

BLACKOUT? NO, THANKS!

POWER
WHENEVER
YOU NEED IT



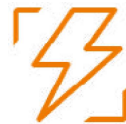
**BLACK-START
CAPABLE**

**SUNGROW'S BACKUP FUNCTION - WATCHING
SOCCER GAMES, NO MATTER THE CIRCUMSTANCES!**

7.2 electrical outages are reported worldwide in a typical month. The average in Europe is of course smaller, nevertheless **there are also many grid failures in Europe.**

But this is something you don't have to worry about anymore! During blackout, **the 3-phase Hybrid is capable of supplying selected house loads** up to 9.9 kW, even unbalanced. **That's like 50 TVs, 1000 light bulbs or even 40 fridges full of beer!**

The best thing about it? No external backup box is needed. **More power. More security. Less costs.**



**ALWAYS ON -
EVEN OFF GRID**



**LOWER
COST**

Available with
SH 5.0 / 6.0 / 8.0 / 10 RT

Switch time backup mode
< 20 ms

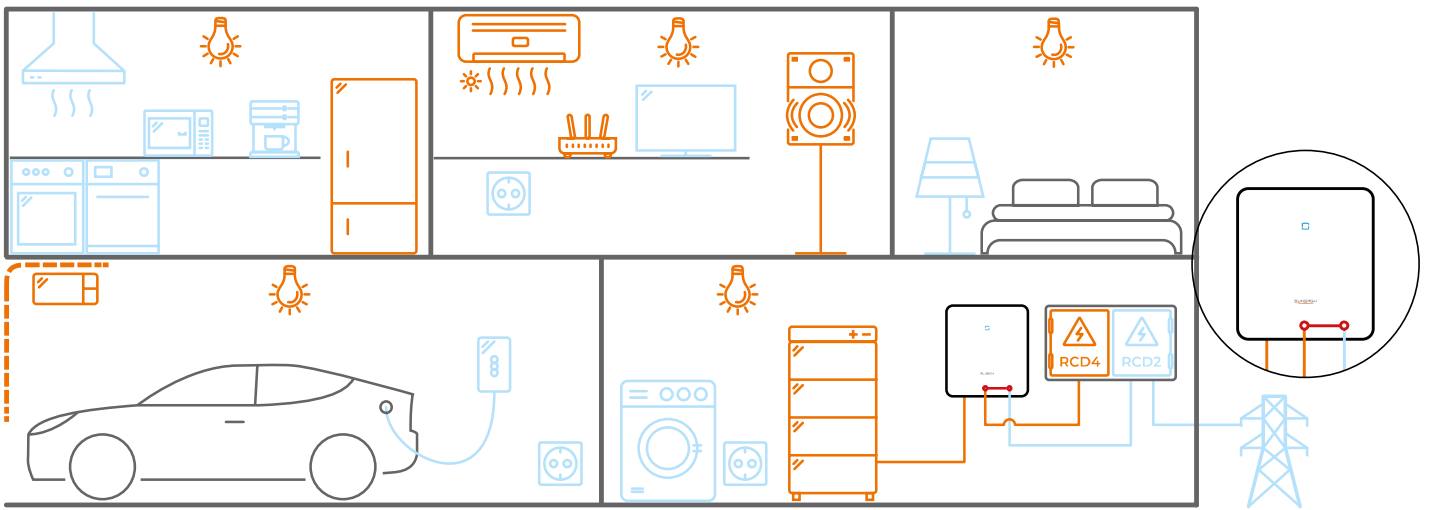
Energize loads
up to 3.3 kW / phase

Less components needed
save up to 1000 €

BACKUP FUNCTION? YES WE CAN!

