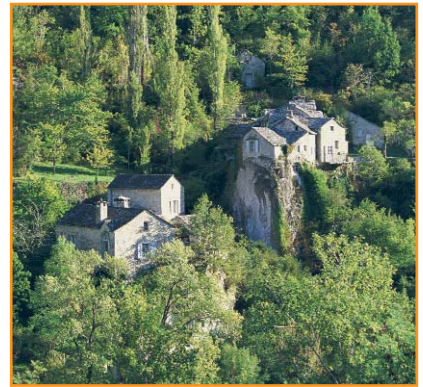
## Conergy ISA series

### Loads of energy for your off-grid application

The standalone inverters in the Conergy ISA series (Inverter Stand Alone) are the central component for an independent supply of power in areas without access to electricity or a reliable public electricity grid. It starts with the generation of alternating current for small consumers on boats or for telephone relay stations (550–3,000 W) and goes on to cover the power supply

to a vacation home or a mountain cottage (800–5,000 W) and even on up to enough power for monasteries, farms and entire villages (3,000–30,000 W).

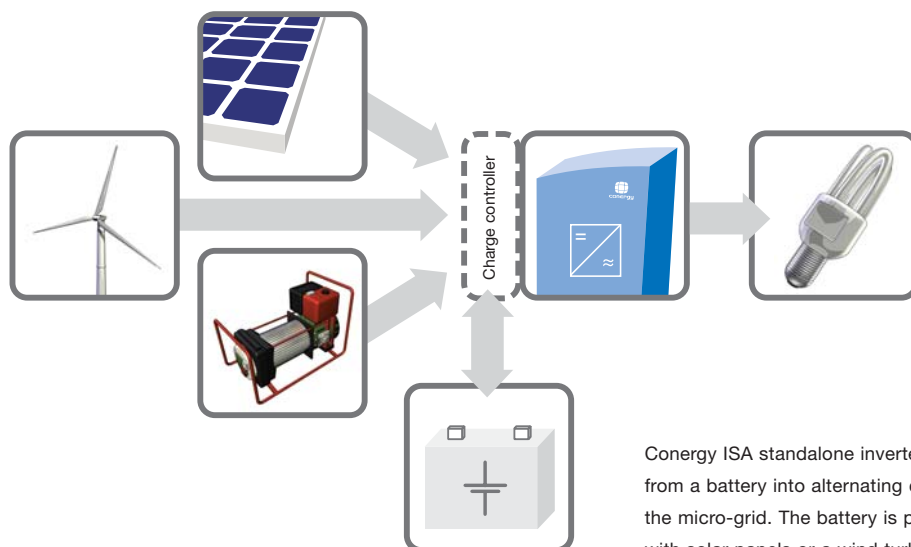
Whatever application you are planning, Conergy has the right inverter for the best technical and financial solution.



### A broad range of applications

Conergy has designed the technology of the Conergy ISA series inverters to meet all kinds of requirements. The inverters in the Conergy ISA mobile product line are designed for small consumer loads, while the Conergy ISA hybrid and the Conergy ISA backup inverters are designed to provide emergency power

and off-grid power to large, demanding consumer loads. Conergy has included components for charge control and energy management to equip the Conergy ISA hybrid and backup devices for these tasks.



Conergy ISA standalone inverters convert direct current from a battery into alternating current, which it feeds to the micro-grid. The battery is preferably either charged with solar panels or a wind turbine.

Conergy standalone inverters															
Product	Conergy ISA mobile						Conergy ISA hybrid					Conergy ISA backup			
Output (W)	550	700	850	1,000	2,000	2,700	3,000	5,000	10K (10,000)	15K (15,000)	30K (30,000)	3,000	5,000	15K (15,000)	30K (30,000)
Application	<ul style="list-style-type: none"> <li>Generation of alternating current for small consumer loads</li> </ul>						<ul style="list-style-type: none"> <li>Generation of alternating current for off-grid applications</li> <li>Supply of emergency power for less reliable public grids</li> <li>Automatic operation of diesel generators</li> </ul>					<ul style="list-style-type: none"> <li>Feeding of solar energy into the public grid in countries with fixed feed-in tariffs</li> <li>Supply of emergency power in for less reliable public grids</li> </ul>			
Charge controller	No						Yes					Yes			

#### Experts with global experience

The inverters of the Conergy ISA series benefit from more than 20 years of experience in the production and installation of over 10,000 inverters used in more than 30 countries. The international expertise of the people at Conergy is your guarantee that our equipment is ideally suited for the many different requirements of micro-grids. You can tell that starting with the easy-to-understand installation and operation manuals, which are available in a number of different local languages.

