HYBRID SYSTEM WITH GRID-TIED INVERTER SOLUTION

V01, updated on MAR. 8, 2021

BACKGROUND

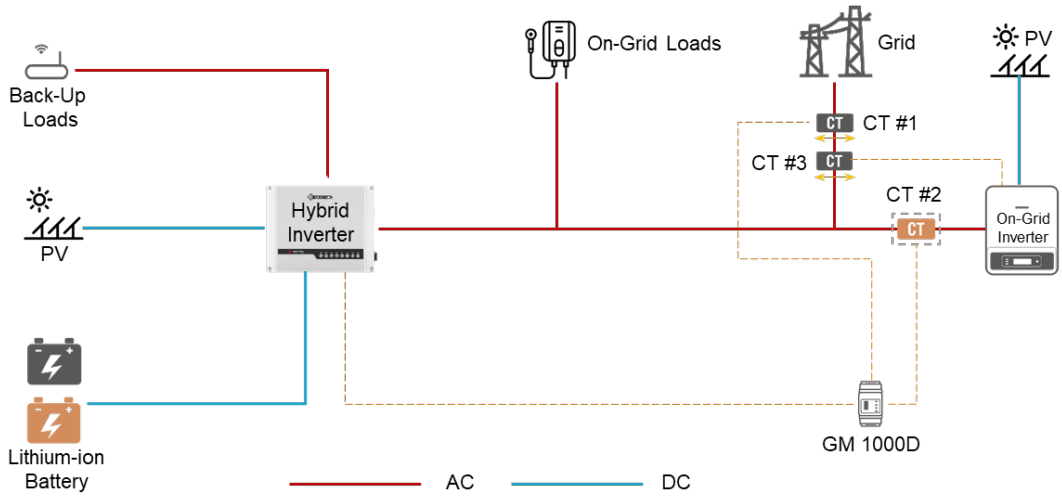
In some regions and countries, stable power supply usually can be achieved. However, previous existing GOODWE (GW) grid solar inverter system still need to be updated for some reasons such as stabilize the power supply and different application scenarios demand. To meet the requirements of capacity extension and energy storage at the same time, herein we provide a cost-effective solution which contains solar, GW hybrid inverter, Lithium-ion battery, smart meter, CT.

SOLUTIONS

**** Working mode***

	Self-consumption	Back-up	Time of use	Load monitoring	Export power limitation
Solution A	√	√	√	√	√
Solution B	√	√	√	Coming soon	√
Solution C	√	√	√	Coming soon	√

**** Solution A:***
GW single phase hybrid system retrofit GW single phase on-grid system



Hybrid inverter working mode	1. Self-consumption, 2. Back-up, 3. Time of use, 4. Load monitoring, 5. Export power limitation.
Required devices	Solar, Hybrid inverter (EH, ES, EM, ESA, EHB), Lithium-ion battery, GM 1000D, CT (for on-grid inverter).

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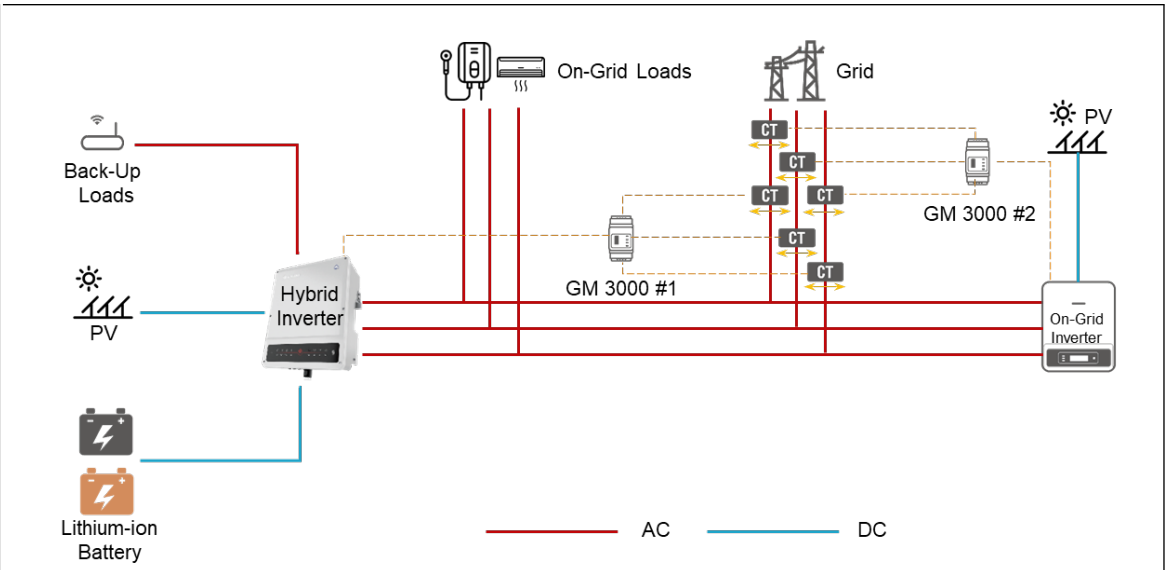
Operation Logic	Solar power of the system will support loads first then charge battery, and the exceed power will be able to export to grid which could be limited.
Load monitoring	GM1000D & CT #1 detect the power of the whole system, while GM1000D & CT #2 detects the power from on-grid inverter. Real-time consumption of loads can be calculated as following: $P_{load}=P_{on\text{-}grid\ inverter\ output}+P_{hybrid\ inverter\ output}-P_{grid\ (exporting)}$ or $P_{load}=P_{on\text{-}grid\ inverter\ output}+P_{hybrid\ inverter\ output}+P_{grid\ (importing)}$
Export power limitation	Export power limitation of the whole system can be realized with GM 1000D and CT #3, when GW on-grid system and GW hybrid system turn on this function.

