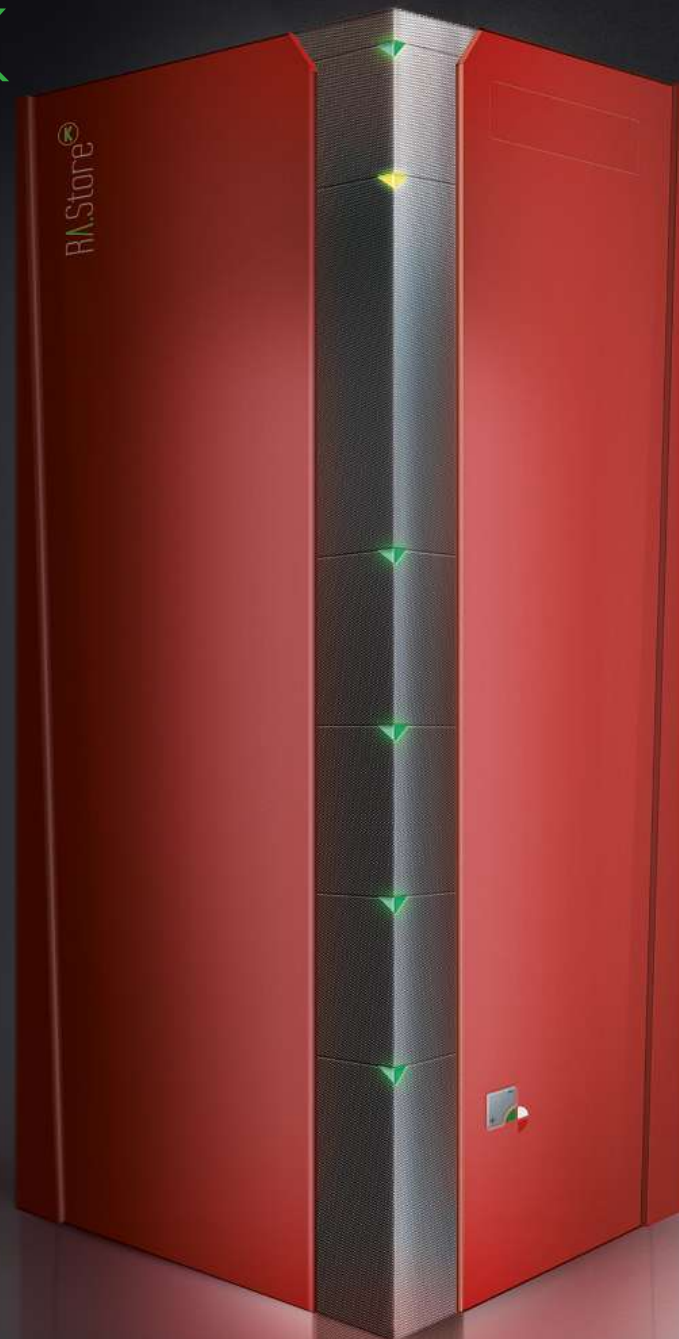