#### Take advantage of reliable technology

Micro-grids have to provide power reliably. This is why Conergy ISA devices are designed to withstand heavy loads over many years, which are common in micro-grids. To provide such durability, we use high-quality fans with ball bearings, electrolyte capacitors with a service life of up to 30,000 hours under full load, and output stages with high-quality IGBTs (Insulated Gate Bipolar Transistors) with enough insulating strength to withstand electric peaks safely. Even under extreme temperatures – from -25 to +60 °C depending on the device – the inverters run smoothly. And if the admissible temperature is ever exceeded, the device shuts down automatically. In other words, Conergy ISA inverters are built for a long lifetime and great reliability, even under the harshest temperature conditions.

#### Clean power of the highest quality

All Conergy standalone inverters are true sine wave inverters. The excellent output sine wave provides stable, quartz-accurate voltage that even surpasses the quality of many public grids. You can thus power any device – including demanding consumers with very asymmetrical loads, such as power drills or sensitive devices like televisions and laptops.

#### Service for even more safety

Judge us by the reliability and robustness of our inverters. Should you ever need it, we offer our one-of-a-kind exchange service for Conergy ISA mobile units. During the two-year warranty, we will provide you with a free replacement device if you have any technical problems.

We also offer a flexible, competent on-site service for Conergy ISA hybrid and backup units.

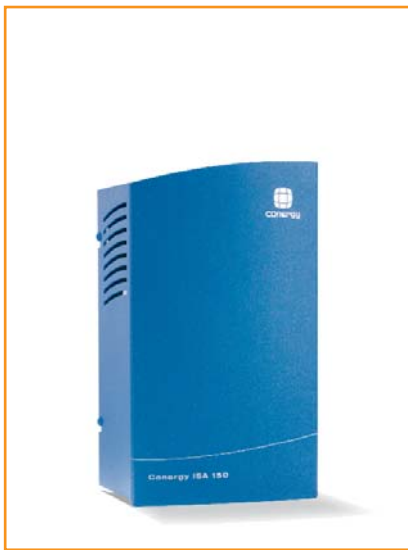
In addition, there is a technical hotline for each country in which Conergy ISA inverters are sold.

Small and tough

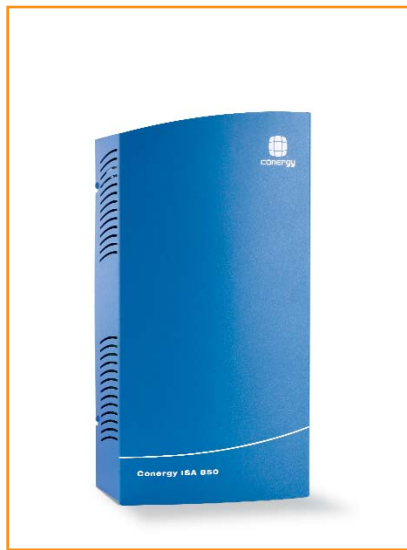
## Conergy ISA mobile

### The special strengths of Conergy ISA mobile inverters:

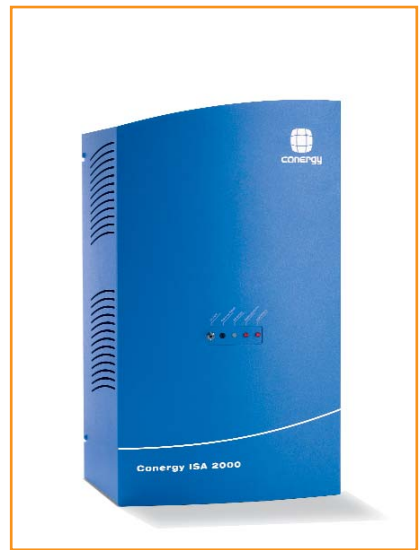
- | Maximum temperature range for extreme environmental conditions
- | Automatic stand-by operation
- | Resistant to short circuits
- | Protection against excess temperature and overvoltage
- | Overload protection



