

Installation of Lopolight Navigation Lights RECOMMENDATIONS

Dated: 14th February 2011/JM

This document is a recommendation on installation of Lopolight navigation lights based on best practices and learnings from over 50.000 lights installed.

The reason for issuing this document is that we are replacing a high current, high maintenance incandescent light with a low current, sophisticated piece of electronics. In retrofit situations where existing installations has been used this has led to some unexpected and inconvenient results.

Lopolight general specifications:

Voltage: 10-32VDC

Current draw: from 50mA to 900mA (lowest on sidelights and highest on masthead lights)

Risks:

Due to the very low power consumption and sometimes very long cable runs the Lopolights can be damaged by excess induction from high current cables and devices in the proximity of the cable.

Transients from various unprotected equipment can also pose a threat to the lights, the built-in protective components deals with most transients up to +/- 800V @ 1ms, but stronger and longer transients will damage the light.

Tools:

The Lopolight products in the 2011 versions will be delivered with screened cable, this screen is not terminated at the light.

The standard cable lengths are:

Sidelights, combined sidelights and stern lights: 2,5 meters

Tricolours, 360° lights, masthead lights: 0,7 meters

All lights with an aluminium mounting base or back, such as 3 nm horizontal mount lights and all 5 and 6 nm masthead light are not delivered with any cable.

It is strongly recommended that the complete installation is done with screened cable, correctly spliced to the Lopolight cable and the screen terminated to the grounding point of the vessel. Lopolight can supply the lights with any length of cable needed.

The power supply should come from a regulated source that blocks transients from reaching the lights.

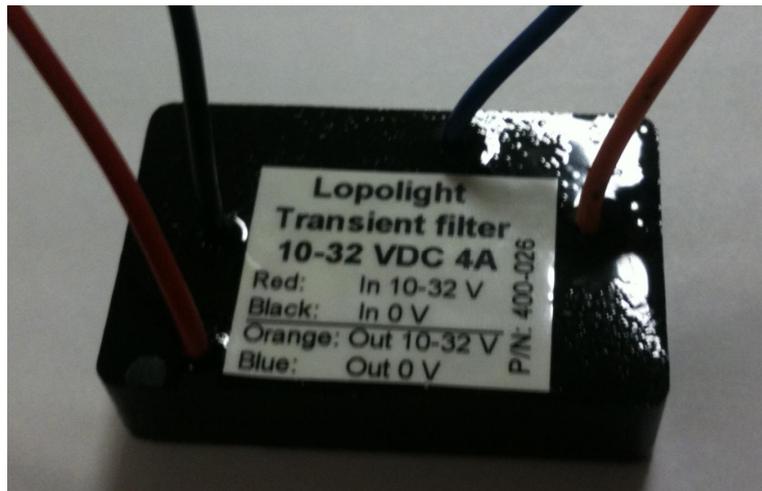
If screened cable or regulated power supply cannot be established Lopolight has a transient filter that can prevent transients and induced Voltage of reaching the light. P/N 400-026

Recommended installations:

- A) Regulated power supply and screened cable, as described above.
- B) Filters in front of each light, the distance from the filter to the light should not exceed 2,5 meters.
- C) For small vessels where the issue is the power supply and the cable runs are short and not endangered by induction, one filter can be used for the complete navigation light installation, placed before the distribution panel.

Attachment: Description of transient filter P/N 400-026

P/N 400-026 Transient Filter



The Lopolight Transient Filter is to be fitted before any Lopolight (or other electrical device) on installations where heavy transients are expected.

Physical mounting:

It should be mounted “in-line” as close as practical possible to the device that needs protection. Typically 1-2 meters as maximum.

Working principle:

The transient filter allows any voltage under 32 VDC to pass, but efficiently blocks any voltage spike above this level.

Data:

Maximum voltage:	32 VDC
Operating range:	10-32 VDC
Maximum Current:	4A
Size:	44 x 28 x 10 mm
Encapsulation:	Potted construction - submersible

Connections:	Flying leads
Input :	Red: 10-32VDC
	Black: GND
Output (to light):	Orange: 10-32VDC
	Blue: GND

Installation recommendations:

Evaluate where transients could occur.

On a small vessel powered by an outboard engine, the spikes and transients probably arise from an unregulated generator on the engine, here it is recommended to place one filter just before the distribution panel.

On a vessel with high powered electrical or communication devices it is recommended to place the filters after those high power lines. ie. The filters for the bow lights should be placed closer to the lights than the the windlass and the bowthruster.

Lopolight is always available for advice on mounting of filters.

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