Chapter 2 Settings

- Settings may only be changed by a qualified engineer.
- Carefully read the user manual before any change is made.
- When setting the charger, all connections to the battery must be disconnected from the SSL series.
- Do not use non-rechargeable batteries.
- Batteries should be placed in a dry and well-ventilated area during charging.
- The product default settings are for charging gel batteries. For the recommended battery voltage initial settings, see D1 (Charger) Group parameters.

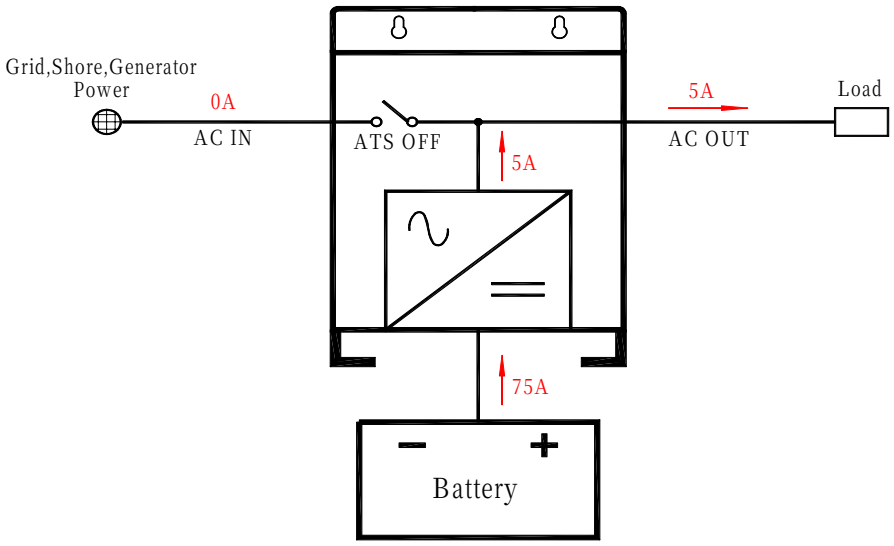
2.1 Four Control Modes Applications

MODE 1: AC Power as Priority Support (Example of KI-3000SSL-24V)

When SSL series enters to MODE 1, B2-09 (AC IN DynaCur Limit)=0 (Disable) and the value of B2-18 (MODE 1: ACINCurrent Lmt) will be loaded to B2-05.

1. INVERTER Mode:

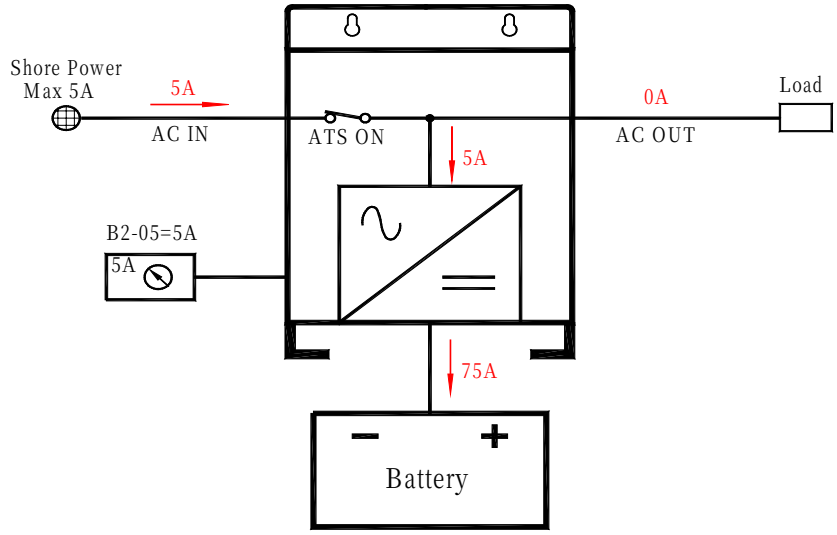
- When AC IN=0 A, AC OUT load is completely supplied by INVERTER. It goes to the inverter mode.



