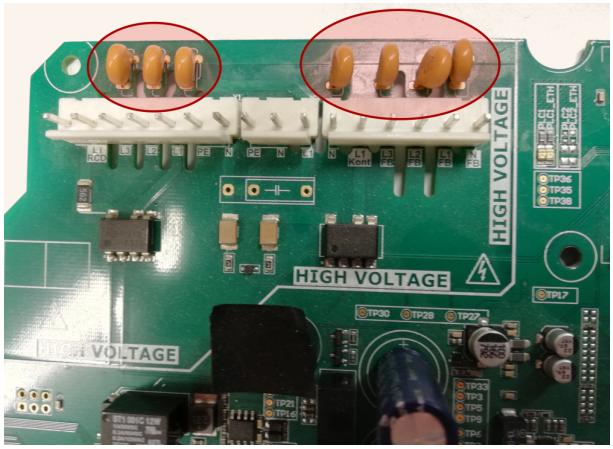
About overvoltage protection.

Problems caused by overvoltage are not covered by warranty.

In household a properly designed electrical diagram should also include over voltage protection. This over voltage protection saves complete household against over voltage, which comes from the grid, when thunderstorm or something similar is in the nearby and causes voltage peaks. This household (external) over voltage cuts the peak in more levels (Class I, Class II, Class III) of the over voltage and ensures that voltage in household grid stays in normal value. This over voltage protection must be installed on all phases. See some instructions about that topic on site: http://www.tsipower.com/uploads/white-papers/WP-IEC-61312-Surge-Protective-Device-Coordination-2012-06-14.pdf

Residual protection and over current protection do not protect your household against over voltage.

Our INCH have installed internal over voltage protection Type III, if over voltage protection in house hold (external) does not work. INCH internal over voltage protection trips to try to save the connected car on the charging station. In this case is also mother board burned. But in-built over voltage protection Type III can not cut the whole over voltage peak, which comes from the grid, if Type I and Type II doesn't exist in household over voltage protection system and doesn't cut off the voltage peak till value, which can be taken over by Type II.



Possible naming:

Class A (operated by an electrical distributor)

Class B same as Class I or Type 1 (build in main electrical cabinet)

Class C same as Class II or Type 2 (lightning protection, can withstand indirect impact)

Class D same as Class III or Type 3 (protections in devices, in our case - varistors)