kreon

electrical connection of current driven LEDs

calculating total power of LED-driver system

ALWAYS CHECK PRODUCT MANUAL!!

$P_{tot} = n \times P_{led}$
$P_{driver} \geq P_{tot}$
$I_{led} = I_{driver}$

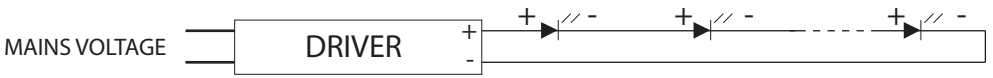
n = number of LEDs
P_{driver} = power of driver (Watt)
P_{led} = power of LED (Watt)
P_{total} = total power of all LEDs (Watt)

I_{led} = LED current (mA)
I_{driver} = Driver current (mA)

1 | theory

in case of connecting 1 LED

in case of connecting multiple LEDs

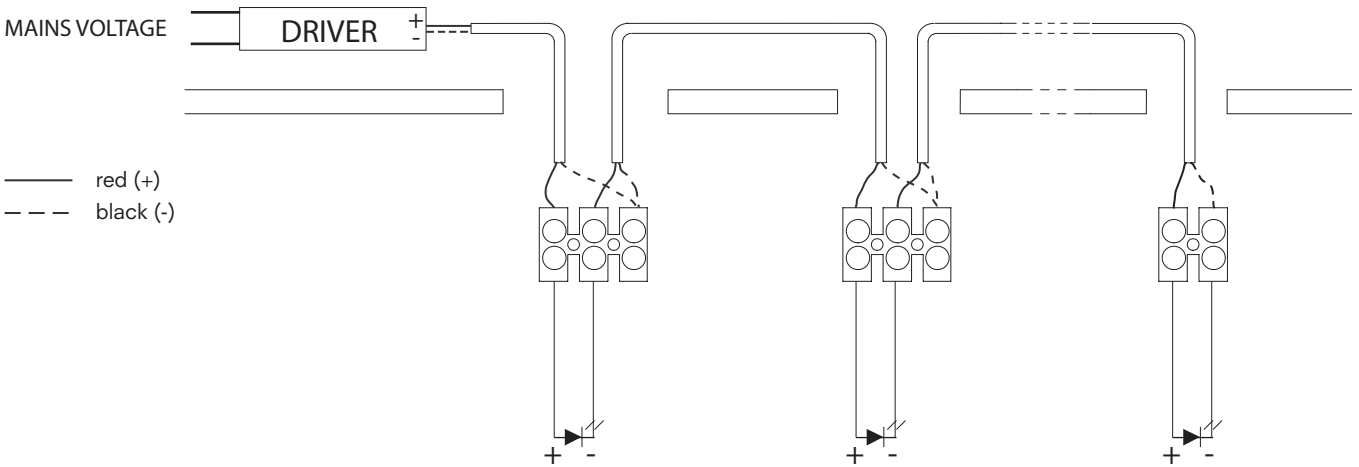


IMPORTANT NOTE (in both cases)

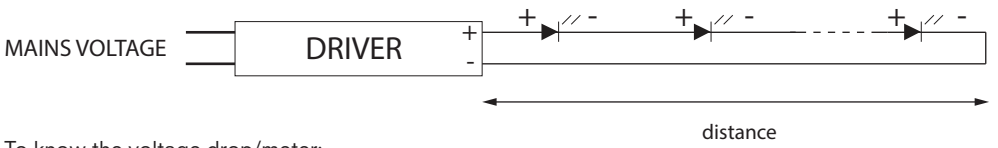
- mind the polarity of the LED!(*)
  + = red
  - = black
- make sure the driver hasn't been powered for at least 1min. prior to connecting the LED string
- check your driver: if the driver is switchable, make sure you set the right current (same current as LED).
  the use of a too high current will damage the LEDs

(*) in case the wires of LED are not red and black, check the product manual for more information!

example of connecting multiple LEDs



2 | connection



To know the voltage drop/meter:
- determine led current, wire thickness and lenght of wiring
- lenght of wiring is the total length of all the wires going from/to the driver
- note: recommended distance (according to most suppliers) from driver to last LED is 5m
  lengths above 5m may induce RFI

V drop/meter*		Ledcurrent		
		350mA	500mA	700mA
Wire thickness	0,5mm²	0,012V	0,0175V	0,025V
	0,75mm²	0,0081V	0,012V	0,016V
	1mm²	0,0061V	0,0088V	0,012V
	1,5mm²	0,004V	0,0058V	0,0081V
	2,5mm²	0,0025V	0,0035V	0,005V

(*) length of wire = distance x2

3 | distance driver-LED