

LED Driver additional information

**LT10, LT20, LT40, LT40SQ,
LT60, LT60SQ, LT100**



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1 Inrush current

When switching-on electronic devices, the input capacitances are being charged resulting in a higher in-rush current than for normal operation. This high in-rush current can trip the circuit breaker or fuses of the installation.

The peak of the in-rush current is depending on the length and cross-section of installed cables, the input voltage and the moment of switching on relative to the sinusoidal mains voltage.

In table 1 the worst case scenario is shown:

Maximum input voltage of 240V+10%, minimum mains impedance and switching-on moment during the peak of the mains voltage.

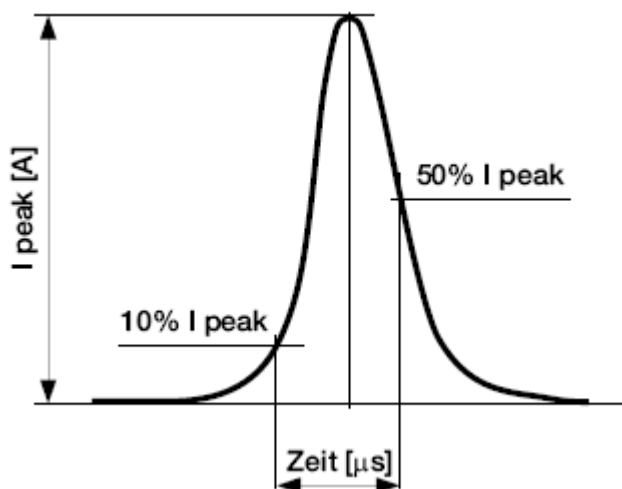
The figure indicates the maximum number of Led drivers to be connected to the listed one-phase circuit breakers depending on their parameters. For multiple circuit breakers the figure needs to be derated by 20%

However, for most installations a factor of 1.2 can be applied, since not all extremes parameters occur simultaneously.

LED Driver model	Peak current [A]	Time [μ s]	Characteristic B				Characteristic C				Characteristic K			
			6A	10A	13A	16A	6A	10A	13A	16A	6A	10A	13A	16A
LT10	15	175	18	30	40	49	30	51	66	82	61	103	133	164
LT20	23,5	240	8	14	18	22	14	23	30	37	28	47	61	75
LT40/LT40SQ	21	275	8	13	17	21	13	22	29	35	26	44	58	71
LT60/LT60SQ	24	275	7	11	15	18	11	19	25	31	(19)	(31)	(41)	(50)
LT100	34	385	3	5	7	9	5	9	12	15	11	19	(24)	(30)

Table 1: Maximum number of LED drivers for circuit breakers

(*) maximum number of LED drivers limited by nominal current of circuit breaker (e.g. 16A)



2 DC input voltage range

The FRIWO LED drivers can also be operated with DC input voltages. However, some points need to be observed:

- Do not operate the LED drivers on public grids
- When operating the LED drivers on DC input voltages the available output power is reduced by 10% due to higher current stress at the driver input circuit. I.e. less LEDs are allowed in constant current mode (reduced output voltage) or less nominal current is allowed in constant voltage mode.
- Please consider relevant standards and requirements for use in the application.

LED Driver model	AC-Input voltage [V]	DC-Input voltage [V]
LT10	198...264	198...264 ⁽¹⁾
LT20	198...264	176...264
LT40/LT40SQ	198...264	176...264
LT60/LT60SQ	198...264	176...264
LT100	198...264	176...264

⁽¹⁾ At DC-Operation an input voltage drop to 176V is allowed.