

# Q70NSC

## Ø70mm LED Xenon Lamp Strobe Signal Lights



Q70NSC



### Q70NSC Xenon Lamp Strobe Signal Lights

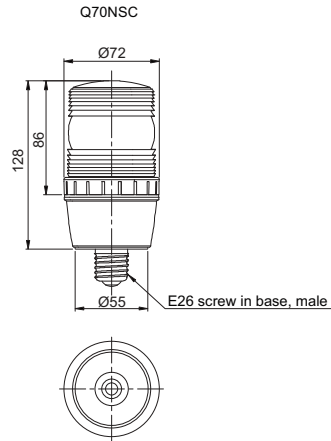
- Ø70mm xenon lamp strobe signal lights
- High efficiency strobe light that offers excellent outdoor visibility and long-distance signal light luminance close to natural light
- Lamp connector fastening structure allows for convenient lamp replacement
- Flashing rate : 60-80 flashes/min
- Materials : Lens-PC, Housing-ABS
- Ambient operating temperature : -40°C to +50°C
- Protection rating : IP66

### Specifications

Model number	Voltage	Current	Certificates	Weight	Color
Q70NSC	AC110V	Max. 0.050A	-	0.19kg	<ul style="list-style-type: none"> <li>• R-Red</li> <li>• A-Amber</li> <li>• G-Green</li> <li>• B-Blue</li> </ul>

### Technical Diagram

(Units : mm)



### Wiring Instructions

- Edison screw bulb (E26) socket allows for easy and convenient wiring.



### Ordering Specification

<b>Q70NSC</b>	-	<b>110</b>	-	<b>A</b>
[Model number]		[Voltage]		[Color]
• Q70NSC		• 110-AC110V		<ul style="list-style-type: none"> <li>• R-Red</li> <li>• A-Amber</li> <li>• G-Green</li> <li>• B-Blue</li> </ul>

# S80 series

## Ø80mm LED Steady/ Flashing Signal Lights



S80AL



### S80A series enable easy wiring

S80A series enables easy wiring with its terminal block attached to the fixed base plate. With this system the contacts in the housing sends power directly to the terminal block.

### S80AL LED Steady/ Flashing Signal Light

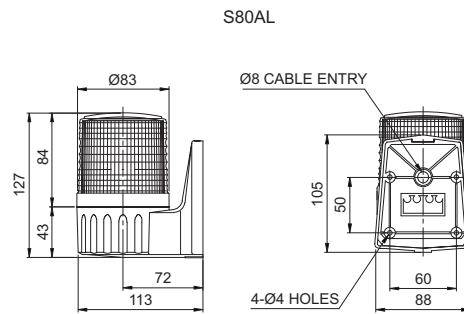
- Equipped wall mount allows for easy assembly. Additional mounting brackets not required
- Maintenance reduced with longlasting LED light source
- Buzzer not allowed
- Terminal block designed inside the side mount bracket enables easy wiring
- Built-in buzzer available (Volume : Max 90dB at 1m)
- Built-in switch for selection between steady and flashing mode
- Flashing rate : 60-80 flashes/min
- Materials : Lens-AS, Housing-ABS, Reflector-Heat resistant ABS
- Ambient operating temperature : -30°C to +50°C
- Protection rating : IP44
- Compliant with RoHS directive

### Specifications

Model number	Voltage	Current	Certificates	Weight	Color
S80AL	DC12V-24V	Max.0.125A	CE DC only	0.26kg	<ul style="list-style-type: none"> <li>• R-Red</li> <li>• A-Amber</li> <li>• G-Green</li> <li>• B-Blue</li> </ul>
	AC110V	0.035A		0.35kg	
	AC220V	0.020A		0.35kg	

### Technical Diagram

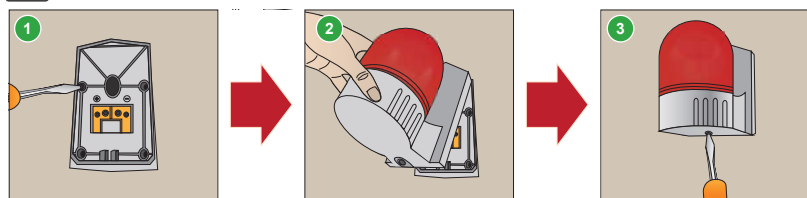
(Units : mm)



### Wiring Instructions

- Attach the power supply wire to the terminal block
- Product can be wired regardless of polarity

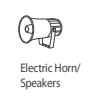
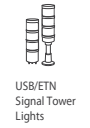
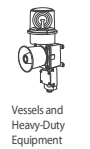
### Mounting Instructions



- 1 Secure the base plate to the mounting surface, and the power line to the terminal block
- 2 Mount the warning light by inserting the ring(hook) into the upper part of the base plate
- 3 Screw in the bolt at the base of the mounting bracket to complete assembly

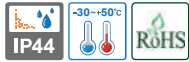
### Ordering Specification

S80AL	-	BZ	-	110	-	R
[Model number]		[Buzzer option]		[Voltage]		[Color]
• S80AL		• None • No buzzer • BZ • Built-in buzzer		• 12/24-DC12V-24V • 110-AC110V • 220-AC220V		• R-Red • A-Amber • G-Green • B-Blue



# S80 series

## Ø80mm LED Steady/ Flashing Signal Lights



### **S80LK** LED Steady/ Flashing Signal Light

- Ø80mm LED steady/ flashing signal lights
- Circular mount bracket allows for convenient installation
- Buzzer not allowed
- Switch for selection between steady and flashing mode
- Flashing rate : 60-80 flashes/min
- Materials : Lens-AS, Housing-ABS, Reflector-Heat resistant ABS
- Ambient operating temperature : -30°C to +50°C
- Protection rating : IP44
- Compliant with RoHS directive



**S80LK**

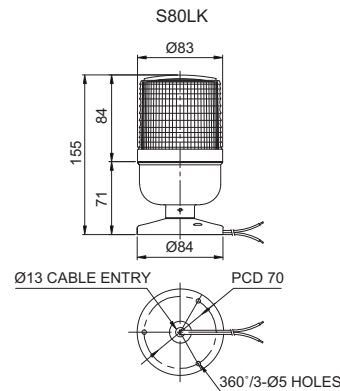


### Specifications

Model number	Voltage	Current	Certificates	Weight	Color
S80LK	DC12V-24V	Max.0.125A	 DC only	0.20kg	<ul style="list-style-type: none"> <li>• R-Red</li> <li>• A-Amber</li> <li>• G-Green</li> <li>• B-Blue</li> </ul>
	AC110V	0.035A		0.37kg	
	AC220V	0.020A		0.37kg	

### Technical Diagram

(Units : mm)



### Wiring Instructions

- External power line standard : UL1015 AWG18(0.75sq)×2C 400mm
- Product can be wired regardless of polarity

### Customization

- Pole mount type

Standard	QZ18	SZ18	SL18	QLA18
Steel	PC	Al	Al	PC

※ Please refer to page34-39 for detailed dimension of mount bracket



### Ordering Specification

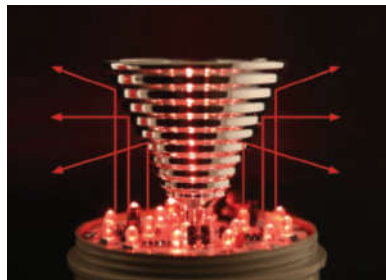
<b>S80LK</b>	-	<b>24</b>	-	<b>R</b>
[Model number]		[Voltage]		[Color]
• S80LK		<ul style="list-style-type: none"> <li>• 12/24-DC12V-24V</li> <li>• 110-AC110V</li> <li>• 220-AC220V</li> </ul>		<ul style="list-style-type: none"> <li>• R-Red</li> <li>• A-Amber</li> <li>• G-Green</li> <li>• B-Blue</li> </ul>

# S80 series

## Ø80mm LED Steady/ Flashing Signal Lights



S80L



**Feature of indirect light diffusing system**  
Indirect light diffusing system emits intense and constant level of signal lights via multi reflector throughout the lens.

### S80L LED Steady/ Flashing Signal Light

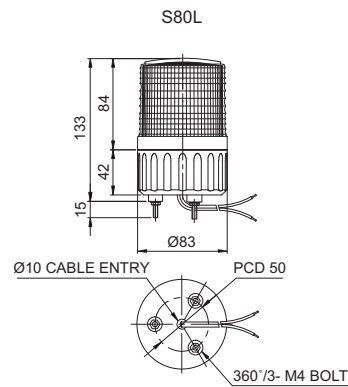
- Ø80mm LED steady/ flashing signal lights
- Multi reflector system emits intense and constant level of signal lights
- Built-in switch for selection between steady and flashing mode
- Built-in buzzer available (Volume : Max 90dB at 1m)
- Flashing rate : 60-80 flashes/min
- Materials : Lens-AS, Housing-ABS, Reflector-Heat resistant ABS
- Ambient operating temperature : -30°C to +50°C
- Protection rating : IP44
- Certificates : CE Compliant
- Compliant with RoHS directive

#### Specifications

Model number	Voltage	Current	Certificates	Weight	Color
S80L	DC12V-24V	Max.0.125A	 DC24V only	0.20kg	● R-Red ● A-Amber ● G-Green ● B-Blue
	AC110V	0.035A		0.32kg	
	AC220V	0.020A		0.32kg	

#### Technical Diagram

(Units : mm)



#### Wiring Instructions

- External power line standard : UL1015 AWG18(0.75sq)×2C 400mm
- Product can be wired regardless of polarity

#### Customization

- Wall mount bracket options :  
Bracket structure allows for threading through the bracket hole or into the wall mount



#### Ordering Specification

S80L	-	BZ	-	24	-	R
[Model number]		[Buzzer option]		[Voltage]		[Color]
• S80L		• None - No buzzer • BZ - Built-in buzzer		• 12/24-DC12V-24V • 110-AC110V • 220-AC220V		• R-Red • A-Amber • G-Green • B-Blue



Signal & Electric Horn/ Speakers



Vessels and Heavy-Duty Equipment



Explosion Proof



Warning Light Bar



Aviation Obstruction Lights



Signal Tower Lights



USB/ETN Signal Tower Lights



Wireless Network System



Electric Horn/ Speakers



Industrial LED Lights

# S80 series

## Ø80mm LED Revolving Warning Light



**S80ADR**



**S80ALR**



S80A series can be wall mounted easily without an additional mounting bracket.

### Replacement for old version

S80ADR substitutes for S80ALR and S80ALR substitutes for S80AULR so they have the same dimension, function and feature.

## **S80ADR/ S80ALR LED Revolving Warning Lights**

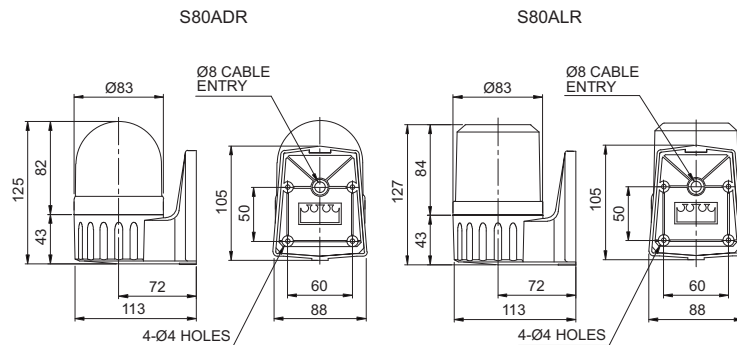
- Equipped wall mount allows for easy assembly. Additional mounting brackets not required
- Terminal block designed inside the side mount bracket enables easy wiring
- Built-in buzzer available (Volume : Max 90dB at 1m)
- Revolving speed : 120-140RPM
- Materials : Lens-AS, Housing-ABS, Reflector-Heat resistant ABS
- Ambient operating temperature : -20°C to +50°C
- Protection rating : IP44
- Compliant with RoHS directive

### Specifications

Model number	Voltage	Current	Certificates	Weight	Color
S80ADR	DC12V	0.183A	-	0.34kg	<ul style="list-style-type: none"> <li>• R-Red</li> <li>• A-Amber</li> <li>• G-Green</li> <li>• B-Blue</li> </ul>
	DC24V	0.127A		0.34kg	
S80ALR	AC110V	0.035A		0.49kg	
	AC220V	0.017A		0.49kg	

### Technical Diagram

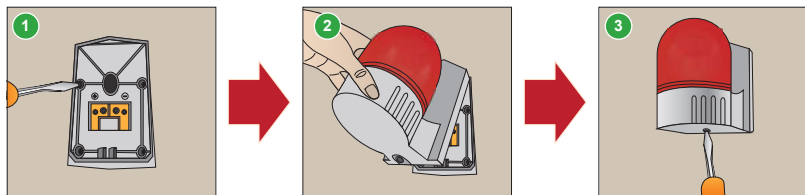
(Units : mm)



### Wiring Instructions

- Attach the power supply wire to the terminal block
- DC Type : Black output line is negative(-)

### Mounting Instructions



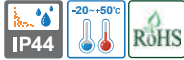
- 1 Secure the base plate to the mounting surface, and the power line to the terminal block
- 2 Mount the warning light by inserting the ring(hook) into the upper part of the base plate
- 3 Screw in the bolt at the base of the mounting bracket to complete assembly

### Ordering Specification

S80ALR	-	BZ	-	110	-	R
[Model number]		[Buzzer option]		[Voltage]		[Color]
<ul style="list-style-type: none"> <li>• S80ADR</li> <li>• S80ALR</li> </ul>		<ul style="list-style-type: none"> <li>• None</li> <li>- No buzzer</li> <li>• BZ</li> <li>- Built-in buzzer</li> </ul>		<ul style="list-style-type: none"> <li>• 12-DC12V</li> <li>• 24-DC24V</li> <li>• 110-AC110V</li> <li>• 220-AC220V</li> </ul>		<ul style="list-style-type: none"> <li>• R-Red</li> <li>• A-Amber</li> <li>• G-Green</li> <li>• B-Blue</li> </ul>

# S80 series

## Ø80mm LED Revolving Warning Lights



S80DRK



S80LRK

### S80DRK/ S80LRK LED Revolving Warning Lights

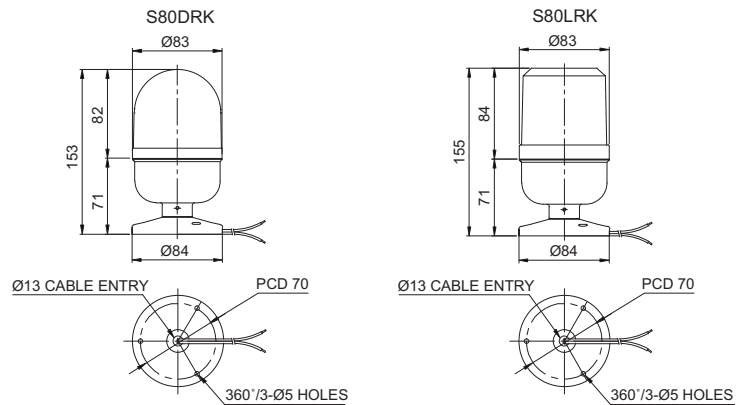
- Ø80mm LED revolving warning lights
- Adopts a special power transmission system that reduces noise and wear
- Circular mount bracket allows convenient installation
- No buzzer allowed
- Revolving speed : 120-140RPM
- Materials : Lens-AS, Housing-ABS, Reflector-Heat resistant ABS
- Ambient operating temperature : -20°C to +50°C
- Protection rating : IP44
- Compliant with RoHS directive

#### Specifications

Model number	Voltage	Current	Certificates	Weight	Color
S80DRK	DC12V	0.183A	-	0.24kg	<ul style="list-style-type: none"> <li>• R-Red</li> <li>• A-Amber</li> <li>• G-Green</li> <li>• B-Blue</li> </ul>
	DC24V	0.127A		0.24kg	
S80LRK	AC110V	0.035A		0.43kg	
	AC220V	0.017A		0.43kg	

#### Technical Diagram

(Units : mm)



#### Wiring Instructions

- External power line standard : UL1015 AWG18(0.75sq)×2C 400mm
- DC Type : Black output line is negative(-)

#### Customization

- Pole mount type

Standard	QZ18	SZ18	SL18	QLA18
Steel	PC	Al	Al	PC

※ Please refer to page34-39 for detailed dimension of mount bracket

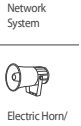
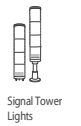
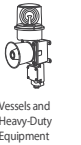


#### Replacement for old version

S80DRK substitutes for S80RLRK, so they have same dimension, function and feature.

#### Ordering Specification

<b>S80DRK</b>	-	<b>24</b>	-	<b>R</b>
[Model number]		[Voltage]		[Color]
<ul style="list-style-type: none"> <li>• S80DRK</li> <li>• S80LRK</li> </ul>		<ul style="list-style-type: none"> <li>• 12-DC12V</li> <li>• 24-DC24V</li> <li>• 110-AC110V</li> <li>• 220-AC220V</li> </ul>		<ul style="list-style-type: none"> <li>• R-Red</li> <li>• A-Amber</li> <li>• G-Green</li> <li>• B-Blue</li> </ul>



# S80 series

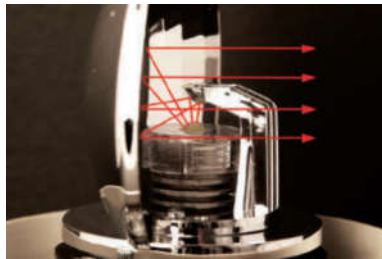
## Ø80mm LED Revolving Warning Lights



**S80DR**



**S80LR**



### Feature of LED revolving warning lights

LED revolving warning light has Qlight's distinctive LED light collecting system and special multifaceted reflector allowing excellent omni-directional visibility.

### Replacement for old version

S80DR substitutes for S80RLR, so they have same dimension, function and feature.

## **S80DR/ S80LR** LED Revolving Warning Lights

- Ø80mm compact LED revolving warning lights
- Excellent omni-directional visibility with LED light collecting system and special multifaceted reflector
- Built-in buzzer available (Volume : Max 90dB at 1m)
- Revolving speed : 120-140RPM
- Materials : Lens-AS, Housing-ABS, Reflector-Heat resistant ABS
- Ambient operating temperature : -20°C to +50°C
- Protection rating : IP44
- Compliant with RoHS directive



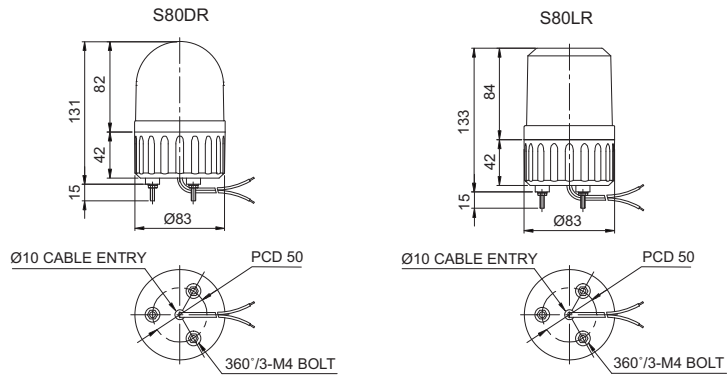
### Specifications

Model number	Voltage	Current	Certificates	Weight	Color
S80DR S80LR	DC12V	0.183A	-	0.23kg	<ul style="list-style-type: none"> <li>• R-Red</li> <li>• A-Amber</li> <li>• G-Green</li> <li>• B-Blue</li> </ul>
	DC24V	0.127A		0.23kg	
	AC110V	0.035A		0.38kg	
	AC220V	0.017A		0.38kg	



### Technical Diagram

(Units : mm)



### Wiring Instructions

- External power line standard : UL1015 AWG18(0.75sq)×2C 400mm
- DC Type : Black output line is negative(-)



### Customization

- Wall mount bracket options :  
Bracket structure allows for threading through the bracket hole or into the wall mount

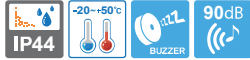


### Ordering Specification

S80DR	-	BZ	-	220	-	R
[Model number]		[Buzzer option]		[Voltage]		[Color]
<ul style="list-style-type: none"> <li>• S80DR</li> <li>• S80LR</li> </ul>		<ul style="list-style-type: none"> <li>• None</li> <li>- No buzzer</li> <li>• BZ</li> <li>- Built-in buzzer</li> </ul>		<ul style="list-style-type: none"> <li>• 12-DC12V</li> <li>• 24-DC24V</li> <li>• 110-AC110V</li> <li>• 220-AC220V</li> </ul>		<ul style="list-style-type: none"> <li>• R-Red</li> <li>• A-Amber</li> <li>• G-Green</li> <li>• B-Blue</li> </ul>

# S80 series

## Ø80mm Bulb Revolving Warning Lights



S80AR



S80AU



### S80A series enable easy wiring

S80A series enables easy wiring with its terminal block attached to the fixed base plate. With this system the contacts in the housing sends power directly to the terminal block.

