



FEATURES

- EMC mesh under lens
- Ø8.1mm mounting
- Black chrome aluminium housing
- Sealed to IP67 - weatherproof
- Wide viewing angle - smoked lens
- Internal potting
- Reverse protection diode fitted in all voltage models
- Range of LED colour options
- Range of voltage options

BENEFITS

- Protects against EMI/RFI
- 'D' mounting hole aids anti-rotation
- Suitable for portable equipment
- Suitable for external applications
- Smoked lens gives good on/off contrast ratio
- Suitable for high vibration applications
- Protects against wrong polarity installation (voltage models)
- Suitable for status panel indication
- Manufactured with internal resistor
- Outstanding reliability
- Vandal resistant

Marl Part Number	LED Colour	Typical Voltage Vopr	Typical Current Iopr	Max. Reverse Voltage	Typical LED Luminous Intensity	Typical LED Wavelength λp	Operating Temp Topr *	Storage Temp Tstg
677-501-21-53	Red	12	17	1000	458	625	-40 to +75	-40 to +100
677-521-21-53	Yellow	12	17	1000	440	590	-40 to +75	-40 to +100
677-532-21-53	Green	12	16	1000	2157	520	-40 to +75	-40 to +100
677-930-21-53	Blue	12	16	1000	452	470	-40 to +75	-40 to +100
677-997-21-53	Cool White	12	16	1000	1359	See Below	-40 to +75	-40 to +100
677-501-23-53	Red	24-28	16-19	1000	346	625	-40 to +75	-40 to +100
677-521-23-53	Yellow	24-28	16-19	1000	330	590	-40 to +75	-40 to +100
677-532-23-53	Green	24-28	15-18	1000	1815	520	-40 to +75	-40 to +100
677-930-23-53	Blue	24-28	15-18	1000	364	470	-40 to +75	-40 to +100
677-997-23-53	Cool White	24-28	15-18	1000	1063	See Below	-40 to +75	-40 to +100
677-501-76-50 †	Red	230 Vac	3	N/A	112	625	-40 to +75	-40 to +100
		Vdc (unless stated)	mA	Vdc	mcd	nm	°C	°C

Typical Emission Colours Cool White LED

X	0.275	0.28	0.29
Y	0.27	0.28	0.30

OPTIONAL FLYING LEAD TERMINATORS

To order your part with flying leads, please add a suffix to the part number as demonstrated below.

Marl Part No. Suffix (Example)	Wire Length	Wire Colour	No/Diameter of Conductors	Diameter of Insulation	Wire Specification
677-501-21-53-15	150mm	Red - Anode	19/0.16mm	1.2mm	Type 44, 22 Gauge High Performance Wire
677-501-21-53-19	1000mm	Black - Cathode			

NOTES

† = Please note this part number is fitted with 150mm flying leads as standard.

Intensities (Iv) and colour shades of white (X-Y co-ordinates) may vary between LEDs within a batch. Additional LED Colours, 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.

* For operating temperature derating graphs, please refer to sheet 2.

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

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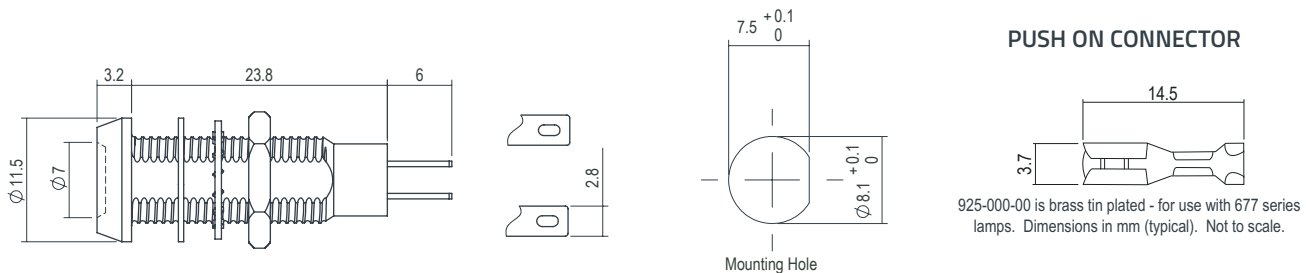
TECHNICAL CHARACTERISTICS

Series	Max. Power Dissipation	Panel Cutout	Nut Mounting Torque	Min. Mounting Centres	Min. - Max. Panel Thickness
677	700	8.1	0.6	14.5	1.5 - 13.0
	mW	mm	Nm	mm	mm

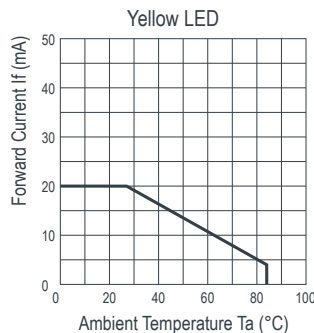
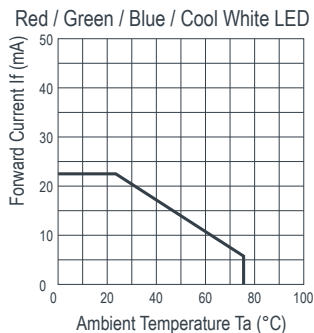
TECHNICAL DRAWING

Weight (g): 5.3

Dimensions in mm (typical). Not to scale. Mounting hole to be clean and burr free. Anode termination denoted by red sleeve.



DE-RATING GRAPHS



MATERIALS

Body	Black Chrome Aluminium
Nut	Nickel Plated Brass
Panel Seal	Conductive Rubber
Fresnel Lens	Polycarbonate
Encapsulation	Black Polyurethane
Lock Washer	Spring Steel
Termination	Silver Flash Coated Brass

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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