Conergy ISA 550/700 mobile



Conergy ISA 850/1000 mobile



Conergy ISA 2000/2700 mobile

### Providing power for all applications

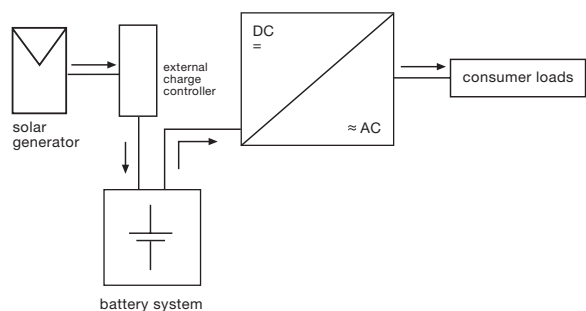
The Conergy ISA mobile product line consists of six high-performance inverters in three case sizes with outputs from 550 to 2,700 watts. These units can be used almost everywhere in the world, for they withstand an ambient temperature of -25 to +60 degrees Celsius. The devices are well suited for use as small, autonomous systems. Their compactness, low weight, and user-friendly cases make it easy for one person to carry and install them.

### Great device protection

Conergy consistently provides high-quality and has spared no effort to ensure special protection even for these small stand-alone inverters. They can provide transient peak power at loads up to three times their nominal capacity as is required when electrical devices are switched on.

If the consumer short circuits, they automatically switch off. If no consumer is connected, the inverters switch into the stand-by mode to save battery power.

### Conergy ISA 550–2700 mobile



Energy manager for your standalone grid

## Conergy ISA hybrid



### The special strengths of Conergy ISA hybrid inverters:

- | A complete unit including charge controller and energy management
- | Maximised solar power through MPP tracking
- | Connecting diesel generators
- | Optimised efficiency with the use of 48- to 240-volt technology



Conergy ISA 3000/5000 hybrid



Conergy ISA 10K hybrid



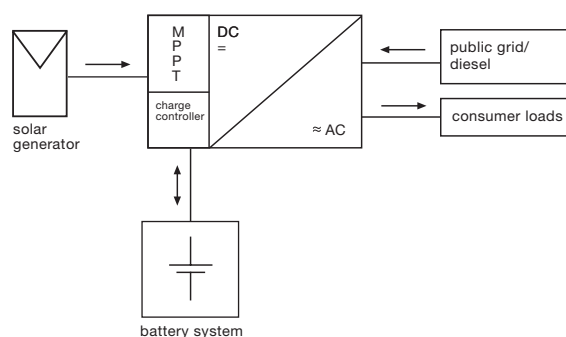
Conergy ISA 15K/30K hybrid

### A multifunctional unit for efficient operation

Conergy ISA hybrid inverters make you independent of the public grid. With only one device, you not only generate the alternate current you need, but you also have a mature energy and battery management system.

The focus is always on efficient operation: maximum power at the lowest possible installation and operation costs. We provide this combination by means of a robust construction, great availability and a long lifetime – and an intelligent control concept.