### S80AR/ S80AU Bulb Revolving Warning Lights

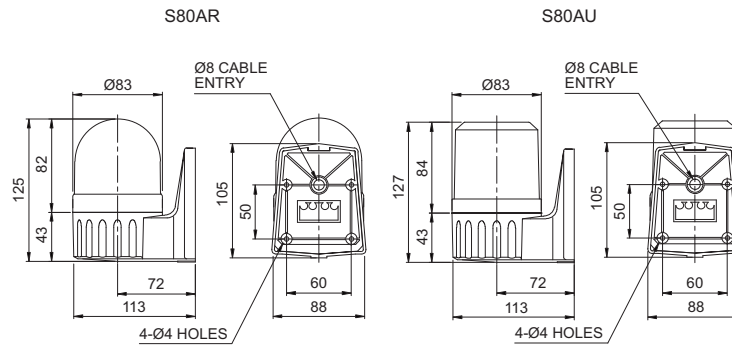
- Equipped wall mount allows for easy assembly. Additional mounting brackets not required
- Terminal block designed inside the side mount bracket enables easy wiring
- Built-in buzzer available (Volume : Max 90dB at 1m)
- Revolving speed : 120-140RPM
- Materials : Lens-AS, Housing-ABS, Reflector-Heat resistant ABS
- Ambient operating temperature : -20°C to +50°C
- Protection rating : IP44

### Specifications

Model number	Voltage	Current	Bulb			Certificates	Weight	Color
			Spec	Standard	Parts no			
S80AR	DC12V	0.484A	12V5W	T16x35 15S	5	CE DC only	0.31kg	• R-Red
S80AU	DC24V	0.310A	24V5W	T16x35 15S	6		0.31kg	• A-Amber
S80AU	AC110V	0.080A	12V5W	T16x35 15S	5		0.50kg	• G-Green
S80AU	AC220V	0.040A	12V5W	T16x35 15S	5		0.50kg	• B-Blue

### Technical Diagram

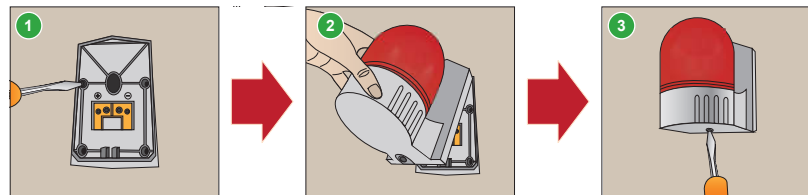
(Units : mm)



### Wiring Instructions

- Attach the power supply wire to the terminal block
- DC Type : Black output line is negative(-)

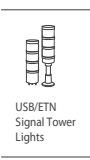
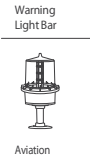
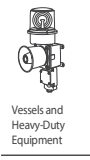
### Mounting Instructions



- 1 Secure the base plate to the mounting surface, and the power line to the terminal block
- 2 Mount the warning light by inserting the ring(hook) into the upper part of the base plate
- 3 Screw in the bolt at the base of the mounting bracket to complete assembly

### Ordering Specification

S80AR	-	BZ	-	220	-	R
[Model number]		[Buzzer option]		[Voltage]		[Color]
• S80AR • S80AU		• None • No buzzer • BZ • Built-in buzzer		• 12-DC12V • 24-DC24V • 110-AC110V • 220-AC220V		• R-Red • A-Amber • G-Green • B-Blue





# S80 series

## Ø80mm Bulb Revolving Warning Lights



**S80RK**



**S80UK**

### **S80RK/ S80UK** Bulb Revolving Warning Lights

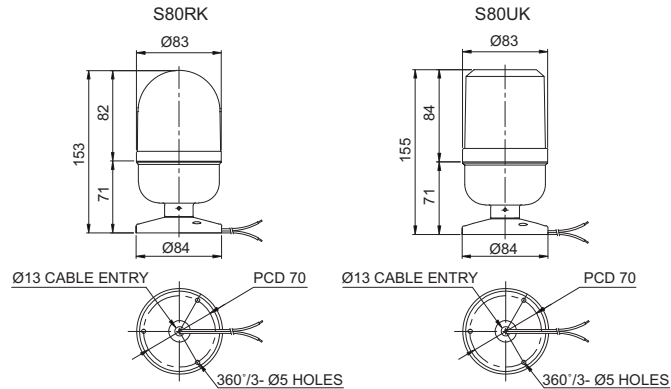
- Ø80mm bulb revolving warning lights
- Adopts a special power transmission system that reduces noise and wear
- Circular mount bracket allows convenient installation
- No buzzer options available
- Revolving speed : 120-140RPM
- Materials : Lens-AS, Housing-ABS, Reflector-Heat resistant ABS
- Ambient operating temperature : -20°C to +50°C
- Protection rating : IP44

#### Specifications

Model number	Voltage	Current	Bulb			Certificates	Weight	Color
			Spec	Standard	Parts no			
S80RK	DC12V	0.484A	12V5W	T16x35 15S	5	CE DC only	0.26kg	<ul style="list-style-type: none"> <li>• R-Red</li> <li>• A-Amber</li> <li>• G-Green</li> <li>• B-Blue</li> </ul>
	DC24V	0.310A	24V5W	T16x35 15S	6		0.26kg	
S80UK	AC110V	0.080A	12V5W	T16x35 15S	5		0.48kg	
	AC220V	0.040A	12V5W	T16x35 15S	5		0.48kg	

#### Technical Diagram

(Units : mm)



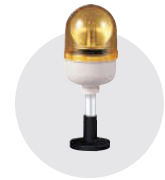
#### Wiring Instructions

- External power line standard : UL1015 AWG18(0.75sq)×2C 400mm
- DC Type : Black output line is negative(-)

#### Customization

- Pole mount type

Standard	QZ18	SZ18	SL18	QLA18
Steel	PC	Al	Al	PC



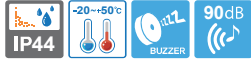
※ Please refer to page34-39 for detailed dimension of mount bracket

#### Ordering Specification

<b>S80RK</b>	-	<b>24</b>	-	<b>R</b>
[Model number]		[Voltage]		[Color]
<ul style="list-style-type: none"> <li>• S80RK</li> <li>• S80UK</li> </ul>		<ul style="list-style-type: none"> <li>• 12-DC12V</li> <li>• 24-DC24V</li> <li>• 110-AC110V</li> <li>• 220-AC220V</li> </ul>		<ul style="list-style-type: none"> <li>• R-Red</li> <li>• A-Amber</li> <li>• G-Green</li> <li>• B-Blue</li> </ul>

# S80 series

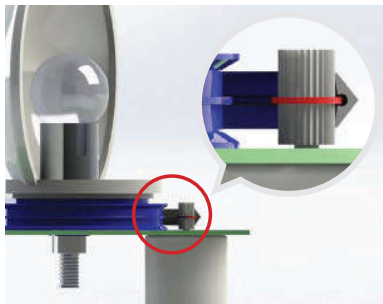
## Ø80mm Bulb Revolving Warning Lights



S80R



S80U



### V belt type power transfer system feature

Designed to minimize the abrasion of the belt, and to efficiently deliver torque from the drive shaft to the reflector.

### S80R/ S80U Bulb Revolving Warning Lights

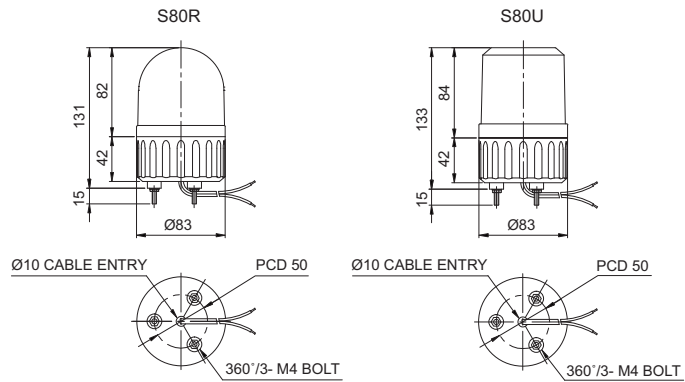
- Ø80mm bulb revolving warning lights
- Adopts a special power transmission system that reduces noise and wear
- Built-in buzzer available (Volume : Max 90dB at 1m)
- Revolving speed : 120-140RPM
- Materials : Lens-AS, Housing-ABS, Reflector-Heat resistant ABS
- Ambient operating temperature : -20°C to +50°C
- Protection rating : IP44
- Certificates : CE Compliant

### Specifications

Model number	Voltage	Current	Bulb			Certificates	Weight	Color
			Spec	Standard	Parts no			
S80R	DC12V	0.484A	12V5W	T16x35 15S	5	CE DC only	0.28kg	<ul style="list-style-type: none"> <li>• R-Red</li> <li>• A-Amber</li> <li>• G-Green</li> <li>• B-Blue</li> </ul>
	DC24V	0.310A	24V5W	T16x35 15S	6		0.28kg	
S80U	AC110V	0.080A	12V5W	T16x35 15S	5		0.48kg	
	AC220V	0.040A	12V5W	T16x35 15S	5		0.48kg	

### Technical Diagram

(Units : mm)



### Wiring Instructions

- External power line standard : UL1015 AWG18(0.75sq)×2C 400mm
- DC Type : Black output line is negative(-)

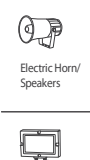
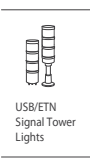
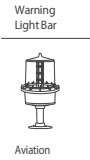
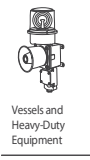
### Customization

- Wall mount bracket options :  
Bracket structure allows for threading through the bracket hole or into the wall mount



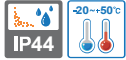
### Ordering Specification

S80U	-	BZ	-	220	-	R
[Model number]		[Buzzer option]		[Voltage]		[Color]
<ul style="list-style-type: none"> <li>• S80R</li> <li>• S80U</li> </ul>		<ul style="list-style-type: none"> <li>• None</li> <li>- No buzzer</li> <li>• BZ</li> <li>- Built-in buzzer</li> </ul>		<ul style="list-style-type: none"> <li>• 12-DC12V</li> <li>• 24-DC24V</li> <li>• 110-AC110V</li> <li>• 220-AC220V</li> </ul>		<ul style="list-style-type: none"> <li>• R-Red</li> <li>• A-Amber</li> <li>• G-Green</li> <li>• B-Blue</li> </ul>



# S60 series

## Ø60mm Warning/ Signal Lights



S60R



S60LR



S60L



### Common Specifications(S60R/ S60LR/ S60L)

- Ø60mm compact warning/ signal lights
- Materials : Lens-AS, Housing-ABS, Reflector-Heat resistant ABS
- Ambient operating temperature : -20°C to +50°C
- Protection rating : IP44



### S60R Bulb Revolving Warning Light

- Revolving speed : 120-140RPM
- Certificates : CE Compliant

Model number	Voltage	Current	Bulb			Certificates	Weight	Color
			Spec	Standard	Parts no			
S60R	DC12V	0.484A	12V5W	T16x35 15S	5	CE DC only	0.18kg	• R-Red
	DC24V	0.310A	24V5W	T16x35 15S	6		0.18kg	• A-Amber
	AC110V	0.072A	110V5W	T16x35 15D	7		0.27kg	• G-Green
	AC220V	0.036A	220V5W	T16x35 15D	8		0.27kg	• B-Blue



### S60LR LED Revolving Warning Light

- Revolving speed : 120-140RPM

Model number	Voltage	Current	Certificates	Weight	Color
S60LR	DC12V	0.183A	-	0.21kg	• R-Red
	DC24V	0.127A		0.21kg	• A-Amber
	AC110V	0.040A		0.28kg	• G-Green
	AC220V	0.020A		0.28kg	• B-Blue



### S60L LED Steady/ Flashing Signal Light

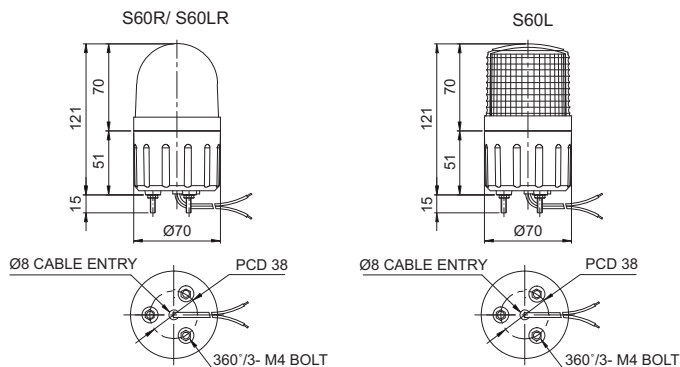
- Flashing rate : 60-80 flashes/min

Model number	Voltage	Current	Certificates	Weight	Color
S60L	DC12V-24V	Max.0.120A	-	0.15kg	• R-Red
	AC110V	0.025A		0.20kg	• A-Amber
	AC220V	0.015A		0.20kg	• G-Green



### Technical Diagram

(Units : mm)



### Wiring Instructions

- External power line standard : UL1015 AWG18(0.75sq)×2C 400mm
- DC type for S60R/S60LR : Black output line is negative(-)
- S60L can be wired regardless of polarity



### Ordering Specification

S60R	-	24	-	R
[Model number]		[Voltage]		[Color]
<ul style="list-style-type: none"> <li>• S60R</li> <li>• S60LR</li> <li>• S60L</li> </ul>		<ul style="list-style-type: none"> <li>• 12-DC12V</li> <li>• 24-DC24V</li> <li>• 12/24-DC12V-24V(S60L only)</li> <li>• 110-AC110V</li> <li>• 220-AC220V</li> </ul>		<ul style="list-style-type: none"> <li>• R-Red</li> <li>• A-Amber</li> <li>• G-Green</li> <li>• B-Blue</li> </ul>



### Customization

- Wall mount bracket options:  
Bracket structure allows for threading through the bracket hole or into the wall mount



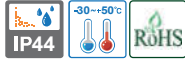
Wall Mount Bracket  
TWS45



Wall Mount Bracket  
TWA45

# S50 series

## Ø50mm Signal Lights



S50B



S50L



### Common Specifications(S50B/ S50L)

- Ø50mm compact signal lights
- Enhanced visibility that employs a special scattering lens
- Suitable for office-automation applications, small machines, and portable automation equipment with confined space environments
- Powerful omni-directional light source that enables high visibility
- Materials : Lens-AS, Housing-ABS, Reflector-Heat resistant ABS(for S50L Model)
- Ambient operating temperature : -30°C to +50°C
- Protection rating : IP44

### S50B Bulb Steady Signal Light

- Standard condition operates with steady light function but the flashing light condition can be enabled with external contacts
- Employs a special filament to prevent damage caused by possible voltage variations

Model number	Voltage	Current	Bulb			Certificates	Weight	Color
			Spec	Standard	Parts no			
S50B	DC12V	0.437A	12V5W	G14 9S	1	-	0.05kg	<ul style="list-style-type: none"> <li>• R-Red</li> <li>• A-Amber</li> <li>• G-Green</li> <li>• B-Blue</li> </ul>
	DC24V	0.290A	24V5W	G14 9S	2			
	AC110V	0.051A	110V5W	T16x28 9S	3			
	AC220V	0.025A	220V5W	T16x28 9S	4			

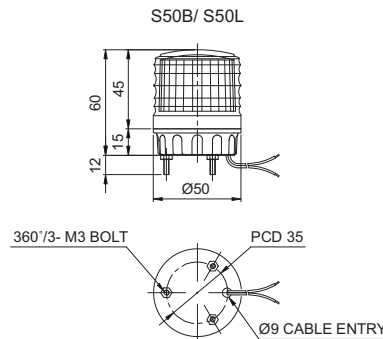
### S50L LED Steady/Flashing Signal Light

- Built-in switch for selection between steady and flashing mode
- Flashing rate : 60-80 flashes/min
- Compliant with RoHS directive

Model number	Voltage	Current	Certificates	Weight	Color
S50L	DC12V-24V	Max.0.050A	-	0.08kg	<ul style="list-style-type: none"> <li>• R-Red</li> <li>• A-Amber</li> <li>• G-Green</li> <li>• B-Blue</li> </ul>
	AC110V	0.045A		0.08kg	
	AC220V	0.045A		0.08kg	

### Technical Diagram

(Units : mm)



### Customization

- Wall mount bracket options: Bracket structure allows for threading through the bracket hole or into the wall mount



Wall Mount Bracket TWS45



Wall Mount Bracket TWA45

### Wiring Instructions

- S50B Model : External power line standard UL1007 AWG22(0.3sq) 400mm
- S50L Model : External power line standard UL1015 AWG18(0.75sq)×2C 400mm
- Product can be wired regardless of polarity

### Ordering Specification

S50B	-	220	-	R
[Model number]		[Voltage]		[Color]
<ul style="list-style-type: none"> <li>• S50B</li> <li>• S50L</li> </ul>		<ul style="list-style-type: none"> <li>• 12-DC12V</li> <li>• 24-DC24V</li> <li>• 12/24-DC12V-24V(S50L only)</li> <li>• 110-AC110V</li> <li>• 220-AC220V</li> </ul>		<ul style="list-style-type: none"> <li>• R-Red</li> <li>• A-Amber</li> <li>• G-Green</li> <li>• B-Blue</li> </ul>



Signal & Electric Horn/ Speakers



Vessels and Heavy-Duty Equipment



Explosion Proof



Warning Light Bar



Aviation Obstruction Lights



Signal Tower Lights



USB/ETN Signal Tower Lights



Wireless Network System



Electric Horn/ Speakers



Industrial LED Lights

# Specification List for Revolving Warning/ Signal Lights



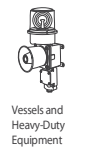
Model number	<b>S125S</b>	<b>S125SM</b>	<b>S150US</b>	<b>S150US-FT</b>	<b>S150RS</b>	<b>S150RS-FT</b>	<b>S180US/ S180UHS</b>
Voltage	DC12V-24V AC110V, AC220V	DC12V-24V	DC12V-24V AC110V, AC220V	DC12V-24V AC110V, AC220V	DC12V-24V AC110V, AC220V	DC12V-24V AC110V, AC220V	DC12V-24V AC110V, AC220V
Dimension (mm)	Diameter	Ø123	Ø138	Ø138	Ø140	Ø140	Ø186
	Height	125	193	196	189	194	216
	Depth						
Volume	-	-	Max 90dB at 1m	Max 90dB at 1m	-	-	Max 90dB at 1m
Material	Lens-AS Housing-ABS	Lens-AS Housing-ABS	Lens-PC Housing-ABS	Lens-PC Housing-ABS	Lens-PC Housing-STS	Lens-PC Housing-STS	Lens-ABS Housing-ABS
Mount bracket	Self stand	Detachable magnet	Self stand	Mount bracket	Self stand	Mount bracket	Self stand
Protection rating	IP54	IP54	IP44	IP44	IP44	IP44	IP44
Certificates	CE	CE	-	-	-	-	-
Customization	Wall mount	AC type	2 tones buzzer, High brightness (S150UHS)	2 tones buzzer, High brightness (S150UHS-FT)	High brightness (S150RHS)	High brightness (S150RHS-FT)	2 tones buzzer, Mount hole PCD 120mm
Page	P82	P82	P98	P98	P99	P99	P102

