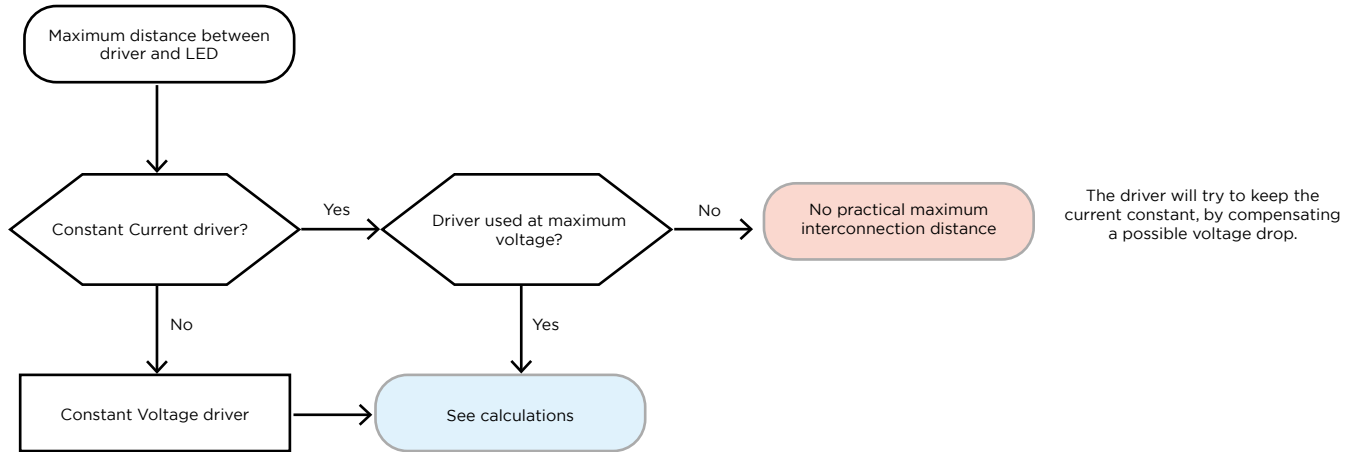


# GOOD TO KNOW

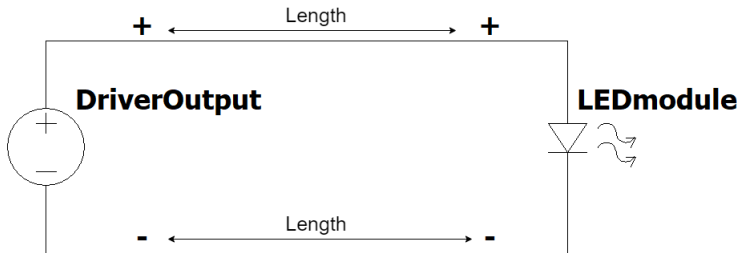
## MAXIMUM DISTANCE BETWEEN DRIVER AND LED



# GOOD TO KNOW

## MAXIMUM DISTANCE BETWEEN DRIVER AND LED

The situation:



The maximum length of a connection is calculated as follows:

$$length = \frac{\Delta U \sigma A}{2I} \quad (1)$$

As an example, the following table with assumption is used.

Quantity	Description	Assumption
$\Delta U$	Voltage drop over the connection	0,5V
$\sigma$	conductivity of the electric connection cables (copper cables)	$5,96 * 10^7 \frac{S}{m}$
A	cross section area	$1,5 \text{ mm}^2$
I	The maximum current	$700 \text{ mA} (= 0,7 \text{ A})$

The blue values are application dependent. So, feel free to change them in the formula to calculate the maximum distance for your own application. The voltage drop over the length of the cables is limited to 0,5V due to stability of the LED module and quality requirements. These assumptions lead to maximum distance of 30 meters, as calculated in equation 2.

$$length = \frac{0,5 * 5,96 * 10^7 * \frac{1,5}{1000^2}}{2 * 0,7} \approx 30m \quad (2)$$

The maximum distance will obviously vary with respect to the assumptions. Since the assumptions depend on the specific situation, it is advised to calculate the maximum length for every specific situation.