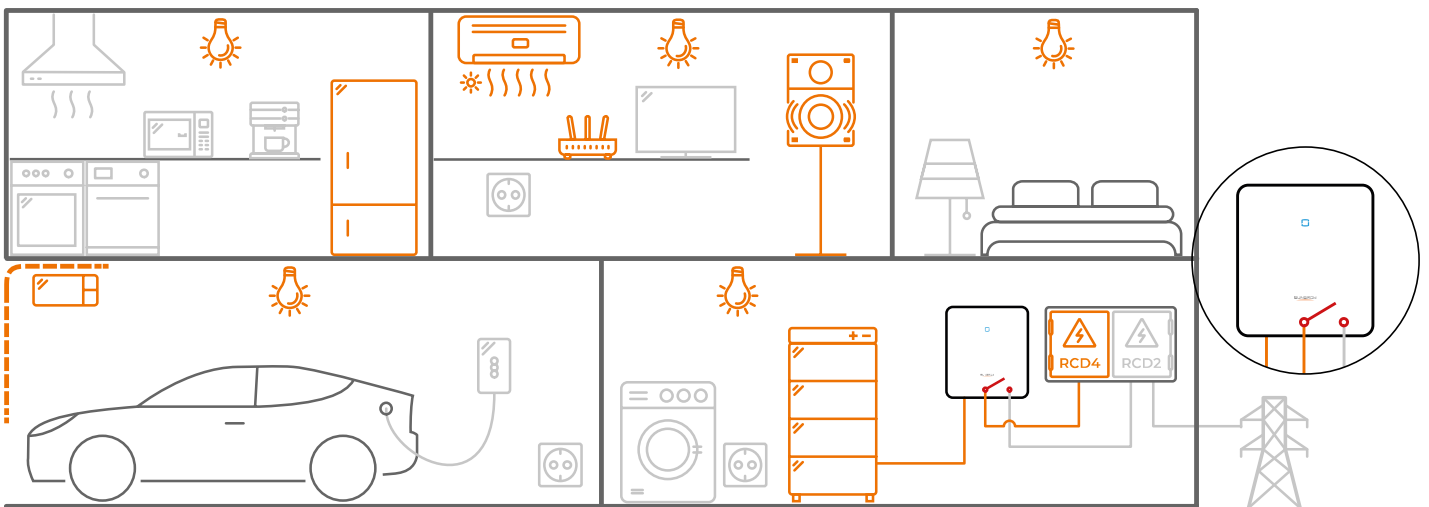
The **3-phase Hybrid can route up to 3.3 kVA per phase** from the grid to the backup port on a permanent basis. For regular grid-parallel operation, this allows the inverter to have all loads supplied by the grid, even the ones connected to the backup port.

GRID PARALLEL OPERATION



The **bypass switch inside the inverter is closed**. Grid parallel loads (blue) as well as backup loads (orange) are powered by the grid. Both circuits can share the same distribution box but should be protected by their own AC circuit breaker and RCD.

BACKUP MODE



In case of a grid failure the **bypass switch inside the 3-phase Hybrid opens** and **all loads connected to the backup port will get a seamless transition into backup mode**. Only loads not connected to the backup port experience the black out.

REAL INDEPENDENCE REAL BENEFITS

FULL COMPLIANCE

The 3-phase Hybrid fully complies with the **VDE-AR 2510-2** regulation. All required security standards for stationary electrical energy storage systems intended for connection to the low voltage grid are met completely.

GRID FAILURE?

Nothing to worry about! In case of a blackout the **3-phase Hybrid will automatically switch into backup mode** - you won't even see the light flicker. Within **less than 20 ms** a bypass switch will open and up to 9.9 kW of loads connected to the backup port will be supplied by the battery and PV.

RELIABLE & COST SAVING

Once the grid is back online the 3-phase Hybrid will reconnect safely and reliably. This **process of disconnecting and reconnecting doesn't require any external backup box or manual work**. The needed bypass switch is already included inside the inverter.