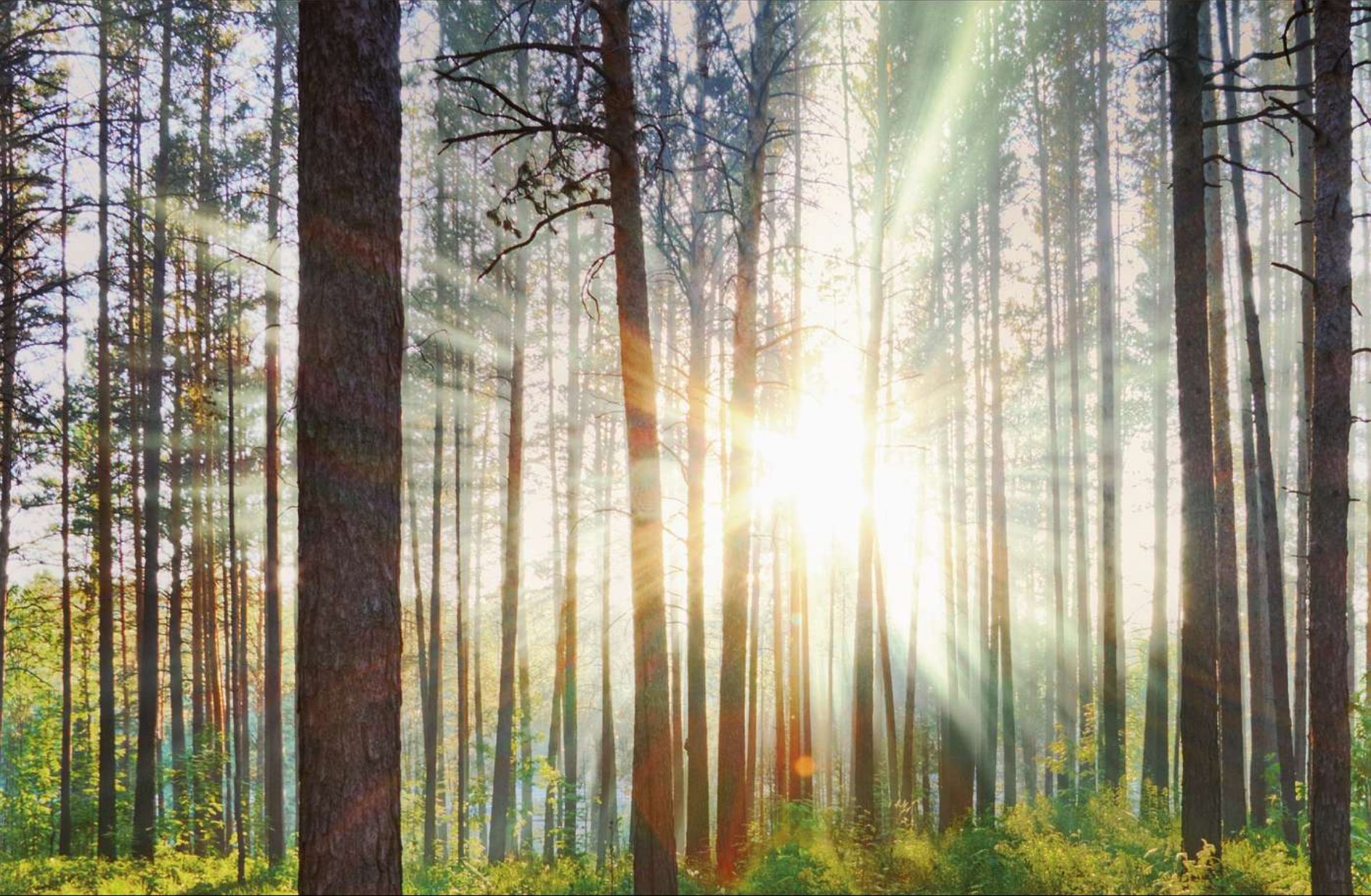