# Specification List for Revolving Warning/ Signal Lights

## Multiple Color LED Signal Lights



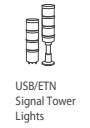
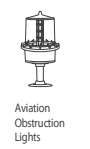
Model number	SMCL80	SMCL100	SMCL125	QMCL60	QMCL80	QMCL100	QMCL125
Voltage	DC12V-24V AC110V, AC220V	DC12V-24V AC110V, AC220V	DC12V-24V AC110V, AC220V	DC12V, DC24V	DC12V, DC24V	DC12V, DC24V	DC12V, DC24V
Dimension (mm)	Diameter	Ø83	Ø101	Ø119	Ø69	Ø83	Ø116
	Height	132	152	158	80	85	95
	Depth						
Volume	Max 90dB at 1m	Max 90dB at 1m	Max 90dB at 1m	Max 80dB at 1m	Max 80dB at 1m	Max 80dB at 1m	Max 80dB at 1m
Material	Lens-AS Housing-ABS	Lens-AS Housing-ABS	Lens-AS Housing-ABS	Lens-AS Housing-ABS	Lens-AS Housing-ABS	Lens-AS Housing-ABS	Lens-AS Housing-ABS
Mount bracket	Self stand	Self stand	Self stand	Self stand	Self stand	Self stand	Self stand
Protection rating	IP44	IP44	IP44	IP65	IP65	IP65	IP65
Certificates	CE	CE	CE	CE, UL	CE, UL	CE, UL	CE, UL
Customization	Wall mount Color combination except for standard	Wall mount Color combination except for standard	Wall mount Color combination except for standard	Wall mount	Wall mount	Wall mount	Wall mount
Transistor	NPN type	NPN type	NPN type	NPN/ PNP type	NPN/ PNP type	NPN/ PNP type	NPN/ PNP type
Page	P107	P107	P108	P109	P109	P110	P110



## LED Strobe Signal Lights



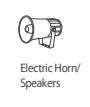
Model number	S80NS	S80LS	S125LSE
Voltage	DC12V-24V	DC12V-24V	DC12V-24V
Dimension (mm)	Diameter	Ø83	Ø123
	Height	111	106
	Depth	-	-
Volume	-	-	-
Material	Lens-PC Housing-ABS+GF	Lens-PC Housing-ABS	Lens-PC Housing-ABS
Mount bracket	Self stand	Self stand	Self stand
Protection rating	IP66	IP65	IP54
Certificates	CE, UL	CE, UL	-
Customization	-	-	Wall mount
Page	P66	P68	P68



## Xenon Lamp Strobe Signal Lights



형번	Q70NSC	Q70NSN	S80S	S80SM	S80AS	S100S	S100SM
사용전압	AC110V	DC12V-80V AC110V	DC12V-24V AC110V, AC220V	DC12V-24V	DC12V-24V AC110V, AC220V	DC12V-24V AC110V, AC220V	DC12V-24V
외형 치수 (mm)	Outdia	Ø72	Ø83	Ø83	Ø83	Ø101	Ø101
	Height	128	128	106	106	127	113
	Depth	-	-	-	-	113	-
부저음량	-	-	-	-	Max. 90dB at 1m	-	-
재질	Lens-AS Housing-ABS	Lens-AS Housing-ABS	Lens-AS Housing-ABS	Lens-AS Housing-ABS	Lens-AS Housing-ABS	Lens-AS Housing-ABS	Lens-AS Housing-ABS
취부 방법	Convenient wiring	Self stand	Self stand	Detachable magnet	Wall mount	Self stand	Detachable magnet
보호 등급	IP66	IP66	IP54	IP54	IP44	IP54	IP54
인증	-	-	CE	CE	CE	CE	CE
주문 사양	-	-	Wall mount	AC type	Dome type lens	Wall mount	AC type
Page	P62	P63	P64	P64	P65	P75	P75



# Specification List for Revolving Warning/ Signal Lights

## LED Steady/ Flashing Signal Lights



Model number	Q60L	Q60LW	Q60LP	Q80L	Q80LW	Q80LP
Voltage	DC12V-24V AC110V-220V	DC12V-24V AC110V-220V	DC12V-24V AC110V-220V	DC12V-24V AC110V-220V	DC12V-24V AC110V-220V	DC12V-24V AC110V-220V
Dimension (mm)	Diameter	Ø69	Ø69	Ø69	Ø83	Ø83
	Height	100	129	334	120	157
	Depth	-	107	-	-	114
Volume	Max 80dB at 1m	Max 80dB at 1m	Max 80dB at 1m	Max 80dB at 1m	Max 80dB at 1m	Max 80dB at 1m
Material	Lens-PC Housing-ABS	Lens-PC Housing-ABS Mount-PC	Lens-PC Housing-ABS Pole-Al	Lens-PC Housing-ABS	Lens-PC Housing-ABS Mount-PC	Lens-PC Housing-ABS Pole-Al
Mount bracket	Self stand	Wall mount	Pole mount	Self stand	Wall mount	Pole mount
Protection rating	IP65	IP65	IP65	IP65	IP65	IP65
Certificates	CE, UL	CE, UL	CE, UL	CE, UL	CE, UL	CE, UL
Customization	-	-	Customized pole length available	-	-	Customized pole length available
Page	P88	P88	P89	P90	P90	P91



Model number	Q100L	Q100LW	Q100LP	Q125L	Q125LW	Q125LP
Voltage	DC12V-24V AC110V-220V	DC12V-24V AC110V-220V	DC12V-24V AC110V-220V	DC12V-24V AC110V-220V	DC12V-24V AC110V-220V	DC12V-24V AC110V-220V
Dimension (mm)	Diameter	Ø97	Ø97	Ø116	Ø116	Ø116
	Height	136	173	294	155	313
	Depth	-	121	-	-	130
Volume	Max 80dB at 1m	Max 80dB at 1m	Max 80dB at 1m	Max 80dB at 1m	Max 80dB at 1m	Max 80dB at 1m
Material	Lens-PC Housing-ABS	Lens-PC Housing-ABS Mount-PC	Lens-PC Housing-ABS Pole-Al	Lens-PC Housing-ABS	Lens-PC Housing-ABS Mount-PC	Lens-PC Housing-ABS Pole-Al
Mount bracket	Self stand	Wall mount	Pole mount	Self stand	Wall mount	Pole mount
Protection rating	IP65	IP65	IP65	IP65	IP65	IP65
Certificates	CE, UL	CE, UL	CE, UL	CE, UL	CE, UL	CE, UL
Customization	-	-	Customized pole length available	-	-	Customized pole length available
Page	P92	P92	P93	P94	P94	P95

## Multiple Function LED Signal Lights



Model number	MFL60	MFL80	MFL100	MFL125
Voltage	DC12V-24V AC110V-220V	DC12V-24V AC110V-220V	DC12V-24V AC110V-220V	DC12V-24V AC110V-220V
Dimension (mm)	Diameter	Ø69	Ø83	Ø97
	Height	100	120	136
	Depth	-	-	-
Volume	Max 80dB at 1m	Max 80dB at 1m	Max 80dB at 1m	Max 80dB at 1m
Material	Lens-PC Housing-ABS	Lens-PC Housing-ABS	Lens-PC Housing-ABS	Lens-PC Housing-ABS
Mount bracket	Self stand	Self stand	Self stand	Self stand
Protection rating	IP65	IP65	IP65	IP65
Certificates	CE, UL	CE, UL	CE, UL	CE, UL
Customization	Wall mount	Wall mount	Wall mount	Wall mount
Page	P103	P103	P104	P104

## Multiple Color LED Signal Lights



Model number	SWTC	SWTCE
Voltage	DC12V-24V AC110V, AC220V	DC12V-24V AC110V, AC220V
Dimension (mm)	Diameter	Ø90(Half)
	Height	216
	Depth	46
Volume	Max 90dB at 1m	Max 90dB at 1m
Material	Lens-PC Housing-ABS	Lens-PC Housing-ABS
Mount bracket	Wall mount	Wall mount
Protection rating	IP55	IP55
Certificates	CE	CE
Customization	Color combination except for standard, 2 tones buzzer	Color combination except for standard, 2 tones buzzer
Transistor	NPN type	NPN type
Page	P111	P111

# Specification List for Revolving Warning/ Signal Lights

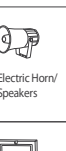
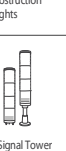
## LED Steady/ Flashing Signal Lights/ Stackable Lights



Model number	SKTL	SKTLB	SKTLM	SKTLBM	S150UL	S150UL-FT	S150RL	S150RL-FT
Voltage	DC12V, DC24V	DC12V, DC24V	DC12V, DC24V	DC12V, DC24V	DC12V-24V AC110V, AC220V	DC12V-24V AC110V, AC220V	DC12V-24V AC110V, AC220V	DC12V-24V AC110V, AC220V
Dimension (mm)	Diameter	□105×105	□105×105	□105×105	□105×105	Ø138	Ø138	Ø140
	Height	98	98	90	90	193	196	189
	Depth							
Volume	-	Max 105dB at 1m	-	Max 105dB at 1m	Max 90dB at 1m	Max 90dB at 1m	-	-
Material	Lens-PC Housing-PC	Lens-PC Housing-PC	Lens-PC Housing-PC	Lens-PC Housing-PC	Lens-PC Housing-ABS	Lens-PC Housing-ABS	Lens-PC Housing-ST5	Lens-PC Housing-ST5
Mount bracket	Self stand	Self stand	Detachable magnet	Detachable magnet	Self stand	Mount bracket	Self stand	Mount bracket
Protection rating	IP66	IP66	IP66	IP66	IP44	IP44	IP44	IP44
Certificates	CE	CE	CE	CE	-	-	-	-
Customization	-	-	Color combination except for standard	Color combination except for standard	2 tones buzzer	2 tones buzzer	-	-
Page	P86	P86	P87	P87	P98	P98	P99	P99



Model number	S80SOL	S100SOL	S125SOL	SRL	SRLP	SJL	SJLP	S125TL
Voltage	2.4V (Battery Voltage)	2.4V (Battery Voltage)	2.4V (Battery Voltage)	DC12V-24V AC110V, AC220V	DC12V-24V AC110V, AC220V	DC12V-24V AC110V, AC220V	DC12V-24V AC110V, AC220V	DC12V-24V AC110V, AC220V
Dimension (mm)	Diameter	Ø83	Ø101	Ø83	Ø83	□95×95	□95×95	Ø125
	Height	143	158	175	162-350	363-551	183-375	387-579
	Depth							
Volume	-	-	-	-	-	Max 90dB at 1m	Max 90dB at 1m	-
Material	Lens-AS Housing-ABS	Lens-AS Housing-ABS	Lens-AS Housing-ABS	Lens-AS Housing-ABS	Lens-AS Housing-ABS	Lens-AS Housing-ABS	Lens-AS Housing-ABS	Lens-AS Housing-ABS
Mount bracket	Self stand	Self stand	Self stand	Self stand	Pole mount	Self stand	Pole mount	Self stand
Protection rating	IP54	IP54	IP54	IP44	IP44	IP44	IP44	IP44
Certificates	CE	CE	CE	-	-	-	-	-
Customization	Wall mount Magnet mount	Wall mount Magnet mount	Wall mount Magnet mount	-	-	2 tones buzzer	2 tones buzzer	Color combination except for standard, Strobe type(S125TS)
Transistor	-	-	-	NPN/ PNP type	NPN/ PNP type	NPN/ PNP type	NPN/ PNP type	NPN/ PNP type
Page	P105	P106	P106	P114	P114	P116	P116	P117





# Specification List for Revolving Warning/ Signal Lights

## Bulb Revolving Warning Lights



Model number	S180R	S180R-FT	S180U	SR	SRP	SJ	SJP
Voltage	DC12V, DC24V AC110V, AC220V	DC12V, DC24V AC110V, AC220V	DC12V, DC24V AC110V, AC220V	DC12V, DC24V AC110V, AC220V	DC12V, DC24V AC110V, AC220V	DC12V, DC24V AC110V, AC220V	DC12V, DC24V AC110V, AC220V
Dimension (mm)	Diameter	Ø176	Ø176	Ø186	Ø83	Ø83	Ø95×95
	Height	206	210	216	162-350	363-551	183-375
	Depth						
Volume	-	-	Max 90dB at 1m	-	-	Max 90dB at 1m	Max 90dB at 1m
Material	Lens-AS Housing-ST5	Lens-AS Housing-ST5	Lens-AS Housing-ABS	Lens-AS Housing-ABS	Lens-AS Housing-ABS	Lens-AS Housing-ABS	Lens-AS Housing-ABS
Mount bracket	Self stand	Mount bracket	Self stand	Self stand	Pole mount	Self stand	Pole mount
Protection rating	IP44	IP44	IP44	IP44	IP44	IP44	IP44
Certificates	-	-	-	-	-	CE	CE
Customization	-	-	2 tones buzzer Mount hole PCD 120mm	4 layers, Color combination except for standard	4 layers, Color combination except for standard	2 tones buzzer 4 layers, Color combination except for standard	2 tones buzzer 4 layers, Color combination except for standard
Page	P100	P100	P101	P113	P113	P115	P115

## LED Steady/ Flashing Signal Lights



Model number	S50L	S60L	S80L	S80LK	S80AL	S100L	S125L
Voltage	DC12V-24V AC110V, AC220V	DC12V-24V AC110V, AC220V	DC12V-24V AC110V, AC220V	DC12V-24V AC110V, AC220V	DC12V-24V AC110V, AC220V	DC12V-24V AC110V, AC220V	DC12V-24V AC110V, AC220V
Dimension (mm)	Diameter	Ø50	Ø70	Ø83	Ø84	Ø83	Ø101
	Height	60	121	133	155	127	152
	Depth	-	-	-	-	113	-
Volume	-	-	Max 90dB at 1m	-	Max 90dB at 1m	Max 90dB at 1m	Max 90dB at 1m
Material	Lens-AS Housing-ABS	Lens-AS Housing-ABS	Lens-AS Housing-ABS	Lens-AS Housing-ABS	Lens-AS Housing-ABS	Lens-AS Housing-ABS	Lens-AS Housing-ABS
Mount bracket	Self stand	Self stand	Self stand	Mount bracket	Wall mount	Self stand	Self stand
Protection rating	IP44	IP44	IP44	IP44	IP44	IP44	IP44
Certificates	-	-	CE	CE	CE	CE	CE
Customization	Wall mount	Wall mount	Wall mount	Pole mount	-	Wall mount 2 tones buzzer	Wall mount 2 tones buzzer
Transistor							
Page	P51	P52	P59	P60	P61	P74	P81

# Specification List for Revolving Warning/ Signal Lights

## Bulb Revolving Warning Lights



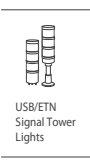
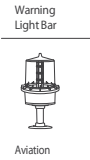
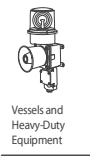
Model number	S60R	S80R	S80U	S80RK	S80UK	S80AR	S80AU
Voltage	DC12V, DC24V AC110V, AC220V	DC12V, DC24V AC110V, AC220V	DC12V, DC24V AC110V, AC220V	DC12V, DC24V AC110V, AC220V	DC12V, DC24V AC110V, AC220V	DC12V, DC24V AC110V, AC220V	DC12V, DC24V AC110V, AC220V
Dimension (mm)	Diameter	Ø70	Ø83	Ø83	Ø84	Ø84	Ø83
	Height	121	131	133	153	155	125
	Depth	-	-	-	-	-	113
Volume	-	Max 90dB at 1m	Max 90dB at 1m	-	-	Max 90dB at 1m	Max 90dB at 1m
Material	Lens-AS Housing-ABS	Lens-AS Housing-ABS	Lens-AS Housing-ABS	Lens-AS Housing-ABS	Lens-AS Housing-ABS	Lens-AS Housing-ABS	Lens-AS Housing-ABS
Mount bracket	Self stand	Self stand	Self stand	Mount bracket	Mount bracket	Wall mount	Wall mount
Protection rating	IP44	IP44	IP44	IP44	IP44	IP44	IP44
Certificates	CE	CE	CE	CE	CE	CE	CE
Customization	Wall mount	Wall mount	Wall mount	Pole mount	Pole mount	-	-
Page	P52	P53	P53	P54	P54	P55	P55



Model number	S100R	S100U	S100UA	S100M	S125R	S125U	S125M
Voltage	DC12V, DC24V AC110V, AC220V	DC12V, DC24V AC110V, AC220V	DC12V, DC24V AC110V, AC220V	DC12V, DC24V	DC12V, DC24V AC110V, AC220V	DC12V, DC24V AC110V, AC220V	DC12V, DC24V
Dimension (mm)	Diameter	Ø101	Ø101	Ø101	Ø101	Ø119	Ø119
	Height	149	152	155	149	161	158
	Depth	-	-	-	-	-	-
Volume	Max 90dB at 1m	Max 90dB at 1m	Max 90dB at 1m	Max 90dB at 1m	Max 90dB at 1m	Max 90dB at 1m	Max 90dB at 1m
Material	Lens-AS Housing-ABS	Lens-AS Housing-ABS	Lens-AS Housing-ABS	Lens-AS Housing-ABS	Lens-AS Housing-ABS	Lens-AS Housing-ABS	Lens-AS Housing-ABS
Mount bracket	Self stand	Self stand	Self stand	Detachable magnet	Self stand	Self stand	Detachable magnet
Protection rating	IP44	IP44	IP44	IP54	IP44	IP44	IP54
Certificates	CE	CE	CE	CE	CE	CE	CE
Customization	Wall mount Efficient product (S100E), FT Bracket equipped	Wall mount 2 tones buzzer Dome type lens (S100UR)	Wall mount 2 tones buzzer	AC type	Wall mount Efficient product (S125E), FT Bracket equipped	Wall mount 2 tones buzzer	AC type
Page	P69	P70	P70	P71	P76	P77	P78



Model number	SK/ SKH	SKM/ SKMH	SKMP/SKMPH	S150U	S150U-FT	S150R	S150R-FT
Voltage	DC12V, DC24V	DC12V, DC24V	DC12V, DC24V	DC12V, DC24V AC110V, AC220V	DC12V, DC24V AC110V, AC220V	DC12V, DC24V AC110V, AC220V	DC12V, DC24V AC110V, AC220V
Dimension (mm)	Diameter	-	-	Ø138	Ø138	Ø140	Ø140
	Height	135	138	142	193	196	189
	Depth	183(Length)	183(Length)	185(Length)	-	-	-
Volume	-	-	-	Max 90dB at 1m	Max 90dB at 1m	-	-
Material	Lens-PC Housing-PC	Lens-PC Housing-PC	Lens-PC Housing-PC	Lens-PC Housing-ABS	Lens-PC Housing-ABS	Lens-PC Housing-STS	Lens-PC Housing-STS
Mount bracket	Self stand	Detachable magnet	Detachable magnet	Self stand	Mount bracket	Self stand	Mount bracket
Protection rating	IP54	IP54	IP54	IP44	IP44	IP44	IP44
Certificates	-	-	-	CE	CE	CE	CE
Customization	-	-	Oval-shaped rubber magnet	2 tones buzzer	2 tones buzzer	-	-
Page	P83	P83	P84	P96	P96	P97	P97



# Specification List for Revolving Warning/ Signal Lights

## LED Revolving Warning Lights



Model number	S60LR	S80DR	S80LR	S80DRK	S80LRK	S80ADR	S80ALR
Voltage	DC12V, DC24V AC110V, AC220V	DC12V, DC24V AC110V, AC220V	DC12V, DC24V AC110V, AC220V	DC12V, DC24V AC110V, AC220V	DC12V, DC24V AC110V, AC220V	DC12V, DC24V AC110V, AC220V	DC12V, DC24V AC110V, AC220V
Dimension (mm)	Diameter	Ø70	Ø83	Ø83	Ø84	Ø84	Ø83
	Height	121	131	133	153	155	125
	Depth	-	-	-	-	-	113
Volume	-	Max 90dB at 1m	Max 90dB at 1m	-	-	Max 90dB at 1m	Max 90dB at 1m
Material	Lens-AS Housing-ABS	Lens-AS Housing-ABS	Lens-AS Housing-ABS	Lens-AS Housing-ABS	Lens-AS Housing-ABS	Lens-AS Housing-ABS	Lens-AS Housing-ABS
Mount bracket	Self stand	Self stand	Self stand	Mount bracket	Mount bracket	Wall mount	Wall mount
Protection rating	IP44	IP44	IP44	IP44	IP44	IP44	IP44
Certificates							
Customization	Wall mount	Wall mount	Wall mount	Pole mount	Pole mount	-	-
Page	P52	P56	P56	P57	P57	P58	P58



