

## PRODUCT SPECIFICATION

# 31 Series Stack Lights

5 Tier



4 Tier



3 Tier



2 Tier



1 Tier



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## 31 Series Stack Light



WERNER's 31 Series Stack Lights provide the highest quality combined with usability and flexibility in use in the industry. The unique and stylish elliptical body and lens shape guarantees best visibility from any angle. A vast variation of alu die-cast bases ensure to enable you mount them everywhere you need.

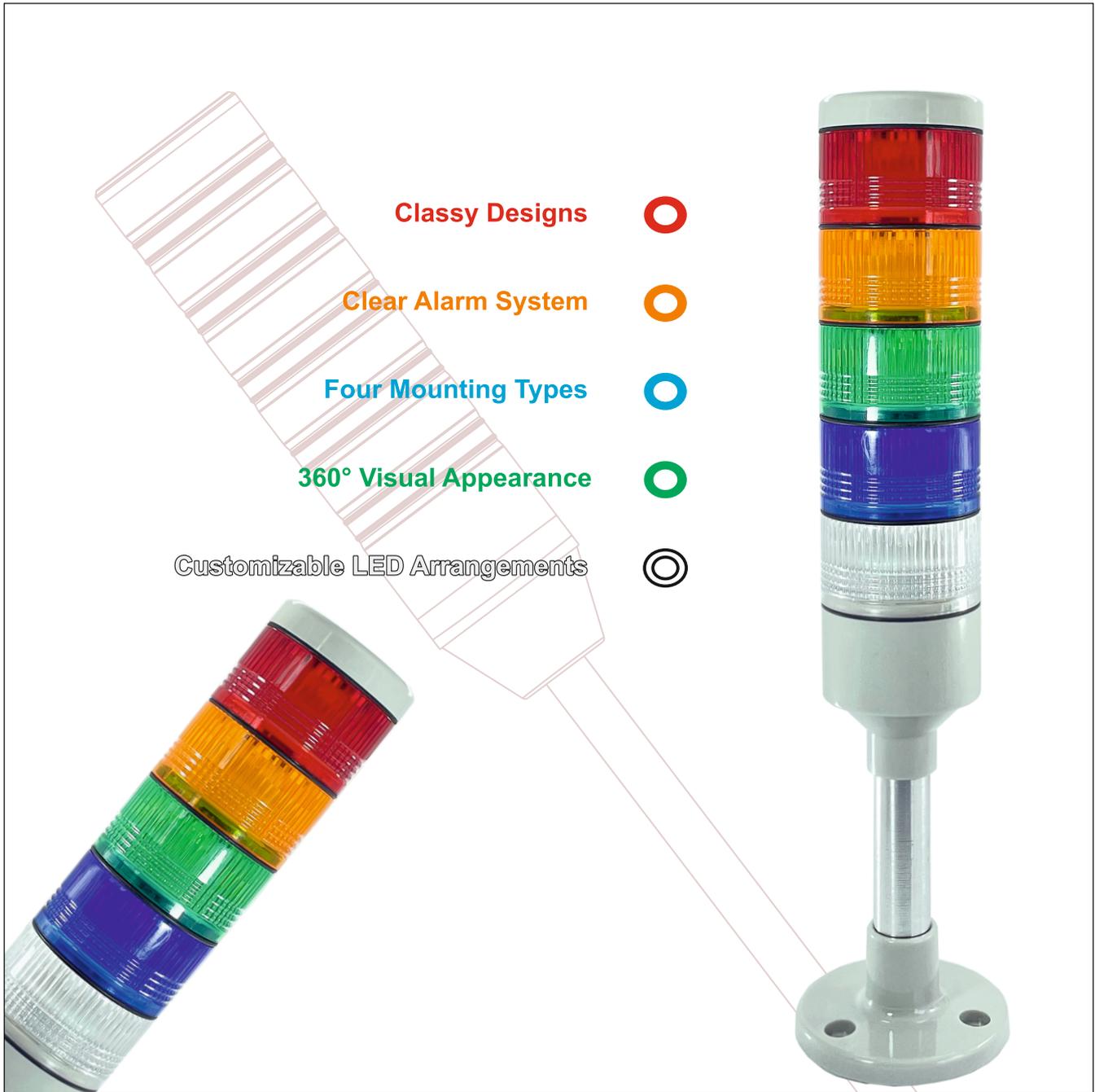
### Features Overview

- 5 unique ways of mounting on heavy duty die cast aluminum bases
- Mounting is easy and flexible for maximum visibility
- Available in 12V + 24V(AC&DC), 120V + 240V(AC)
- Standard equipped with integrated buzzer module
- Basic housing available in stylish black and grey
- Completely modular and stackable

