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Health and safety

Every effort has been made to ensure the accuracy of the information given in our publications, but in accordance with our policy of continually improving our products we reserve the right to modify designs and specifications whenever necessary. All equipment is designed to conform to relevant British and International standards. Every care is taken to ensure that, as far as reasonably practical, it will perform without risk to health. It is essential that accepted codes of professional practice are followed in the assembly, installation and commissioning of the equipment. If in doubt with respect to any of these instructions, please consult Dorman before installing the device.

Dorman reserves the right to vary any component part to meet the required specifications without prior notice.



Certificate No. FM 14371

Dorman ref. No C64.63232 Iss 1

LED Signal Lamp Module Installation Instructions

To be read before commencing
installation.



Electrical:-


Only suitably qualified and competent persons should undertake electrical wiring and testing of the signal head.

Local procedures will identify these requirements.

The internal wiring of the signal will be affected by the change of the SLM and hence the installation and testing of the SLM is again carried out using local procedures.

e.g. On Railtrack controlled infrastructure the Signal Testing Handbook.

General Specification and Part Nos.

Compliant with	Railtrack Line Specification RT/E/S10110 Issue 1	
Railtrack Acceptance No	PA 05/592	for Signal Lamp Modules (SLM)
CE Conformity		
Lamp Type	None Lamp Proved	
Power requirements	110Vac 50Hz	
SLM Replacement	PADS No's	
	Ground mounting	Elevated mounting
Red mono colour	0086/001278	0086/001283
White mono colour	0086/001279	0086/001284
Red/White dual colour	0086/001281	0086/001286
For use with Signal types	Ground Position Light 3 lamp to BR SE 160 without lamp proving. Both Red/White/White or styles convertible to 4 lamp type with use of Dual SLM.	
Colour		

INSTALLATION INSTRUCTIONS

General:-

The LED Signal Lamp Module (SLM) is capable of being mounted directly on existing signal heads by the use of three M6 fixing screws supplied.

Prior to any work commencing, local working procedures should be followed.

Preparation:-

The existing signal head should be stripped of all external fixings, lenses and visors etc. to ensure a flat mounting face.

Lamps and holders should be removed and all internal wiring removed. The terminal block should be retained for connection of the SLMs.

The arrangement of the mounting bolts is determined by the position of the drain hole and the signal head drilled out as required to match the holes on the base of the SLM.

Repainting of the signal head may then be undertaken if required prior to fitting of the SLMs.

Mechanical:-

Correct mechanical alignment of the SLM is essential.

For signal heads lower than 2.75m then this is termed Ground Mode, and the Ground Mode SLM is mounted with the front lens aimed downwards.

For signal heads higher than 2.75m then this is termed Elevated Mode, and the Elevated Mode SLM is mounted with the front lens aimed upwards.

It should be noted that the SLMs are **not** interchangeable between Ground and Elevated modes of operation.

A purpose designed visor is supplied for use with the SLM. It is used at signals in both ground and elevated modes. It is designed to fit behind the SLM on to the front face of the signal. It may be rotated on the ground mode signals to any position to take into account local conditions if required.

A gasket is supplied to fit between the SLM and the signal front face.

Once the gasket, SLM and visor are correctly aligned, the three M6 mounting screws are fitted, it is recommended that they are tightened to a torque setting of 4.5Nm.

Electrical:

Only suitably qualified and competent persons should undertake electrical wiring and testing of the signal head.

Local procedures will identify these requirements. Internal wiring and strapping for signals may vary and these should be determined prior to rewiring.

A suggested standard wiring configuration for each of the possible applications SLM is shown.

Note: The Dual Colour SLM is normally only fitted in the pivot position, but may be used in other positions on the signal head with the non used connection wire suitably insulated.

Installation of the complete signal and connection of the tail cable to the signalling system is carried out using local procedures.

e.g.. On Railtrack controlled infrastructure, the Signalling Testing Handbook.

Signal Lamp Module (SLM) Voltage and Light Output Testing

General:-

Prior to any work commencing, local working procedures should be followed, as the use of the Light Measuring Tool (LMT) obscures the light aperture.

Preparation:-

Staff should ensure that the Light Measuring and Voltage Measuring Tools are calibrated.

The LMT should be assembled with the light sensitive areas of the meter mounted centrally in the base of the pot, and the locating screws which hold it to the pot are tightened finger tight.

Mechanical:-

The LMT should be placed fully over the SLM that is being measured. As the pot is close fitting over the SLM, care should be taken to avoid jamming.

Electrical and Optical Measurements:-

Local procedures will determine that only suitably qualified and competent persons should undertake electrical and optical testing of the SLM.

Indication of light output is given by a readout on the light meter. Values of light output should be recorded and kept for historical review of the SLM.

Similarly voltage measurement of the supply to the SLM should be taken on the terminal block inside the signal head. Reference should be made to the internal wiring diagram located in the signal head to ensure the correct terminals are used for this measurement.

The light output of the SLM at manufacture is recorded either on the base of the SLM or on the terminal plate cover of the Dorman style enclosure.

To ensure continued safe light output levels, it is a requirement that the measured value is at least **60%** of the stated light output value on the terminal plate.

If the SLM light output has **fallen** below this measured value then the **SLM should be renewed**.

Local procedures will detail these requirements.

Maintenance Change of SLM

General:-

The SLM is supplied in packaging that should only be opened immediately prior to fitting of the signal.

Prior to any work commencing, local working procedures should be followed.

Preparation:-

The SLM to be replaced should be identified.

Mechanical:-

The use of the correct SLM and its mechanical alignment is essential.

For signal heads lower than 2.75 m then this is termed Ground mode and Ground mode SLMs should only be replaced with Ground SLMs mounted with the front lens aimed downwards.

For signal heads higher than 2.75 m then this is termed Elevated mode and Elevated mode SLMs should only be replaced with Elevated SLMs mounted with the front lens aimed upwards.

It should be noted that the SLMs are **not** interchangeable between Ground and Elevated modes of operation.

Once the replacement SLM is correctly aligned, the three mounting bolts are fitted and it is recommended that they are tightened to a torque setting of 4,5Nm.