2. Power Control Mode (a)

- In this example:

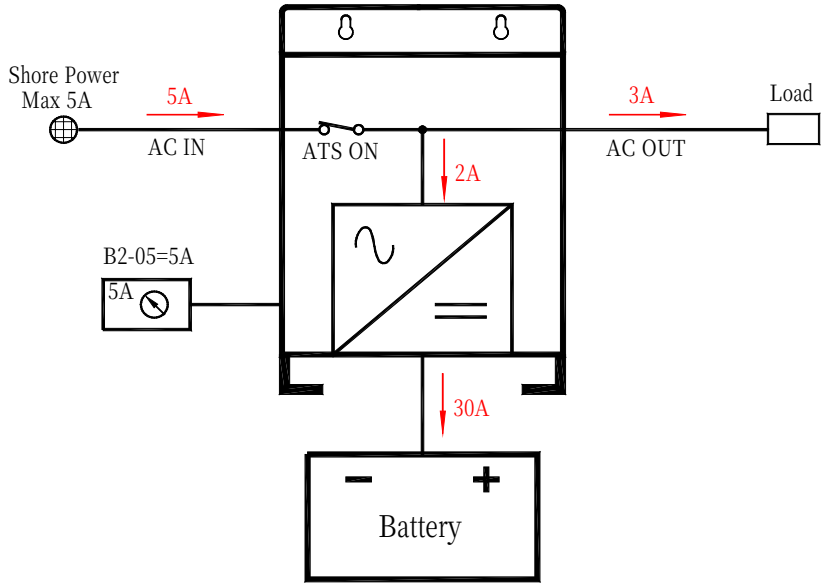
  All AC loads are off, with the “SSL series” constant B2-05=5A (AC IN Current Limit), the AC CHARGER will not take more than 5A with limits to battery charge current to 75A.



3. Power Control Mode (b)

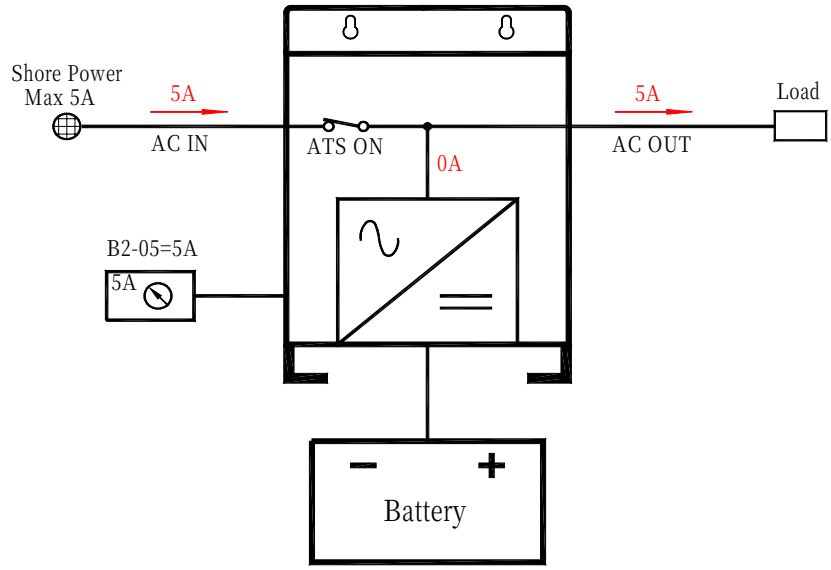
- Now some small loads are switched on and load increase to 3A. Only 5-3=2A is left to charge the batteries and charge current is reduced to about 30A.

  ※ Note: Shore current is automatically limited to 5A and the AC input circuit breaker will not trip!



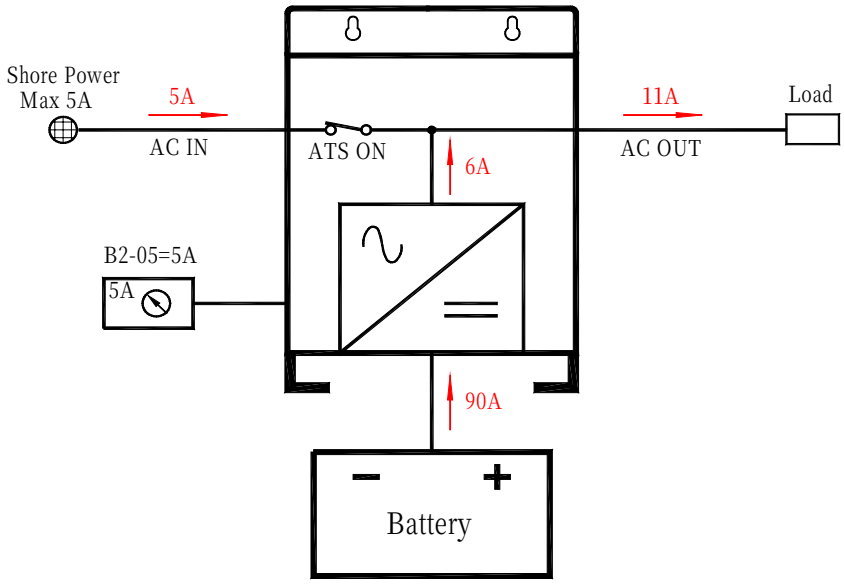
4. Power Control Mode (c)