### Highlights

- Enhanced 360° visibility and attention attraction by industry unique oval lens shape
- Available in six lens colors ( red, amber, yellow, green, blue & white)
- Highest visibility by use of High-Bright Multi Chip LED'S only
- New flashing LED modules available for maximum attention
- Custom arrangement of the LED'S is easily possible
- Only top tier materials and design methods used

31 Series Stack Lights by WERNER are the most advanced and stylish designed solution available for all kinds of demanding industrial applications if you need to provide your production team with a clear and conspicuous overview about the operational status of the precious machinery in your production plant.



## Light Color Significance

Color	Indication	Description
RED	Emergency	Hazardous condition (Immediate action to deal with hazardous condition)
YELLOW	Abnormal	Abnormal condition, Impending critical condition (Monitoring & Intervention)
GREEN	Mandatory	Indication of a condition that requires action by the operator
BLUE	Normal	Normal condition
WHITE	Neutral	Other conditions may be used whenever doubt exists about the application of Red, Yellow, Green or Blue

# 31 Series Stack Light

## 31 Series Stack Light

### Features:

- Completely modular
- Easy To Mount
- Different Mounting Styles
- Built-in buzzer module
- Black & Grey Housing

### Over voltage category

III, as per EN IEC 60947-5-1

### Approvals

#### Approbations and Declaration of conformity

CE                      CE



## Specifications

Safety Standards	IEC60947-5-1, EN60947-5-1		
Operating Temperature	-25 to +55°C (no freezing)		
Operating Humidity	45 to 85% RH (no condensation)		
Storage Temperature	-40 to +75°C (no freezing)		
Over voltage Category	III (IEC60664-1)		
Impulse withstand Voltage	800V (IEC60947-1)		
Insulation Resistance	100 MΩ minimum (500V DC)		
Dielectric Strength	Between live and dead parts: 1000V AC, 1 minute		
Pollution Degree	3		
Corrosion Immunity	Atmosphere free from corrosive gases		
Vibration Resistance	Operating extremes: 10 to 55Hz, amplitude 0.5 mm		
Shock Resistance	Operating extremes: 147 m/s <sup>2</sup> , 6 shocks each in 6 axes		
Housing Color	Black, Gray		
Material	Housing: PC		
	Lens: PC		
	Pole: Aluminum		
	Pole base: PC		
Wire	22AWG		
Degree of Protection	Steady	Wall mount, Direct mount, Pole mount with base Pole mount with L-Bracket	IP 40
	Flashing/Alarm	Wall mount, Direct mount, Pole mount with base Pole mount with L-Bracket	IP 40

## Contact Ratings

	Buzzer		LED	
	AC Contact Capacity ( per alarm)	DC Contact Capacity, Transistor Capacity (per alarm)	AC Contact Capacity ( per tier )	DC Contact Capacity, Transistor Capacity (per Tier)
Current Capacity	400 mA min	300 mA min	100 mA min	100 mA min
Dielectric Strength	35V AC min	35V min	35V AC min	35V min
Leakage Current	-	0.1mA max.	-	0.1mA max.

## Functional Specification

Rated Insulation Voltage	60V	250V																		
Operating Voltage	24V AC/DC $\pm 10\%$	230V AC																		
Rated Voltage (Ue)	24V AC/DC	230V AC																		
LED Color Code	R (red), Y (yellow), G (green), B (blue), W (white)																			
LED Life	Approx. 20,000 hours (until brightness is reduced to 50% of the initial value in a 25°C operating environment)																			
Flashing Cycle (IEC60073)	Approx. 105 flashes per minute (1.75 Hz)	75 flashes per minute (1.25Hz)																		
Total Current Drawn	110mA max.	95mA -110mA max.																		
LED	<table border="1"> <tr> <th colspan="2">R, Y</th> <th colspan="2">B, G</th> <th colspan="2">W</th> </tr> <tr> <td>25mA</td> <td>15mA</td> <td>30mA</td> <td>16mA</td> <td>20mA</td> <td>15mA</td> </tr> <tr> <td>0.6W</td> <td>3.4W</td> <td>0.75W</td> <td>3.68W</td> <td>0.5W</td> <td>3.4W</td> </tr> </table>	R, Y		B, G		W		25mA	15mA	30mA	16mA	20mA	15mA	0.6W	3.4W	0.75W	3.68W	0.5W	3.4W	
	R, Y		B, G		W															
	25mA	15mA	30mA	16mA	20mA	15mA														
0.6W	3.4W	0.75W	3.68W	0.5W	3.4W															
Alarm Cycle	Alarm 1: approx. 70 times per minute Alarm 2: approx. 35 times per minute		Alarm 1: approx. 50 times per minute Alarm 2: approx. 25 times per minute																	
Buzzer	Current Draw	16mA																		
	Inrush Current	AC: 400mA max. DC: 250mA max.																		
	Alarm Volume	70 to 80dB, at 1m (volume adjustable)		80 to 95dB, at 1m																
	Acoustic Frequency	Approx. 3.3kHz																		