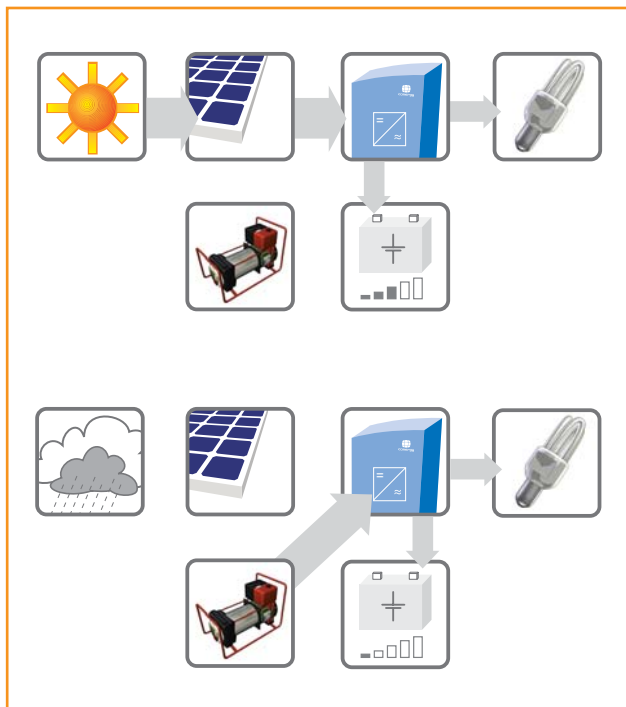
#### Conergy ISA 3000–30K hybrid



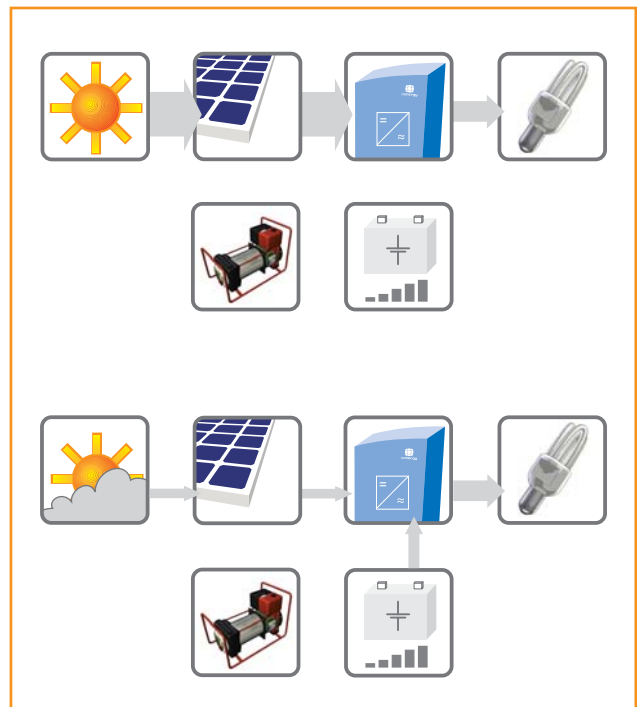
Energy manager for your standalone grid

## Conergy ISA hybrid

Energy flow during charging



Energy flow when fully charged



### Complete battery and energy management

The Conergy ISA hybrid inverter controls the entire battery and energy management. The battery's state of charge is constantly monitored by a current-compensating voltage meter. This meter can thus also compensate for drops in the battery's state of charge due to temperature fluctuations. At the same time, power supply has priority: Consumers are supplied with power first, and the excess output is then used to charge the batteries. This combined technology in one device allows the inverter to be used immediately after it is connected.

### Flexible energy packets and do-it-all

In addition to supporting solar generators, Conergy ISA hybrid inverters can also be used with other sources of renewable energy such as wind turbines. Diesel generators can also be integrated without any trouble: if there is not enough solar or wind energy and the battery is being discharged, the diesel generator will automatically be switched on to power your micro-grid.

In this case, the Conergy ISA inverter operates as a rectifier, converting the alternating current from the diesel generator into direct current to charge the battery. You can thus take advantage of comprehensive functionality from only one device.

### Also useful for the supply of emergency power

Another application is the supply of emergency power. Here, the Conergy ISA hybrid inverter charges a battery from a solar generator, from the public grid or from a diesel generator. If the battery is fully charged, less power is taken from the solar generator. If there is a power outage, the inverter then switches to the off-grid mode, supplying power to consumers from the battery.



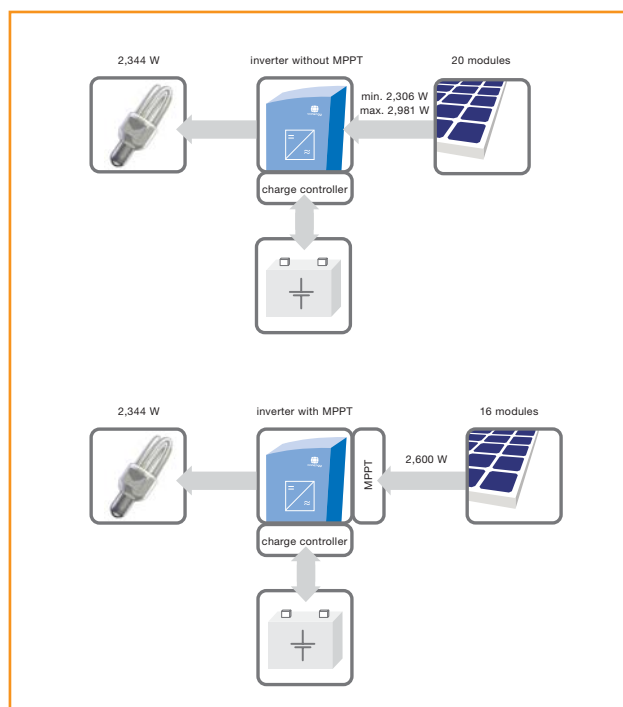
### High battery voltage – for long life and high power

Conergy ISA hybrid inverters work with high battery voltage up to 240 volts with accordingly low currents, helping to save installation and cabling costs.

