



## Opto-Electronics Q\_11.15

$$\text{Cab\_Loss} := 7 \cdot \frac{1}{\text{km}}$$

$$\text{S\_Loss} := 1.5 \frac{1}{\text{km}}$$

$$\text{Total\_Loss} := \text{Cab\_Loss} + \text{S\_Loss}$$

$$\text{Total\_Loss} = 8.5 \times 10^{-3} \text{ m}^{-1}$$

$$\text{Con\_Loss} := 4$$

Total permitted cable loss:

$$\text{Per\_Loss} := 37$$

Loss without connector losses:

$$W := \text{Per\_Loss} - (2 \cdot \text{Con\_Loss})$$

$$W = 29$$

$$\text{Distance} := \frac{W}{\text{Total\_Loss}}$$

$$\text{Distance} = 3.412 \times 10^3 \text{ m}$$