**Stylish elliptical body and unique lens shape**



**Six lens color of red, amber, yellow, green, blue & clear**



**Visual alert modules with New Piezo Buzzer**



**A special flashing LED is also available**



# 360° Visual Appearance

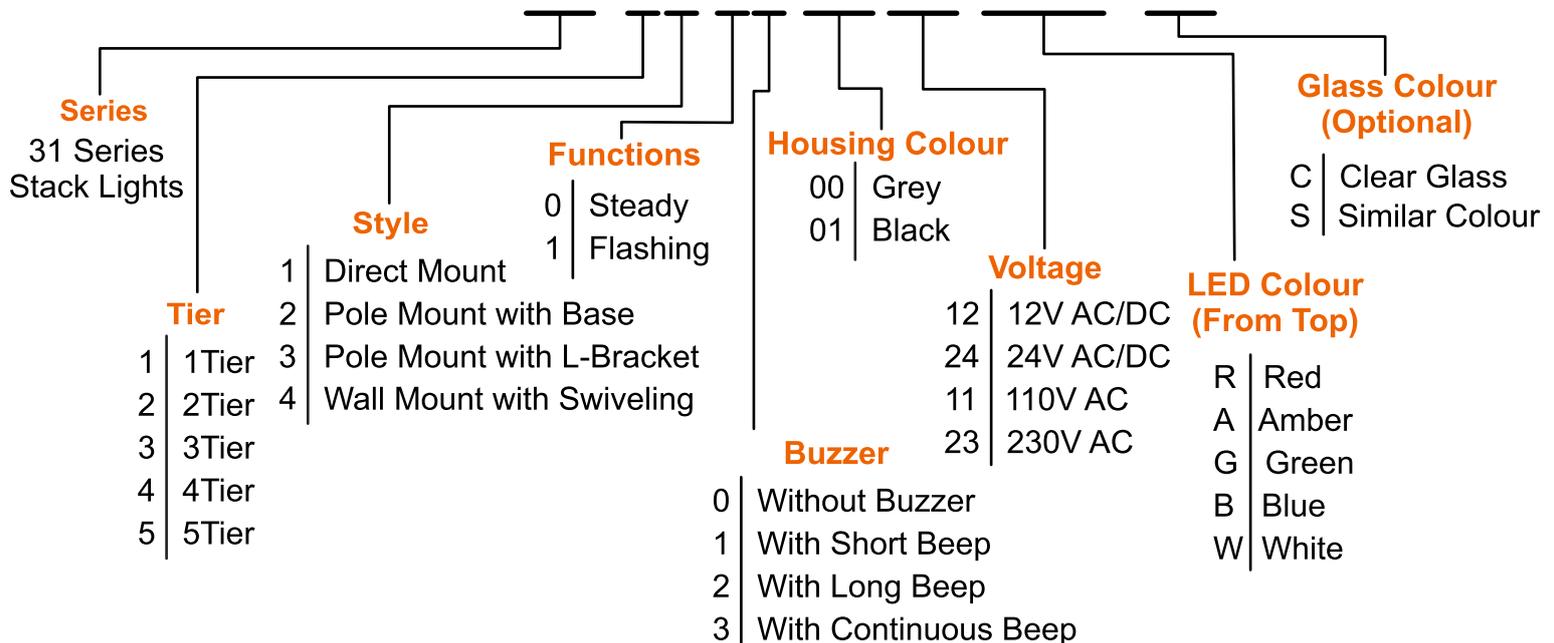
# 31 Series Stack Light

WERNER

Model Number Structure - Stack Lights



## 31.52.00.00.24-RAG C



# 31 Series Stack Light

## Model Number Selection

Housing Color	Mounting Style	Tier	Steady - Model No.				* LED Color Code
			Without Buzzer	With Short Beep	With Long Beep	With Continuous Beep	
Grey Housing 	1: Direct Mount 	1	31.11.00.00-*	31.11.01.00-*	31.11.02.00-*	31.11.03.00-*	R, Y, B, G, W
		2	31.21.00.00-*	31.21.01.00-*	31.21.02.00-*	31.21.03.00-*	RY, RG
		3	31.31.00.00-*	31.31.01.00-*	31.31.02.00-*	31.31.03.00-*	RYB, RYG
		4	31.41.00.00-*	31.41.01.00-*	31.41.02.00-*	31.41.03.00-*	RYBG
		5	31.51.00.00-*	31.51.01.00-*	31.51.02.00-*	31.51.03.00-*	RYBGW
	2: Pole Mount With Base 	1	31.12.00.00-*	31.12.01.00-*	31.12.02.00-*	31.12.03.00-*	R, Y, B, G, W
		2	31.22.00.00-*	31.22.01.00-*	31.22.02.00-*	31.22.03.00-*	RY, RG
		3	31.32.00.00-*	31.32.01.00-*	31.32.02.00-*	31.32.03.00-*	RYB, RYG
		4	31.42.00.00-*	31.42.01.00-*	31.42.02.00-*	31.42.03.00-*	RYBG
		5	31.52.00.00-*	31.52.01.00-*	31.52.02.00-*	31.52.03.00-*	RYBGW
	3: Pole Mount With Bracket 	1	31.13.00.00-*	31.13.01.00-*	31.13.02.00-*	31.13.03.00-*	R, Y, B, G, W
		2	31.23.00.00-*	31.23.01.00-*	31.23.02.00-*	31.23.03.00-*	RY, RG
		3	31.33.00.00-*	31.33.01.00-*	31.33.02.00-*	31.33.03.00-*	RYB, RYG
		4	31.43.00.00-*	31.43.01.00-*	31.43.02.00-*	31.43.03.00-*	RYBG
		5	31.53.00.00-*	31.53.01.00-*	31.53.02.00-*	31.53.03.00-*	RYBGW
	4: Wall Mount 	1	31.14.00.00-*	31.14.01.00-*	31.14.02.00-*	31.14.03.00-*	R, Y, B, G, W
		2	31.24.00.00-*	31.24.01.00-*	31.24.02.00-*	31.24.03.00-*	RY, RG
		3	31.34.00.00-*	31.34.01.00-*	31.34.02.00-*	31.34.03.00-*	RYB, RYG