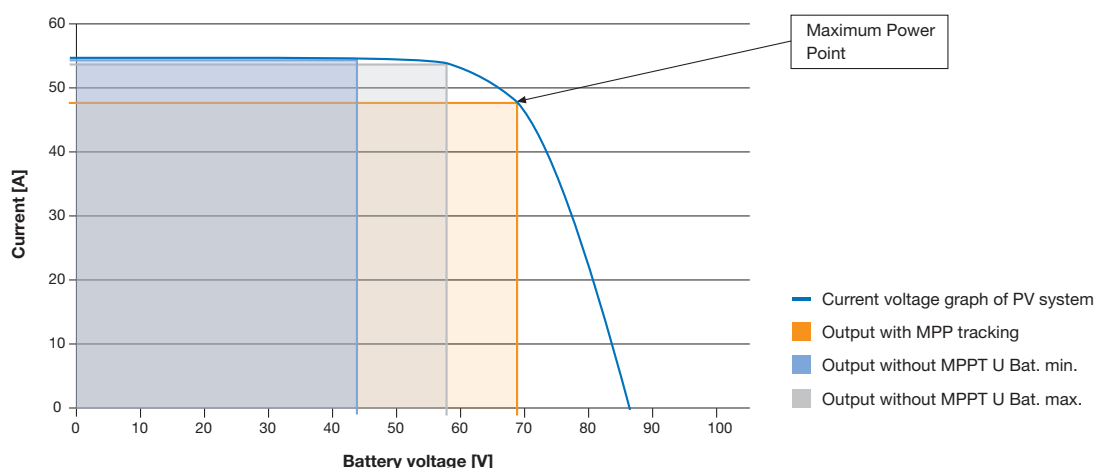
That also increases the efficiency of the inverter as it considerably reduces the amount of cabling required and the thickness of the cables. You thus do not have to purchase cable with large diameters, which may be hard to find in some areas. In addition, the low currents mean that much more robust components can be used in Conergy ISA hybrids. And that extends the life-time of these devices considerably.

### MPPT lowers your investment costs

The Conergy ISA hybrid inverter uses charge controllers with processor-controlled MPPT (Maximum Power Point Tracking), which normally only is a standard for grid-connected inverters. This technology provides the battery always with the maximum power available. The integrated DC/DC regulator then charges the battery at its voltage level. Your solar modules provide up to 20 percent more energy through this faster and optimised battery charging. A technology that pays for itself in any case.



MPPT tracking allows you to have full power with fewer solar modules.



#### Output available for battery:

without MPP tracking		with MPP tracking
With minimum battery voltage 44 V x 52.4 A = 2,306 W Output loss 43 %	With maximum battery voltage 58 V x 51.4 A = 2,981 W Output loss 10.7 %	69.2 V x 47.7 A = 3,301 W

MPPT tracking allows a 48-volt battery to provide between 10 and 43 % more power.

An energy manager that earns money

## Conergy ISA backup

### The special strengths of Conergy ISA backup inverters:

- | Feeds into the grid in normal mode
- | A complete unit including charge controller and energy management
- | Low cost thanks to MPP tracking
- | Better efficiency with the use of 48- to 240-volt technology



