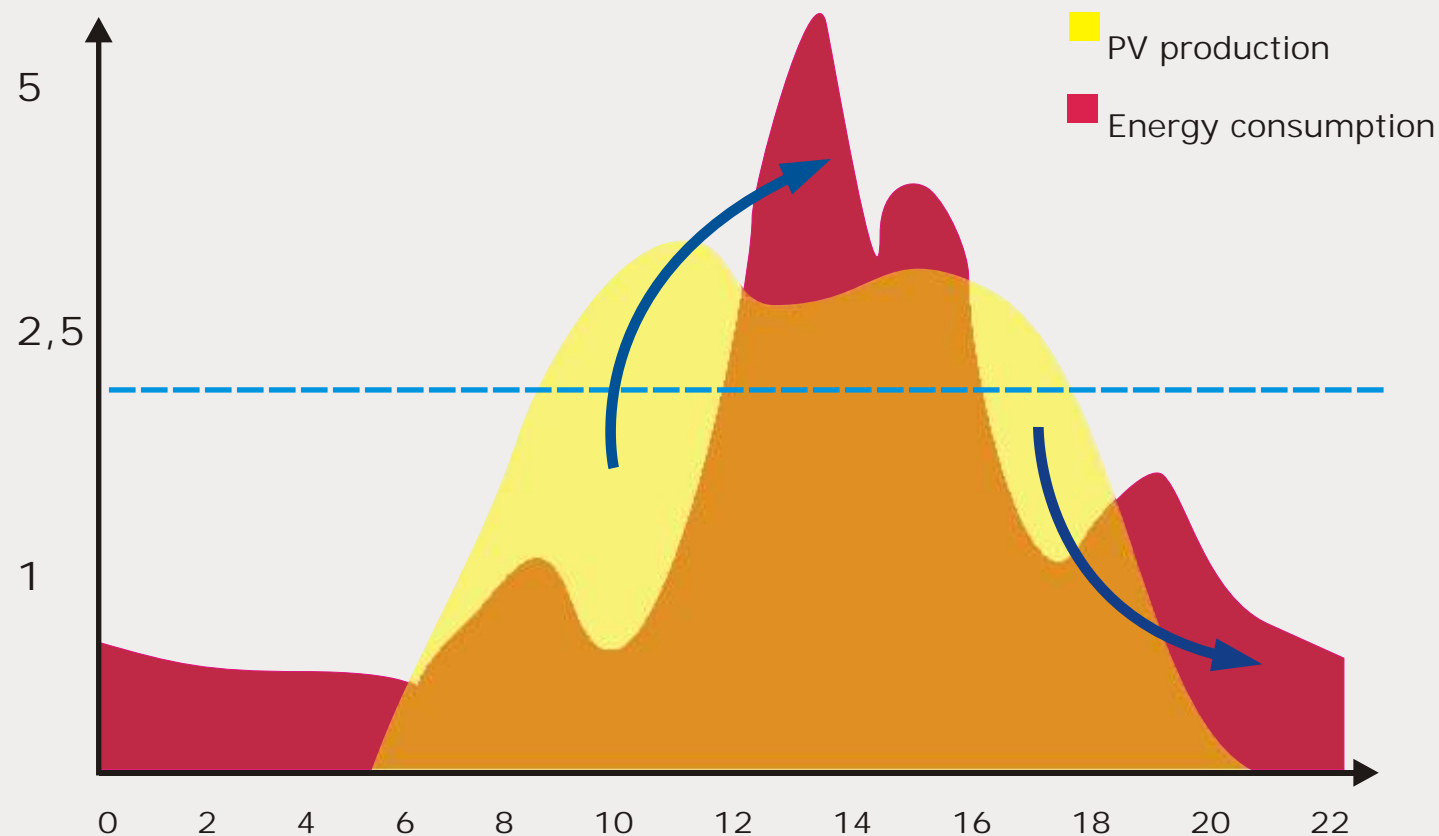




Q3 Shift Modus

Electricity production and demand during the day



Compared with a standard PV systems the Q_BEE system can significantly increase the accordance the produced photovoltaic energy (here shown in yellow) and the daily demand (purple) of an average 4 person household, depending on the daily consumption.