- The load is switched on and current consumption increase to 5A. Nothing is left to charge the battery.
- The charge current is automatically reduced to 0A, and the AC input circuit breaker does not trip!



5. Power Assist Mode

- And now the other load adds and switches on and the current increases to 11A. This is where Power Assist is needed.
- The bidirectional converter starts operating as inverter to add 6A to the 5A that is available from the shore-side: Total 6+5=11A, and no overload on the AC supply.
- As soon as the load reduces to less than 5A, any current that is left over will be used to recharge the battery.



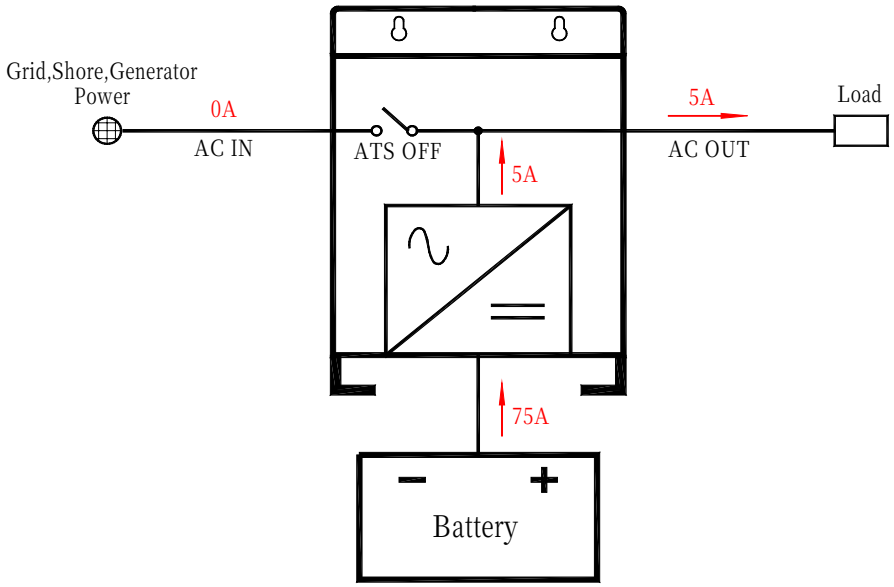
MODE 2: AC Generator Support with Dynamic Power Shifting

(Example of KI-3000SSL-24)

When SSL series enters to MODE 2, B2-09(AC IN DynaCur Limit)=1 (Enable) and the value of B2-19 (MODE 2: ACINCurrent Lmt) will be loaded to B2-05.

1. INVERTER Mode:

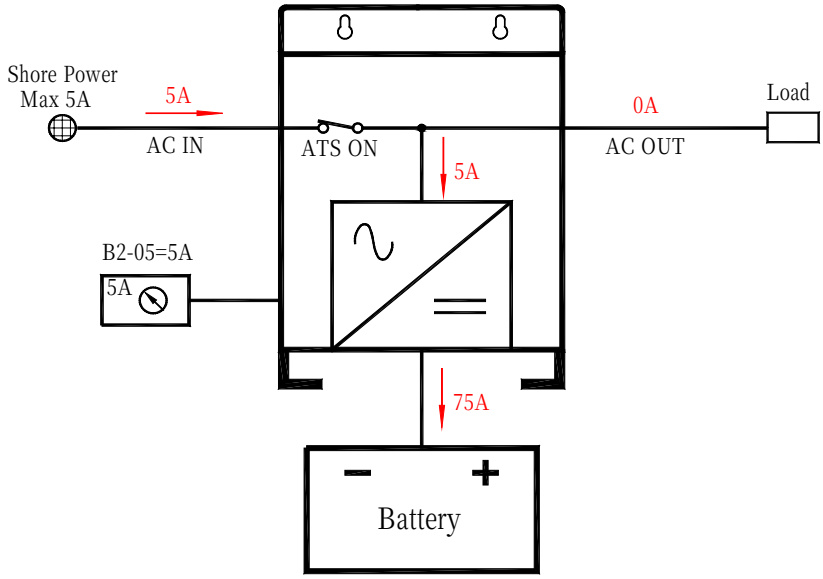
- When AC IN=0 A, AC OUT load is completely supplied by INVERTER. It goes to the inverter mode.



