



# 614 TRI-COLOUR SERIES

## PANEL INDICATOR LED



### FEATURES

- Ø8.1mm mounting
- Works as a tri-colour indicator
- Black anodised aluminium housing
- Sealed to IP67 - weatherproof
- Water clear lens
- Internal potting
- Reverse protection diode fitted in all voltage models
- Range of voltage options

### BENEFITS

- 'D' mounting hole aids anti-rotation
- Simplifies multi-state indication
- Suitable for portable equipment
- Suitable for external applications
- Water clear lens gives clear "off" state
- Suitable for high vibration applications
- Protects against wrong polarity installation (voltage models)
- Manufactured with internal resistor
- Outstanding reliability
- Vandal resistant

Marl Part Number	LED Colour	Typical Voltage DC Vopr	Wiring type	Typical Current DC Iopr	Max. Reverse Voltage	Typical LED Luminous Intensity	Typical LED Wavelength λp	Operating Temp Topr *	Storage Temp Tstg
614-538-04-35	Red/Green/Amber Tri-Colour †	2.0/2.2 **	Common Anode	20	5	5/5	627/565	-40 to +85	-40 to +85
614-538-20-35	Red/Green/Amber Tri-Colour †	5-6	Common Anode	20/10	1000	5/3	627/565	-40 to +85	-40 to +85
614-538-21-35	Red/Green/Amber Tri-Colour †	12	Common Anode	19/9	1000	5/2	627/565	-40 to +85	-40 to +85
614-538-23-35	Red/Green/Amber Tri-Colour †	24-28	Common Anode	15/8	1000	4/2	627/565	-40 to +85	-40 to +85
614-535-04-35	Red/Green/Amber Tri-Colour †	2.0/2.2 **	Common Cathode	20	5	60/50	627/565	-40 to +85	-40 to +85
614-535-20-35	Red/Green/Amber Tri-Colour †	5-6	Common Cathode	20/10	1000	60/25	627/565	-40 to +85	-40 to +85
614-535-21-35	Red/Green/Amber Tri-Colour †	12	Common Cathode	19/9	1000	57/23	627/565	-40 to +85	-40 to +85
614-535-23-35	Red/Green/Amber Tri-Colour †	24-28	Common Cathode	20/10	1000	60/25	627/565	-40 to +85	-40 to +85
		Vdc	N/A	mA	Vdc	mcd	nm	°C	°C

### NOTES

Intensities (Iv) may vary between LEDs within a batch. Additional Voltage Options and Flying Lead lengths available for semi-custom projects. Please contact our Sales Team.

All LED components are supplied in anti-static packaging.

\* LED Characteristics stated at Ta = 25°C. For operating temperature derating graphs, please refer to sheet 2.

\*\* These are Current models and the voltage shown is Vf at 20mA, not Vopr. Additionally, there is no reverse protection diode in Current models.

† Tri-Colour LED is Red/Green (denoted respectively) with 3 leads, Amber is generated by illuminating Red and Green simultaneously.

To order please contact us on +44 (0) 1229 582 430

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Q 05480

### TECHNICAL CHARACTERISTICS

Series	Max. Power Dissipation	Panel Cutout	Nut Mounting Torque	Min. Mounting Centres	Min. - Max. Panel Thickness
614	700	8.1	0.6	14.5	1.5 - 13.0
	mW	mm	Nm	mm	mm

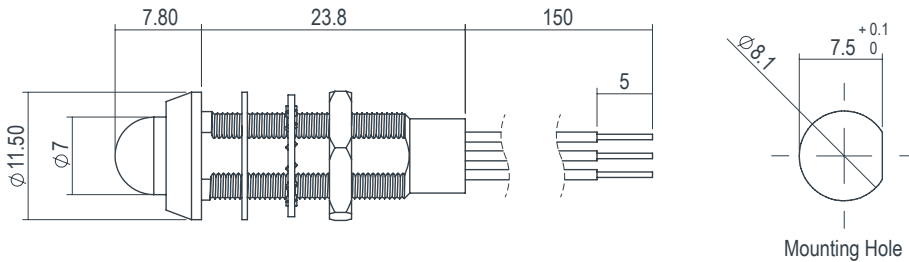
### TECHNICAL DRAWING

Weight (g): 6.3

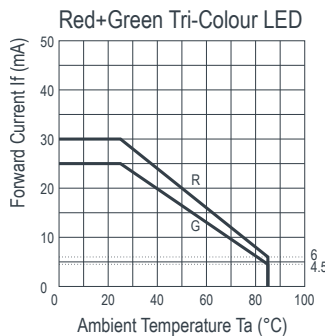
Dimensions in mm (typical). Not to scale. Mounting hole to be clean and burr free.

Wiring for common anode models: Red - Red LED cathode, Green - Green LED cathode, Orange - Common anode

Wiring for common cathode models: Red - Red LED anode, Green - Green LED anode, Black - Common cathode



### DE-RATING GRAPH



### MATERIALS

Body	Black Anodised Aluminium
Nut	Nickel Plated Brass
Panel Seal	Viton
Lens	Polycarbonate
Encapsulation	Black Polyurethane
Lock Washer	Spring Steel

### DESIGN CONSIDERATIONS

#### Electro-Static Discharge (ESD)

Build up of electro-static discharge occurs in many situations involving people moving and handling products. The range of possible situations is very diverse but voltage levels as high as several thousand volts can and do arise in many individual situations. When an operator charged up to these levels handles a static sensitive device, there is a very probable likelihood that the device will be irreversibly damaged. It is essential that precautions are taken at all stages during manufacture and assembly of these products. Although LEDs were never considered to be static sensitive

devices, changes in manufacturing technology and materials used to produce higher intensity products over a large range of the wavelength spectrum have changed this. Marl has an approved system of ESD control from goods in, through production and into final packing and despatch. Marl recommend all users of LED based products follow the guidelines of BS 100015.

#### Voltage, Current and Temperature

The forward voltage / current value of an LED is dependent upon the ambient temperature of the environment in which

it is operated. Therefore, care must be taken to operate the LED at the correct voltage / current values, depending upon the ambient temperature.

Marl should be contacted if the device is to be operated outside the temperature range specified. Marl accept no liability for any product that is operated outside the stated voltage or temperature range.

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