

**SIGNALLING  
THE  
FUTURE**

# COLOURLIGHTSIGNAL

HIGH PERFORMANCE RAIL SIGNAL



**The LED long range CLS is for use in multiple aspect signalling systems. Innovative technology and unique features ensure consistent clarity of signal in all expected environments. Signal available in Red, Yellow, and Green, in configurations of 1, 2,3 or 4 aspects are of a robust modular construction and compatible with existing signal mounting arrangements offering full backwards compatibility with current signalling systems.**

VMSL LED signals are designed to (UK) Network Rail RT/E/S/10062 specification for use in multiple aspect signalling systems.

Signals utilise the unique and patented LED RIGEL technology and include features that ensure

The signal design offers full backwards compatibility with current signalling systems simply connected via a terminal block at the base of the signal enclosure. Each aspect is a self-contained module complete with inclined lens, close-up viewing sector, internal visor, light-emitting elements, current control circuits, backwards compatibility module, and alarm circuits. Each aspect operates independently.

A unique internal visor eliminates low-angle sunlight reflections (phantoms) and prevents light bleeding from an illuminated aspect into adjacent non-illuminated aspects. The outer polycarbonate cover has an angled face to reduce phantom reflections. No external hood is required. An internally adjustable wide-angle prismatic viewing sector gives precise visibility at close range.



consistent clarity of signal in all expected environments. LED aspect modules are available in Red, Yellow, and Green.

LED Signals are available with 1, 2, 3, or 4 aspects and offer robust modular construction from an aluminum enclosure with fixed front display board and a rear access door. The signal head is rated at IP65 and is mechanically compatible with existing signal mounting arrangements.

## FEATURES AND BENEFITS

- Designed to (UK) Network Rail RT/E/S/10062 specification for use in multiple aspect signalling systems.
- Proven RIGEL LED technology ensures >90% of generated light reflected without distortion, providing exceptional life-expectancy
- Unique internal visor and angled polycarbonate lens cover ensures no phantom effects without external hood
- High intensity 3° narrow long range viewing angle delivering precise visibility >800metres
- Internally adjusted wide-angle prismatic viewing sector for close range visibility
- Lightweight, robust modular construction, corrosion resistant. Environmentally protected to IP65
- Light intensity constant irrespective over input voltage range 78-131vAC
- Fault tolerant. Non-Urgent and Urgent alarm reporting
- Interchangeable with type BR-SE 81 filament lamp signals
- Fast turn-off, <20ms to dark state.
- Mechanically and electrically keyed aspects, preventing incorrect installation

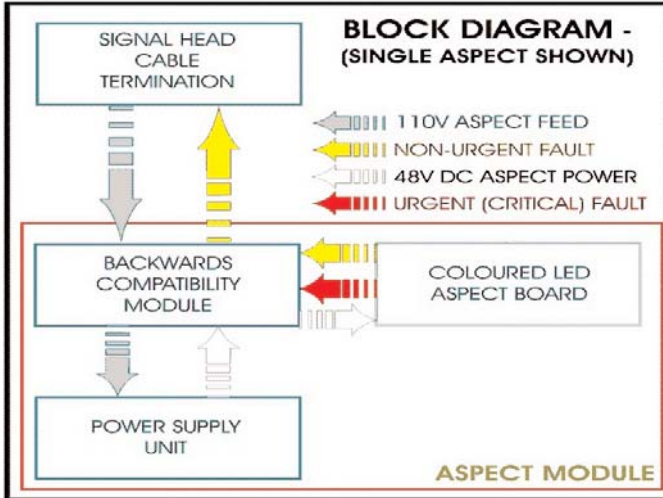
# TECHNICAL DATA

## LED OPTICAL CHARACTERISTICS

	Red	Yellow	Green
<b>Minimum Intensity at 3°</b>	850 cd	2600 cd	850 cd
<b>Chromaticity to CIE-1931</b>	Class C	Class B	Class C

## RELIABILITY (PER 4 ASPECT SIGNAL)

Mean Time Between Failures (MTBF)	Hours	Years
<b>Complete dark signal</b>	532 x 10 <sup>3</sup>	>60
<b>Single dark aspect</b>	133 x 10 <sup>3</sup>	>15

