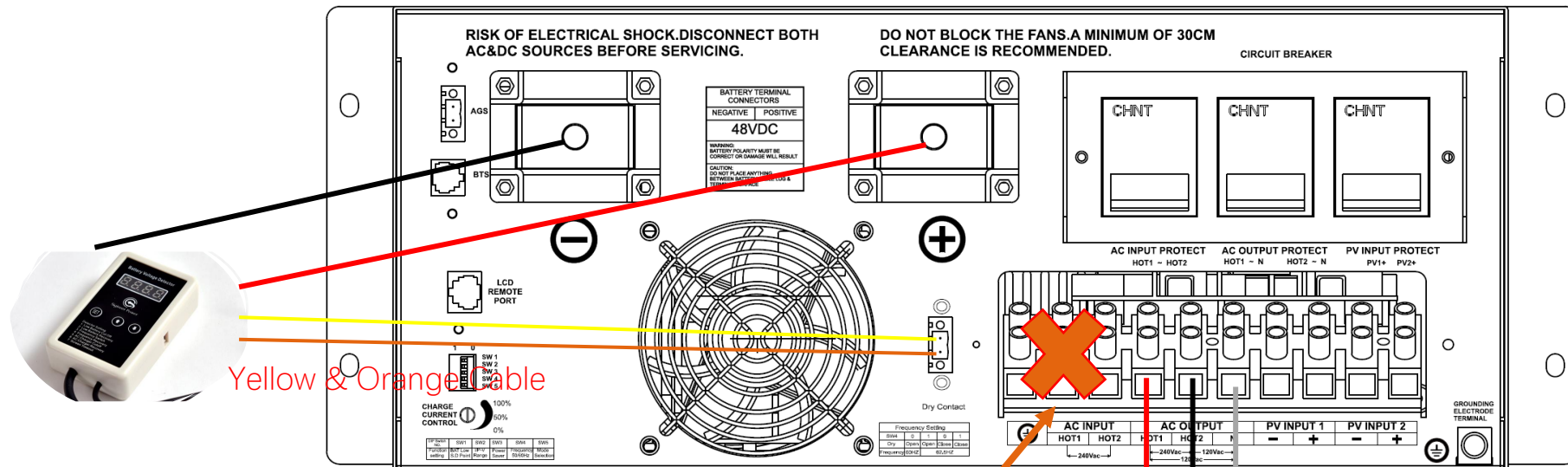


Wiring diagram of AC Coupled System (Without Utility Power)



Yellow & Orange cable

AC Input should NOT be Wired

AC Load & Grid Tie Inverter Output connected in parallel to AC output pins.

Work principal of AC coupled system (Without Utility Power)