		4	31.44.00.00-*	31.44.01.00-*	31.44.02.00-*	31.44.03.00-*	RYBG
		5	31.54.00.00-*	31.54.01.00-*	31.54.02.00-*	31.54.03.00-*	RYBGW

Note: Specify illumination color starting with top tier. \* Refer to LED Color Code column (at right corner of the Model No. Selection table)

## Model Number Selection

Housing Color	Mounting Style	Tier	Flashing - Model No.				* LED Color Code
			Without Buzzer	With Short Beep	With Long Beep	With Continuous Beep	
Grey Housing 	1: Direct Mount 	1	31.11.10.00-*	31.11.11.00-*	31.11.12.00-*	31.11.13.00-*	R, Y, B, G, W
		2	31.21.10.00-*	31.21.11.00-*	31.21.12.00-*	31.21.13.00-*	RY, RG
		3	31.31.10.00-*	31.31.11.00-*	31.31.12.00-*	31.31.13.00-*	RYB, RYG
		4	31.41.10.00-*	31.41.11.00-*	31.41.12.00-*	31.41.13.00-*	RYBG
		5	31.51.10.00-*	31.51.11.00-*	31.51.12.00-*	31.51.13.00-*	RYBGW
	2: Pole Mount With Base 	1	31.12.10.00-*	31.12.11.00-*	31.12.12.00-*	31.12.13.00-*	R, Y, B, G, W
		2	31.22.10.00-*	31.22.11.00-*	31.22.12.00-*	31.22.13.00-*	RY, RG
		3	31.32.10.00-*	31.32.11.00-*	31.32.12.00-*	31.32.13.00-*	RYB, RYG
		4	31.42.10.00-*	31.42.11.00-*	31.42.12.00-*	31.42.13.00-*	RYBG
		5	31.52.10.00-*	31.52.11.00-*	31.52.12.00-*	31.52.13.00-*	RYBGW
	3: Pole Mount With Bracket 	1	31.13.10.00-*	31.13.11.00-*	31.13.12.00-*	31.13.13.00-*	R, Y, B, G, W
		2	31.23.10.00-*	31.23.11.00-*	31.23.12.00-*	31.23.13.00-*	RY, RG
		3	31.33.10.00-*	31.33.11.00-*	31.33.12.00-*	31.33.13.00-*	RYB, RYG
		4	31.43.10.00-*	31.43.11.00-*	31.43.12.00-*	31.43.13.00-*	RYBG
		5	31.53.10.00-*	31.53.11.00-*	31.53.12.00-*	31.53.13.00-*	RYBGW
	4: Wall Mount 	1	31.14.10.00-*	31.14.11.00-*	31.14.12.00-*	31.14.13.00-*	R, Y, B, G, W
		2	31.24.10.00-*	31.24.11.00-*	31.24.12.00-*	31.24.13.00-*	RY, RG
		3	31.34.10.00-*	31.34.11.00-*	31.34.12.00-*	31.34.13.00-*	RYB, RYG
		4	31.44.10.00-*	31.44.11.00-*	31.44.12.00-*	31.44.13.00-*	RYBG
		5	31.54.10.00-*	31.54.11.00-*	31.54.12.00-*	31.54.13.00-*	RYBGW