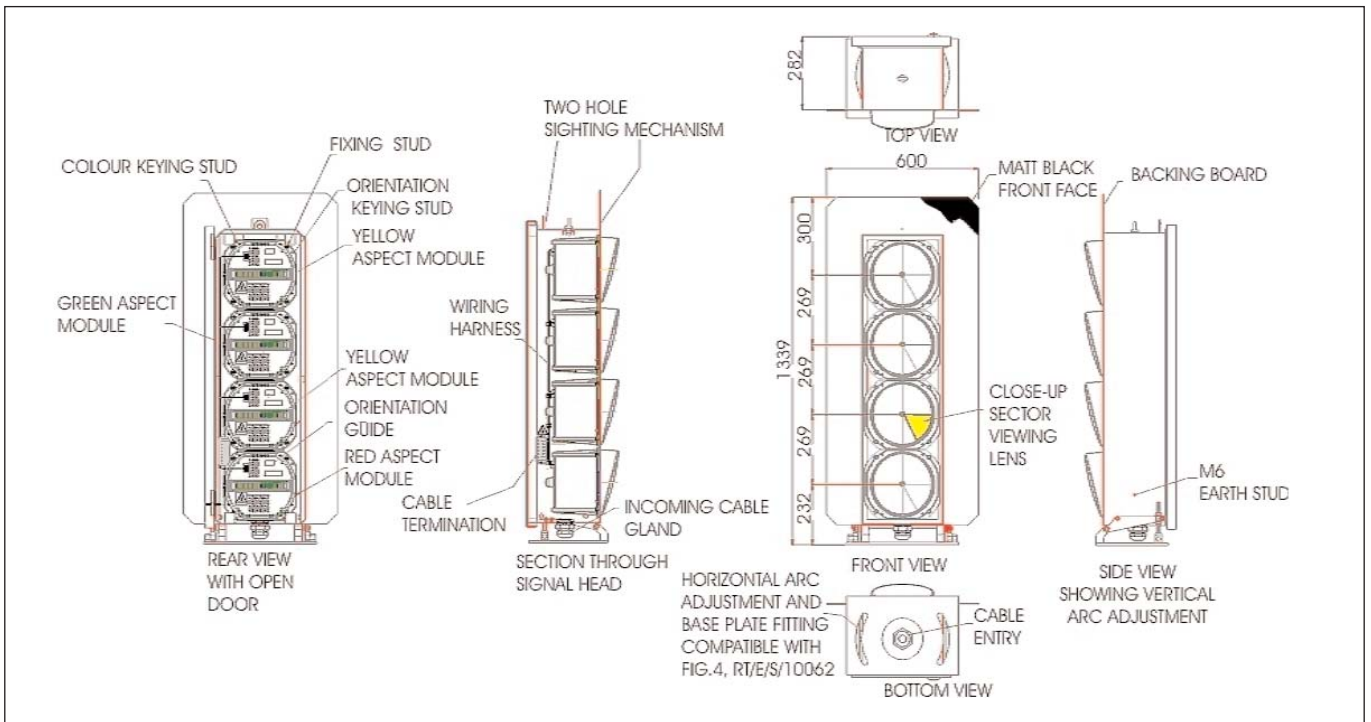


## 4 ASPECT DIMENSIONS (WITH BACKBOARD)

Height	Width	Depth	Weight
<b>1339 mm</b> (above mounting base)	<b>600 mm</b> (across back-board)	<b>282 mm</b> (backboard to rear door)	<b>42 kg</b>

## MAINTENANCE

Scheduled	Action
<b>Annual (recommended)</b>	Clean lens
Non-scheduled	Action
<b>Non-Urgent alarm: Failure of one or more chains of LEDs in an aspect</b>	Exchange aspect
<b>Urgent Alarm: Any Aspect current &gt; 75Ma</b>	Exchange aspect



## Variable Message Signs Limited

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**MAKING THE MESSAGE CLEAR**