1 Grid Tie Inverter Wakeup

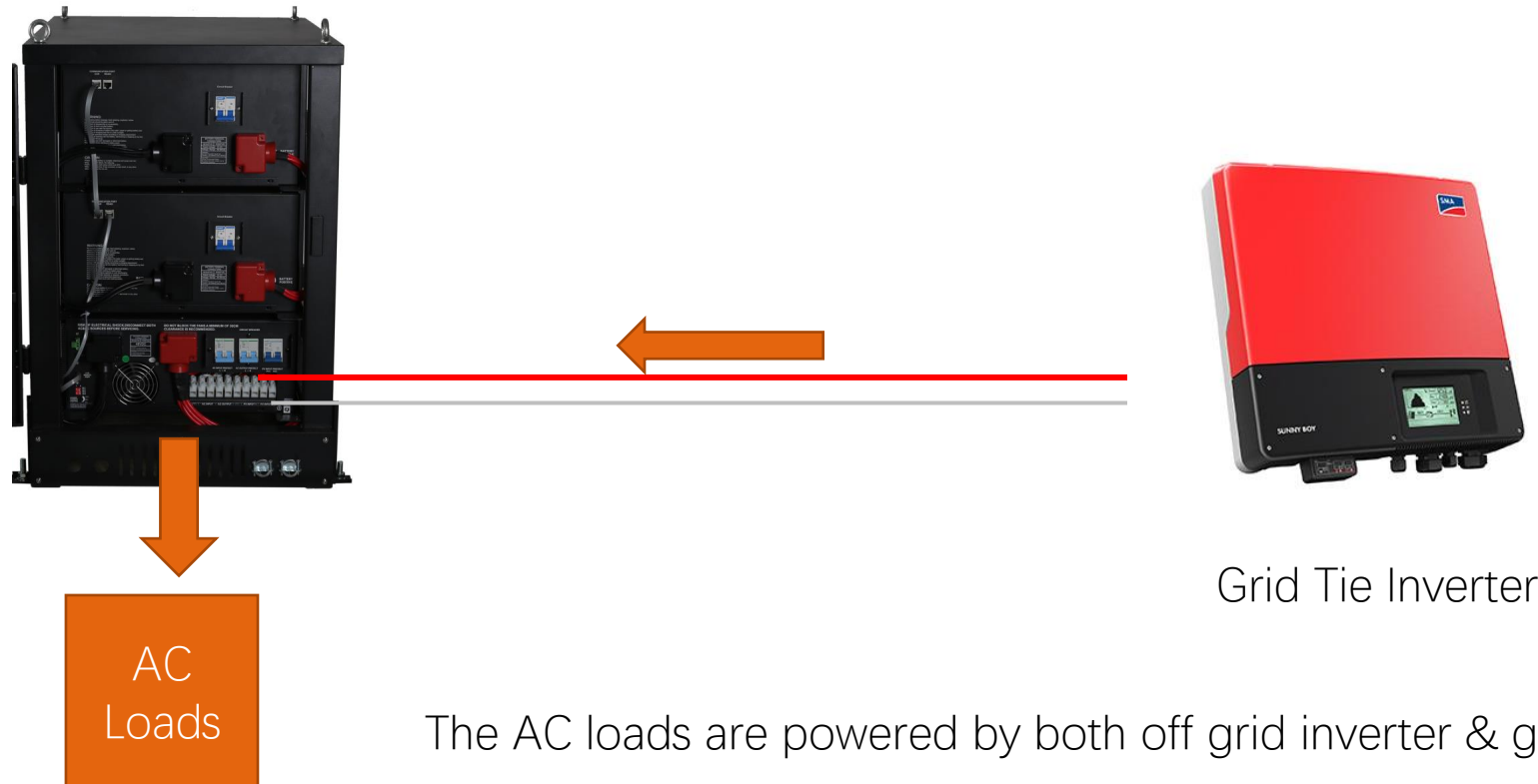


Grid Tie Inverter

The ESS AC out terminals outputs Pure Sine Wave AC to wake up grid tie inverter when utility power is not available.

Work principal of AC coupled system (Without Utility Power)