Conergy ISA 3000/5000 backup

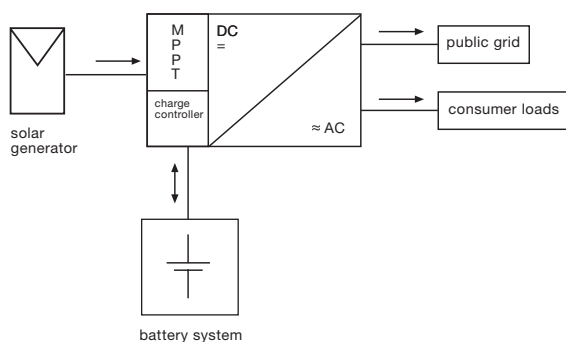


Conergy ISA 15K/30K backup

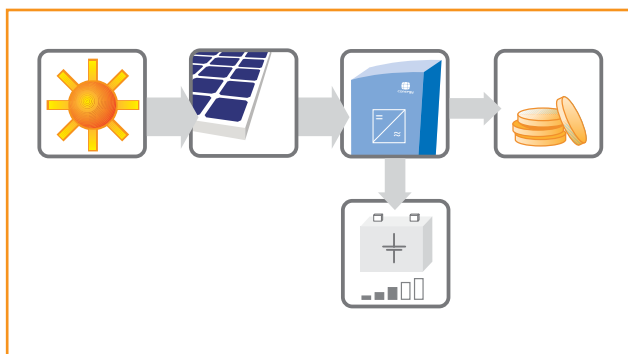
### Ensuring a supply of power and earning money

If you want to ensure a certain supply of power, Conergy ISA backup inverters are the place to start. If there is a power outage, these devices provide reliable power to the consumers urgently needed. In normal mode, they provide excess power to the public grid, earning you money so that the devices pay for themselves quickly. A system that provides security – and pays for itself.

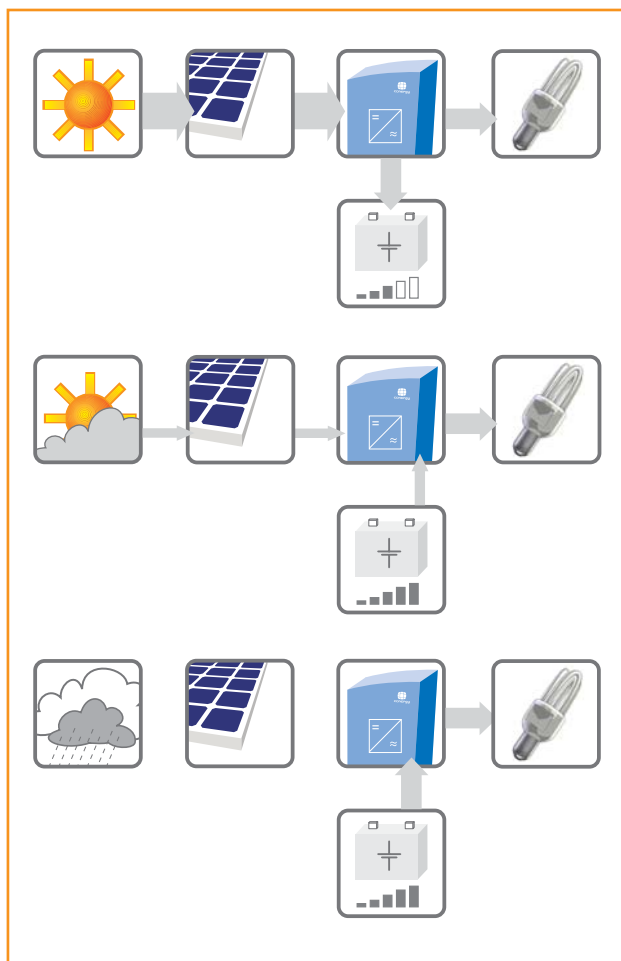
#### Conergy ISA 3000–30K backup





**Energy flow with public grid**

**Reliable off-grid technology to feed power into the grid**

The inverters of the Conergy ISA backup product line are identical in construction to the Conergy ISA hybrid inverter line and offer you all of the advantages that these devices do – including MPP tracking and a battery voltage from 48 to 240 volts. In addition, you can also feed power into the public grid. The devices are used in areas with an unreliable public grid into which people can feed power and receive compensation in return. In normal operation – in other words, when the public grid is working – the integrated charge controller charges a battery with the power generated by a solar power system. Once the battery is full, the inverter then feeds the excess power into the public grid, and the owner of the system receives compensation in return.

**Energy flow upon failure of public grid**


Conergy – your solar specialist

## Full of energy for new energy



### The future is solar

Solar energy is everywhere. It is delivered right to everyone's door in amounts greater than the world could ever consume. We only have to use it. In a way that makes economic and environmental sense. Then solar energy will make a decisive contribution towards future power supply.

