

Instruction of GoodWe ARCB Device

Abstract: This Document is a brief instruction of GoodWe ARCB Device, which compose of Definition, Application Background, Function, Connection, Configuration.

Definition,

ARCB, means Anti Reserve Current feeding into Grid Box.

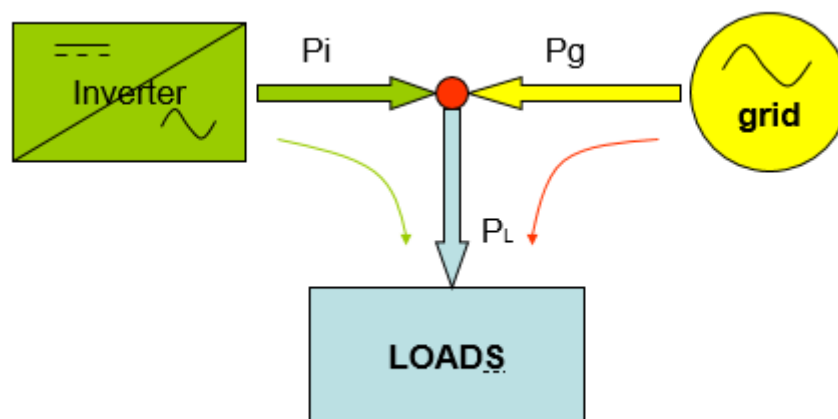
CT, Current Transfer.

Application Background,

As the requirements of some Countries or its areas, the generation of the PV systems, can only be used in self-use, but the reserve current cannot be fed into Grid. Now the main solution is to cut off the connection of PV system and the Grid, but the owner of the PV station will lost a lot of money. Such as a 50kW PV system in Australian, if the Loads is 20kW, but the system can generate 40kWh per hour now, then if we just cut off the connection, we will lost 20kWh electrical power. Also the owner has to turn on the system manually. Then GoodWe designed a ARCB device which can tell the inverters to reduce or increase the generation if needed.

Function,

As below picture shows



The Loads are supplied by PV station and the Grid, then $P_L = P_g + P_i$. If we want to make sure no power fed into Grid caused by too many generation of PV System, we just need to make sure there always has power comes from Grid. So we can monitor the P_g , to tell when the inverter need to reduce generation.

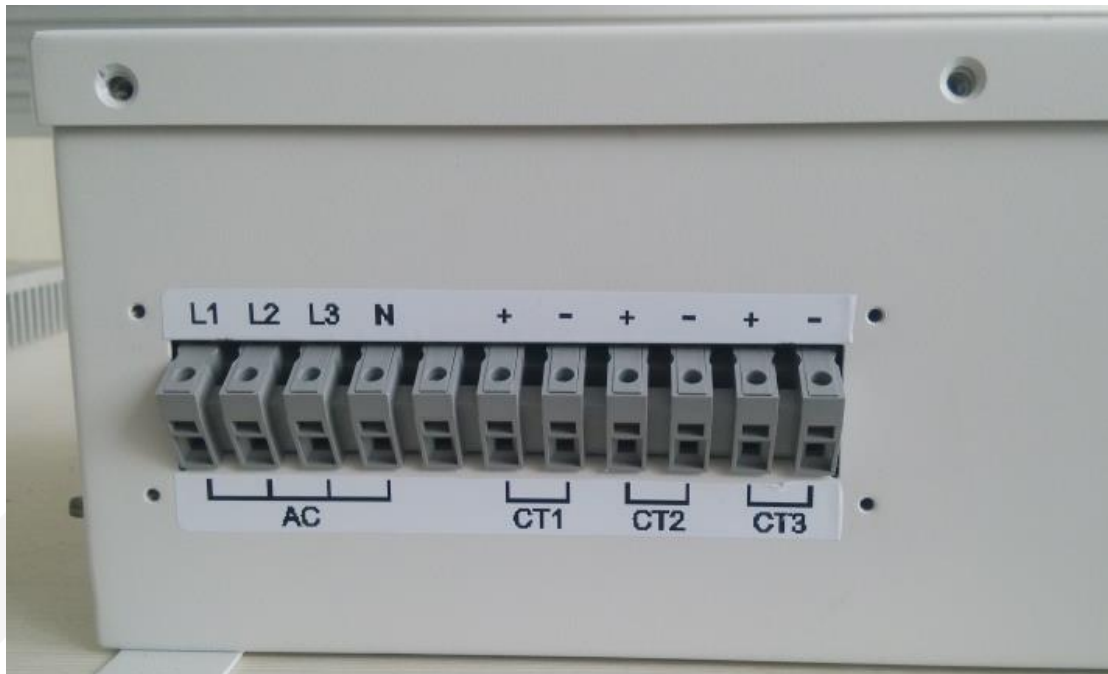
Connections,

The picture of the Box: (IP65)



The box will be connected with Grid and CT via 1.5 mm² cables, and connect with inverter and Internet via RS485 cables.

