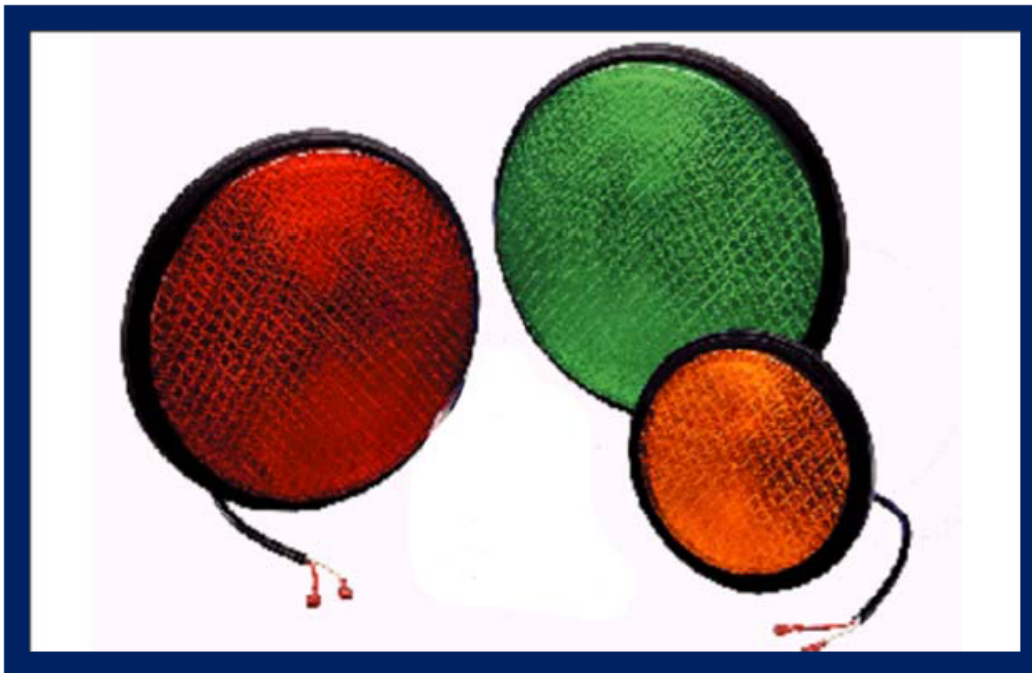


## LED Traffic Signal 433 Series



### 24VAC

**Features:**

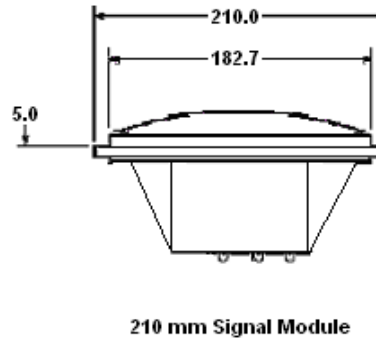
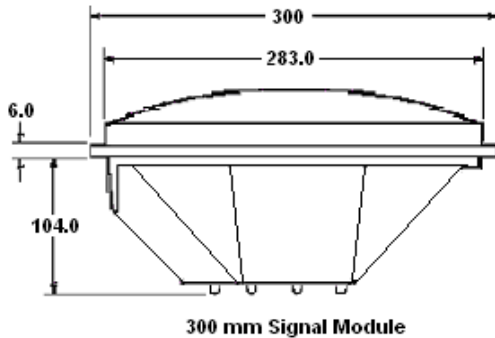
- Clustered LED's as Light Source
- Sealed for Life Unit
- Durable Materials
- Rim Dimensions Matching Existing Housings

**Benefits:**

- Low Energy Consumption
- Uniform Luminance of the Front Lens
- Long and Reliable Service Life
- Easy Installation in the Door of a Signal Housing

A fully contained low wattage LED Traffic Signal Module meeting European specification EN12368. The module is primarily intended for use as a retrofit unit for traffic signals that are currently equipped with incandescent, low voltage Krypton or Halogen light sources. The LED Traffic Signal Module comprises a high flux LED light source, Fresnel lens, and tinted or not tinted front lens. The Fresnel lens is sealed to the housing to create a dust and waterproof system. Key features of the signal are very low power consumption and a smooth, uniform appearance when illuminated. The optics and drive circuits are designed so that the failure of a single LED will neither create a dark spot, nor reduce the signal intensity.

## Dimensions



## Optical Characteristics

At  $T_A = 25^\circ\text{C}$  (Typical values 210mm unless otherwise stated)

Parameter	Symbol	Red	Amber	Green	Units
Dominant Wavelength	$\lambda_d$	615 - 631.5	585 - 597	498.5 - 508	nm
Tinted lens data					
Light distribution (210mm & 300mm)		A2/1 type W	A2/1 type W	A2/1 type W	
Light Intensity	$I_v$	300	300	400	cd
Luminance Uniformity		>1:10	>1:10	>1:10	$L_{min}:L_{max}$
Phantom Class		3	3	5	$I_s:I_{ph}$
Phantom Class - non tinted lens		1	1	1	$I_s:I_{ph}$
Black lens data					
Light distribution (210mm & 300mm)		B2/1 type W	B2/1 type W	B2/1 type W	
Light Intensity	$I_v$	200	200	300	cd
Luminance Uniformity		>1:6	>1:7	>1:6	$L_{min}:L_{max}$
Phantom Class		3	3	3	$I_s:I_{ph}$

## Electrical Characteristics

At  $T_A = 25^\circ\text{C}$

24VAC					
Parameter	Symbol	Red	Amber	Green	Units
Typical Power Consumption	P	9	9	9	W
Voltage <sup>[1]</sup>	V	24VAC			V
Voltage Range	V	19 to 29			V
Minimum Power Factor		According to EN 61000-3-2			
Maximum THD		According to EN 61000-3-2			
Insulation Class		II (IEC 598-1 Section 1.2.23)			
EMC		According to EN 50276			

Notes:

[1] Power consumption minimum values vary by controller

## Thermal Characteristics

(All Part Numbers)

Parameter	Symbol	210mm	300mm	Units
Operating Temperature <sup>[2]</sup>	T <sub>OP</sub>	-40 to +60		°C
Thermal Resistance, Junction to Ambient <sup>[3]</sup>	R <sub>ΘJ-A</sub>	2.5	2	K/W

Notes:

[2] Refers to the ambient temperature range when power is applied to the module

[3] At 60°C based on total dissipated system power

## Mechanical Data

Parameter	210mm	300mm	Units
Minimum Weight	1.53		kg
Vibrations	IEC 68-2-34		
Impact Lens	EN 60598-1 Clause 4.13.4 Class IR3		
Protection Grade	EN60529 test 13 and 14, rating IP 65		
Relative Humidity	Up to 95%		
Flammability	V-0 (US requirement)		
Minimum Cable Length outside the Housing	1		m
Symbols	Painted on the outer lens		
Packing	12 signals per box	6 signals per box	

## Part Numbers

	No Lens		Coloured Lens		Clear Lens		Black Lens	
	210mm	300mm	210mm	300mm	210mm	300mm	210mm	300mm
Red	143437	143441	143445	143448	143451	143455	143471	143474
Amber	143438	143442	143446	143449	143452	143456	143472	143475
Green	143439	143443	143447	143450	143453	143457	143473	143476
White	143440	143444	N/A	N/A	143454	143458	TBA	TBA