

# 3 & 4 Aspect LED Handlamps

A new 3 & 4 Aspect LED hand signalling lamps have been developed by Dorman – market leaders in the design of LED signalling for the railways.

Their expert knowledge of creating signal-colours using LEDs has been applied to the existing NRS Handlamp to create the innovative handlamp which combines long-life LEDs with modern materials



- Direct replacement for the existing 'NRS' Handlamp (formerly 'Bardic')
- LED technology results in longer battery life of 20 hours (continuous use)
- Red, Yellow and Green aspects are true signal colours
- LEDs have a life in excess of 10 years
- 'Battery OK' indicator

Certificate:	PA05/02888
4 Aspect Handlamp:	0094/008050
3 Aspect Handlamp:	0094/008052
Battery Catalogue Number:	0094/008051

#### Contact for technical advice

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# Technical Data and Business Case

<b>Battery Life</b>	20 hours continuous use with a stable colour output across operating temperatures range, including white. Operates in temperature range -30° to +50°. Handlamp also has an in-built 'Battery OK' indicator.
<b>LED Life</b>	Estimated at 10 years life. Not susceptible to damage sustained through impacts.
<b>Colours</b>	Patented system giving true signal colours with bright light output for hand signalling/emergency tail lamp use. Aspects can be tuned to different colours if required.
<b>Light beam</b>	Stable light output across battery life. Light output matches best performance of the NRS handlamp, but does not degrade over time as the battery becomes drained. 'Aspect Colour' indicator to top of handlamp indicates current colour without looking into light beam.
<b>Brackets</b>	Integrated standard mounting bracket for use as emergency tail lamp.
<b>Body materials</b>	Very high impact polycarbonate body stronger than the current metal enclosure of the NRS handlamp.
<b>Weights</b>	Handlamp 375g Battery 180g – over 50% lighter than existing handlamp.



## Long Life LED and Battery – Savings

By utilising LEDs rather than filament bulbs, the life of the battery is extended to give over 250% of the life of the battery/bulb combination in the NRS handlamp.

**Battery costs can therefore be reduced by over 48%.**

	LED Handlamp	Filment Lamp	% Reduction
Batteries Used	21	52	60%

Figures assume batteries changed weekly on the Filament Handlamp and batteries More frequent battery changes on the filament lamp would increase the savings.

Dorman is the leading innovator in the development of LED signalling for the UK infrastructure, and has Network Rail Acceptance on a range of LED signalling equipment including Long and Medium Range Colour Light Signals, Position Light Signals and Junction Route Indicators, all now installed on the UK infrastructure.

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