2. Power Control Mode (a)

- In this example:

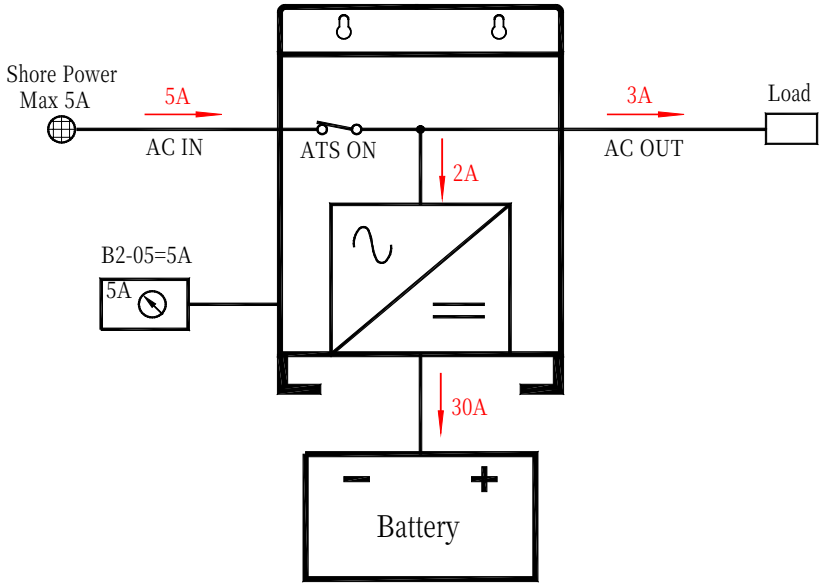
  All AC loads are off, with the “SSL series” constant B2-05=5A (AC IN Current Limit), the AC CHARGER will not take more than 5A with limits to battery charge current to 75A.



3. Power Control Mode (b)

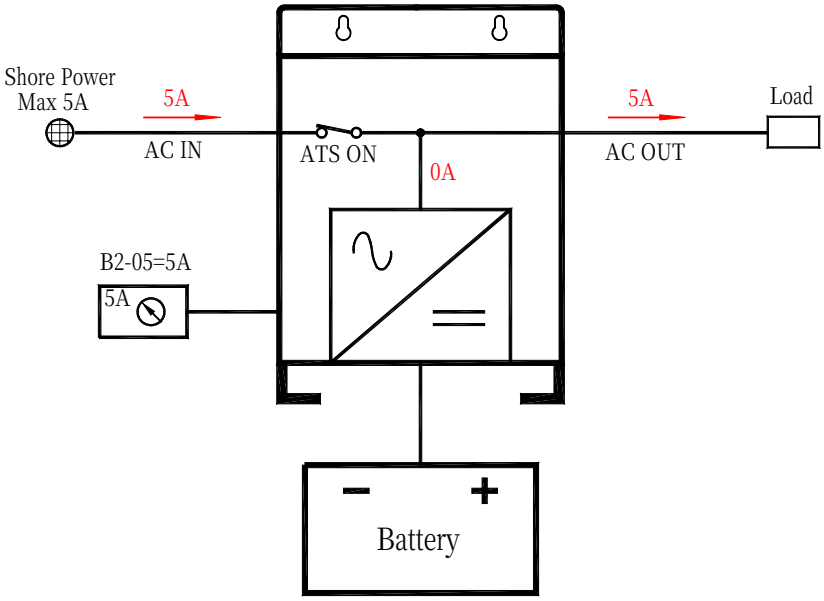
- Now some small loads are switched on and load increase to 3A. Only 5-3=2A is left to charge the batteries and charge current is reduced to about 30A.

  ※ Note: Shore current is automatically limited to 5A and the AC input circuit breaker will not trip!