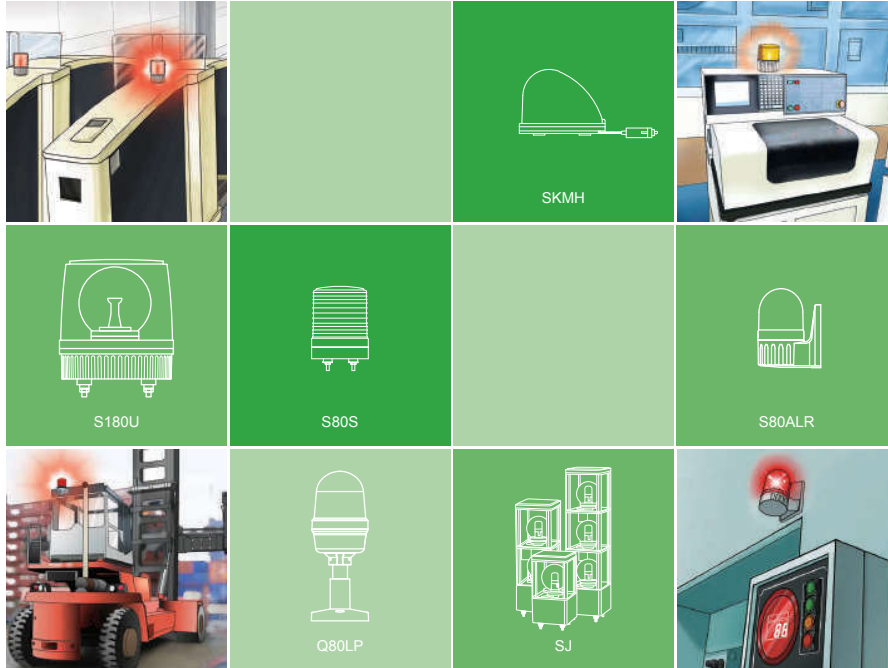
Model number	S100LR	S100MLR	S125LR	S125MLR	SKMPLR	SKLR	SKMLR
Voltage	DC12V, DC24V AC110V, AC220V	DC12V, DC24V	DC12V, DC24V AC110V, AC220V	DC12V, DC24V	DC12V, DC24V	DC12V, DC24V	DC12V, DC24V
Dimension (mm)	Diameter	Ø101	Ø101	Ø119	Ø119	-	-
	Height	152	149	158	161	142	135
	Depth	-	-	-	-	185(Length)	183(Length)
Volume	Max 90dB at 1m	Max 90dB at 1m	Max 90dB at 1m	Max 90dB at 1m	-	-	-
Material	Lens-AS Housing-ABS	Lens-AS Housing-ABS	Lens-AS Housing-ABS	Lens-AS Housing-ABS	Lens-PC Housing-PC	Lens-PC Housing-PC	Lens-PC Housing-PC
Mount bracket	Self stand	Detachable magnet	Self stand	Detachable magnet	Detachable magnet	Self stand	Detachable magnet
Protection rating	IP44	IP54	IP44	IP54	IP54	IP54	IP54
Certificates							
Customization	Wall mount 2 tones buzzer S100DR, S100RLR	AC type	Wall mount 2 tones buzzer S125RLR	AC type	Oval-shaped Rubber Magnet	-	-
Page	P72	P73	P79	P80	P84	P85	P85



Model number	S150ULR	S150ULR-FT	S150RLR	S150RLR-FT
Voltage	DC12V, DC24V AC110V, AC220V	DC12V, DC24V AC110V, AC220V	DC12V, DC24V AC110V, AC220V	DC12V, DC24V AC110V, AC220V
Dimension (mm)	Diameter	Ø138	Ø138	Ø140
	Height	193	196	189
	Depth			194
Volume	Max 90dB at 1m	Max 90dB at 1m	-	-
Material	Lens-PC Housing-ABS	Lens-PC Housing-ABS	Lens-PC Housing-STS	Lens-PC Housing-STS
Mount bracket	Self stand	Mount bracket	Self stand	Mount bracket
Protection rating	IP44	IP44	IP44	IP44
Certificates				
Customization	2 tones buzzer	2 tones buzzer	-	-
Page	P96	P96	P97	P97

# Warning/ Signal/ Stackable Lights

INNOVATION IN ALARM & SIGNAL



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# Icon Description

This catalogue helps users quickly identify the product's specifications and features by using several types of icons. If you understand the concept for each icon, you will find it easy to understand the catalogue information.

## Light Source and Operating Mode Icons

Icon	Operating Mode	Icon	Operating Mode
	Bulb steady type		Bulb steady/flashing type
	Bulb revolving type		LED revolving type
	LED steady type		LED steady/ flashing type
	LED simulated revolving type		LED strobe type
	Xenon lamp strobe type		

## Acoustic Signal Icons

Icon	Operating Mode	Icon	Operating Mode
	Buzzer		Speaker
	Horn		Bell
	Motor siren		MP3
	Decibel		

## Specifications Icons


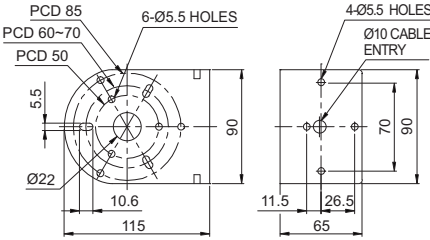

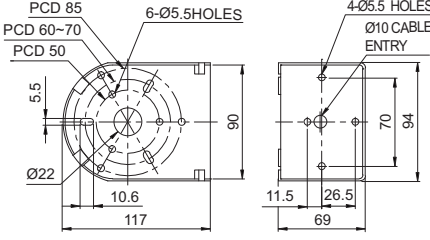
Icon	Operating Mode	Icon	Operating Mode
	Magnet type		Ambient operating temperature
	NPN type transistor		PNP type transistor
	IP rating		Wireless Network

## Detail Icons

Icon	Operating Mode	Icon	Operating Mode
	Common specification		External view drawing
	Wiring		Mounting
	User specifications		Model selection

# Warning/ Signal Light Mounting Brackets

(Units : mm)



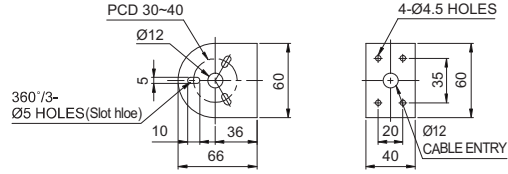

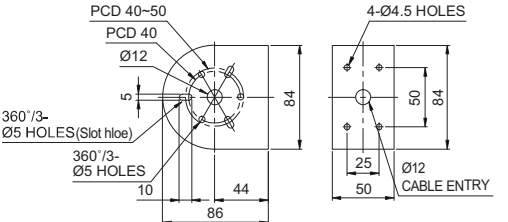

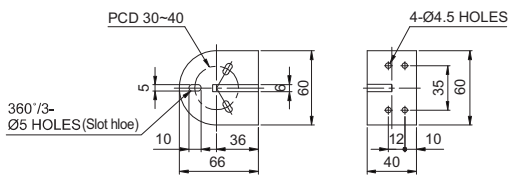


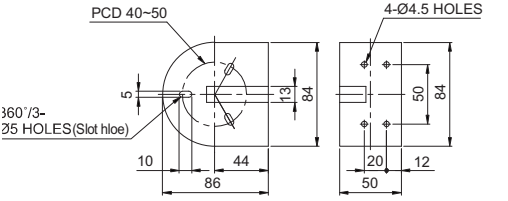
Features	Product Image	Technical Diagram for Applicable Models
<p>Bracket options for direct mount warning/ signal light installation.</p> <p>Material : Steel Color : Ivory</p>	 <p style="text-align: center;">SWP125</p>	 <p>S100R, S100E, S100RLR, S100UR, S100URLR, S100U, S100UA, S100LR, S100L, S100S, S125R, S125E, S125RL, S100D, S125D, STDL, STNDL, STND100, STND125</p>
<p>Bracket options for direct mount warning/ signal light installation</p> <p>Bracket structure allows for contained and tidy wiring with no exposed wires.</p> <p>Material : PC Color : Ivory</p>	 <p style="text-align: center;">SWM125</p>	 <p>S100R, S100E, S100RLR, S100UR, S100URLR, S100U, S100UA, S100LR, S100L, S100S, S125R, S125E, S125RL, S100D, S125D, STDL, STNDL, STND100, STND125</p>

# Warning/ Signal Light Mounting Brackets

## Bracket instructions for warning/ signal lights



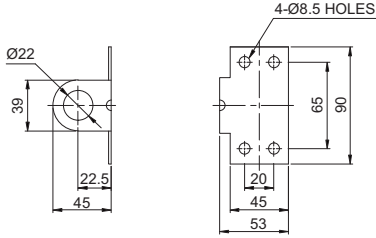

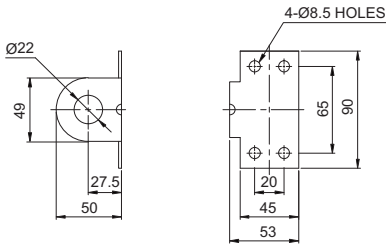
User can select from a variety of bracket options depending on their application conditions.

(Units : mm)

Features	Product Image	Technical Diagram for Applicable Models
<p>Bracket options for direct mount warning/ signal light installation.</p> <p>Material : Steel</p> 	 <p>TWS45</p>	 <p>PCD 30-40  <math>\text{\O}12</math>            360°/3-<math>\text{\O}5</math> HOLES(Slot hloe)            5            10            36            66            60            4-<math>\text{\O}4.5</math> HOLES            3.5            60            20            40  <math>\text{\O}12</math> CABLE ENTRY</p> <p>S50B, S50L, S60R, S60LR, S60L, MFL60</p>
	 <p>TWS80</p>	 <p>PCD 40-50            PCD 40  <math>\text{\O}12</math>            360°/3-<math>\text{\O}5</math> HOLES(Slot hloe)            5            10            44            86            84            4-<math>\text{\O}4.5</math> HOLES            50            84            25            50  <math>\text{\O}12</math> CABLE ENTRY</p> <p>S80R, S80RLR, S80U, S80LR, S80L, S80S, S80SOL, MFL80, SMCL80, QMCL80</p>
<p>Bracket options for direct mount warning/ signal light installation.</p> <p>Bracket structure allows for contained and tidy wiring with no exposed wires.</p>	 <p>TWA45</p>	 <p>PCD 30-40  <math>\text{\O}12</math>            360°/3-<math>\text{\O}5</math> HOLES(Slot hloe)            5            10            36            66            60            4-<math>\text{\O}4.5</math> HOLES            3.5            60            12            10            40</p> <p>S50B, S50L, S60R, S60LR, S60L, MFL60</p>
	 <p>TWA80</p>	 <p>PCD 40-50  <math>\text{\O}12</math>            360°/3-<math>\text{\O}5</math> HOLES(Slot hloe)            5            10            44            86            84            4-<math>\text{\O}4.5</math> HOLES            50            84            20            12            50</p> <p>S80R, S80RLR, S80U, S80LR, S80L, S80S, S80SOL, MFL80, SMCL80, QMCL80</p>

# Tower Light Mounting Brackets



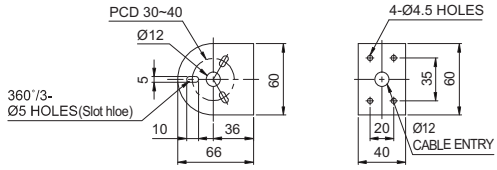


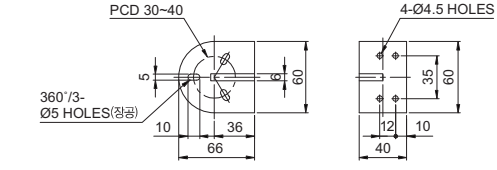

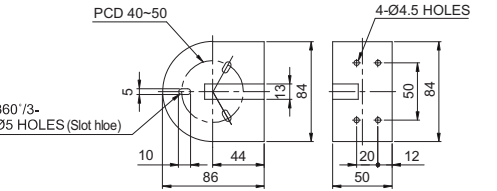
(Units : mm)

Features	Product Image	Technical Diagram for Applicable Models
<p>Bracket options for installation of the direct mount slim tower light to the side of equipment.</p> <p>Material : Steel Color : Silver, Ivory</p> 	 <p style="text-align: center;">STAWB25</p>	 <p style="text-align: center;">STA25SLM, STA35SL, STA35SLM</p>
	 <p style="text-align: center;">STAWB45</p>	 <p style="text-align: center;">STA45SLM</p>



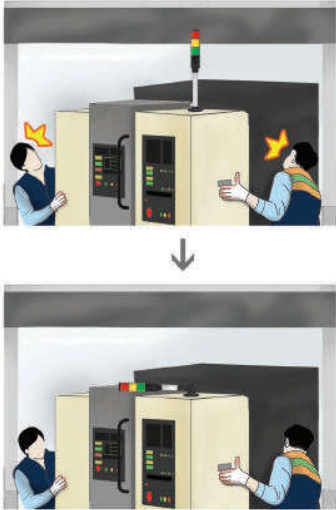

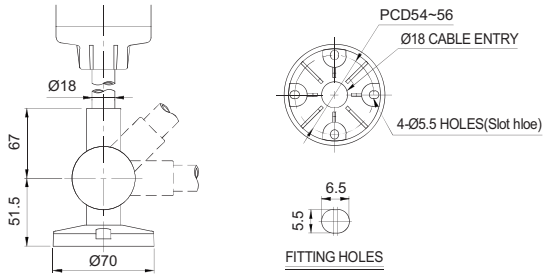


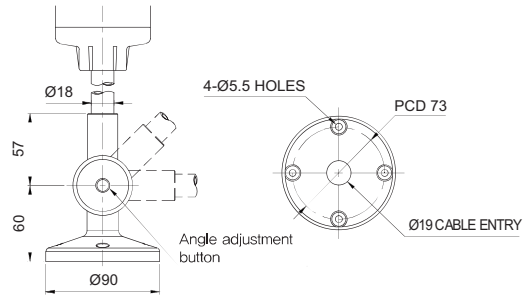

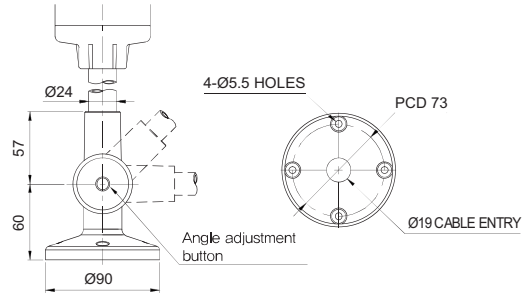
# Tower Light Mounting Brackets

(Units : mm)

Features	Product Image	Technical Diagram for Applicable Models
<p>Bracket options for direct mount tower light installation.</p> <p>Material : Steel Color : Silver, Ivory</p> 	 <p>TWS45</p>	 <p>ST45MB, ST45MBF, ST45ML, ST45MLF, ST56MB, ST56MBF, ST56ML, ST56MLF, ST56MEL, ST56MELF, STG40ML, STG40MLF, STG50ML, STG50MLF, STC45ML, STC45MLF, STC56ML, STC56MLF, STC56MEL, STC56MELF, QTG50ML, QTG50MLF, QTG60ML, QTG60MLF, QTC50ML, QTC50MLF, QTC60ML, QTC60MLF, QTR50ML, QTR50MLF, QTR60ML, QTR60MLF, QT50ML, QT50MLF, QT50MLS, QT50MLR</p>
<p>High-end bracket options for direct mount tower light installation.</p> <p>Bracket structure allows for contained and tidy wiring with no exposed wires.</p> <p>Material : PC Color : Black, Ivory</p> 	 <p>TWA45</p>	 <p>ST45MB, ST45MBF, ST45ML, ST45MLF, ST56MB, ST56MBF, ST56ML, ST56MLF, ST56MEL, ST56MELF, STG40ML, STG40MLF, STG50ML, STG50MLF, STC45ML, STC45MLF, STC56ML, STC56MLF, STC56MEL, STC56MELF, QTG50ML, QTG50MLF, QTG60ML, QTG60MLF, QTC50ML, QTC50MLF, QTC60ML, QTC60MLF, QTR50ML, QTR50MLF, QTR60ML, QTR60MLF, QT50ML, QT50MLF, QT50MLS, QT50MLR</p>
	 <p>TWA80</p>	 <p>ST80MB, ST80MBF, ST80ML, ST80MLF, STC80ML, STC80MLF, QTG70ML, QTG70MLF, QTC70ML, QTC70MLF, QTR70ML, QTR70MLF, QT70ML, QT70MLF, QT70MLS, QT70MLR</p>



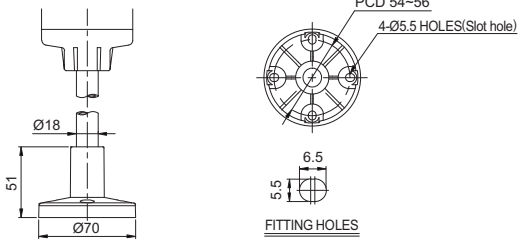


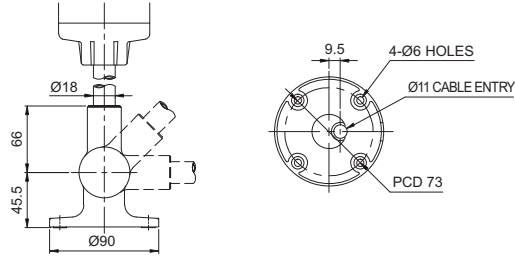

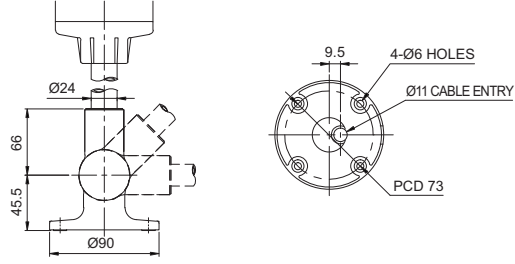
# Tower Light Mounting Brackets

(Units : mm)

Features	Product Image	Technical Diagram for Applicable Models
<p>A angle adjustable bracket (5 degree intervals for a range of 0-180 degrees) enables easy vertical, horizontal, and slanted installation.</p> <p>Material : PC Color : Black</p> 	 <p>QL18</p>	 <p>ST45B, ST45BF, ST45L, ST45LF, ST56B, ST56BF, ST56L, ST56LF, ST56EL, ST56ELF, STC45, STC56EL, STC56L, QT50L, QT50LF, QT50LS, QT50LR, STG40L, STG40LF, STG50L, STG50LF</p>
<p>QLA bracket is angle-adjustable with the adjustment button located on the side. It enables 3 angle adjustments at 0, 45, 90 degrees.</p> <p>Material : PC Color : Black</p> 	 <p>QLA18</p>	 <p>ST45B, ST45BF, ST45L, ST45LF, ST56B, ST56BF, ST56L, ST56LF, ST56EL, ST56ELF, STC45, STC56EL, STC56L, QT50L, QT50LF, QT50LS, QT50LR, STG40L, STG40LF, STG50L, STG50LF, STG40L, STG40LF, STG50L, STG50LF</p>
	 <p>QLA24</p>	 <p>ST80B, ST80BF, ST80L, ST80LF, ST80EL, ST80ELF, STC80L, STC80LF, STC80EL, STC80ELF, QT70L, QT70LF, QT70LS, QT70LR</p>