RA.Store-K



GARZI AOT



ATON
GREEN STORAGE 

Do you want autonomy?...



The sun goes down, but its energy does not.

The photovoltaic system is surely one of the most effective way to self-produce energy. Unfortunately most of the energy cannot be used because, maybe, nobody is at home when it is available. Whereas in the evening the energy request is at its peak but solar energy is no more available. That is, you need to buy energy from the provider at higher cost. **RA.Store-K** represents **the** logic **solution** to this problem: to store energy produced during the day and to supply it when it is needed, that is to say at early morning and evening. With **RA.Store-K** your domestic network becomes independent from the growing cost of electric energy.



The energy of the sun also at night...

...and you do not notice anything.

Behind a **simple** and **elegant** design, **RA.Store-K** hides a cutting **edge technology**. **RA.Store-K** is capable to store energy during the day and then give it back automatically when needed with a very high efficiency thanks to the **lithium batteries** it is equipped with. In this way, solar energy becomes available also at early mornings and evenings, when a family most needs it.

Even beyond, once the battery is fully charged, if a high energy surplus is available, **RA.Store-K** can switch on remote-controlled sockets that supply specific electrical household appliances, or sell this surplus of energy to the public network.

Green energy when you most need it.

The vast majority of electrical energy purchased from public network originates from fossil fuels with the consequent introduction of big quantities of carbon dioxide in the environment. With photovoltaic systems this does not happen. Until nowadays, solar energy could only be used in the moment of its production and had to be purchased at evenings and early mornings.

RA.Store-K solves this problem by supplying the **solar energy** produced by photovoltaic panels also **when there is no sun**. Even blackouts are not a problem anymore. **RA.Store-K**, thanks to a **charge reserve**, comes into operation by guaranteeing continuity to the service.

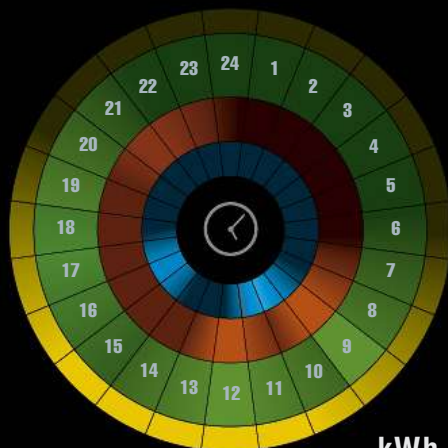


▪ **Morning:** the energy produced by the photovoltaic system that is not used immediately charges the battery.

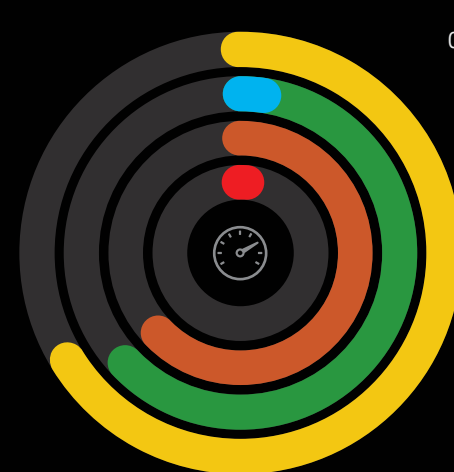
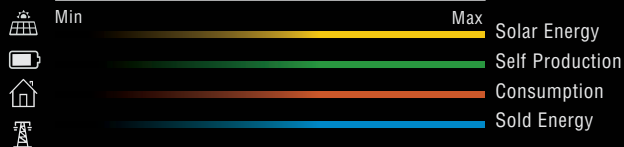
▪ **Afternoon:** if the battery is fully charged, the surplus energy can be used either to supply specific charges thanks to remote-controlled sockets or sold to the public network.

▪ **Evening:** the stored energy in the battery is available by domestic network.

▪ **Night:** if the stored energy is not enough to totally supply the domestic network, the lacking energy is taken from the public network.



kWh



Self Consumption
97.01%

kWh

| Solar Energy | Self Production | Total Consumption | Sold Energy | Bought Energy |
|--------------|-----------------|-------------------|-------------|---------------|
| 20.88 | 19.13 | 19.72 | 0.75 | 0.59 |

Conceptual image of a typical day (24 hours)

Connected and interactive...