How to connect



L1/L2/L3/N need to be connected to the Grid side with 1.5mm² cables, thus the box can get the Voltage of the Grid; The CTs will help the box to get the current coming

from Grid. Then we can get the Power from Grid = $PL1+PL2+PL3$.

When you finish the connection, the Box will look like that:

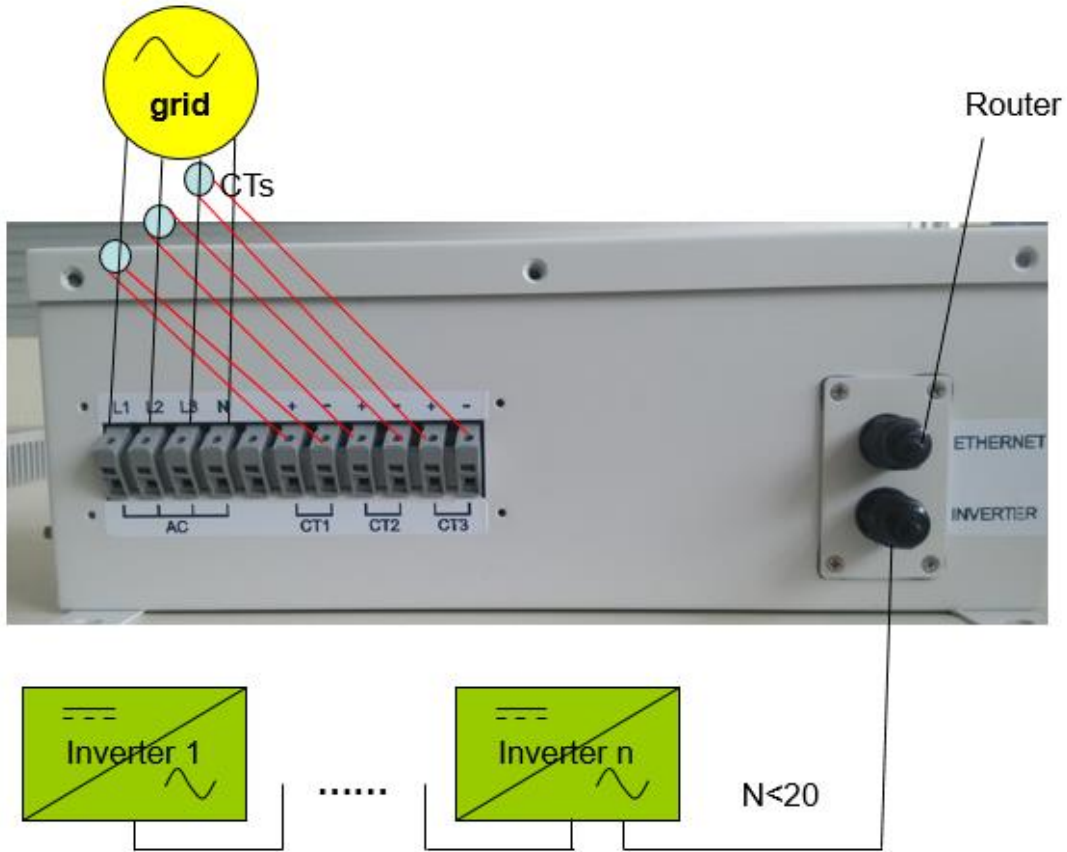


The cables pass through the waterproof to make sure IP65.

Terminal for communication cables:

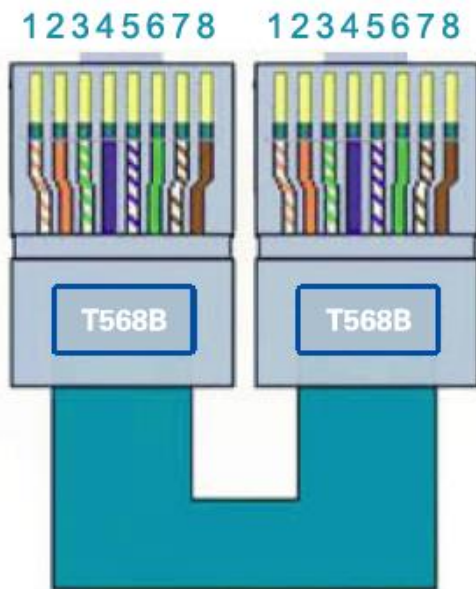


There has two waterproof terminals, one for inverter, another connected with the Router.