# Tower Light Mounting Brackets

(Units : mm)

Features	Product Image	Technical Diagram for Applicable Models
<p>Round-shaped bracket for horizontal surface installation.</p> <p>Material : PC Color : Black</p> 	 <p>QZ18</p>	 <p>ST45B, ST45BF, ST45L, ST45LF, ST56B, ST56BF, ST56L, ST56LF, ST56EL, ST56ELF, STC45L, STC56EL, STC56L, QT50L, QT50LF, QT50LS, QT50LR, STG40L, STG40LF, STG50L, STG50LF</p>
<p>A angle adjustable bracket (15 degree intervals for a range of 0-180 degrees) enables easy vertical, horizontal, and slanted installation.</p> <p>Material : Al Color : Silver</p> 	 <p>SL18</p>	 <p>ST45B, ST45BF, ST45L, ST45LF, ST56B, ST56BF, ST56L, ST56LF, ST56EL, ST56ELF, STC45L, STC56EL, STC56L, QT50L, QT50LF, QT50LS, QT50LR, STG40L, STG40LF, STG50L, STG50LF</p>
	 <p>SL24</p>	 <p>ST80B, ST80BF, ST80L, ST80LF, ST80EL, ST80ELF, STC80L, STC80LF, STC80EL, STC80ELF, QT70L, QT70LF, QT70LS, QT70LR</p>

# Tower Light Mounting Brackets

(Units : mm)



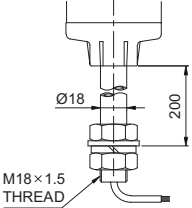


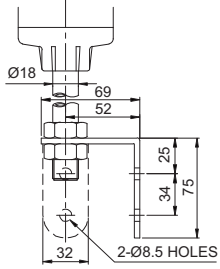

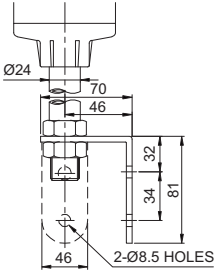
Features	Product Image	Technical Diagram for Applicable Models
<p>High-end L-type bracket is attached to the pole mount tower light for side of equipment installations. Wires can be threaded through the side of the bracket or come out at the bottom. The threads inside the bottom of the bracket can enable use of cable connectors.</p> <p>Material : PC Color : Ivory</p> 	 <p>LW18</p>	<p>ST45B, ST45BF, ST45L, ST45LF, ST56B, ST56BF, ST56L, ST56LF, ST56EL, ST56ELF, STC45L, STC56EL, STC56L, QT50L, QT50LF, QT50LS, QT50LR, STG40L, STG40LF, STG50L, STG50LF</p>
<p>Round-shaped bracket for horizontal surface installation.</p> <p>Material : Al Color : Silver</p> 	 <p>SZ18</p>	<p>ST45B, ST45BF, ST45L, ST45LF, ST56B, ST56BF, ST56L, ST56LF, ST56EL, ST56ELF, STC45, STC56EL, STC56L, QT50L, QT50LF, QT50LS, QT50LR, STG50L, STG40LF, STG50L, STG50LF</p>
	 <p>SZ24</p>	<p>ST80B, ST80BF, ST80L, ST80LF, ST80EL, ST80ELF, STC80L, STC80LF, STC80EL, STC80ELF, QT70L, QT70LF, QT70LS, QT70LR</p>

# Tower Light Mounting Brackets

## Tower Light Mounting Brackets

User can select from a variety of mounting brackets options depending on their application conditions.

(Units : mm)

Features	Product Image	Technical Diagram for Applicable Models
<p>Standard type pole mount installation. There is a screw at the end of the pole and it is equipped with nut for installation.</p> <p>Material : Steel</p> 	 <p>18mm SCREW &amp; NUT (Standard Type)</p>	 <p>ST45B, ST45BF, ST45L, ST45LF, ST56B, ST56BF, ST56L, ST56LF, ST56EL, ST56ELF, STC45L, STC56EL, STC56L, QT50L, QT50LF, QT50LS, QT50LR, STG40L, STG40LF, STG50L, STG50LF, ST45L-ETN, ST56EL-ETN, ST56L-ETN, ST45L-USB, ST56EL-USB, ST56L-USB</p>
<p>L-type bracket is attached to the pole mount tower light for installation to the side of the equipment.</p> <p>Material : Steel</p> 	 <p>LB18</p>	 <p>ST45B, ST45BF, ST45L, ST45LF, ST56B, ST56BF, ST56L, ST56LF, ST56EL, ST56ELF, ST56WL, STC45L, STC56EL, STC56L, QT50L, QT50LF, QT50LS, QT50LR, STG40L, STG40LF, STG50L, STG50LF, ST45L-ETN, ST56EL-ETN, ST56L-ETN, ST45L-USB, ST56EL-USB, ST56L-USB</p>
	 <p>LB24</p>	 <p>ST80B, ST80BF, ST80L, ST80LF, ST80EL, ST80ELF, STC80L, STC80LF, STC80EL, STC80ELF, QT70L, QT70LF, QT70LS, QT70LR, ST80EL-ETN, ST80L-ETN, ST80EL-USB, ST80L-USB</p>

# NEMA Protection Ratings

- **NEMA SIZE** : National Electrical Manufacturers Associations standard for enclosure protection rating, NEMA1-6 and 11-13 type is applicable in Non-Hazardous Locations, NEMA 7-10 is applicable in Hazardous Locations.

Type	Usage place	Environment	Protection Grade
1	Indoor Use	Non-explosion proof	Provides protection against falling dirt
2	Indoor Use	Non-explosion proof	Provides protection against falling dirt and dripping/light splashing water
3	Outdoor Use	Non-explosion proof	Provides protection against falling dirt, windblown dust, water (rain, sleet, snow); and prevents damage by the external formation of ice on the enclosure
3R	Outdoor Use	Non-explosion proof	Provides protection against falling dirt, water (rain, sleet, snow); and undamaged by the external formation of ice on the enclosure
3S	Outdoor Use	Non-explosion proof	Provides protection against falling dirt, water (rain, sleet, snow); and external mechanism operable when ice laden
4	Indoor/ Outdoor Use	Non-explosion proof	Provides protection against falling dirt, windblown dust, water (rain, sleet, snow splashing water, and hose directed water); undamaged by the external formation of ice on the enclosure
4X	Outdoor Use	Non-explosion proof	Same as Type4 with additional level of protection against corrosion
5	Indoor Use	Non-explosion proof	Provide protection against falling dirt and settling airborne dust, lint, fibers, and flyings, dripping/light splashing water
6	Indoor/ Outdoor Use	Non-explosion proof	Provides protection against falling dirt; and hose directed water and the entry of water during occasional temporary submersion at a limited depth
6P	Outdoor Use	Non-explosion proof	Provides protection against falling dirt; and hose directed water and the entry of water during prolonged submersion at a limited depth
7	Outdoor Use	Explosion proof	Enclosures constructed for indoor use in hazardous (classified) locations for gas
8	Indoor/ Outdoor Use	Explosion proof	Enclosures constructed for either indoor or outdoor use in hazardous (classified) locations for explosion proof construction by oil enclosure
9	Indoor Use	Explosion proof	Enclosures constructed for indoor use in hazardous (classified) locations for dust
10	Indoor/ Outdoor Use	Explosion proof	Enclosures constructed to meet the requirements of the Mine Safety and Health Administration, 30 CFR, Part 18.
11	Indoor Use	Non-explosion proof	Provides protection against the corrosive effects of liquids and gases
12	Indoor Use	Non-explosion proof	Provides protection to personnel against access to hazardous parts, against falling dirt and circulating dust, lint, fibers, and dripping/light splashing water
12K	Indoor Use	Non-explosion proof	Same as Type 12 for enclosures constructed with knockouts
13	Indoor Use	Non-explosion proof	Provide protection against falling dirt and circulating dust, lint, fibers, flyings, dripping/light splashing water, spraying, splashing, and seepage of oil and non-corrosive coolants.

- **NEMA Ratings and IP Ratings Equivalency Chart** : The chart below is for comparison between two enclosure ratings. It is only for reference and these two rating standards are not exactly converted.

NEMA ENCLOSURE TYPE	IP ENCLOSURE TYPE
1	IP23
2	IP30
3	IP64
4	IP66
4X	IP66
6	IP67
12	IP55 IP65
13	IP65

# Waterproof and Dustproof Protection Structure

## Comparing waterproof dustproof protection structure






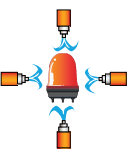
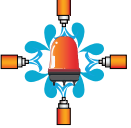


■ IP rating : Known as "Ingress Protection rating" indicated in two-digit code showing the amount of protection against solid and the liquid.(IEC60529)

# IP 67

### First Number Protection against solid

- 0  Test  
No protection
- 1  Protected against solid objects over 50mm, e.g. accidental touch by persons hands.
- 2  Protected against solid objects over 12.5mm, e.g. persons fingers.
- 3  Protected against solid objects over 2.5mm (tools and wires).
- 4  Protected against solid objects over 1mm (tools, wires, and small wires).
- 5  Protected against dust limited ingress (no harmful deposit).
- 6  Totally protected against dust.

### Second Number Protection against liquid

- 0  Test  
No protection
- 1  Protection against vertically falling drops of water e.g. condensation.
- 2  Protection against direct sprays of water up to 15° from the vertical.
- 3  Protected against direct sprays of water up to 60° from the vertical.
- 4  Protection against water sprayed from all directions - limited ingress permitted.
- 5  Protected against low pressure jets of water from all directions - limited ingress.
- 6  Protected against temporary flooding of water, e.g. for use on ship decks - limited ingress permitted.
- 7  Protected against the effect of immersion between 15 cm and 1 m.
- 8  Protects against long periods of immersion under pressure.

※ The configurations below are mainly used. Other configurations tend to be illogical.

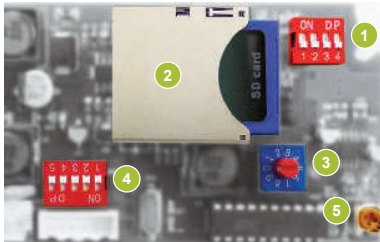
※ IP00/IP11, IP12/IP21, IP22, IP23/IP31, IP32, IP33, IP34/IP41, IP42, IP43, IP44/IP54, IP55, IP56/IP65, IP66, IP67

# How to Use a MP3 Type Product

## ■ MP3 supported model basic description

- MP3 supported products can play 30-31 built-in sounds or MP3 files saved in an SDCard.
- Binary input method can play up to 30 - 31 sounds, and Bit input method can play 5 sounds in accordance with the standards specified by filename.
- Can choose and play 5 sounds from #1 to #5.

<Switch select type>

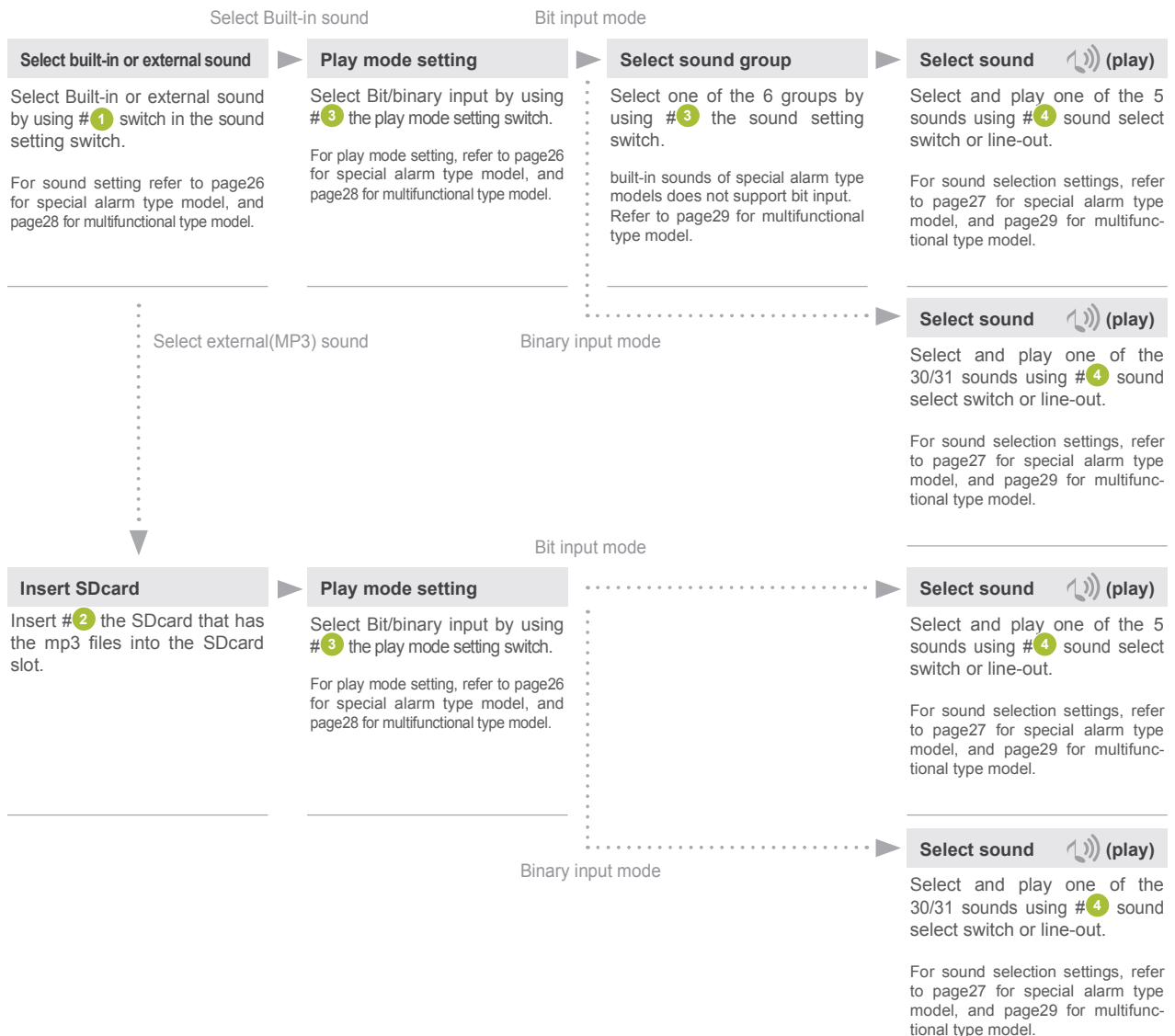


<Line-out type>



- ① Sound setting switch
- ② MP3 playable SDCard
- ③ Play mode setting switch
- ④ Sound select switch
- ⑤ Volume

## ■ How to set-up a MP3 type product





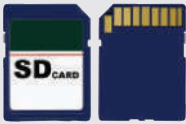
# How to Use a MP3 Type Product

MP3-type models have 30 or 31 built-in alarm sounds and the users can play their voice messages or music files(MP3). You can choose two methods for playing up to 31 sounds with the binary input method. While the bit input method can only play 5 sounds from #1 to #5.

## ■ What is a MP3?

- MP3 is a audio compression technology(Audio layer-3) design by MPEG (Motion Picture Experts Group) MP3 (MPEG-1 Audio Layer-3) is a standard technology and format for compressing a sound sequence into a very small file while preserving the original level of sound quality when it is played.
- Extension of the MP3 file can be found as "\*.mp3", and any voice message, alarm message, and music can be played and saved as MP3 files.

## ■ What is a SDcard?



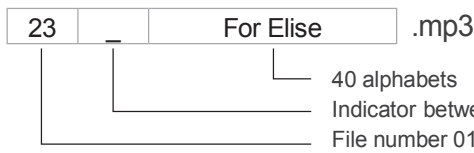
SD memory card is a compact flash memory card for storing various data such as MP3s or document files. Models with MP3 features can save voice messages or alarm messages in the SDcard.

\* SDcard sold separately.

## Saving a MP3 file

- MP3 file can be saved and played in accordance with the standards specified by filename.
- Using binary input method according to the specifications given in the file name, a SDcard which is used in special alarm type models(MP3) can save up to 31 sounds, multifunctional type models can save and play up to 30 sounds.
- Using bit input method according to the specifications given in the file name, you can select and play up to five sounds from the MP3 file.

### User-defined sound(MP3) type



- [Example]
- 01\_Fire alarm.mp3
  - 02\_Emergency alarm.mp3
  - 03\_For Elise.mp3
  - ...
  - 30\_Cuckoo Waltz.mp3

## Binary input and Bit input method

Special alarm type models and multifunctional type models are divided into Binary input method or Bit input method depending on the source selection method.

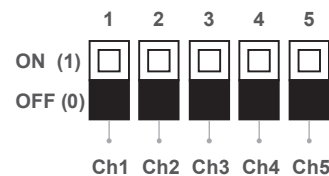
### ■ Binary input

ON = 1 / OFF = 0

	1	2	3	4	5
ON	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
OFF	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
No.	1	2	3	4	5
0	0	0	0	0	0
1	0	0	0	0	1
2	0	0	0	1	0
:	:	:	:	:	:
31	1	1	1	1	1

You can only show 2 numbers with 1 switch "0", "1". With 5 switches you can have 31 combinations. Selecting one sound from 5 switches is the Binary input method.

### ■ Bit input



The Bit input method only recognizes one of the 5 switches at a time. This method doesn't support two inputs at once. The number of combinations is small, but it is much more convenient to remember the channel number.

# Sound Pattern and Combination for Multifunctional Product

## ■ Sound patterns for multifunctional products

- Multifunctional product has 30 pre-recorded sound tones.
- 30 sound tones in binary input mode supported. Bit input mode has 5 sound tones within 1 group among 6 groups.

## • Bit input mode's sound tone combinations

**ON = 1 / OFF = 0**

ON

OFF

Ch1

Ch2

Ch3

Ch4

Ch5

Left channel switch allows to select 5 tons individually within designated group.  
(For group selection, please refer to page 28 "How to set-up the multifunctional products")  
Channel switch will be substituted for external wiring in case of LC type products.

Sound	Ch	Sound Tone	Sound	Ch	Sound Tone		
WS	5 Warning Sounds	Ch1	Fire.A-ANG(560Hz-1.5kHz)	WA	5 Alarms	Ch1	Beep Intermittent
		Ch2	Emergency WA-U(Yelp)(600Hz-1.5kHz)			Ch2	Door Chime
		Ch3	Ambulance PI-PO(Hi-low)(450Hz-900Hz)			Ch3	Phone Ring
		Ch4	Machinery Fault(820Hz)			Ch4	PI.PI.PI Short
		Ch5	High Expansion(1kHz)			Ch5	Tripping Beat
WP	5 Special Warning Sounds (1 <sup>st</sup> Group)	Ch1	Fire.A-ANG(560Hz-1.5kHz)	WO	5 Special Warning Sounds (2 <sup>nd</sup> Group)	Ch1	Rel rel rel(730Hz-920Hz)
		Ch2	Abandon Alarm(820Hz)			Ch2	Slow Ambulance PI-PO(820Hz-1.05kHz)
		Ch3	Machinery Fault(820Hz)			Ch3	Wye yong Wye yong(770Hz-1.2kHz)
		Ch4	High Expansion(1kHz)			Ch4	Phone ring 2(740Hz-910Hz)
		Ch5	7 Short Pl. / 1 Long(1kHz)			Ch5	Fire.A-ANG(770Hz-1.11kHz)
WM	5 Melodies	Ch1	Sweet Home	WN	5 Special Warning Sounds (3 <sup>rd</sup> Group)	Ch1	Oit Oit(500Hz-1.11kHz)
		Ch2	For Elise			Ch2	Pi o Pi o(940Hz-2.19kHz)
		Ch3	Cuckoo's Waltz			Ch3	Slow Di o Di o(680Hz-840Hz)
		Ch4	Piano Sonata			Ch4	Li long Li ling(420Hz-470Hz)
		Ch5	Turkish March			Ch5	911 Siren(500Hz-1kHz)

## • Binary input mode's sound tone combinations

**ON = 1 / OFF = 0**

ON

OFF

Ch1

Ch2

Ch3

Ch4

Ch5

Left channel switch allows the user to select from 30 available sound tones.  
Channel switch will be substituted for external wiring in case of LC type products.