Note: Specify illumination color starting with top tier. \* Refer to LED Color Code column (at right corner of the Model No. Selection table)

Note: Specify "C" after LED color code for clear lens option (refer page no. 5)

# 31 Series Stack Light

## Model Number Selection

Housing Color	Mounting Style	Tier	Steady - Model No.				* LED Color Code
			Without Buzzer	With Short Beep	With Long Beep	With Continuous Beep	
Black Housing 	1: Direct Mount 	1	31.11.00.01-*	31.11.01.01-*	31.11.02.01-*	31.11.03.01-*	R, Y, B, G, W
		2	31.21.00.01-*	31.21.01.01-*	31.21.02.01-*	31.21.03.01-*	RY, RG
		3	31.31.00.01-*	31.31.01.01-*	31.31.02.01-*	31.31.03.01-*	RYB, RYG
		4	31.41.00.01-*	31.41.01.01-*	31.41.02.01-*	31.41.03.01-*	RYBG
		5	31.51.00.01-*	31.51.01.01-*	31.51.02.01-*	31.51.03.01-*	RYBGW
	2: Pole Mount With Base 	1	31.12.00.01-*	31.12.01.01-*	31.12.02.01-*	31.12.03.01-*	R, Y, B, G, W
		2	31.22.00.01-*	31.22.01.01-*	31.22.02.01-*	31.22.03.01-*	RY, RG
		3	31.32.00.01-*	31.32.01.01-*	31.32.02.01-*	31.32.03.01-*	RYB, RYG
		4	31.42.00.01-*	31.42.01.01-*	31.42.02.01-*	31.42.03.01-*	RYBG
		5	31.52.00.01-*	31.52.01.01-*	31.52.02.01-*	31.52.03.01-*	RYBGW
	3: Pole Mount With Bracket 	1	31.13.00.01-*	31.13.01.01-*	31.13.02.01-*	31.13.03.01-*	R, Y, B, G, W
		2	31.23.00.01-*	31.23.01.01-*	31.23.02.01-*	31.23.03.01-*	RY, RG
		3	31.33.00.01-*	31.33.01.01-*	31.33.02.01-*	31.33.03.01-*	RYB, RYG
		4	31.43.00.01-*	31.43.01.01-*	31.43.02.01-*	31.43.03.01-*	RYBG
		5	31.53.00.01-*	31.53.01.01-*	31.53.02.01-*	31.53.03.01-*	RYBGW
	4: Wall Mount 	1	31.14.00.01-*	31.14.01.01-*	31.14.02.01-*	31.14.03.01-*	R, Y, B, G, W
		2	31.24.00.01-*	31.24.01.01-*	31.24.02.01-*	31.24.03.01-*	RY, RG
		3	31.34.00.01-*	31.34.01.01-*	31.34.02.01-*	31.34.03.01-*	RYB, RYG
		4	31.44.00.01-*	31.44.01.01-*	31.44.02.01-*	31.44.03.01-*	RYBG
		5	31.54.00.01-*	31.54.01.01-*	31.54.02.01-*	31.54.03.01-*	RYBGW

Note: Specify illumination color starting with top tier. \* Refer to LED Color Code column (at right corner of the Model No. Selection table)