4. Power Control Mode (c)

- The load is switched on and current consumption increase to 5A. Nothing is left to charge the battery.
- The charge current is automatically reduced to 0A, and the AC input circuit breaker does not trip!

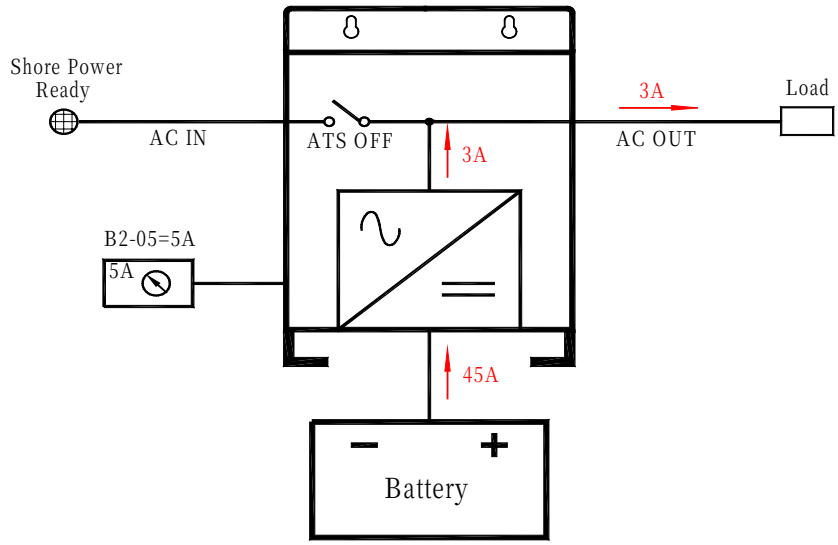


INVERTER ONLY

When SSL series enters to INVERTER ONLY, B2-09(AC IN DynaCur Limit)=0 (Disable) and the value of B2-20 (INV M: ACINCurrent Lmt) will be loaded to B2-05.

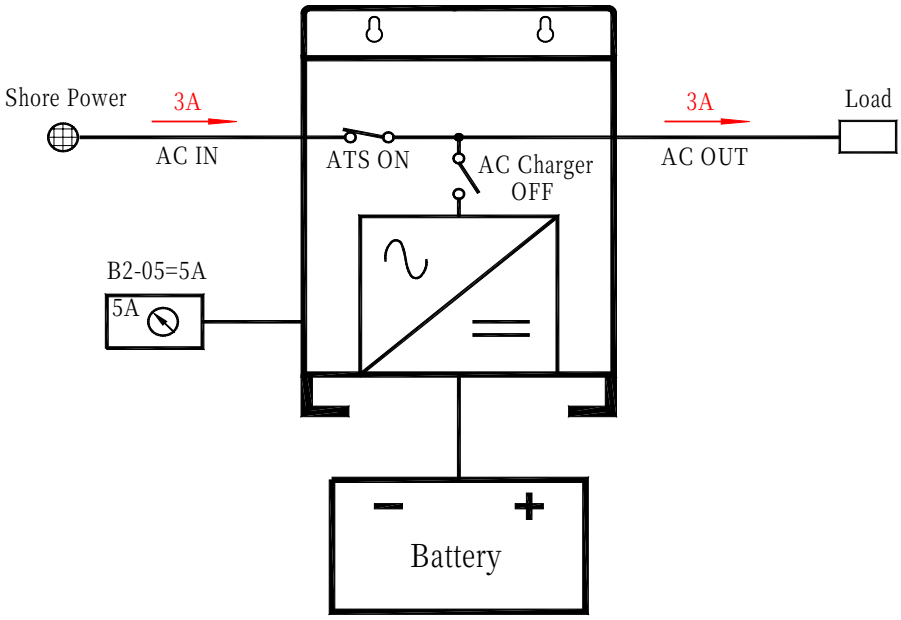
1. INVERTER Mode:

- When the battery voltage is not lower than (B2-14) voltage value, inverter mode takes priority to supply voltage to AC OUT for load consumption.
  (INVERTER ON+ ATS OFF + AC CHARGER OFF)



