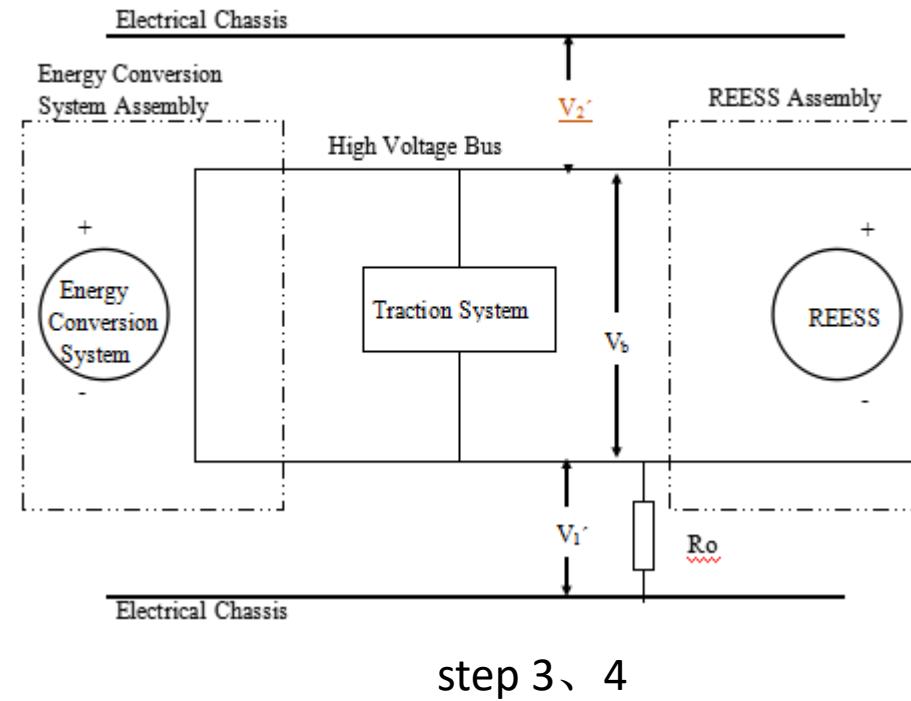
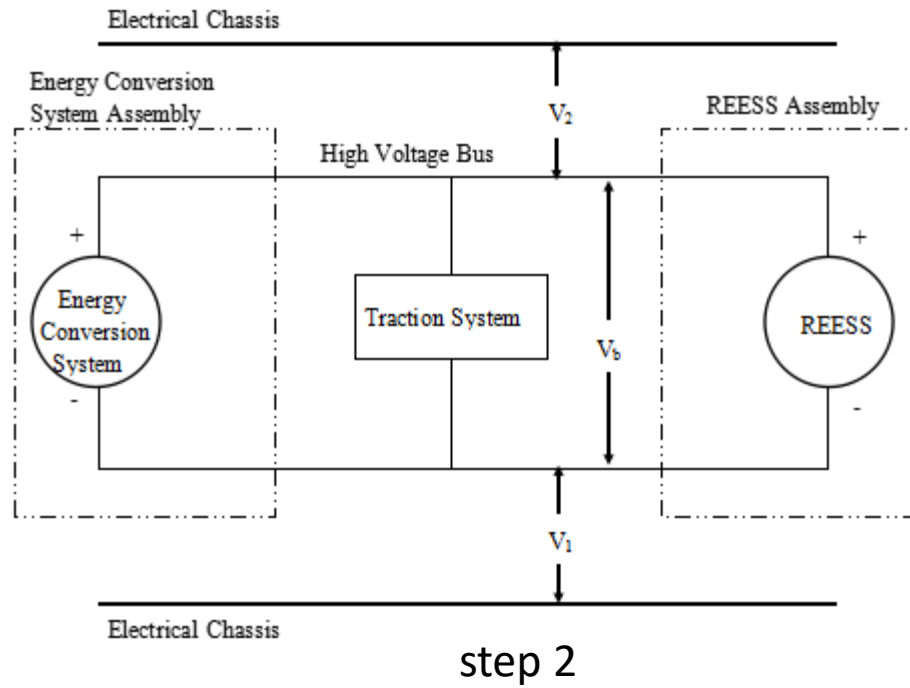