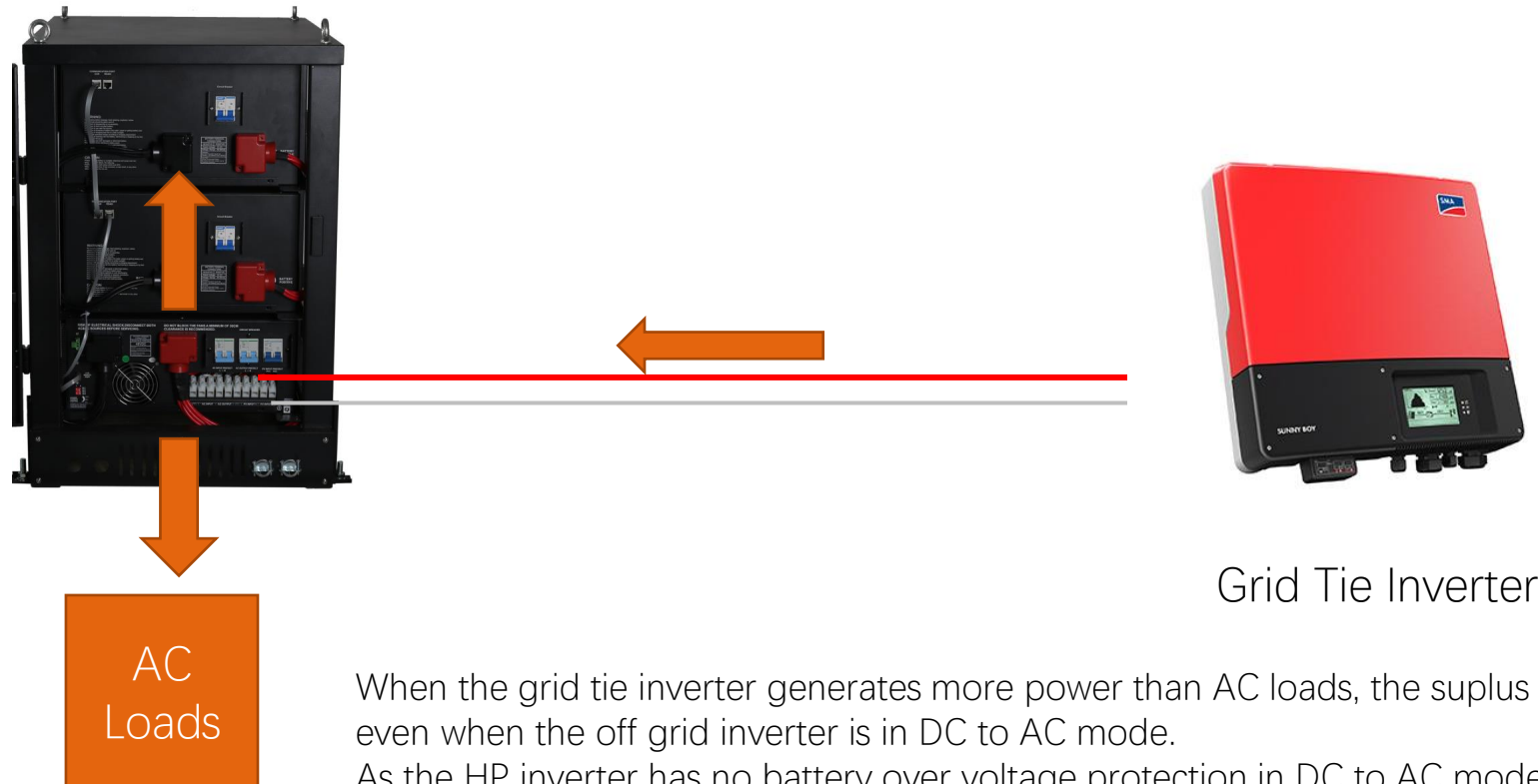
2 Grid Tie Inverter Driving Load



The AC loads are powered by both off grid inverter & grid tie inverter.

Work principal of AC coupled system (Without Utility Power)