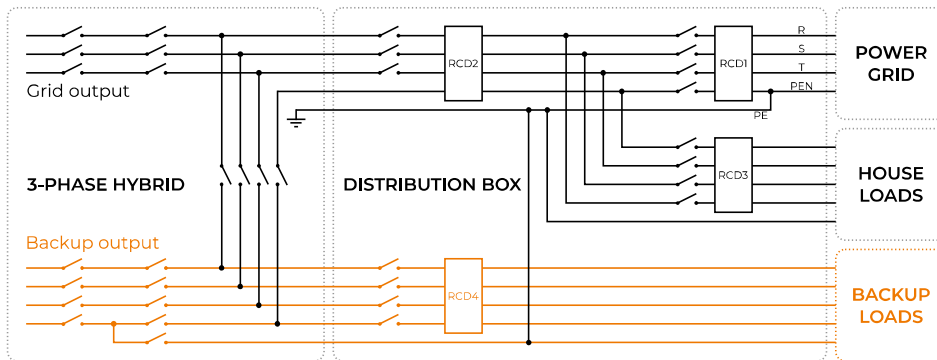
BATTERY CHARGING IN BACKUP MODE?

During an outage, the 3-phase Hybrid will use excess PV energy to charge the battery.

After an overnight blackout with an empty battery in the morning, the 3-phase Hybrid will recharge the battery with the first beams of light. Ready for the next blackout.

BACKUP FOR ALL - HOW DOES IT WORK?

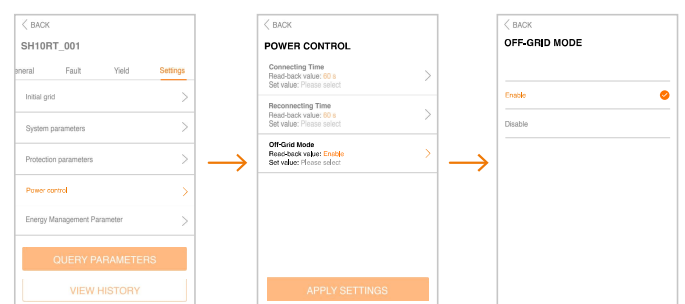
1 CONNECT BACKUP LOADS



2 OPEN ISOLARCLOUD APP



3 ACTIVATE OFF-GRID MODE



MORE ANSWERS



ANDREA POLINI

Product Manager Hybrid Solutions
Sungrow Germany

1 Are backup loads supplied by the grid during normal operation?
Yes, during normal grid parallel operation the backup port is directly bridged to the grid port. This way the loads are supplied by the grid just like the rest of the house loads.

2 Is it possible to connect one single phase to the backup port?
Yes, one single phase up to 3.3 kW can be connected to the backup port like a single power socket. N and PE shall also be connected like in a normal circuit.

3 Is a new distribution panel required to connect loads to the backup port?
No, the existing house distribution panel can be rewired. Just install a 30 mA RCD and an AC circuit breaker with 20 A for SH5.0RT, 32 A for SH6.0RT and 63 A for SH8.0RT and SH10RT for the backup connection.

4 Which batteries are compatible with the 3-phase Hybrid?
The following high voltage batteries are compatible: LG Chem RESU 7H and 10H type R.
BYD Battery Box Premium HVM and HVS as well as BYD Battery Box HV.

5 Will PV still be available during grid outage?
Yes, the PV will supply the backup loads, any excess PV will charge the battery. If the battery is full, the inverter will limit the production to match the load consumption.

6 What if an overnight outage occurs and the battery discharges while there is no PV?
The inverter will shut down and wait for the sun to rise. As soon as PV energy is available the inverter will turn on and start charging the battery and supply backup loads autonomously.

7 Is it possible to set a reserve of battery SOC in case of grid outage?
Yes, using the iSolarCloud app, it can be configured how much battery percentage should be kept as reserve. This ensures backup load supply is always available in case you need it.

8 Can the battery also be charged by the grid?
Yes, a forced charge of the battery can be scheduled in the iSolarCloud app. The scheduled battery charge will take energy from the grid and from PV if available.