Isolation Resistance Measurement

March, 2018

Isolation Resistance Measurement



Recommendation:

Step1: Vehicle power on

Step2: Measure V_1 , V_2 by 2 voltmeters with the same internal resistance

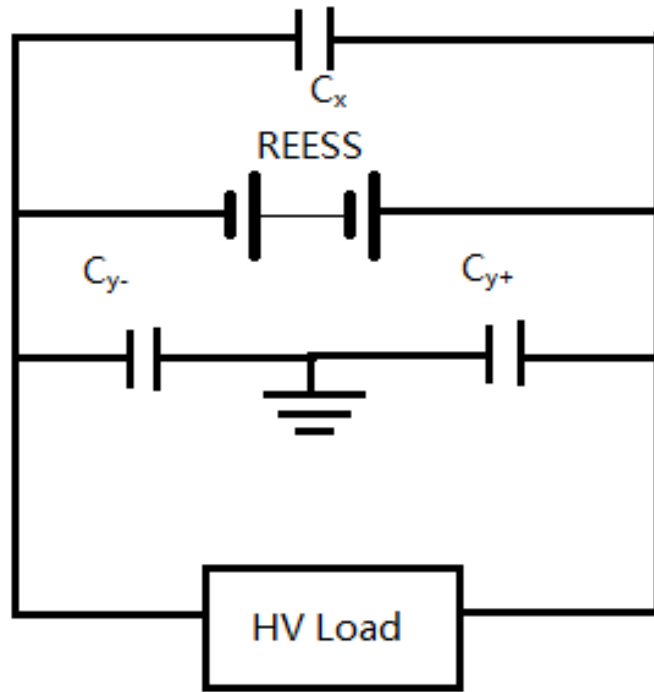
Step3: if $V_1 \geq V_2$, insert R_0 as the picture. or if $V_1 < V_2$, insert R_0 between negative side and electrical chassis.

Step4: Measure V_1' , V_2' by 2 voltmeters with the same internal resistance

Step5:
$$R_i = \frac{1}{\left[\frac{1}{R_0 \left(\frac{U_2' - U_1'}{U_2 - U_1} \right)} - \frac{1}{r} \right]}$$

$$V_{\text{REESS}} = V_1 + V_2 = V_1' + V_2'$$

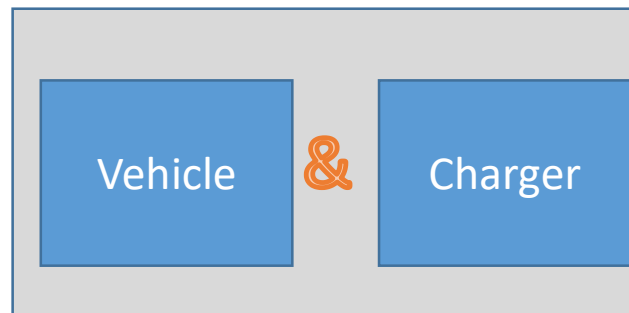
V_1 , V_2 , V_1' , V_2' are stable, that's benefit for accuracy measurement



- ◆ The Total Energy (TE_x) of unidirectional single impulse currents in the form of rectangular and sinusoidal impulses or capacitor discharges from high voltage electrical components shall be less than 0.2 J;
- ◆ The energy stored in the Y-capacitors (TE_{y1} , TE_{y2}) shall also be less than 0.2 J



This safety requirement also need to be satisfied during conductive charging?



$TE_x < 0.2J$
& $TE_{y1}, TE_{y2} < 0.2J$