With innovative products and services that cover the whole range of photovoltaics and solar thermal. With intensive research and development that leaves space for new ideas and concepts – and possibly even breakthroughs. With people who are passionate and curious about using solar technology. And with an energy that excites our partners and customers as well. We prove a new everyday that environmental friendliness and good business go together perfectly.

### Get involved today

We would like to spark your interest in solar technology and our products and services. We can provide you with everything you need for your energy demands – both photovoltaics and solar thermal. From individual components such as solar modules, electrical components, or mounting systems, all the way to complete solar systems that are ready for operation. In all sizes – whether you need a photovoltaic system for a single-family home or one of the world's largest photovoltaic plants.



### **Our offer for your energy**

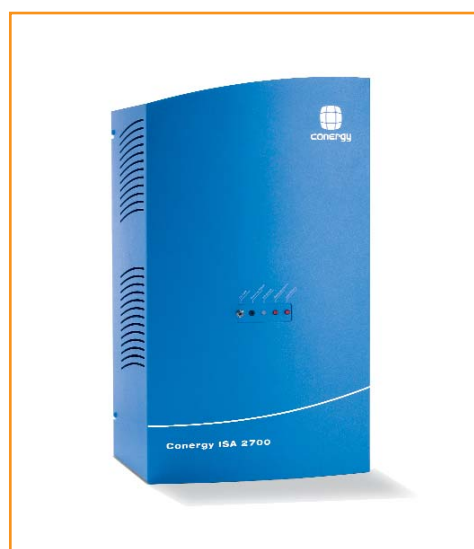
Take advantage of Conergy's many years of experience in the development and production of solar units and systems. Rely on us to provide you with mature solutions that have proven their value in practice and will continue to provide you with energy reliably and affordably for many years to come.



When you use Conergy products, you are also using the latest technology. We have offices worldwide, we know what the latest demands of customers are, and we use developments that have proven to be both practical and promising.

We also offer services to complement our products. From planning and consulting to project development, technical support, commissioning, monitoring, maintenance, and servicing – Conergy is the right address when it comes to solar energy.

## Technical data Conergy ISA mobile



Conergy ISA 2000/2700 mobile

### Technical data Conergy ISA mobile:

	Conergy ISA 550 mobile	Conergy ISA 700 mobile	Conergy ISA 850 mobile	Conergy ISA 1000 mobile	Conergy ISA 2000 mobile	Conergy ISA 2700 mobile
Continuous output power	550 VA	710 VA	850 VA	1,000 VA	2,000 VA	2,700 VA
Output P10 (for 10 min at 20 °C)	675 VA	1,300 VA	1,100 VA	1,300 VA	2,900 VA	3,200 VA
Battery voltage	12 V	24 V	12 V	24 V	24 V	24 V
Output voltage	230 V <sub>AC</sub>	230 V <sub>AC</sub>	230 V <sub>AC</sub>	230 V <sub>AC</sub>	230 V <sub>AC</sub>	230 V <sub>AC</sub>
Output frequency	50 Hz ± 0.5 %	50 Hz ± 0.5 %	50 Hz ± 0.5 %	50 Hz ± 0.5 %	50 Hz ± 0.5 %	50 Hz ± 0.5 %
Output voltage wave	True sine wave	True sine wave	True sine wave	True sine wave	True sine wave	True sine wave
Inverter efficiency	93 % max.	94 % max.	94 % max.	94 % max.	93 % max.	94 % max.
Ambient temperature range	-25 to +60 °C (max. 95 % relative humidity, non-condensing)					
Rated current	50 A	35 A	78 A	50 A	110 A	150 A
Max. input current	160 A	150 A	250 A	160 A	205 A	340 A
Adjustable stand-by range (logarithmic)	2–40 W	2–40 W	2–40 W	2–40 W	5–60 W	5–60 W
Dimensions (W x H x D, mm)	154 x 314 x 101		294 x 483 x 220		294 x 483 x 220	
Automatic restart	After overload, battery discharge, excess temperature, short-circuit					