RA.Store-K may communicate all the data related to its functioning through **WiFi** and **GPRS**. This makes it **accessible from PCs, SmartPhones and tablets**. So whether you are at home, at work or on holiday, it is always possible to check your personal photovoltaic system. **RA.Store-K** can be

RA.Store-K is designed to be connected to the future intelligent networks: the "so called" **Smart grids**. For this purpose, **RA.Store-K** is equipped with a series of features for the communication and control by the electric network provider, in order to have an optimal introduction of active and

equipped with **remote-controlled sockets**, which can be activated in case of a high energy surplus. These sockets can be activated also by PCs, SmartPhones and tablets, so that you will have **the full control** of the energy flows of your photovoltaic system even if you are not at home.

reactive power in the network. All this guarantees, in areas with high density of photovoltaic plants, the stability of the grid itself, and moreover it gives to **RA.Store-K** the chance of future developments in conjunction with all the innovations that the Smart grids will propose.

Plastic Plastic  **OYSTER WHITE**  **SILVER GREY**  **SLATE GREY**  **BLACK GREY**
Carbon Carbon Carbon Carbon





Aton Storage App

In complete safety.

The **batteries modularity** allows to configure the storage system of **RA.Store-K** by choosing among a big selection. If the consumptions shall increase, it is possible to require further modules so that the new needs can be satisfied. **RA.Store-K** is remote controlled by a qualified team of technicians who, in case of any problem, can work in a very quick and efficient way. **RA.Store-K** comes with a **7-years guarantee** that can be extended. Support and maintenance continues even beyond that deadline. All this ensures an optimal use of your own photovoltaic system without worries.



LEMON YELLOW
Carbon

TOMATO RED
Carbon

LEAF GREEN
Carbon

GREEN BLUE
Carbon

Plastic
Plastic



The day never ends...

RA.Store-K supplies the **solar energy** produced by photovoltaic panels also during hours **when there is no sun**. Once the battery has been fully charged, if a high energy surplus is available, **RA.Store-K** can switch on remote-controlled sockets that supply specific electrical household appliances.



Technical Data RA.Store-K

| RA.STORE-K MODEL | RA 3K | RA 4K | RA 5K |
|--------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|
| Recommended for domestic energy use | up to 5000 kWh/year | up to 6000 kWh/year | more than 6000 kWh/year |
| Recommended installed PVs | 3/4 kW | 4/5 kW | 5/6 kW |
| Number of strings | 2 | 2 | 2 |
| INPUT D.C. SIDE (PV) | | | |
| Max power from PVs | 3.3 kW | 4 kW | 5 kW |
| Max power from PVs to the battery | 2.5 kW | 2.5 kW | 5 kW |
| Max input voltage | 550 Vdc | 550 Vdc | 550 Vdc |
| Max MPP tracking voltage | 530 Vdc | 530 Vdc | 530 Vdc |
| Min MPP tracking voltage | 125 Vdc | 125 Vdc | 125 Vdc |
| Max string input current string | 15 A (12 A - MPP) | 15 A (12 A - MPP) | 15 A (12 A - MPP) |
| Number of independent MPPT regulator | 2 | 2 | 2 |
| A.C. SIDE (INVERTER) | | | |
| Wave form | Sinusoidal single phase | Sinusoidal single phase | Sinusoidal single phase |
| Max output power | 3.0 kW | 3.7 kW | 4.6 kW |
| Grid voltage range | 180 - 270 Vac | 180 - 270 Vac | 180 - 270 Vac |
| Frequency | 50/60 Hz | 50/60 Hz | 50/60 Hz |
| Max output current | 14.4 A | 16 A | 22.1 A |
| Total harmonic distortion (THD) | < 3% | < 3% | < 3% |
| Displacement power factor adjustable | 0.9 overexcited 0.9 underexcited | 0.9 overexcited 0.9 underexcited | 0.9 overexcited 0.9 underexcited |
| Max output power in EPS mode | 2.0 kVA | 2.0 kVA | 4.0 kVA |
| Max charging power from the grid | 2.5 kW | 2.5 kW | 2.5 kW |
| EFFICIENCY | | | |
| MPPT efficiency | > 99% | > 99% | > 99% |
| Euro efficiency | 97.00% | 97.00% | 97.00% |
| Max efficiency | 97.60% | 97.60% | 97.60% |
| Max battery recharging efficiency | 94.00% | 94.00% | 94.00% |
| Max battery discharging efficiency | 94.00% | 94.00% | 94.00% |
| BATTERY | | | |
| Type | LiFePO4 | LiFePO4 | LiFePO4 |
| Nominal voltage | 48 Vdc | 48 Vdc | 48 Vdc |
| Storable energy (*) | 4.8 kWh | 4.8 kWh | 7.2 kWh |
| Usable energy | 3.84 kWh | 3.84 kWh | 5.76 kWh |
| Extra energy in EPS mode | 0.48 kWh | 0.48 kWh | 0.72 kWh |
| DoD in Line mode | 80% | 80% | 80% |
| DoD in EPS mode | 90% | 90% | 90% |
| Number of working cycles | 4,000 | 4,000 | 4,000 |