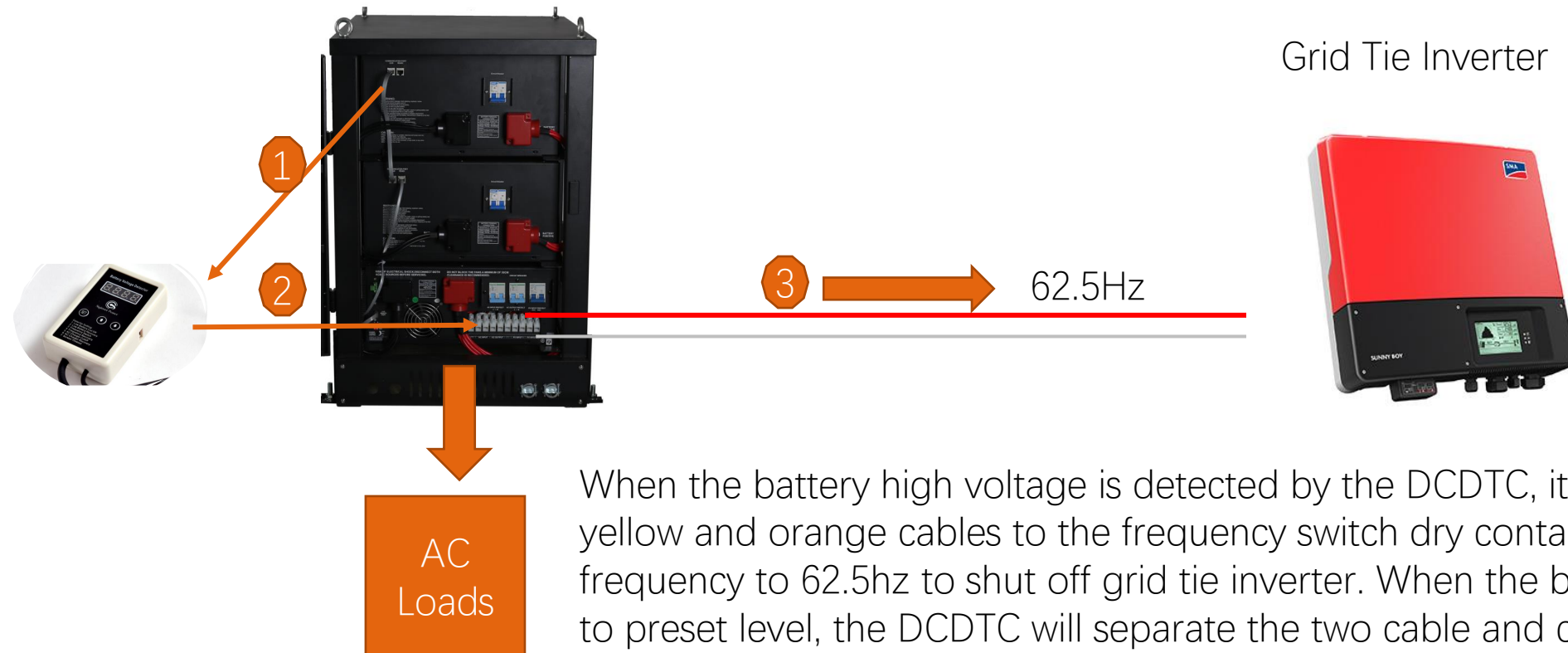
4 Grid Tie Inverter Charging Battery



When the grid tie inverter generates more power than AC loads, the surplus goes to battery charging even when the off grid inverter is in DC to AC mode. As the HP inverter has no battery over voltage protection in DC to AC mode, a voltage detector is needed to shut off the grid tie inverter at high battery voltage.

Work principal of AC coupled system (Without Utility Power)

4 High Battery Voltage, Cut Off Grid Tie Inverter

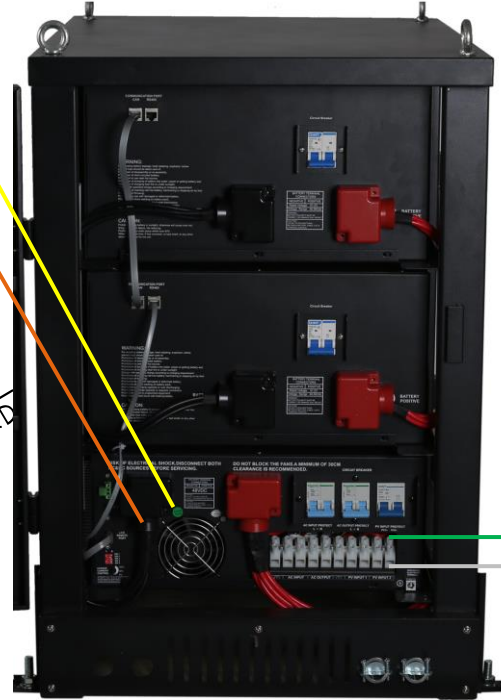


When the battery high voltage is detected by the DCDTC, it will connect the yellow and orange cables to the frequency switch dry contact, bring up inverter frequency to 62.5hz to shut off grid tie inverter. When the batter is discharged to to preset level, the DCDTC will separate the two cable and change output frequency back to 60hz and waiting for grid tie inverter to recover.



The Grid tie inverter will power the loads with AC output from HP6KW inverter. The extra power from grid tie inverter will go into battery charging. When battery voltage reaches high alarm, the DC DTC will be triggered and close the Frequency switch dry contact on the ESS to change inverter output frequency from 60hz to 62.5hz to shut off the grid tie inverter. The DC DTC will open the dry contact and change frequency to 60hz when battery voltage drops to preset level when the battery is discharged.