Conergy ISA 30K hybrid

**Technical data Conergy ISA hybrid:**

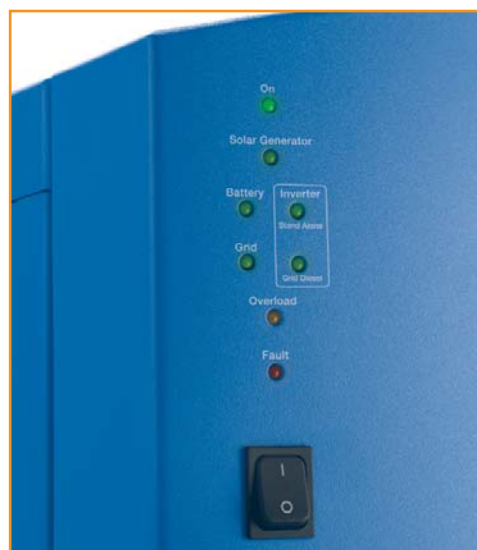
	Conergy ISA 3000 hybrid	Conergy ISA 5000 hybrid	Conergy ISA 10K hybrid	Conergy ISA 15K hybrid	Conergy ISA 30K hybrid
<b>Continuous output power 40 °C</b>	3,000 VA	5,000 VA	10,000 VA	15,000 VA	30,000 VA
<b>Peak output power 40 °C (10 sec)</b>	4,500 VA	7,500 VA	15,000 VA	22,500 VA	45,000 VA
<b>Output voltage</b>	230 V <sub>AC</sub>	230 V <sub>AC</sub>	230 V <sub>AC</sub>	230/400 V <sub>AC</sub>	230/400 V <sub>AC</sub>
<b>Output frequency</b>	50 Hz	50 Hz	50 Hz	50 Hz	50 Hz
<b>Output voltage wave</b>	True sine wave	True sine wave	True sine wave	True sine wave	True sine wave
<b>Inverter efficiency</b>	90–92 % (15–100 % output power)				
<b>Ambient temperature range</b>	0–40 °C/40–60 °C, with derating				
<b>Operation mode</b>	MPP tracking (microprocessor)				
<b>Solar generator voltage range (V<sub>pmin</sub>–V<sub>ocmax</sub>)</b>	58–150 V <sub>DC</sub>	145–350 V <sub>DC</sub>	145–350 V <sub>DC</sub>	145–350 V <sub>DC</sub>	290–700 V <sub>DC</sub>
<b>Max. continuous charging current from solar and diesel generator</b>	63 A	42 A	83 A	83 A	83 A
<b>Max. output diesel generator</b>	6,000VA	10,000 VA	20,000 VA	30,000 VA	60,000 VA
<b>Battery voltage (rated)</b>	48 V	120 V	120 V	120 V	240 V
<b>Dimensions (W x H x D, mm)</b>	354 x 587 x 657	354 x 587 x 657	454 x 750 x 821	610 x 1,800 x 800	610x1,800x800



## Technical data Conergy ISA backup



Conergy ISA 3000/5000 backup



### Technical data Conergy ISA backup:

	Conergy ISA 3000 backup	Conergy ISA 5000 backup	Conergy ISA 15K backup	Conergy ISA 30K backup
<b>Continuous output power 40 °C</b>	3,000 VA	5,000 VA	15,000 VA	30,000 VA
<b>Peak output power 40 °C (10 sec)</b>	4,500 VA	7,500 VA	22,500 VA	45,000 VA
<b>Output voltage</b>	230 V <sub>AC</sub>	230 V <sub>AC</sub>	230/400 V <sub>AC</sub>	230/400 V <sub>AC</sub>
<b>Output frequency</b>	50 Hz	50 Hz	50 Hz	50 Hz
<b>Output voltage wave</b>	True sine wave	True sine wave	True sine wave	True sine wave
<b>Inverter efficiency</b>	90–92 % (15–100 % output power)			
<b>Ambient temperature range</b>	0–40 °C/40–60 °C, with derating			
<b>Mode</b>	MPP tracking (microprocessor)			
<b>Solar generator voltage range (V<sub>pmin</sub>–V<sub>ocmax</sub>)</b>	58–150 V <sub>DC</sub>	145–350 V <sub>DC</sub>	145–350 V <sub>DC</sub>	290–700 V <sub>DC</sub>
<b>Max. continuous charging current from solar generator</b>	63 A	42 A	83 A	83 A
<b>Battery voltage (rated)</b>	48 V	120 V	120 V	240 V
<b>Dimensions (W x H x D, mm)</b>	354 x 587 x 657	354 x 587 x 657	610 x 1,800 x 800	610 x 1,800 x 800





CONERGY

---

Available from: