

Technical Statement

Remote Emergency Packs 10m loom

There are many factors to take into account when mounting gear remote. We'll consider a typical fitting with driver, emergency and batteries 10m remote from the Led head.

If you are more than 1m away, then the cables should be 1.5mm² minimum and fire rated. (Emergency lighting standards)

For a typical LED head that normally runs at 700mA 30V (21W) a typical emergency will run it at around 2.2W 74mA.

With 10m of 1.5mm² cable losses are 29mV/A/m which is $0.029 \times 0.074 \times 10 = 0.02V$ or 1.4mW, which is negligible. Less than 1% is lost in the cables.

Under mains operation losses are $0.029 \times 0.7 \times 10 = 203mV$ 0.14W, which is still negligible (less than 1%).

However, these figures only apply to a typical low current emergency pack such as D2N/NLP and similar ranges.

However, what is of concern is how the driver senses the current. The 10m loom may make it sense the wrong current and over/under drive the Led load. It is only the Led driver details that can confirm this, and some dimming drivers are only specified for up to 2m. Additionally, the EMC emissions and susceptibility will increase with longer leads, and will be dependent on the environment the cable is run in.

In conclusion, low current emergency packs can typically cope with a 10m loom as long as there is not excessive EMC interference, but the more powerful, and possibly more sensitive, mains LED drivers may not suit the longer runs.

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