The CTs provide Current signal for the Box, which has I+/I-.

RS485 connections as below picture:



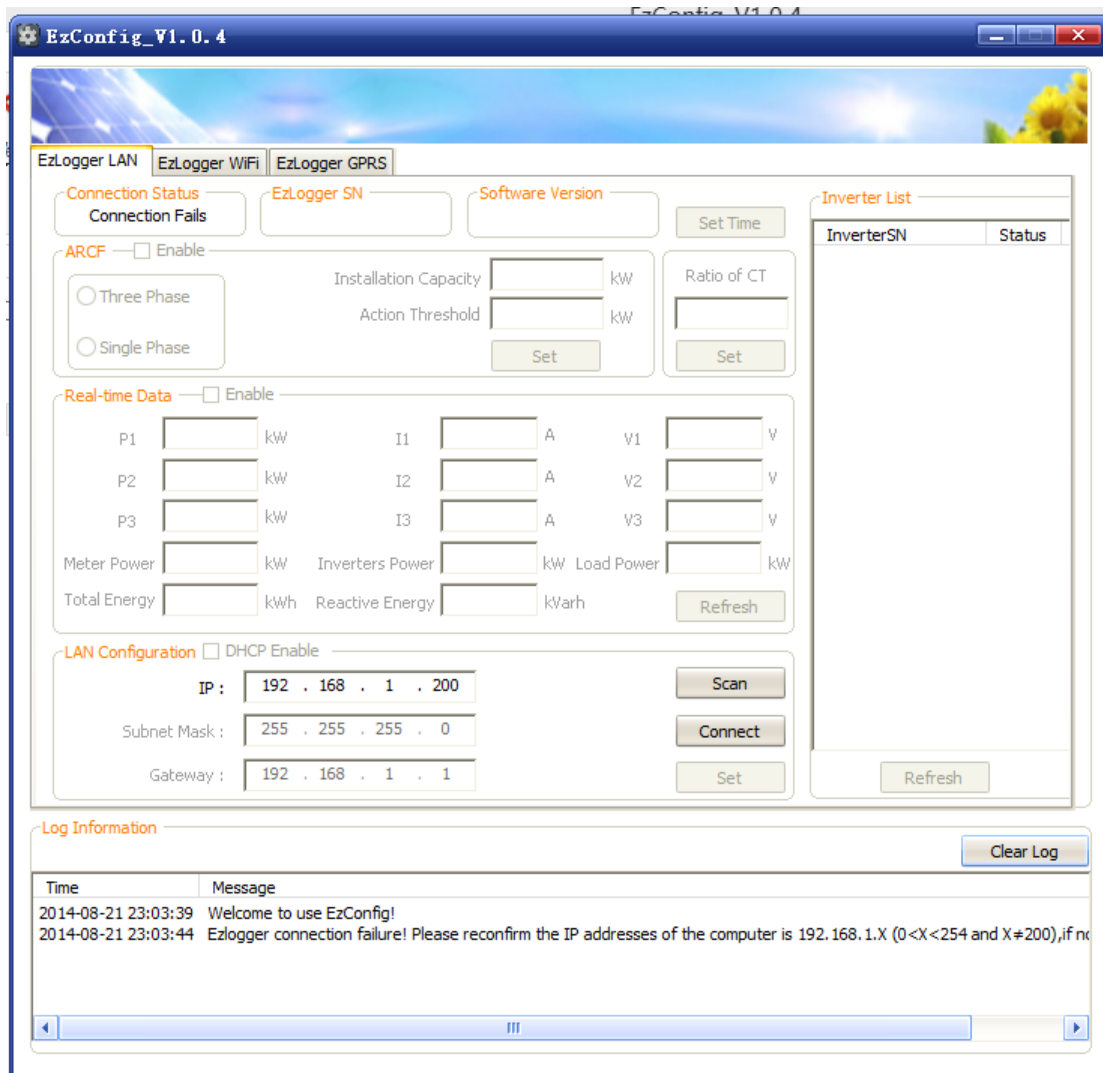
Line	Color
1	Orange & White
2	Orange
3	Green & White
4	Blue
5	Blue & White
6	Green
7	Brown & White
8	Brown

Fig1. Line sequence

Connection finished!

Where the sun shines there is GoodWe

Configuration



This is a special tool for configure the ARCB device.

We will release the latest version of the user manual and poster for ARCB device at 29th of Aug.