## Model Number Selection

Housing Color	Mounting Style	Tier	Flashing - Model No.				* LED Color Code
			Without Buzzer	With Short Beep	With Long Beep	With Continuous Beep	
Black Housing 	1: Direct Mount 	1	31.11.10.01-*	31.11.11.01-*	31.11.12.01-*	31.11.13.01-*	R, Y, B, G, W
		2	31.21.10.01-*	31.21.11.01-*	31.21.12.01-*	31.21.13.01-*	RY, RG
		3	31.31.10.01-*	31.31.11.01-*	31.31.12.01-*	31.31.13.01-*	RYB, RYG
		4	31.41.10.01-*	31.41.11.01-*	31.41.12.01-*	31.41.13.01-*	RYBG
		5	31.51.10.01-*	31.51.11.01-*	31.51.12.01-*	31.51.13.01-*	RYBGW
	2: Pole Mount With Base 	1	31.12.10.01-*	31.12.11.01-*	31.12.12.01-*	31.12.13.01-*	R, Y, B, G, W
		2	31.22.10.01-*	31.22.11.01-*	31.22.12.01-*	31.22.13.01-*	RY, RG
		3	31.32.10.01-*	31.32.11.01-*	31.32.12.01-*	31.32.13.01-*	RYB, RYG
		4	31.42.10.01-*	31.42.11.01-*	31.42.12.01-*	31.42.13.01-*	RYBG
		5	31.52.10.01-*	31.52.11.01-*	31.52.12.01-*	31.52.13.01-*	RYBGW
	3: Pole Mount With Bracket 	1	31.13.10.01-*	31.13.11.01-*	31.13.12.01-*	31.13.13.01-*	R, Y, B, G, W
		2	31.23.10.01-*	31.23.11.01-*	31.23.12.01-*	31.23.13.01-*	RY, RG
		3	31.33.10.01-*	31.33.11.01-*	31.33.12.01-*	31.33.13.01-*	RYB, RYG
		4	31.43.10.07-*	31.43.11.01-*	31.43.12.01-*	31.43.13.01-*	RYBG
		5	31.53.10.01-*	31.53.11.01-*	31.53.12.01-*	31.53.13.01-*	RYBGW
	4: Wall Mount 	1	31.14.10.01-*	31.14.11.01-*	31.14.12.01-*	31.14.13.01-*	R, Y, B, G, W
		2	31.24.10.01-*	31.24.11.01-*	31.24.12.01-*	31.24.13.01-*	RY, RG
		3	31.34.10.01-*	31.34.11.01-*	31.34.12.01-*	31.34.13.01-*	RYB, RYG
		4	31.44.10.01-*	31.44.11.01-*	31.44.12.01-*	31.44.13.01-*	RYBG
		5	31.54.10.01-*	31.54.11.01-*	31.54.12.01-*	31.54.13.01-*	RYBGW

Note: Specify illumination color starting with top tier. \* Refer to LED Color Code column (at right corner of the Model No. Selection table)

Note: Specify "C" after LED color code for clear lens option (refer page no. 5)