Starting at sunrise, the battery system can be charged. If the energy demand in the morning is rising, the PV energy will be self-consumed directly and if further necessary taken from the public grid. If during the day the produced PV energy exceeds the demand, the battery will be loaded with the excess energy.

In the Q-BEE shift mode, this can be changed instantly and at occurring peak loads (e.g. by turning on the oven) additional energy from the battery can be made available again. If the peak load is fading and excess energy gets available again, the battery will be charged immediately. As a result, on one day more stored energy can be used, than the accumulator's nominal capacity.

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Q3 Energieelektronik GmbH & Co. KG

POWER FOR NEW ENERGIES – We develop and produce innovative electronical devices (customised where required) for the field of renewable energies with high standards in quality, efficiency and security.

Headquarters:	Oberbuchstr. 35 · 89584 Ehingen	Tel.: +49 (0)7391 / 72 8 27
Sales/Marketing:	Innovapark 20 · 87600 Kaufbeuren	Tel.: +49 (0)8341 / 9080-334
Commercial Management, R&D:	Marktplatz 48 · 88400 Biberach	Tel.: +49 (0)7351 / 4292-660
info@q3-energieelektronik.de	www.q3-energieelektronik.de	



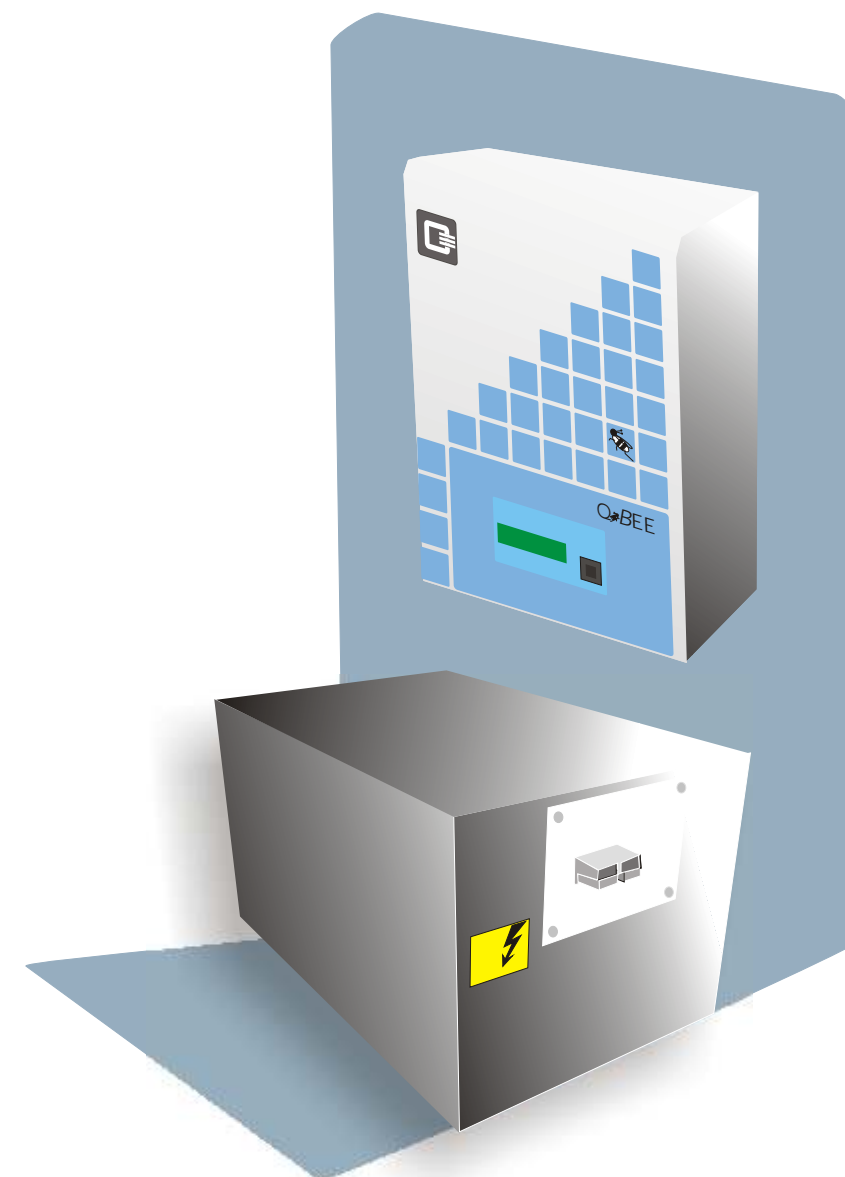
Q_BEE

Innovative energy storage system for self-consumption optimization

- Multifunctional inverter concept
- Modular Lithium-Ion battery system
- Simple upgrading for current pv systems
- Efficient on-site consumption
- Emergency function
- Integrated web server
- 6-year product warranty



POWER FOR NEW ENERGIES





Q_BEE Energy System

Innovative energy storage solution

Q_BEE is an innovative energy storage solution to increase the on-site consumption in private homes or small businesses.

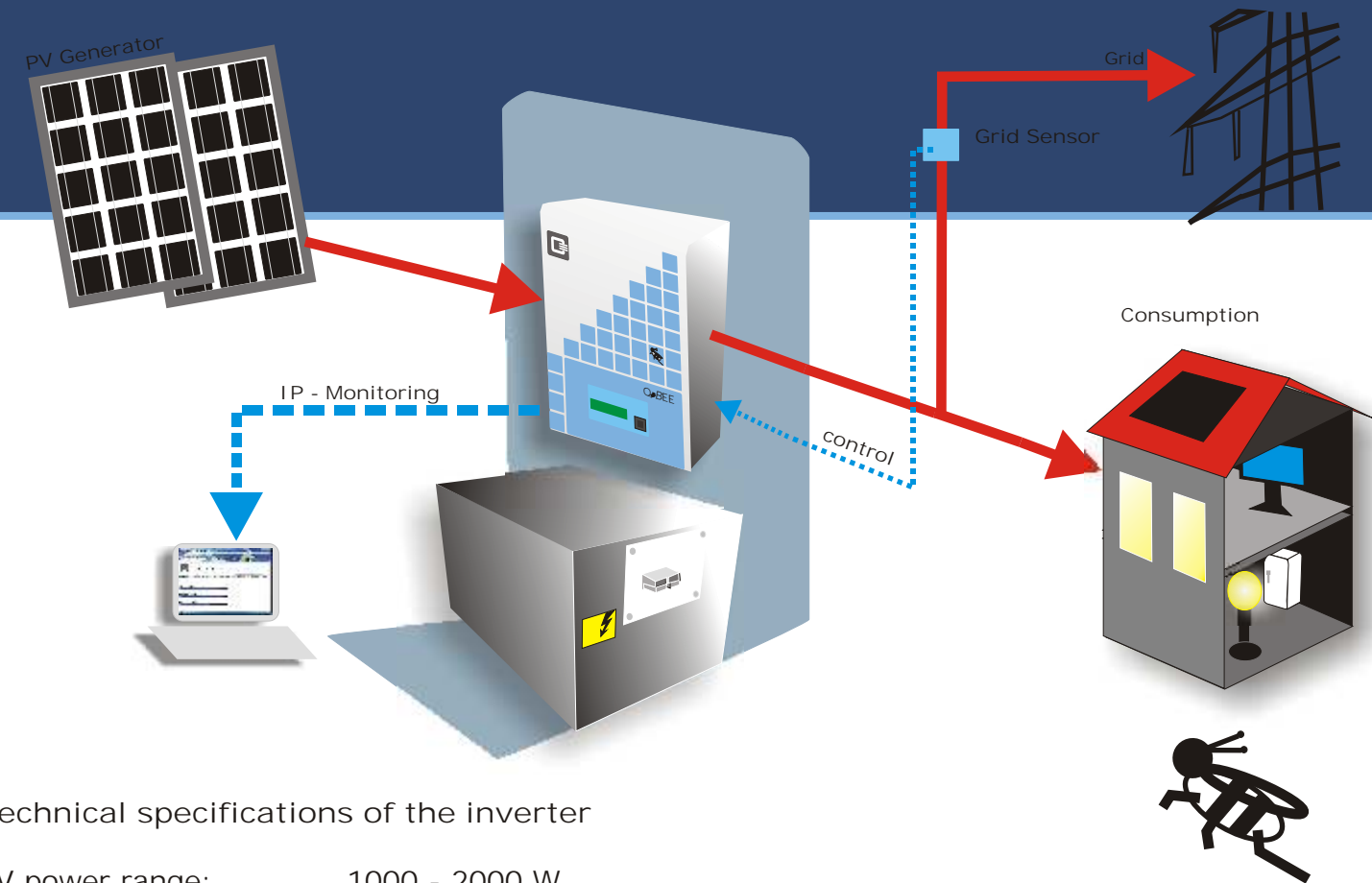
Q_BEE is a combination of a transformerless 1.5 kWp inverter, a lithium-ion battery with a storage capacity from 1.7 up to 8.0 kWh and a grid sensor. The storage capacity is modular expandable and can be adapted ideally to the power consumption of the user. The energy generated by the PV system can be used directly in the household as needed, stored in the battery or fed directly into the public grid.