| SAFETY AND PROTECTION DEVICES | RA 3K | RA 4K | RA 5K |
|-------------------------------------|---------------------------------|---------------------------------|---------------------------------|
| IP grade | IP 20 | IP 20 | IP 20 |
| Overload protection | Yes | Yes | Yes |
| Overtemperature protection | Yes | Yes | Yes |
| D.C. IN line protection | Fuse | Fuse | Fuse |
| A.C. line protection | Magnetothermal breaker | Magnetothermal breaker | Magnetothermal breaker |
| Battery protection | Fuse | Fuse | Fuse |
| EPS mode activation time | 5 sec | 5 sec | 5 sec |
| Temperature range | -10 °C to +45 °C | -10 °C to +45 °C | -10 °C to +45 °C |
| INTERFACES | | | |
| GPRS module (standard) | 2G Dual band | 2G Dual band | 2G Dual band |
| WiFi port (optional) | 2.4 GHz IEEE Std. 802.11 b/g | 2.4 GHz IEEE Std. 802.11 b/g | 2.4 GHz IEEE Std. 802.11 b/g |
| Wireless home automation (optional) | EnOcean 868 MHz | EnOcean 868 MHz | EnOcean 868 MHz |
| CERTIFICATIONS | | | |
| | IEC 6204-1-1: 2003 | IEC 6204-1-1: 2003 | IEC 6204-1-1: 2003 |
| | IEC 62109-1: 2010 | IEC 62109-1: 2010 | IEC 62109-1: 2010 |
| | IEC 62109-2: 2011 | IEC 62109-2: 2011 | IEC 62109-2: 2011 |
| | DIN VDE V0124-100: 2012-07 | DIN VDE V0124-100: 2012-07 | DIN VDE V0124-100: 2012-07 |
| | DIN VDE V0126-1-1/A1: 2012-02 | DIN VDE V0126-1-1/A1: 2012-02 | DIN VDE V0126-1-1/A1: 2012-02 |
| | CEI 0-21 | CEI 0-21 | CEI 0-21 |
| | ARN4105 | ARN4105 | ARN4105 |
| | EN50438-NL | EN50438-NL | EN50438-NL |
| | E8001 | E8001 | E8001 |
| | G83/2 | G83/2 | G83/2 |
| | AS4777 | AS4777 | AS4777 |
| Applied standards | UN3090 | UN3090 | UN3090 |
| CE marked | Yes | Yes | Yes |
| SIZE AND WEIGHT | | | |
| Size W x H x D (mm) | 650 x 1400 x 550 | 650 x 1400 x 550 | 650 x 1400 x 550 |
| Wight (!) | 138 kg | 140 kg | 165 kg |
| WARRANTY (o) | | | |
| On the system, battery included | 7 year | 7 year | 7 year |

Legenda:

(*) options for Li-Ion battery: 4.8kWh, 7.2kWh, 9.6kWh, 12kWh, 14.4kWh

(!) up to 280 kg with maximum storage

(o) ask for warranty extensions