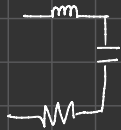


Charge

$$R = 2 \Omega$$

$$L = 25 \text{ mH}$$

$$C = 15 \mu\text{F}$$



Batterie

$$\text{Capacité} = 40 \text{ Ah}$$

$$V_{\text{nominale}} = 12.8 \text{ V}$$

$$\Delta V = 10\% \text{ max/min}$$

$$\text{à } 40\% \text{ à } 12.75 \text{ V}$$

$$V_{\text{max}} 10\% = 13 \text{ V} \text{ calculique à } 10\%$$

$$V_{\text{batt}} = 12 \text{ V} \text{ 220V avec 120V a-2}$$

$$\frac{148}{13} = V_{\text{LV}}$$

$$V_{\text{batt}} = 148 \text{ V} \text{ DC = LV}$$

$$N_s = \frac{V_{\text{batt}}}{V_{\text{cell}}}$$

$$= \frac{148}{11.47}$$

Je suis sûr si fait possible
le cut-off voltage de 12V

$$N_s = 11.47 \approx 12 \text{ cellules en série}$$

$$Z = R + C + L$$

$$Z = 2 + \frac{1}{j(120\pi)(15 \cdot 10^{-6})} + 120\pi \cdot 25 \cdot 10^{-3} \cdot j$$

$$Z = 2 + \frac{176.83}{j} + 9.4247 j$$

$$Z = 2 - 176.8 j + 9.4247 j$$

$$Z = 2 - 167.40 j$$

$$S = \frac{254^2}{12^2 \cdot 167.40}$$

$$S = 385.37 \text{ VA}$$

$$V_{\text{avg}} = 5 \cdot 12.875 = 64.375 \text{ V}$$

$$I_{\text{batt}} = \frac{P}{V} = \frac{S}{V} \quad \frac{\text{VA}}{\text{V}} = \text{A}$$

$$I_{\text{batt}} = \frac{385.37}{64.375} = 5.98 \text{ A}$$

$$I_{\text{batt}} < 40 \text{ A} \text{ donc c'est ok}$$

$$N_p = 1 \text{ cellule en parallèle}$$

Specs

15 min autonomie

Batterie VC

Caribe 20°C

$$V_{max} \pm 50\% = 12.57V$$

$$V_{max} \pm 5\% = 13.07V$$

$$1/3 C \text{ de } 45 \text{ min} = 22.5 \text{ min}$$

$$\text{de } 5 \text{ à } 80\% \text{ c'est } 22.5 \text{ min}$$

$$15 \text{ min} = 66.6\%$$

$$V_0 \text{ } 10\% = 13V$$

$$V_0 \text{ } 76.6\% = 12.625V$$

$$V_{eff} = 120V$$

$$V_a = V_{eff} \cdot \sin(\omega t)$$

$$V_b = V_{eff} \cdot \sin(\omega t - \frac{\pi}{3})$$

$$V_c = V_{eff} \cdot \sin(\omega t + \frac{\pi}{3})$$

$$V_{boot \text{ max}} = 2,34 \cdot V_{eff} \cdot \sqrt{2}$$

$$2,34 V_{redresseur} = 2,34 \cdot V_{eff} = \frac{3\sqrt{2}}{\pi} \cdot V_{LL} = \frac{3\sqrt{6}}{\pi} V_{eff}$$

$$2,34 V_{redresseur} = \frac{3 \cdot \sqrt{2}}{\pi} \cdot 110 = 148,55V$$

$$V_{OC} = 2,34 V_{redresseur} \cdot \sqrt{2} = 148,55 \cdot \sqrt{2} = 210,06V$$

$$V_{OC} = n_s \cdot V_{max}^{oc} (\text{module})$$

$$210,06 = n_s \cdot 13$$

$$n_s = \frac{210,06}{13}$$

$$n_s = 16,28 \text{ spires}$$

$$n_s \approx 17 \text{ spire}$$

$$I = \frac{V_{bat}}{R} = I_{max}$$

$$I = \frac{12,8}{2}$$

$$I = 6,4 A$$

$$I_{bat} \ll 40 A$$

$$n_p = 1 \text{ module}$$

$$\frac{U}{P} = \left[R + PL + \frac{1}{PC} \right] i_c(p)$$

$$\frac{U}{R\rho + \rho^2 L + 1} = i_c(p)$$

$$\frac{U_C}{R\rho + \rho^2 L + 1} = i_c(p)$$

$$\frac{U_C}{L\left(\rho^2 + \frac{R}{L}\rho + \frac{1}{LC}\right)} \quad \frac{1}{\rho^2 + \frac{R}{L}} = W_0^2$$

$$\frac{2R}{2} \sqrt{\frac{C}{L}} \cdot \frac{1}{\sqrt{LC}} =$$

$$R \sqrt{\frac{C}{L}} \cdot \sqrt{\frac{1}{L}} \cdot \frac{1}{\sqrt{L}} \cdot \frac{1}{\sqrt{C}} =$$

$$\frac{R}{L}$$