

Impedance

79 m

ρ Cu=	0,0178	$\Omega\text{mm}^2/\text{m}$
S=	1,5	mm^2
U_0 =	230	V
I_n =	16	A
char.B	5	* I_n
Z_p =	1	Ω

$$R_v = \frac{2 \rho l}{S}$$

$$I = \frac{P}{U}$$

$$S = \frac{2 \rho l}{R_v} \quad l = \frac{SR_v}{2 \rho}$$

$$I = \frac{\Delta U_v}{R_v} \quad R_v = \frac{\Delta U_v}{I}$$

$$\Delta U_v = U_1 - U$$

$$Z_{sv} \leq \frac{U_0}{I_a} \leq \frac{U_0}{N \cdot I_n} \leq \frac{230}{5 \cdot 16} = 2,875 \text{ Ohmu}$$

$$Z_s = Z_{sv} - Z_p = 2,875 - 1 = 1,875$$

$$l = \frac{S \cdot Z_s}{2 \cdot \rho} = \frac{1,5 \cdot 1,875}{2 \cdot 0,0178} = 79,00281 \text{ m}$$