



# 856 Series

## Self Contained LED Downlights

### Feature Summary

- High efficiency low-maintenance LED-based downlight.
- Wide range of LED options available.
- Cool running designs give enhanced passenger comfort.
- Self Contained Power Supply.
- A variety of exterior finishes available.

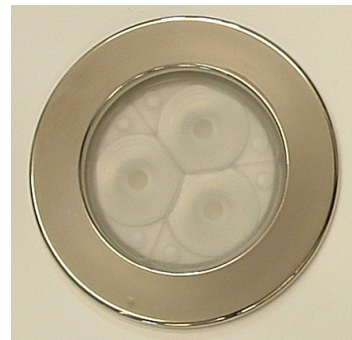
### Product Codes

- Due to the wide range of options available in the 856 range, individual products in the LED downlight range are referred to by product code, derived as follows:  
Typical Part No. 856S24BNMWWI2F  
856 856 Series Downlight  
S24 24VDC Supply  
BN Brushed Nickel Bezel  
M Medium Beam Lens  
WW Warm White Colour  
I2 54-70lm/W Intensity  
F Flying Leads
- Other variants are available on request. Please contact LPA Excil Electronics for more information



Long Life Reliability  
does not cost the earth

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Input Voltage / LED Drive Current						
<b>Code</b>	S12	S24	S110			
<b>Nominal Input Voltage LED Drive Current</b>	12VDC 350mA	24VDC 350mA	110VDC 350mA			
<b>Nominal Input Current</b>	400mA	150mA	35mA			
<b>Input Voltage Range</b>	9 - 15VDC	16.8 - 32VDC	50 - 140VDC			


Bezel / Enclosure Style (See Mechanical Section for details)						
<b>Code</b>	W	C	BN			
<b>Style Finish</b>	STD White RAL9010	STD Chrome	STD Brushed Nickel			

Lens Type						
<b>Code</b>	N	M	W			
<b>Lens Type Beam Angle*</b>	Narrow ±6.5°	Medium ±11.25°	Wide ±22.25°			
<b>Spot Radius @ 2m (to 50% intensity)*</b>	0.23m	0.4m	0.82m			
<b>Lens Factor</b>	14.7	3.8	1.6			

\* Data provided for the White LED only.. Contact LPA-Excil for other colours

LED Colour						
<b>Code</b>	CW	WW	RD	BL		
<b>LED Colour</b>	Cool White	Warm White	Red	Blue		

LED Intensity (lm/W)						
<b>Code</b>	I1	I2	I3	I4		
<b>LED Intensity</b>	41-54	54-70	70-91	91-118		

Input Connector		
<b>Code</b>	E	F
<b>Input Connector</b>	3-Way Entrelec MF16 Connector 400mm Lead	400mm Flying Leads
<b>Connector View</b>		N/A
<b>Pin-Out</b>	Pin 0=Earth Pin 1 = +Ve Pin 2 = -Ve	N/A



## Environmental Specification

Sealing Rating (Front Face)	IP65
Shock and Vibration	EN61373
Operating Temperature Range	-25 to +55°C
EMC	EN50121-3-2
General	EN50155

## Safety Specification

All variants come equipped with the following protection circuitry as standard:

- **Input Voltage Transient Suppression.**
- **Reverse Polarity Protection.**

## Compliance

The 856 Series LED Downlights comply with the following standards:

- EN50121-3-2
- EN61373
- EN50155
- EN60529 to IP65 (Front Face Only)

## Other Details

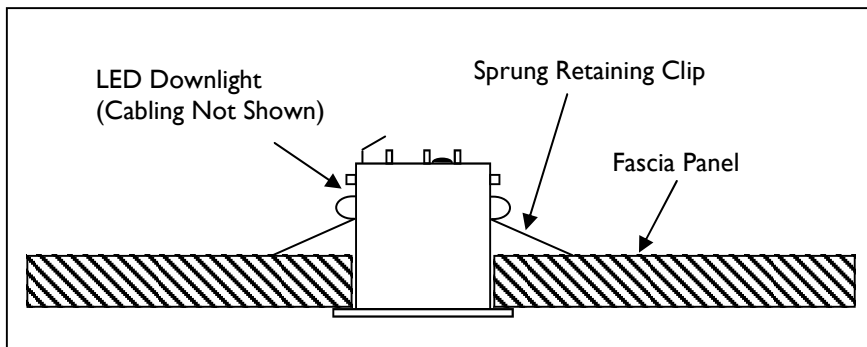
- **Projected Time to 70% of Initial Lumen Output @ 25°C Ambient ~ 100,000 hrs**
- **MTBF:** 110VDC version - 927,000hrs  
24VDC version - 2,250,000hrs  
12VDC version - 4,000,000hrs
- **Illuminance Rating, to calculate the illuminance rating (lux) use the following formula:**

$$\frac{\text{LED Intensity (lm)} * \text{Lens Factor (cd/lm)}}{(\text{Distance from LED (m)})^2}$$

## Mechanical Specification

### LED Downlight Panel Mounting Arrangement

- The LED downlight is held in position against a vehicle fascia panel via twin sprung retaining clips, as shown below.