No.	1	2	3	4	5	Sound tone	Frequency
0	0	0	0	0	0	No sound	
1	0	0	0	0	1	Fire.A-ANG	560Hz-1.5kHz
2	0	0	0	1	0	Emergency WA-U(Yelp)	600Hz-1.5kHz
3	0	0	0	1	1	Ambulance PI-PO(Hi-low)	450Hz-900Hz
4	0	0	1	0	0	Pi-ik Pi-ik	820Hz
5	0	0	1	0	1	Machinery Fault	820Hz
6	0	0	1	1	0	High Expansion	1kHz
7	0	0	1	1	1	Alarm	1kHz
8	0	1	0	0	0	Sweet Home	-
9	0	1	0	0	1	For Elise	-
10	0	1	0	1	0	Cuckoo's Waltz	-
11	0	1	0	1	1	Piano Sonata	-
12	0	1	1	0	0	Turkish March	-
13	0	1	1	0	1	Magic Flute	-
14	0	1	1	1	0	Badinerie	-
15	0	1	1	1	1	Pineapple Rag	-
16	1	0	0	0	0	Beep Intermittent	-
17	1	0	0	0	1	Door Chime	-
18	1	0	0	1	0	Phone Ring	-
19	1	0	0	1	1	PI.PI.PI Short	-
20	1	0	1	0	0	Tripping Beat	-
21	1	0	1	0	1	Rel rel rel	730Hz-920Hz
22	1	0	1	1	0	Slow Ambulance PI-PO	820Hz-1.05kHz
23	1	0	1	1	1	Wye yong Wye yong	770Hz-1.2kHz
24	1	1	0	0	0	Phone ring 2	740Hz-910Hz
25	1	1	0	0	1	Fire.A-ANG	770Hz-1.11kHz
26	1	1	0	1	0	Oit Oit	500Hz-1.11kHz
27	1	1	0	1	1	Pi o Pi o	940Hz-2.19kHz
28	1	1	1	0	0	Slow Di o Di o	680Hz-840Hz
29	1	1	1	0	1	Li long Li ling	420Hz-470Hz
30	1	1	1	1	0	911 Siren	150Hz-1kHz

# Multifunctional Type Feature

## ■ How to set up the multifunctional products(MP3)

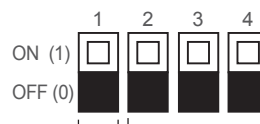
- Multifunctional type products can play MP3 sounds by using an SDcard and can also play WS (5 Warning sounds), WP (5 special warning sounds 1<sup>st</sup> Group), WM (5 Melodies), WA (5 Alarms), WO (5 special warning sounds 2<sup>nd</sup> Group), and WN (5 special warning sounds 3<sup>rd</sup> Group) when not using a SDcard.
- Includes seven different functions. For example, it is able to playback the message continuously with the continuous playback function for warning message that needs to be repeated often.

## ■ Function setting



- ① Sound setting switch
- ② MP3 playable SDCard
- ③ Play mode setting switch
- ④ Volume

### ① Sound setting switch



#### Group Choice in Bit Input Mode

- 001 : WS (5 Warning sounds)
- 010 : WP (5 special warning sounds 1<sup>st</sup> Group)
- 011 : WM (5 Melodies)
- 100 : WA (5 Alarms)
- 101 : WO (5 special warning sounds 2<sup>nd</sup> Group)
- 110 : WN (5 special warning sounds 3<sup>rd</sup> Group)

#### Sound Selection

- 0 : Built-in sound
- 1 : SDCard(MP3)

- #1 switch from the sound setting switch is for selecting Built-in sound/ SDCard
- #2 – #4 switch is for selecting a group of sound incase you have selected bit input mode

## ② SDCards

- The SDcard is a compact flash memory card for storing MP3 files.
- After saving the MP3 files in the SDcard with the specified format, insert the card into the SDcard slot and switch the sound setting switch to ON so the product will be able to play sounds from the SDcard.

## ③ PLAY MODE setting switch

- PLAY MODE setting switch is used to choose the channel input method or select various play modes. Refer to the table below for switch features.
- Switch #0 and #9 is not used.

1	Bit Input Mode	5 sounds can be played from the selected group (choose one group from six groups) Play sound only once (if using sequential signal input or pulse signal input)
2	Binary Input Mode	Up to 30 sounds available for each model. Plays sound only once (sequential signal input only)
3	Bit Input Hold Playback Mode	5 sounds can be played from the selected group (choose one group from six groups) The sound is repeated if the input signal is maintained. (sequential signal input only) If the STOP signal is inputted, the sound is turned off, and if the STOP signal is disabled the sound is played repeatedly
4	Binary Input Hold Playback Mode	Up to 30 sounds available for each model The sound is repeated if the input signal is maintained. (sequential signal input only) If the STOP signal is inputted, the sound is turned off, and if the STOP signal is disabled the sound is played repeatedly
5	Bit Input Sound Reduction Mode	5 sounds can be played from the selected group (choose one group from six groups) You can reduce the volume(15dB) by using a separate volume reduction signal line (same as volume reduction signal input)
6	Binary Input Sound Reduction Mode	Up to 30 sounds available for each model You can reduce the volume(15dB) by using a separate volume reduction signal line (same as volume reduction signal input)
7	Bit Input Sequence Memory Playback Mode	5 sounds can be played from the selected group (choose one group from six groups) If the sound is inputted in a order, it will remember the order and play each sound about 3 seconds . The last input channel is fully played (bit input mode only)
8	Test Mode	In test mode, Ch1 of group is automatically played back repeatedly. To end the test mode, switch back to the other modes.

## ④ VOLUME

- You can adjust the speakers sound output by using the volume dial.

# Sound Pattern and Combination for Special Alarm Type

## ■ Sound pattern for special alarm type

- Special alarm type product has 31 pre-recorded sound tones.
- Supports binary input mode. 5ch switch allows for 31 sound tones.

## • Composition of binary input mode

ON OFF	ON = 1 / OFF = 0					Sound tone	Frequency
	Ch1	Ch2	Ch3	Ch4	Ch5		
No.	1	2	3	4	5		
0	0	0	0	0	0	No sound	
1	0	0	0	0	1	Rel rel rel	730Hz-920Hz
2	0	0	0	1	0	Slow Ambulance PI-PO	820Hz-1.05kHz
3	0	0	0	1	1	Oit Oit warning sound	360Hz-1.56kHz
4	0	0	1	0	0	Emergency WA-U(Yelp)	770Hz-1.2kHz
5	0	0	1	0	1	Pi- buzzer	770Hz
6	0	0	1	1	0	7 Short PI. / 1 Long	715Hz
7	0	0	1	1	1	Pi o Pi o	940Hz-2.19kHz
8	0	1	0	0	0	Phone Ring	740Hz-910Hz
9	0	1	0	0	1	Pi- buzzer	600Hz
10	0	1	0	1	0	Pi pi pi short	420Hz
11	0	1	0	1	1	Di o Di o 2 tones buzzer	600Hz-1.14kHz
12	0	1	1	0	0	Oit Oit warning sound	500Hz-1.11kHz
13	0	1	1	0	1	Slow Ambulance PI-PO	380Hz-470Hz
14	0	1	1	1	0	Slow Di o Di o	680Hz-840Hz
15	0	1	1	1	1	Fast Li o li o	380Hz-470Hz
16	1	0	0	0	0	Fire.A-ANG	770Hz-1.11kHz
17	1	0	0	0	1	Fast Ambulance PI-PO	680Hz-840Hz
18	1	0	0	1	0	Slow Ambulance PI-PO	650Hz-840Hz
19	1	0	0	1	1	Ri ro ri ro warning sound	420Hz-470Hz
20	1	0	1	0	0	Repeat Di-o 3 times	680Hz-840Hz
21	1	0	1	0	1	Fire.A-ANG	500Hz-1kHz
22	1	0	1	1	0	Ambulance PI-PO	680Hz-840Hz
23	1	0	1	1	1	Slow Fire.A-ANG	480Hz-1.14kHz
24	1	1	0	0	0	Pi-pi- buzzer low frequency	690Hz
25	1	1	0	0	1	Pi-pi- buzzer high frequency	950Hz
26	1	1	0	1	0	Di-di- buzzer high frequency	800Hz
27	1	1	0	1	1	Di-di- buzzer low frequency	500Hz
28	1	1	1	0	0	Rising Po-ong	500Hz-1.2kHz
29	1	1	1	0	1	Fast Ambulance PI-PO	825Hz-1.07kHz
30	1	1	1	1	0	Rising frequency	150Hz-1kHz
31	1	1	1	1	1	Repeat A-ANG	1.4kHz-1.56kHz

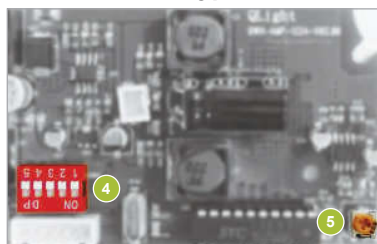
Left channel switch allows for choosing 31 sound tones.  
Channel switch will be substituted for an external wiring in case of LC type products.

# Special Alarm Type Feature

## ■ How to set-up the special alarm type products

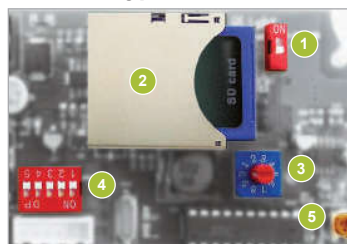
- A special alarm type products are classified into two models; basic model with special alarm and SDCard (MP3) model.
- The 2 models have 31 built-in sounds, which can be chosen and played by binary input method.
- When storing MP3 files on the SDCard (MP3) type models, you can select and play up to 31 sounds by using the binary input method. The bit input method can play 5 sound from #1 to #5, depending on the specifications given in the file name(For file specifications refer to Page30.)
- Includes eight play mode settings. For example, when the continuous playback setting/ function is selected the warning message is played continuously for conditions that require frequent playback.

### ■ Built-in sound type model



- 1 - 2 N/A
- 4 Sound select switch
- 5 Volume

### ■ SDCard type model



- 1 Sound setting switch
- 2 MP3 playable SDCard
- 3 Play mode setting switch
- 4 Sound select switch
- 5 Volume

\* Built-in sound type model can select and play 31 sounds by using the sound selection switch.

## ■ SDCard(MP3) type product feature

### 1 SOUND setting switch

- If the switch is ON the SDCard (MP3) will be played, and if the switch is OFF the built-in sounds will be played.

### 2 SDCards

- The SDCard is a compact flash memory card for storing MP3 files.
- After saving the MP3 files in the SDCard with the specified format, insert the card into the SDCard slot and switch the sound setting switch to ON so the sounds can be played from the SDCard.

### 3 PLAY MODE setting switch

- PLAY MODE setting switch is used to choose the channel input method or select various playing modes. Refer to the table below for switch features.
- Switch #0 and #9 is not used.

1	Bit Input Mode	5 sounds can be played from the selected group (choose one group from six groups) Play sound only once (if using sequential signal input or pulse signal input)
2	Binary Input Mode	Up to 31 sounds available for each model. Plays sound only once (sequential signal input only)
3	Bit Input Hold Playback Mode	5 sounds can be played from the selected group (choose one group from six groups) The sound is repeated if the input signal is maintained. (sequential signal input only) If the STOP signal is inputted, the sound is turned off, and if the STOP signal is disabled the sound is played repeatedly
4	Binary Input Hold Playback Mode	Up to 31 sounds available for each model The sound is repeated if the input signal is maintained. (sequential signal input only) If the STOP signal is inputted, the sound is turned off, and if the STOP signal is disabled the sound is played repeatedly
5	Bit Input Sound Reduction Mode	5 sounds can be played from the selected group (choose one group from six groups) You can reduce the volume(15dB) by using a separate volume reduction signal line (same as volume reduction signal input)
6	Binary Input Sound Reduction Mode	Up to 31 sounds available for each model You can reduce the volume(15dB) by using a separate volume reduction signal line (same as volume reduction signal input)
7	Bit Input Sequence Memory Playback Mode	5 sounds can be played from the selected group (choose one group from six groups) If the sound is inputted in a order, it will remember the order and play each sound about 3 seconds. The last input channel is fully played (bit input mode only)
8	Test Mode	In test mode, Ch1 of group is automatically played back repeatedly. To end the test mode, switch back to the other modes.

### 4 Channel selection switch

- By using 5 channel selection switches, one can choose the appropriate sound source depending on the Binary input and Bit input.

### 5 VOLUME

- You can adjust the speakers sound output by using the volume dial.

# Pre-recorded Sound Tone and Sound Combination Chart

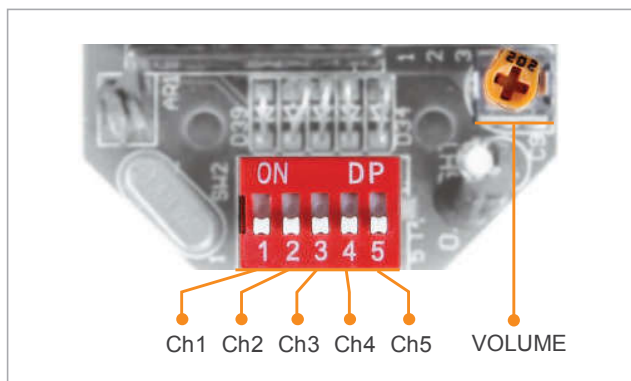
## ■ Sound tone combinations for standard type products

For standard type products, user can select from a variety of 5 pre-recorded sound combinations including 5 warning sounds, 5 special warning sounds, 5 melodies, 5 alarms, and 5 customizable sound.

	Sound Category	Channel	Sound Tone	Sound Combination #
WS	5 warning sounds	Ch1 Ch2 Ch3 Ch4 Ch5	Fire.A-ANG Emergency WA-U(Yelp) Ambulance PI-PO(Hi-low) Machinery Fault High Expansion	WS/ WP No.1
WP	5 special warning sounds	Ch1 Ch2 Ch3 Ch4 Ch5	Fire.A-ANG Abandon Alarm Machinery Fault High Expansion 7 Short PI. / 1 Long	WS/ WP No.2
WM	5 melodies	Ch1 Ch2 Ch3 Ch4 Ch5	Sweet Home For Elise Cuckoo's Waltz Piano Sonata Turkish March	WM/ WA No.1
WA	5 alarms	Ch1 Ch2 Ch3 Ch4 Ch5	Beep Intermittent Door Chime Phone Ring PI.PI.PI Short Tripping Beat	WM/ WA No.2
WV	5 customizable sound	Ch1 Ch2 Ch3 Ch4 Ch5	<ol style="list-style-type: none"> <li>Voice messages are pre-recorded and provided from factory upon user's request</li> <li>Each channel has recording space for 16 sec</li> <li>5 channels available</li> <li>When only one channel is used, maximum recordable space is 80 sec</li> </ol>	-

※ Please refer to page 24 for detailed information about selectable sound patterns.

## ■ Sound Selection of Signal Sounds



Standard specification : Use internal switches

Turn on dip switches of each channel, designated sound will be played.

# Pre-recorded Sound Tone and Sound Combination Chart

## ■ 20 pre-recorded sound tones for standard type products

Sound Number	Sound Tone	Sound Number	Sound Tone
SND01	Fire.A-ANG	SND11	Piano Sonata
SND02	Emergency WA-U(Yelp)	SND12	Turkish March
SND03	Ambulance PI-PO(Hi-low)	SND13	Magic Flute
SND04	Abandon Alarm	SND14	Badinerie
SND05	Machinery Fault	SND15	Pine Apple Rag
SND06	High Expansion	SND16	Beep Intermittent
SND07	7 Short Pl. / 1 Long	SND17	Door Chime
SND08	Sweet Home	SND18	Phone Ring
SND09	For Elise	SND19	PI.PI.PI Short
SND10	Cuckoo's Waltz	SND20	Tripping Beat

## • Standard sound combination for WS/ WP type products

ON = 1 / OFF = 0

7 sounds per combination can be selected according to your preference.  
8 combinations are available.

No.	1	2	3	Ch1	Ch2	Ch3	Ch4	Ch5
1	1	0	0	SND01 Fire.A-ANG	SND02 Emergency WA-U	SND03 Ambulance PI-PO	SND05 Machinery Fault	SND06 High Expansion
2	0	1	0	SND01 Fire.A-ANG	SND04 Abandon Alarm	SND05 Machinery Fault	SND06 High Expansion	SND07 7 Short Pl. / 1 Long
3	1	1	0	SND01 Fire.A-ANG	SND02 Emergency WA-U	SND04 Abandon Alarm	SND05 Machinery Fault	SND06 High Expansion
4	0	0	1	SND01 Fire.A-ANG	SND03 Ambulance PI-PO	SND05 Machinery Fault	SND06 High Expansion	SND07 7 Short Pl. / 1 Long
5	1	0	1	SND02 Emergency WA-U	SND03 Ambulance PI-PO	SND04 Abandon Alarm	SND05 Machinery Fault	SND06 High Expansion
6	0	1	1	SND01 Fire.A-ANG	SND02 Emergency WA-U	SND03 Ambulance PI-PO	SND04 Abandon Alarm	SND07 7 Short Pl. / 1 Long
7	1	1	1	SND01 Fire.A-ANG	SND03 Ambulance PI-PO	SND04 Abandon Alarm	SND06 High Expansion	SND07 7 Short Pl. / 1 Long
8	0	0	0	SND02 Emergency WA-U	SND03 Ambulance PI-PO	SND04 Abandon Alarm	SND05 Machinery Fault	SND07 7 Short Pl. / 1 Long

※ You can select sound tones using the 3P switches located on the circuit board of the WS Type and WP Type products.

## • Standard sound combination for WM/ WA type products

ON = 1 / OFF = 0

13 sounds per combination can be selected according to your preference.  
8 combinations are available.

No.	1	2	3	Ch1	Ch2	Ch3	Ch4	Ch5
1	1	0	0	SND08 Sweet Home	SND09 For Elise	SND10 Cuckoo's Waltz	SND11 Piano Sonata	SND12 Turkish March
2	0	1	0	SND16 Beep Intermittent	SND17 Door Chime	SND18 Phone Ring	SND19 PI.PI.PI Short	SND20 Tripping Beat
3	1	1	0	SND08 Sweet Home	SND11 Piano Sonata	SND13 Magic Flute	SND17 Door Chime	SND19 PI.PI.PI Short
4	0	0	1	SND13 Magic Flute	SND14 Badinerie	SND15 Pine Apple Rag	SND08 Sweet Home	SND09 For Elise
5	1	0	1	SND10 Cuckoo's Waltz	SND11 Piano Sonata	SND17 Door Chime	SND18 Phone Ring	SND20 Tripping Beat
6	0	1	1	SND08 Sweet Home	SND12 Turkish March	SND16 Beep Intermittent	SND17 Door Chime	SND18 Phone Ring
7	1	1	1	SND08 Sweet Home	SND11 Piano Sonata	SND12 Turkish March	SND17 Door Chime	SND19 PI.PI.PI Short
8	0	0	0	SND11 Piano Sonata	SND12 Turkish March	SND13 Magic Flute	SND16 Beep Intermittent	SND18 Phone Ring

※ You can select sound tones using the 3P switches located on the circuit board of the WM Type and WA Type products.

# Intensity of Sound

## Relationship of Sound Intensity and Distance

Sound intensity is inversely proportional to the square of the distance from the sound wave source.

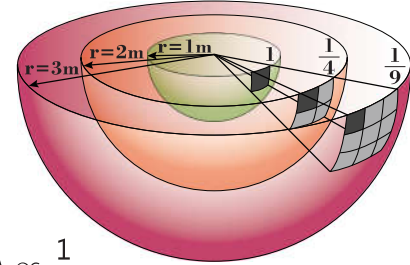
Since sound waves carry its energy though a two-dimensional or three-dimensional medium, the intensity of the sound wave decreases with increasing distance form the source. The decrease in intensity with increasing distance is explained by the fact that the wave is being distributed over a greater surface area. Since energy is conserved and the area through which energy is transported is increasing, the intensity must decrease.