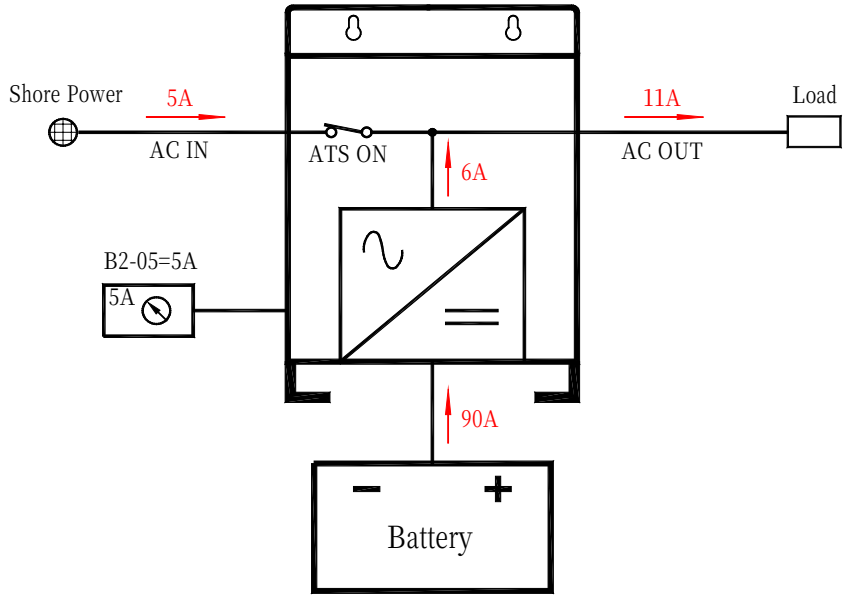
2. Power Control Mode

- When AC IN power is ready, INVERTER is active and battery voltage is lower than B2-14 voltage value and longer than the second time set in B2-15, ATS will be switched on to ensure AC OUT to continuously supply the load. At the moment, AC OUT will be supplied by AC IN power.
- When AC IN power is ready, it is only used to supply to the load, not to charge the battery.
  (INVERTER OFF+ ATS ON + AC CHARGER OFF)



3. Power Assist Mode

- And now the other load adds and the current increases to 11A. This is where Power Assist function is needed!
  (ATS ON + AC CHARGER OFF + INVERTER ON + Power Assist Mode ON)
- As soon as the load reduces to less than 5A, power assist function stops.

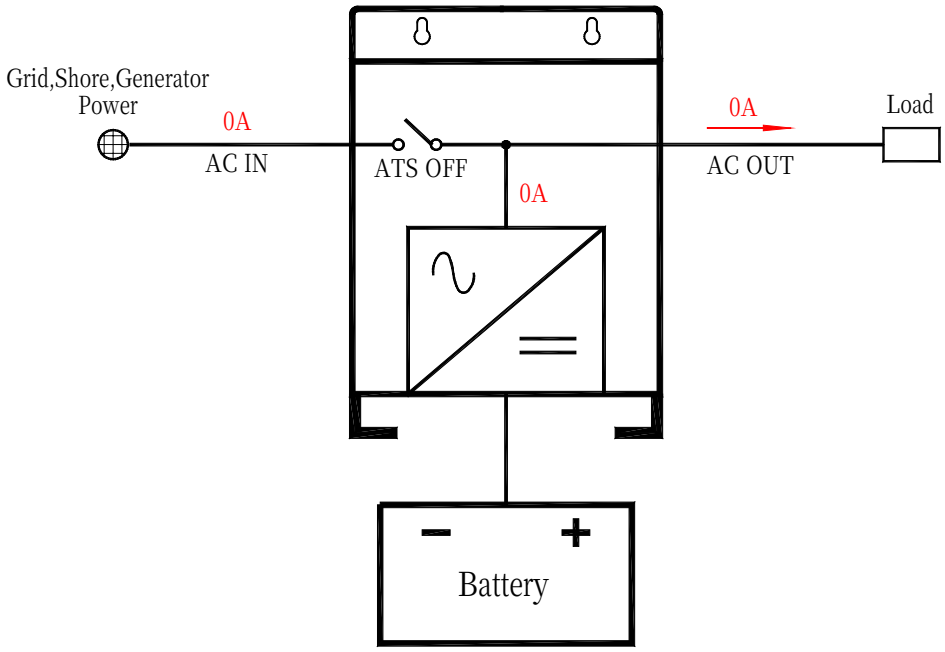


CHARGER ONLY

When SSL series enters to CHARGER ONLY, B2-09 (AC IN DynaCur Limit)=0 (Disable) and the value of B2-21 (CHG M: ACINCurrent Lmt) will be loaded to B2-05.