### Mounting Panel Cut-Out Specification

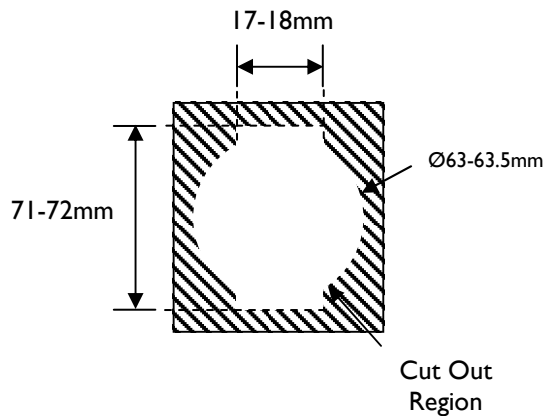
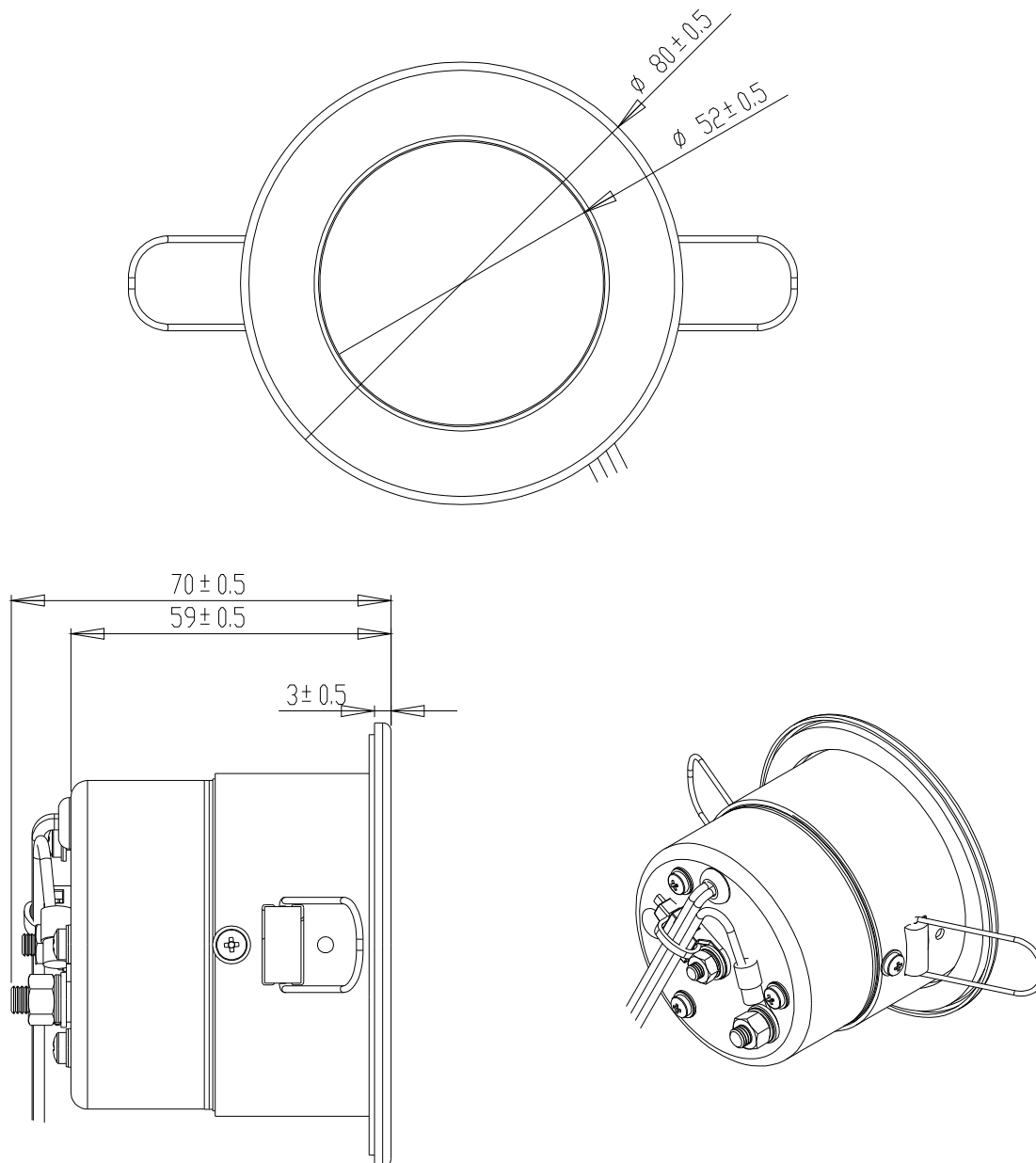


Figure 1 - Enclosure General Arrangement

All Dimensions in mm unless stated otherwise



LPA-Excil makes every effort to ensure the accuracy of the information contained within this datasheet. However we reserve the right to withdraw and re-issue this datasheet at a later date.



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