The wave intensity (I) formula  $I \propto A^2 f^2$  is roughly expressed as the square of the amplitude (A) multiplied by the square of the frequency (f). The wave

intensity (I) is inversely proportional to the square of the distance,  $I \propto \frac{1}{r^2}$ .

Therefore, the relationship between amplitude (A) and distance (r) is  $A^2 \propto \frac{1}{r^2}$ ,  $A \propto \frac{1}{r}$

The above amplitude is inversely proportional to the distance where sound intensity is proportional to the squares of the amplitudes of the frequencies.



## Sound Intensity Perception

Even with the same sound intensity, the perceived sound may not match the actual intensity value (dB). For example, sounds with different frequencies may sound differently to the ear. Normally, sounds with higher frequency are expressed as a larger and more stressed volume than lower frequency sounds.

Thus, a perceived sound volume is louder at higher frequency and decibels. For example, when our products utilize the same 115db sound, the product that has the higher frequency will be perceived as louder compared to the sound of the product with a lower frequency.

### » Sound Intensity and Frequency

Sound Intensity (dB)	Voice Message → Melody → Alarm → Warning Sounds								Examples of Sound Intensity	
	frequency of sound(Hz) →									
140									Aircraft carrier deck	
130									Military aircraft jet take-off with a 50ft afterburner	
125										
123										
120									Thunder, chain saw, oxygen torch	
115										
110									Automobile horn at 1 meter, live rock music	
100									Jet take-off (at 305 meters), jackhammer, jet flyover at 1000 ft	
90									Motorcycle at 25 ft, power mower	
80									Food blender, Average Factory, Garbage disposal	
70									Department store, commercial area	
60									Conversation within 1 meter, phone ringing	
50									Office, background music, classroom	
40									Quiet suburb	
30									Quiet rural area, quite conversation	
20									Whisper within 1meter	
10									Rustling leaves	
0									Breathing	
		0	125	250	500	1000	2000	5000	10000	20000

When the sound wave frequency is higher and the amplitude is larger the sensed sound volume is louder.



# Intensity of Sound

## Intensity of Sound

Sound intensity is defined as the sound power per unit area. The usual context is the measurement of sound intensity in the air at a listener's location. The basic units are watts/m<sup>2</sup> or watts/cm<sup>2</sup>. Many sound intensity measurements are made relative to a standard threshold of hearing intensity. The most common approach to sound intensity measurement is to use the decibel scale.

For better understanding, here is an example

If the voltage, current, or sound pressure becomes 2x higher ———  $\text{dB} = 20\log_{10} ( 2x ) \Rightarrow 6\text{dB}$   
 If the electric power becomes 2x higher ———  $\text{dB} = 10\log_{10} ( 2x ) \Rightarrow 3\text{dB}$

The value of sound pressure intensity (dB) is typically 1x = 0dB, 2x = 6dB, 3x = 10dB, 5x = 14dB, 10x = 20dB. It is easy to calculate the multiplying factor by using these values. For example, to calculate the value of 6x follow as below.



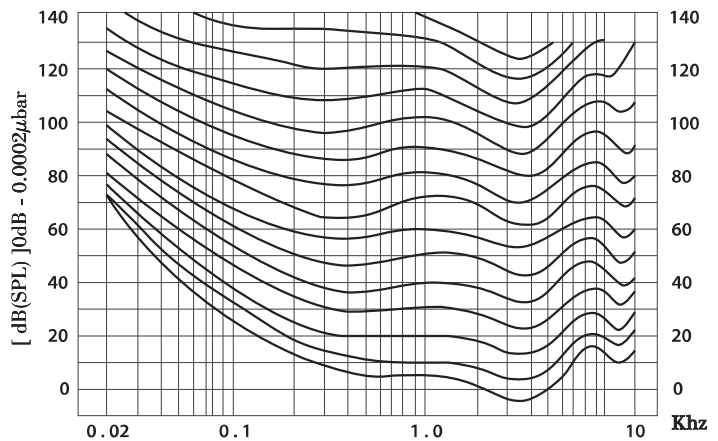
By multiplying the values in the same way above and adding the dB value, the value of 6x is 16dB. This calculation method is useful when calculating the size of the sound by distance. If the sound pressure is calculated according to the distance(1meter) between the sound source, being 1M away gives you a negative(-) multiplying factor, on the other hand if being closer than 1M gives a positive (+) multiplying factor. Which means, 100dB in 1M becomes 100dB-6dB(2x) = 94dB In 2M, and 100dB-16dB = 84dB in 6M. Sound is noticeable when the sound intensity is 3 - 6dB or higher than the ambient noise; however, when you need to alert the area the sound intensity should be at least 80dB. For that reason, Qlight product supports volume up to 123dB.

## The Emotional Frequency and Loudness Characteristic of Sound

The frequency of sound that can be heard by people is between 20 - 20,000Hz. The frequency people can hear might be different depending on gender, age, skill, and listening environment. In addition, the intensity of the sound that an ear can feel is different depending on the actual frequency (frequency) of the sound wave. If sound is compared with the same intensity, the midrange sound (1Khz inside and outside) is the loudest and then the treble (6 - 10Khz or less), and the bass (100Hz or fewer) it is the smallest.

When we feel loud sounds we can feel pain, the highest sound a human can hear is called the Maximum audibility limit and the lowest sound a human can hear is called the minimum audibility limit.

The Maximum audibility limit is about 140dB, regardless of the frequency. The gap between dB is at its widest at 1,000 - 5,000Hz which is 130dB. Which means 1,000 - 5,000Hz is the most comfortable frequency to hear. The frequency is highest in this order warning sound – alarm – melody – voice. The warning sound has the highest while the voice sound has the lowest.



< Loudness characteristic curve >

# Bulb Specification

The table below summarizes bulb specifications that are equipped with Qlight's products. Please carefully review the bulb specification in case bulb replacement is needed. Otherwise it may cause part malfunction.

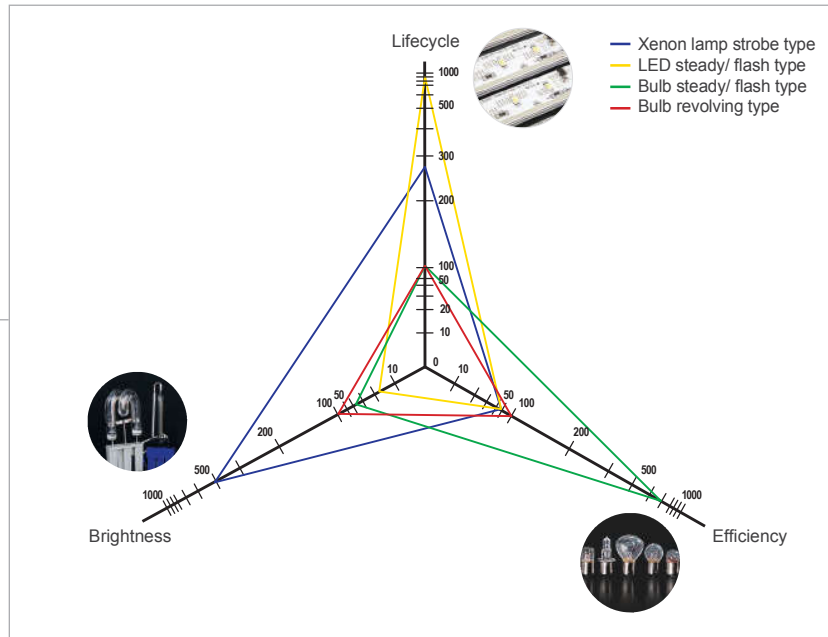
Layout	Part#	Feature	Spec	Voltage	Current	Product
	1	14V 5W	G14 9S	12V	0.357A	S50, ST45
	2	27V 5W	G14 9S	24V	0.185A	
	3	120V 5W	T16×28 9S	110V	0.042A	S50, ST45
	4	240V 5W	T16×28 9S	220V	0.021A	
	5	14V 5W	T16×35 15S	12V	0.357A	S60 S80, SR SJ, SJD
	6	27V 5W	T16×35 15S	24V	0.185A	
	7	120V 5W	T16×35 15D	110V	0.042A	S60
	8	240V 5W	T16×35 15D	220V	0.021A	
	9	14V 10W	T16×35 15S	12V	0.714A	S100 S125 SE ST56 ST80
	10	27V 10W	T16×35 15S	24V	0.370A	
	11	52V 10W	T16×35 15S	48V	0.192A	
	12	120V 10W	T16×35 15S	110V	0.083A	S100 S125 ST56 ST80
	13	240V 10W	T16×35 15S	220V	0.042A	
	14	52V 10W	T16×35 15D	48V	0.192A	S100E S125E
	15	120V 10W	T16×35 15D	110V	0.083A	
	16	240V 10W	T16×35 15D	220V	0.042A	
	17	14V 15W	G23 15S	12V	1.071A	SK S150, SH1 SH2, SED SD, SHD SHD2 SMD, SESA SEBA, SEA
	18	27V 15W	G23 15S	24V	0.556A	
	19	52V 15W	G23 15S	48V	0.288A	
	20	120V 15W	G23 15S	110V	0.125A	
	21	240V 15W	G23 15S	220V	0.063A	
	22	120V 15W	G23 15D	110V	0.125A	S150, SH1 SH2, SED SD, SHD SHD2 SMD, SESA SEBA, SEA
	23	240V 15W	G23 15D	220V	0.063A	
	24	12V 23W	S25 15S	12V	1.916A	S150, SH2 SD, SMD SESA SEBA, SEA
	25	24V 23W	S25 15S	24V	0.958A	
	26	52V 25W	T23×62 15D	48V	0.481A	S150, SH2 SD, SMD SESA SEBA, SEA
	27	120V 25W	T23×62 15D	110V	0.208A	
	28	240V 25W	T23×62 15D	220V	0.104A	
	29	14V 35W	RP35 15S	12V	2.500A	S180
	30	27V 35W	RP35 15S	24V	1.296A	

Layout	Part#	Feature	Spec	Voltage	Current	Product
	31	120V 35W	RP35 15S	110V	0.292A	S180
	32	240V 35W	RP35 15S	220V	0.146A	
	33	110V 60W	E26 ES	110V	0.545A	S150, SH2 SD, SMD SESA, SE SEBA, SEA
	34	220V 60W	E26 ES	220V	0.272A	
	35	12V 30W	A60 E26	12V	2.500A	S150, SH2 SD, SMD
	36	24V 60W	A60 E26	220V	2.500A	
	37	110V 60W	A60 E26	110V	0.545A	S150, SH2 SD, SMD
	38	220V 60W	A60 E26	220V	0.272A	
	39	14V 35W	15S Halogen	12V	2.500A	SKH
	40	27V 35W	15S Halogen	24V	1.296A	
	41	120V 35W	15D Halogen	110V	0.292A	S150, SH2 SD, SMD SESA, SE SEBA, SEA
	42	240V 35W	15D Halogen	220V	0.146A	
	43	14V 55W	15S Halogen	12V	3.929A	S150, SH2 SD, SMD SESA, SE SEBA, SEA
	44	27V 55W	15S Halogen	24V	2.037A	
	45	120V 55W	15D Halogen	110V	0.458A	S150, SH2 SD, SMD SESA, SE SEBA, SEA
	46	240V 55W	15D Halogen	220V	0.229A	
	47	220V -350V	BGA2120 -BBC  I Type xenon lamp		4W	S80S, S80AS
	48	200V -550V	EUB0641 -1A(G)  U Type xenon lamp		6W	S100S, S125S S150S, SJS SH1S, SH2S SEDS, SDS SHDS, SHD2S SMDS, SCDWS, SNE-S, SNES-S SESAS, SE-S SEBAS, SEAS ELMS, ELRS, ELPS
	49	280V -400V	BH0647(G)  W Type xenon lamp		16W	S125HS, S150HS S180US, S180UHS SH1HS, SH2HS SEDHS, SDHS SHDHS, SHD2HS SMDHS SESAHS, SEAHS ELVS

# Comparison of Light Source Characteristics

## Comparing light source by Brightness/ Lifecycle/ Efficiency

	Bulb Steady/ flashing	Bulb Revolving	LED Steady/ flashing	LED Revolving	Xenon lamp strobe	Explanation of details
Brightness						Xenon lamp strobe type by comparison is the brightest, and the LED is the darkest. But recently, LED technology is advancing rapidly and LED brightness is improving.
Lifecycle						LED has the longest lifetime, but is easily affected by the ambient temperature and overvoltage. Compared to the LED, the bulb has a short lifetime because it consumes the filament every time it is lit up and the lifetime gets even shorter with a flash type model.
Efficiency						When it comes to economics, light bulb is the best choice because its structure is simple and it does not need any special circuits. The LED is expensive compared to other light sources. Xenon lamp is also expensive than bulbs due to its control circuit.



# Warning Light/ Indicator Light Operating Principle



## Bulb Steady/ Flashing Type

- Highly diffusible light bulb that refracts light through a special lens and can be used in a steady or flashing state



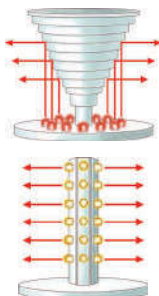
## Bulb Revolving Type

- By combining a highly diffusible light bulb and a reflector, light is reflected in a parallel beam with a rotating cycle
- Our bulb revolving model has a long lifetime enabled by using a high durability bulb and a power transfer system that minimizes noise and abrasion



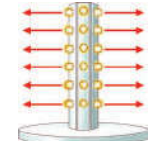
## LED Revolving Type

- The combination of an LED and a reflector creates a parallel light beam with a rotating cycle
- Our LED revolving model is patented for emitting light with the same level of uniformity and brightness compared to the bulb reflecting type



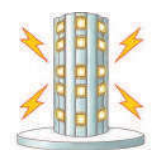
## LED Steady/ Flashing Type

- The indirect light distribution system uses a special structure to radiate a uniform light signal throughout the entire body of the lens by using a multi-stage reflector
- The direct light distribution system uses a high-intensity LED light and diffusion lens to transfer signal over a long distance. Qlight LED lights / flashing lights are equipped with two structures depending on the model type, Steady or Flashing Type



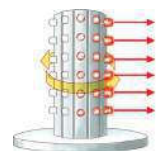
## LED Strobe-Type

- By shortening the LED flashing period and supplying the maximum current to the LED, it produces a flash effect just like the xenon lamp



## LED Simulated Revolving Type

- By uniformly arranging the LED lens in a 360 degree circumferential direction, it will produce a flash in a regular rotating sequence
- The visual effect looks just the same as the revolving model



## Xenon Lamp Strobe-Type

- The strobe type model uses a xenon lamp that instantly emits a high brightness light by supplying large energy
- Requires more power than other flashing type models, and the flash is brighter in comparison
- Has excellent vibration resistance compared to regular light bulbs but is not superior to LEDs
- Can spread strong light signals in all directions because of the light projecting structure

# Light Source of Warning Light/ Signal Light

## SELECTION OF WARNING LIGHT

The selection of signaling devices will depend on the particular situation and environment.

- Whether the location of installation is dark or bright.
- Whether the signal transmission range should be short or long, or should have good visibility.
- Whether you need an economical but short lifetime product or upscale product with longer lifetime.
- Whether the environment is harsh with vibration and shock, or the environment is stable so that the life of the lights can be guaranteed.
- The selection of signaling device can be different depending on the situation and environment. The convenience and efficiency of maintenance should also be considered.

\* Factors to consider in signal selection

1. Purpose
2. Signal transmission
3. Environment
4. Budget
5. Ease of maintenance

## TYPE OF LIGHT SOURCE



### Bulb

Light bulb is a light source that uses temperature reflection generated by the current flowing through the light bulb filament (thin line of metal), tungsten wire coil filament is often used. The hot filament is protected from oxidation with a glass sphere injected with inert gas (Argon gas, etc.). Typical characteristics of the gas injected bulb is described below.

1. If the input voltage decreases more than 10% of the rated voltage, the bulb life increases four times than before, and the power consumption is reduced by 85%.
2. On the other hand, If input voltage is 10% higher than the rated voltage, the life of the bulb is shortened by about 30% and the power consumption increases about 16%, and the brightness is increased by about 40%. The standard service life of a normal bulb is about 1,000 - 1,500 hours.



### LED

The LED is a light emitting diode which emits light by injecting a current in the PN junction of the special semiconductor, semiconductors such as GaAs, GaP that Maximizes the electro-optical conversion effects are used. Like other semiconductors, over-voltage or ambient temperature affects the lifetime, but due to the absence of mechanical abrasion of the part, LED is shock/ vibration resistant so there is no need for proper seismic design. The standard service life of an LED is about 50,000 hours.



### Xenon Lamp

Xenon lamp is a flash type light source that emits bright light instantly by inserting high energy into the lamp. Compared with the steady type lamp, xenon lamps need a lot of input power instantly and a extremely large amount of light it is diffused.

The lamp is filled with xenon(Xe) gas due to the convenience of the production(choice of materials), its use, xenon lamp was named after the xenon gas that it uses. xenon lamps are also resistant to vibration due to its mounting method. In addition, it is visible even in bright environments not only because the spectacle distribution of the visible light is close to the sunlight, it uses the same method as the strobe of the camera.

# Technical Certification

Qlight products are designed to meet strict quality and technical standards. Thus, the Qlight brand is widely recognized for its high quality and technical innovations from leading institutions around the world.

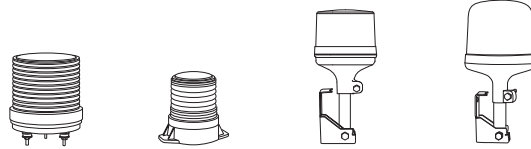
 <p><b>ISO</b> International Organization for Standardization</p> <p>Qlight quality assurance systems have been certified by ISO by applying the ISO 9001:2008, KS Q ISO 9001:2009 regulation.</p>	 <p><b>IECEX</b> International Explosion Proof Certification (IECEX)</p> <p>Certified that Qlight's products are being manufactured and manage according to international standards.</p>
 <p><b>ATEX</b> The European Regulatory Framework of Manufacture, Installation and Use of Equipment in Explosive Atmospheres</p> <p>Qlight explosion proof products comply with ATEX Directives 94/9/EC.</p>	 <p><b>NEPSI</b> National Supervision and Inspection Center for Explosion Protection and Safety of Instrumentation</p> <p>Qlight's design and manufacturing system meets the People's Republic of China National explosion proof Standard. (Chinese Standard-GB3836/GB12476)</p>
 <p><b>KCs</b> Explosion proof device safety Certification System</p> <p>The safety performance of machines and equipment subject to safety certification and Technical capability and production system have been certified safety certification standards.</p>	 <p><b>TIIS</b> Japan Explosion-proof Certification</p> <p>Japan explosion-proof certification is an international mutual certification system for explosion-proof electrical equipment. Qlight have been certified that explosion-proof products are manufactured and managed according to international standards.</p>
 <p><b>ABS</b> American Bureau of Shipping</p> <p>Qlights design and quality assurance system has been certified by the American Bureau of Shipping.</p>	 <p><b>RMRS</b> Russian Maritime Register of Shipping</p> <p>Qlight design and quality assurance system has been certified from Russian Maritime Register of Shipping.</p>
 <p><b>CCS</b> China Classification Society</p> <p>Qlight design and quality assurance system has been certified by the China Classification Society.</p>	 <p><b>KR</b> Korean Register of Shipping</p> <p>Qlight design and quality assurance system has been certified by the Korean Register of Shipping.</p>
 <p><b>LR</b> Lloyd's Register</p> <p>Qlight design and quality assurance system has been certified from Lloyd's Register.</p>	 <p><b>E-mark</b> Commission Directive Regarding Vehicle Industry</p> <p>Qlight has obtained EU mark for approved vehicles and vehicle components sold into the EU(EEA : European Economic Area)</p>
 <p><b>KC</b> Korea Safety Certification</p> <p>Qlight products are certified by KC for preventing accident caused by fire.</p>	 <p><b>KCC</b> Conformity assessment of broadcasting communication equipments</p> <p>Qlight have been certified to protect the electromagnetic environment that causes unwanted electro-magnetic waves from the device, communication failure due to other devices or external radio waves, and malfunction of the device.</p>
 <p><b>CCC</b> China Compulsory Certificate</p> <p>Qlight has obtained CCC which guarantees safety, protection against fraud, environment, etc.</p>	 <p><b>CCCF</b> China Certification Center for Security &amp; Protection</p> <p>Qlight have passed the rigorous examination process of "Passing Fire Protection Products Centering" in order to sell fire-fighting products such as fire alarm equipment to Chinese market.</p>
 <p><b>UL</b> Underwriters Laboratories</p> <p>Qlight design and quality assurance system has been certified from UL to ensure the stability of consumption goods and to protect consumers.</p>	 <p><b>CE</b> European Commission</p> <p>Qlight has been certified by the European Commission.</p>
 <p><b>ICAO</b> International Civil Aviation Organization</p> <p>Qlight guarantees our products satisfy the criteria regulated by the International Civil Aviation Organization(ICAO, FAA).</p>	 <p><b>RoHS2</b> Restriction of Hazardous Substances Directive</p> <p>Qlight complies with the Restriction of Hazardous Substances Directive by limiting its use of hazardous materials.</p>

# Application Areas



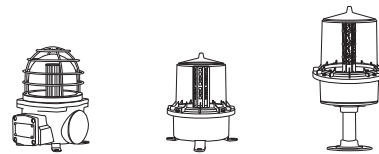
## Industrial Vehicles, Construction Machinery

Industrial vehicles such as forklifts, excavators, and wheel loaders use warning lights to warn people from getting close to the vehicles. Industrial vehicles and construction machinery are exposed to harsh environments such as heavy vibration/ shock. Therefore, these products require high durability and superior weather resistance.