1. NO AC IN Power:

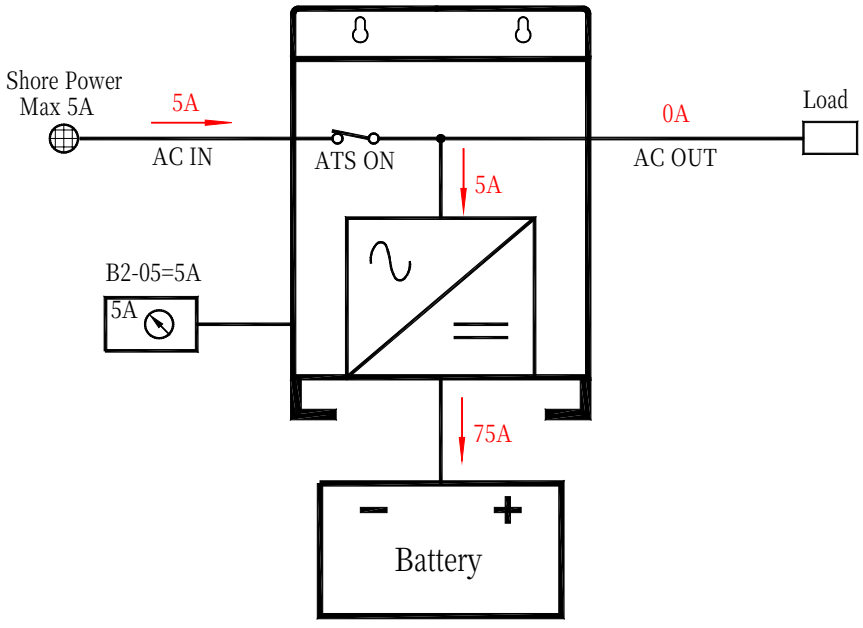
- When AC IN=0 A, AC OUT load is not supplied and the AC Charger is not working.



2. Power Control Mode (a)

- In this example:

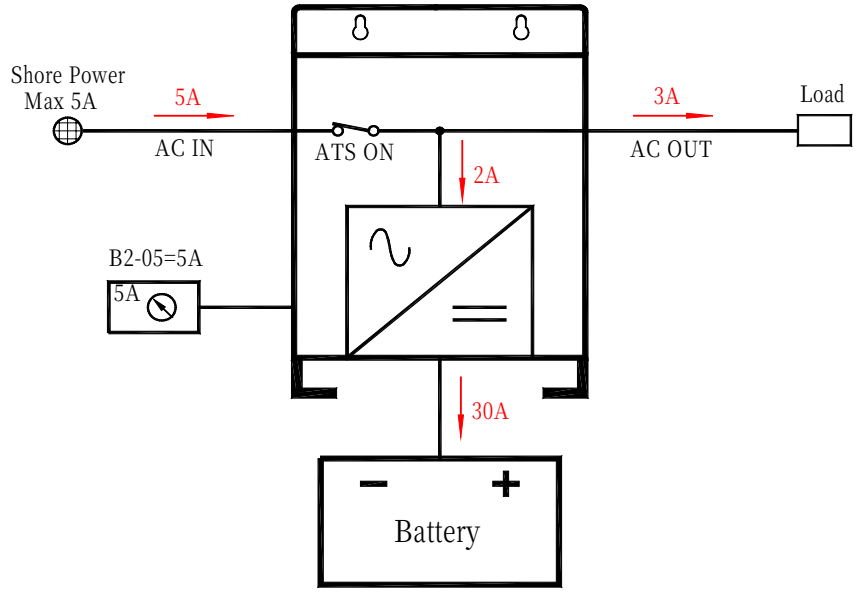
  All AC loads are off, with the “SSL series” constant B2-05=5A (AC IN Current Limit), the AC CHARGER will not take more than 5A with limits to battery charge current to 75A.



3. Power Control Mode (b)

- Now some small loads are switched on and load increase to 3A. Only 5-3=2A is left to charge the batteries and charge current is reduced to about 30A.

  ※ Note: Shore current is automatically limited to 5A and the AC input circuit breaker will not trip!



4. Power Control Mode (c)

- The load is switched on and current consumption increase to 5A. Nothing is left to charge the battery.
- The charge current is automatically reduced to 0A, and the AC input circuit breaker does not trip!