Functionality

Inverter - Battery - Grid Sensor

Q_BEE consists of the components inverter, battery and a grid sensor. The integrated energy management system decides whether the produced electricity is used for self consumption within the house, stored in the battery system or to be fed into the public grid.



Multifunctional
The new inverter design allows the use with photovoltaic or wind power and in combination with an energy storage system.

Highest Efficiency
Optimal yields throughout continuous and accurate MPP tracking and a maximum efficiency of over 97%.

Simple Upgrade
Current PV Systems Existing photovoltaic systems can easily be upgraded with the Q_BEE system without major installation costs.

Battery Management
The battery management system makes sure the lithium ion storage is optimally charged and discharged and guarantees a long product lifetime.

Modular Expansion
The storage capacity is expandable and can be adapted ideally to the power consumption of the user.

Highly Profitable
Fully automatic system to strictly minimize the electricity supply and maximize the profitability for the user. The total supply costs are reduced sustainably.

Emergency Function
In case of a power failure the system can shift in an isolated operation mode and assure an uninterrupted energy supply.

Monitoring
All information on PV power, feed-in power and battery status can be controlled via inverter or the Q3 Web-App for your PC or Smartphone.

Endurance
Lithium-ion battery with high performance designed for a lifespan of 20 years.

Technical specifications of the inverter

PV power range:	1000 - 2000 W
Nominal power AC:	1500 W
Max power AC:	1800 W
Range of MPP voltage:	80 - 400 VDC
Maximum efficiency:	> 97%
Min feed in power:	ca. 10 W
Display:	4 line multicolor
Com ports:	RS232/RS485/Ethernet
Monitoring:	integrated / Q3 Web-App
Protection rating:	IP 31
Dimensions (W/H/T):	455x310x145 mm
Weight	19 kg
Product Warranty:	6 years

Technical Specification Battery System

Dimensions	275x290x520 mm
Weight	30/35/55 kg
Technology	Lithium-Ion
Storage Capacity	2,5/4,0/8,0 kWh
Product Warranty*	6 Jahre
Performance Warranty*	20 Jahre

Technical subject to alterations

*In accordance with our respective applicable guarantee condition