**** Solution B:***

GW three phase hybrid system retrofit GW three phase on-grid system



Hybrid inverter working mode	1. Self-consumption, 2. Back-up, 3. Time of use, 4. Load monitoring (coming soon), 5. Export power limitation.
Required devices	Solar, Hybrid inverter (ET), Lithium-ion battery, GM 3000.
Operation Logic	Solar power of the system will support loads first then charge battery, and the exceed power will be able to export to grid which could be limited.
Load monitoring	Coming soon
Export power limitation	Export power limitation of the whole system can be realized with GM 3000 #1 and GM 3000 #2, when GW on-grid system and GW hybrid system turn on this function.

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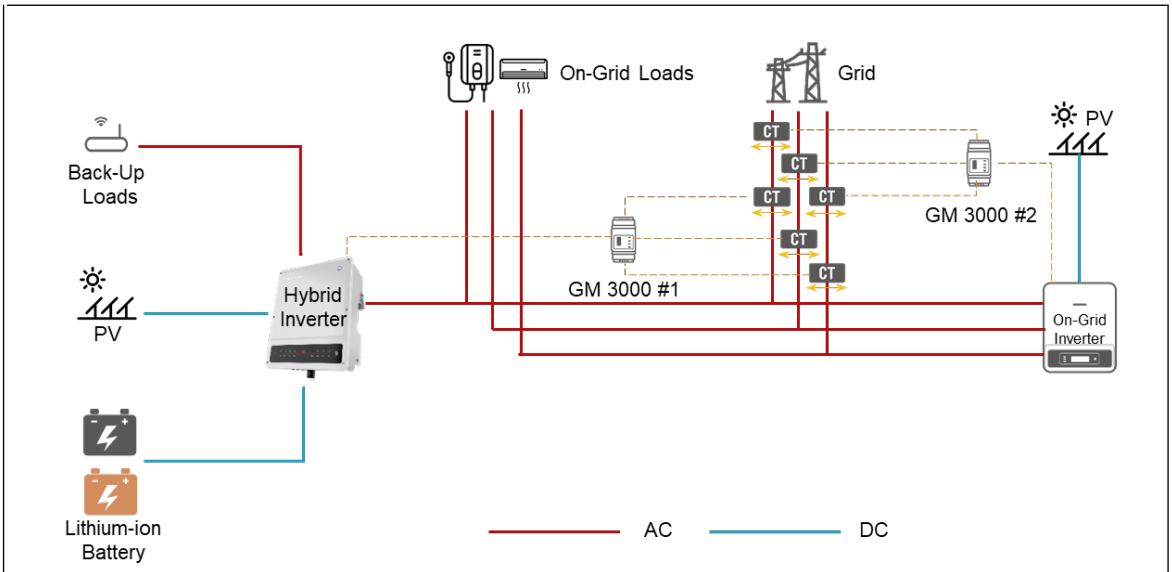
**** Solution C:***

GW single phase hybrid system retrofit GW three phase on-grid system



Hybrid inverter working mode	1. Self-consumption, 2. Back-up, 3. Time of use, 4. Load monitoring (depends), 5. Export power limitation.
Required devices	Solar, Hybrid inverter (EH, ES, EM, ESA, EHB), Lithium-ion battery, GM 3000.
Operation Logic	Solar power of the system will support loads first then charge battery, and the exceed power will be able to export to grid which could be limited.
Load monitoring	Coming soon
Export power limitation	Export power limitation of the whole system can be realized with GM 3000 #1 and GM 3000 #2, when GW on-grid system and GW hybrid system turn on this function.

OTHER SOLUTIONS

In addition to the solutions mentioned above, GOODWE also provide parallel storage solution and battery ready solution to meet the demand of capacity extension. Please refer to the specific document for details.

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