# 31 Series Stack Light

## Accessories

### Mounting Parts Let in

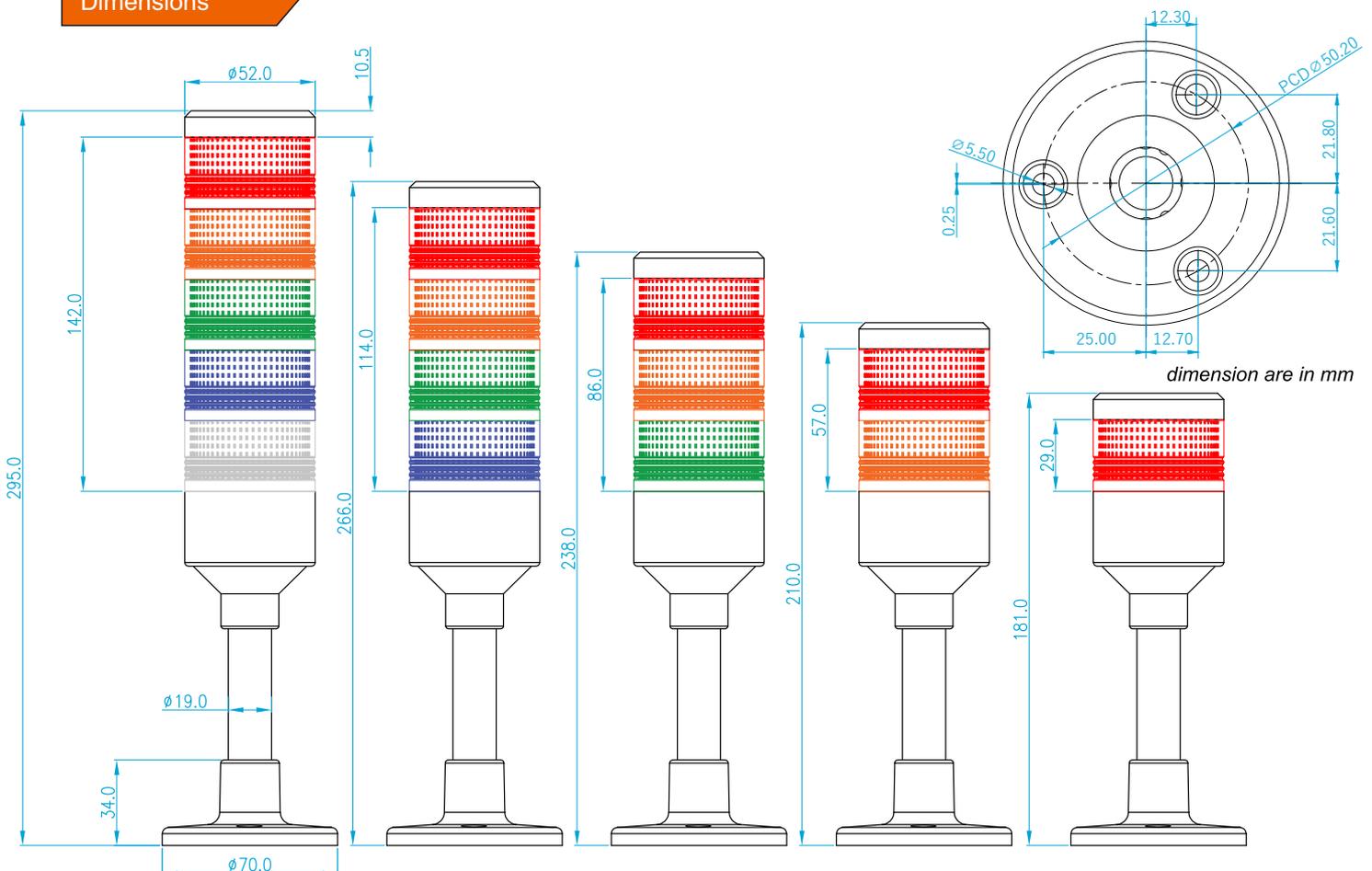
Mounting Style	Supplied Parts
1 : Direct Mount	M5 screw (4 pcs), M5 spring washer (4 pcs), M5 plain washer (4pcs), M5 nut (4 pcs), O-ring (4 pcs), gasket (1 pc)
2 : Pole Mount with Base	M5 screw (4 pcs), M5 spring washer (4 pcs), M5 plain washer (4 pcs), M5 nut (4 pcs), O-ring (4 pcs), gasket (1 pc)