Yellow & Orange Cable



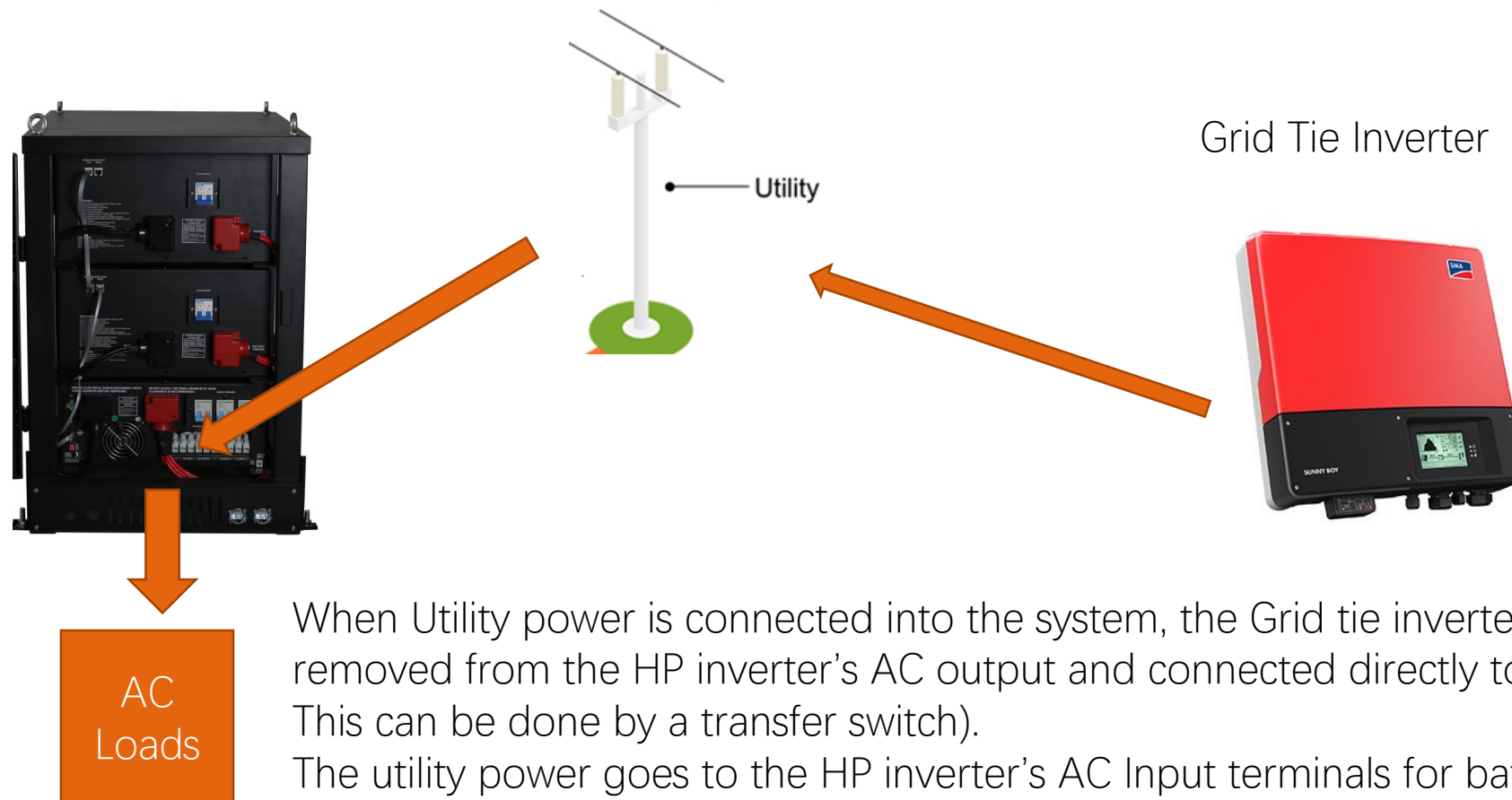
Connects to HP6KW AC Output



Grid Tie Inverter

Control Inverter Output Freq 60 & 62.5hz

Work principal of AC coupled system (With Utility Power)



When Utility power is connected into the system, the Grid tie inverter must be removed from the HP inverter's AC output and connected directly to the utility. This can be done by a transfer switch). The utility power goes to the HP inverter's AC Input terminals for battery charging and bypassing AC loads.