690 SERIES
PANEL INDICATOR LED

FEATURES

- Ø9.6mm (3/8") mounting
- UL Certified - certificate number E349017
- Black anodised aluminium housing
- Sealed to IP67 - weatherproof
- Flat water clear lens
- Internal potting
- Bi-polar circuitry
- Range of LED colour options
- Multi voltage

BENEFITS

- Optional "D" mounting style aids anti-rotation
- US accreditation
- Suitable for portable applications
- Suitable for external applications
- Water clear lens gives clear "off" state
- Suitable for high vibration applications
- Suitable for AC or low voltage DC in any orientation
- Suitable for status panel indication
- Manufactured with internal resistor
- Outstanding reliability
- Vandal resistant

MARL Part Number	LED Colour	Typical Voltage Vopr	Typical Current DC Iopr	Typical LED Luminous Intensity	Typical LED Wavelength λp	Operating Temp Topr *	Storage Temp Tstg
690-501-66	Red	8-48 Vac/dc	10	236	619	-40 to +75	-40 to +100
690-521-66	Yellow	8-48 Vac/dc	10	217	585	-40 to +75	-40 to +100
690-532-66	Green (High)	8-48 Vac/dc	10	1360	505	-40 to +75	-40 to +100
690-532-66-50	Green (Medium)	8-48 Vac/dc	5	814	505	-40 to +75	-40 to +100
690-532-66-51	Green (Low)	8-48 Vac/dc	2	814 @ 5mA	505	-40 to +75	-40 to +100
690-930-66	Blue	8-48 Vac/dc	10	270	468	-40 to +75	-40 to +100
690-997-66	Cool White	8-48 Vac/dc	10	743	See Below	-40 to +75	-40 to +100
690-940-66	940nm Infrared	8-48 Vac/dc	10	10mW/sr	940	-40 to +85	-40 to +85
690-946-66	880nm Infrared	8-48 Vac/dc	10	7.5mW/sr	880	-40 to +85	-40 to +85
		Bi-polar	mA	mcd	nm	°C	°C

Typical Emission Colours Cool White LED			
X	0.275	0.28	0.29
Y	0.27	0.28	0.30

NOTES

Intensities (Iv) 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.
* Characteristics at Ta = 25°C. 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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company/marl-international-limited

bsi. ISO 9001 Quality Management Q 05480
RoHS 2015/863/EU
CE UK CA

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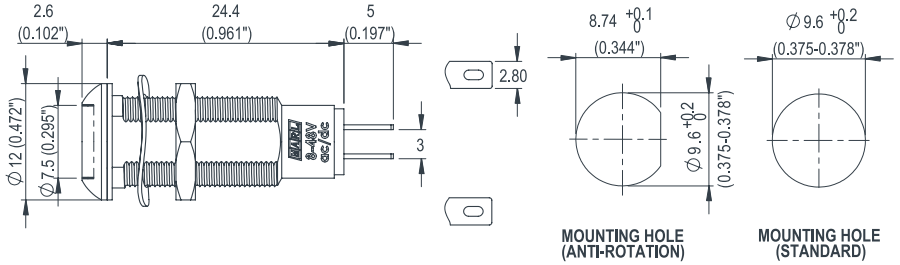
TECHNICAL CHARACTERISTICS

Series	Max. Power Dissipation	Panel Cutout	Nut Mounting Torque	Min. Mounting Centres	Min - Max. Panel Thickness
690	480	9.6 (3/8")	0.6 (0.44 lb/ft)	20 (0.780")	1.5 - 13.0
	mW	mm	Nm	mm	mm

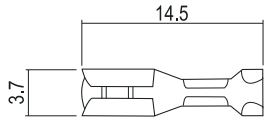
TECHNICAL DRAWING

Weight (g): 3.4

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

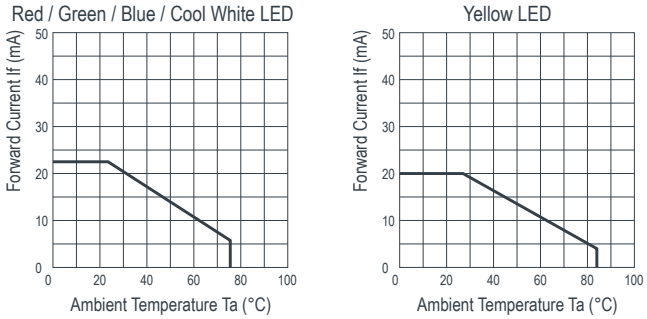


PUSH ON CONNECTOR



925-000-00 is brass tin plated - for use with 690 series lamps. Dimensions in mm (typical). Not to scale.

DE-RATING GRAPHS



MATERIALS

Body	Black Anodised Aluminium
Nut	Nickel Plated Brass
Panel Seal	Viton
Lens	Polycarbonate
Encapsulation	Black Polyurethane
Lock Washer	Spring Steel Wavy Washer
Termination	Silver Flash Coated Brass
Header	Nylon 66

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 dispatch. MARL recommend all users of LED based products follow the current BSI guidelines for protection of electronic devices from electrostatic phenomena.

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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Q 05480

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