### Combination of LED & Lens

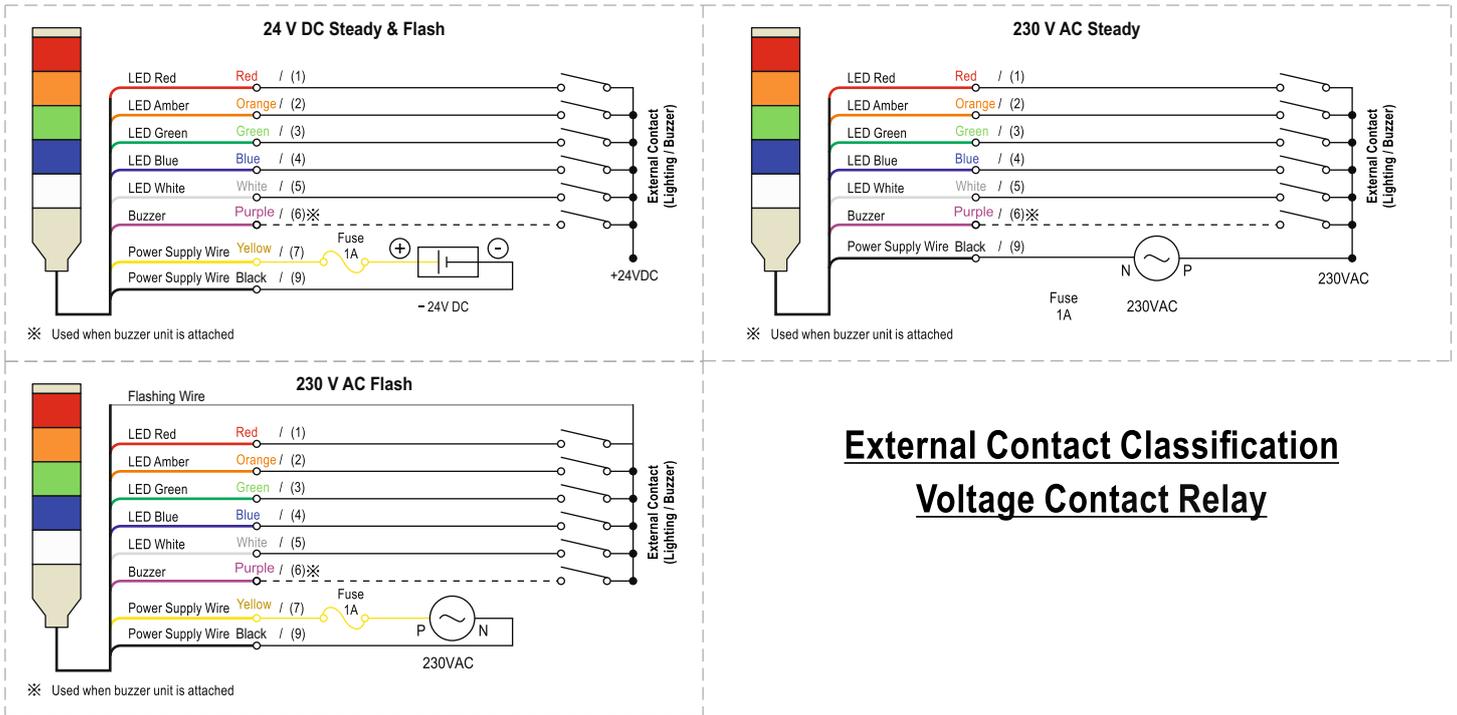
LED Color	Color Lens Type	Clear Lens Type
R : Red	Red Lens	Clear Lens
Y : Yellow	Yellow Lens	Clear Lens
B : Blue	Blue Lens	Clear Lens
G : Green	Green Lens	Clear Lens
W : White	White Lens	Clear Lens

Description	Model No.		Style
	Black Housing	Grey Housing	
L - Bracket	31.08.00		

### Dimensions



## Wiring Examples



## Safety Precautions

- Do not loosen any screws.
- Turn off the power to the 31 Series Stack Lights fore wiring, mounting, assembling or removing.
- Do not leave the 31 Series without a cap or unassembled.
- Make sure the wiring is done correctly else electrical shock or fire hazard may result.
- Do not mount the 31 Series upside-down or horizontally.
- Do not apply any chemicals that may corrode the plastic materials.
- Install the supplied gasket, or else the waterproof seal will be compromised
- The hexagon socket screw may become loose if the 31 Series is subjected to strong vibrations.
- Take measures to prevent loosening.
- DIRECT MOUNTING

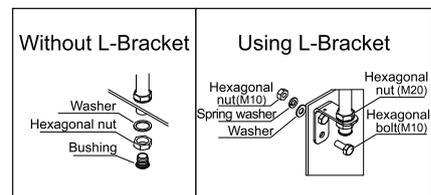
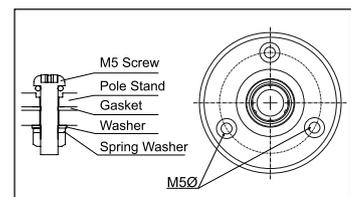
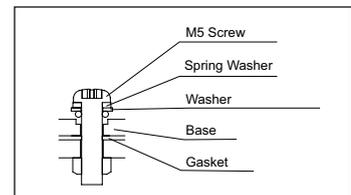
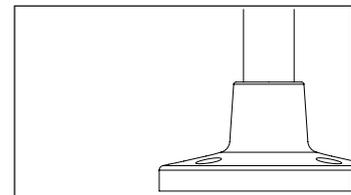
Recommended tightening torque:  
 2.5 to 2.8 N·m

- POLE MOUNTING WITH BASE

The pole mount type can be installed in four ways that has been mentioned in "Dimensions" section which is described below.  
 Recommended tightening torque: 2.5 to 2.8 N·m (M5 screw)

- POLE MOUNTING WITH L-BRACKET

Recommended tightening torque: 10 to 12 N·m (M10)  
 Recommended tightening torque: 24 to 27 N·m (M20)  
 Not using L- Bracket  
 Remove the hexagonal nut (M20), bushing, plain washer and L- Bracket from the 31 Series and install in the following order:  
 plain washer  
 hexagonal nut (M20)  
 and bushing.  
 Recommended tightening torque: 24 to 27 N·m (M20)





# WERNER

Inventing Innovation...

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