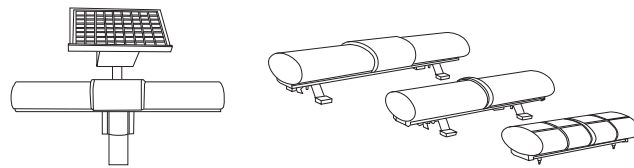
## Obstruction Lights

It is mandatory to install obstruction lights on structures likely to interfere with the flight path and safety of an aircraft. Since these product specifications are defined by each government's aviation regulatory bodies, users must select the right products that meet the proper requirements.



## Road Safety and Emergency Vehicles

Installed in vehicles such as police cars, ambulances and tow trucks to ensure safety. Also installed in hazardous areas such as steep slopes to warn drivers to drive safely in dangerous areas.

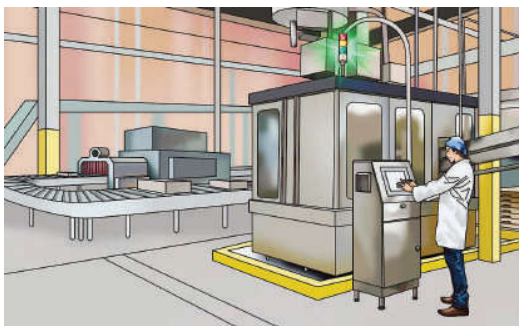
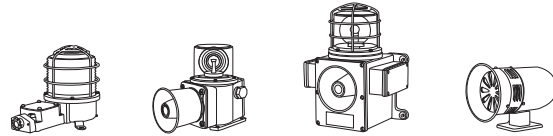


# Application Areas



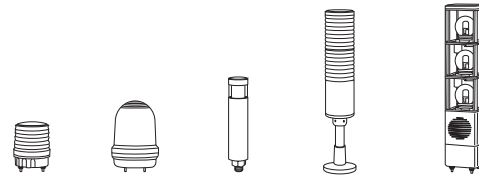
## Steel Industry

Steel mills have high-risk of an accidents due to its 24-hour a day operation in high-temperature environments. Various warning lights and alarms are installed to ensure safety, mostly heavy-duty products that have high resistance to vibration and shock are used in this application area.



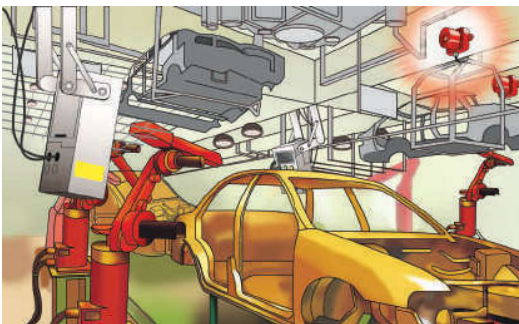
## Unmanned Automation Equipment

Various audio-visual signaling devices are used in locations where unmanned automated machines are in operation. They are used to notify the current status of the manufacturing process/ equipment. With our products, operators can quickly respond to any situation.



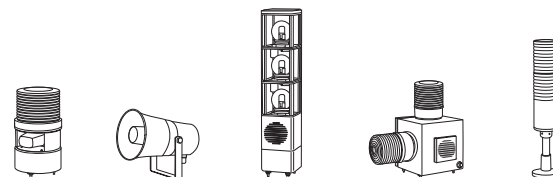
## Machine Tools

It is often difficult to monitor the operating status inside a machine tool. Therefore, signal tower lamps with auditory tones are mainly used and mounted outside the machine tool to help notify the user of its operating status. On the other hand, work lights installed inside the machine help with visibility inside the tool and require high durability and resistance to oil. Qlight has LED work lights for machine tools that are suitable for IP69K environments.



## Automotive Industry

Manufacturing efficiency drops significantly when a failure occurs in a working line of a automobile plant. A signaling system is valuable in tracking the status of the equipment in order to provide immediate response to the situation or problem.





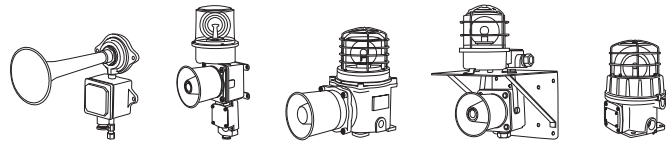
# Application Areas

Qlight's products are used in a wide range of industries. With our various product families, we offer a wide selection of products appropriate for every facility and working condition.



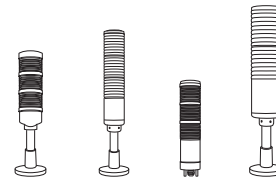
## Shipbuilding Industry

Explosion proof products have the durability, enclosed structure, and corrosion resistance features to protect it from dangerous situations in ships or manufacturing plant environments.



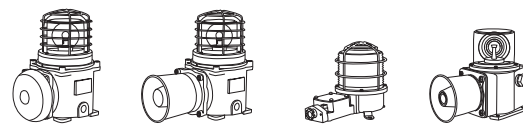
## Semiconductor Manufacturing Equipment

Semiconductor manufacturing equipment has a high automation utilization rate and for that reason its operating condition is monitored by signaling devices. In this case, signal tower lamps are typically used. On the other hand, for places/ equipment that use ultra-high purity gases in its process (for example gas cabinets), non sparking explosion proof signal tower lamps are used.



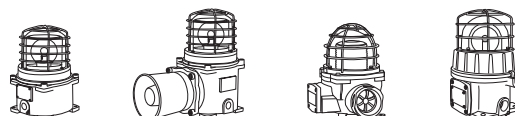
## Offshore Plant

For offshore oil and gas rigs in the ocean, safety is a priority. In order to maintain safe and stable operating conditions, Heavy-duty products are often selected because of its shock/ corrosion/water resistance features.



## Petrochemical Plant

Places such as petrochemical plants and gunpowder factories where explosive gas is ubiquitous and has a higher risk of fire and explosion. Explosion proof signaling devices are often used in order to ensure proper safety in these hazardous locations.



# List of Technical Information

This catalogue has a lot of technical information for our customer's reference and education. Please be advised that the common specifications for each product category are located in the front of the contents followed by specific information about each product.

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Technical Data for USB Type LED Tower Light	Concept of USB LED tower light and application instructions	P360-362
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Technical Information on LED Work Lights	Terms of lighting, CIE 1931 color coordinate and color temperature	P420-421
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# New Products

## QMFLN

P430~431



- Water, dust, and oil resistant high-intensity LED light bars
- Superior durability with oil-resistant epoxy bonding structure
- Light transmitting lens made of tempered glass
- Available in a variety of lengths depending on your application needs
- Protection rating : IP67/ IP69K

## QPL/ QPLC/ QPHL/ QPHLC

P432~434



- Waterproof LED light bars
- Aesthetically pleasing round-shaped lens structure
- LED direct AC power supply system
- Available in a variety of lengths depending on your application needs
- Protection rating : IP65

## QCML/ QCMLC

P435~437



- Waterproof LED light bars for multi-use
- Multi silicon rubber sealing structure for superior protection from water
- Light color options : warm white, cool white, yellow and red
- Protection rating : IP67/IP69K

## QGL/ QGLC

P438~439



- LED light bar for general indoor use
- LED direct AC power supply system
- Available in a variety of lengths depending on your application needs
- Detachable bracket with easy mounting hole space adjustment

## QEL/ QELT/ QELS/ QELTS

P440~442



- LED light bars specially designed for distribution panel applications
- LED direct AC power supply system
- Available in a variety of lengths
- Detachable bracket with easy mounting hole space adjustment
- Terminal box and switch option available

# New Products

## Wireless Control Product

**QTG60-WIZ/ QTG70-WIZ**

P389~396



- Wireless LED tower lights
- Can remotely monitor and control the operating status using a PC or smartphone
- Allows the construction of a low cost advanced production system
- Protection rating : IP65(standard type), IP54(buzzer type)

**QMCL125-WIZ**

P397~399



- Wireless multiple color LED steady signal lights
- Can remotely monitor and control the operating status using a PC or smartphone
- Allows the construction of a low cost advanced production system
- Can generate 7 color light signals in one light unit
- Protection rating : IP65

## Electric Horns

**QMPS**

P408~409



- Panel mounted multi-functional smart electric horn
- A variety of pre-recorded sounds and MP3(SDcard) sound input supported
- Sound volume : Max 98dB at 1m
- Protection rating : IP54

**QAP80H/ QAP80BZ**

P412



- Electric horn/ high-volume buzzer
- Sound volume : Max 100dB at 1m (QAD80HC)
- Sound volume : Max 105dB at 1m (QAD80BZC)
- Protection rating : IP65

**QAP100H/ QAP100BZ**

P413



- Electric horn/ high-volume buzzer
- A variety of pre-recorded sounds and MP3(SDcard) sound input supported
- Sound volume : Max 100dB at 1m (QAP100H)
- Sound volume : Max 105dB at 1m (QAP100BZ)
- Protection rating : IP65

**QAP125H/ QAP125BZ**

P414



- Electric horn/ high-volume buzzer
- A variety of pre-recorded sounds and MP3(SDcard) sound input supported
- Sound volume : Max 115dB at 1m (QAP125H)
- Sound volume : Max 105dB at 1m (QAP125BZ)
- Protection rating : IP65

**SMP35/ SMP50**

P417



- Multifunctional electric horn with 30 sounds
- Pre-recorded sounds and MP3 (SDcard) sound input supported
- Sound volume : Max 115dB at 1m (SMP35)
- Sound volume : Max 123dB at 1m (SMP50)
- Protection rating : IP65

## LED Work Lights and LED Light Bars for Industrial Use

**QML/ QMHL**

P424~427



- Water, dust, and oil resistant high-intensity LED work light
- Superior durability with special sealing structure
- Light transmitting lens made of tempered glass
- Mounting options : Oil resistant K bracket (tilt type) and MF bracket (tilt/ pan type)
- Protection rating : IP67/ IP69K

**QFL/ QFLC**

P428~429



- Water and vibration resistant high-intensity LED light bars
- Excellent front and side luminance with special light distribution system
- LED direct AC power supply system
- Superior durability with polycarbonate lens
- Protection rating : IP67

# New Products

## Signal Tower Lights

**QWT**

P263~264



- Wall mount LED signal tower light with built-in buzzer
- Superior side visibility with round-shaped lens
- Sound volume : Max 85dB at 1m
- Protection rating : IP54

**QTA56L**

P259~260



- LED Steady Tower Lights
- hexagon shaped metal housing
- Folding type mount bracket
- Volume : Max 85dB at 1m
- Protection rating : IP44(standard type), IP23(buzzer type)

**QT56MCL**

P280~281



- Multi-color led steady tower lights
- 7 color modes configuration
- Hexagon shaped metal housing
- Sound volume : Max 90dB at 1m
- Protection rating : IP44 (standard type), IP23 (buzzer type)

**QTA56L**

P301~306



- Layer re-arrangeable LED steady/flushing tower lights
- A variety of mounting bracket options
- Built-in buzzer with adjustable volume level type available
- Sound volume : Max 85dB at 1m
- Protection rating : IP65(standard type), IP54(buzzer type)

**QTG50/ QTG60/ QTG70**

P307~314



- Modular LED steady/flushing tower lights
- Excellent visibility with special color diffusing lens
- Easy addition and rearrangement of modules by using the lock-type structure
- Sound volume : Max 85dB at 1m
- Protection rating : IP65 (standard type), IP54 (buzzer type)

**QTC50/ QTC60/ QTC70**

P315~322



- LED steady/flushing tower lights
- Separate color filter lens inside the outer lens provides clear signal
- Easy addition and rearrangement of modules by using the lock-type structure
- Buzzer volume adjustable
- Sound volume : Max 85dB at 1m
- Protection rating : IP65 (standard type), IP54 (buzzer type)

**QTR50/ QTR60/ QTR70**

P323~330



- LED steady/flushing tower lights
- Milky color filter provides comfortable viewing for the operator
- Easy addition and rearrangement of modules by using the lock-type structure
- Buzzer volume adjustable
- Sound volume : Max 85dB at 1m
- Protection rating : IP65 (standard type), IP54 (buzzer type)

# New Products

## Warning Light Bars

**QLV-1250/ QLV-1150/ QLV-885**

P228-230



- Warning light bar for emergency vehicle
- Slim design
- Vivid & powerful signal sign
- Sound volume : Max 123dB at 1m
- Protection rating : IP56

**SAMP-100**

P231



- Amplifier for QLV warning light bars
- Simple linkage between sound signal and warning lights
- Clear and stable sound signal
- Equipped with a microphone for emergency voice notifications

**SM-100ND**

P231



- Sounder for QLV warning light bars
- 100W high volume horn with clear warning sounds
- Mounting bracket for applications in various environments

## Aviation Obstruction Lights

**QAOL1**

P241



- Low intensity LED aviation obstruction light
- Excellent durability from the polycarbonate housing structure
- Light color : Amber
- Light function : Flashing
- Luminous intensity : 200cd/m
- Protection rating : IP56

**SAOL2**

P242



- Low intensity LED aviation obstruction light
- Aluminum housing structure
- Light color : Red
- Light function : Steady
- Luminous intensity : 19cd  $\pm$ 25%
- Protection rating : IP66

**SAOL3**

P243



- Low intensity LED aviation obstruction light
- Aluminum housing structure
- Light color : Red
- Light function : Steady
- Luminous intensity : 48cd/m
- Protection rating : IP66

**SAOL4**

P244



- Medium intensity LED aviation obstruction light
- Aluminum housing structure
- Light color : Red, White
- Light function : Flashing(A, B type) Steady(C type)
- Luminous intensity : 2,000cd  $\pm$  25%
- Protection rating : IP66

**QEAL1**

P245



- Explosion proof low intensity LED aviation obstruction light
- Aluminum housing structure
- Light color : Red
- Light function : Steady
- Luminous intensity : 50cd  $\pm$  25%
- Protection rating : Ex d IIC T4, IP66

**QEAL2**

P246



- Explosion proof medium intensity LED aviation obstruction light
- Aluminum housing structure
- Light color : Red, White
- Light function : Flashing
- Luminous intensity : 2,000cd  $\pm$  25%
- Protection rating : Ex d IIC T4, IP66

# New Products

## QWCD35/ QWCD50

P130-132



- LED strobe signal light and electric horn combinations
- Qlight's innovative patent holding light emitting horn enclosure
- A variety of built-in sounds binary input and SDcard sound input supported
- Sound volume : Max 115dB at 1m (QWCD35)
- Sound volume : Max 123dB at 1m (QWCD50)
- Protection rating : IP66

## STNDL

P142-143



- LED tower light and electric horn combination
- Pre-recorded sounds and SDcard sound input supported
- Sound volume : Max 105dB at 1m
- Protection rating : IP54

## STND100LR/ STND100L/ STND100R

P144



- Warning light and electric horn combinations
- Pre-recorded sounds and SDcard sound input supported
- Sound volume : Max 105dB at 1m
- Protection rating : IP54

## STND125LR/ STND125L/ STND125R

P145



- Warning light and electric horn combinations
- Pre-recorded sounds and SDcard sound input supported
- Sound volume : Max 105dB at 1m
- Protection rating : IP54



## Heavy-Duty Products for Vessels and Heavy Industry

### QA115HLS/ QA115HLS P

P155



- LED strobe warning light for heavy industry
- Can select between direct mount type and pole mount type
- Protection rating : IP66

### QWH35/ QWH50

P183-184



- Smart wall mount electric horn embedded in the enclosure body
- 30 variety of built-in tones with SDcard sound input supported
- Sound volume : Max 115dB at 1m (QWH35)
- Sound volume : Max 123dB at 1m (QWH50)
- Protection rating : IP66



## Explosion proof Warning Lights

### QTEX/ QTEXB

P208-209



- Explosion proof tower light
- Superior durability with aluminum housing
- Mounting options : wall mount type, direct mount type
- Sound volume : Max 102dB at 1m
- Protection rating : Ex dIC T6, IP66

### QMFL-300-Ex-24

P226



- Non sparking LED work light
- Can be used in Zone 2 applications
- Special epoxy sealed structure provides excellent oil resistance
- Features tempered glass for enhanced durability
- Protection rating : IP67/ IP69K

# New Products

## Warning Lights/ Signal Lights

**Q70NSC**

P62



- Ø70mm xenon strobe warning light
- Superior visibility with distinctive direct light distribution system
- Medium screw base(E26)
- Protection rating : IP65

**Q70NSN**

P63



- Ø70mm xenon strobe warning light
- Superior visibility with distinctive direct light distribution system
- Cable entry : PF 1/2" (male)
- Protection rating : IP65

**S80NS**

P66



- Ø80mm LED strobe warning light
- Superior visibility with direct light distribution system
- Protection rating : IP66

**S80LS**

P67



- Ø80mm LED strobe signal light
- Excellent durability to shock, vibration and moisture
- Protection rating : IP65

**S125LSE**

P68



- Ø125mm LED strobe warning light
- Excellent durability to shock, vibration, and moisture
- Protection rating : IP54

**SKTL/ SKTLB/ SKTLM/ SKTLBM**

P86-87



- Cube-shaped LED warning lights for vehicle
- Direct mount, magnet base, built-in siren buzzer are optionally provided
- Special light filter structure provides clear signal light transmission
- Sound volume : Max 105dB at 1m
- Protection rating : IP66

**MFL60/ MFL80/ MFL100/ MFL125**

P103-104



- LED signal light with multi-light functions
- Multi-functional model with selectable steady/flashing, strobe, and simulated revolving flashing mode in one unit
- Sound volume : Max 80dB at 1m
- Protection rating : IP65

**QMCL60/ QMCL80/ QMCL100/ QMCL125**

P109-110



- Multi-color led steady signal lights
- 7 color modes configuration
- Sound volume : Max 80dB at 1m
- Protection rating : IP65

## Signal Light & Audible Alarm Combination Products

**QWTD**

P124-125



- Wall mount LED signal tower with built-in alarm
- 5 selectable sound patterns from 20 sound options
- Sound volume : Max 85dB at 1m
- Protection rating : IP54

**QAD80H/ QAD80BZ**

P127



- Signal light and electric horn(-H type) / high-volume buzzer (-BZ type) combinations
- Sound volume : Max 100dB at 1m (QAD80H)
- Sound volume : Max 105dB at 1m (QAD80BZ)
- Protection rating : IP65

**QAD100H/ QAD100BZ**

P128



- Signal light and smart electric horn (-H type) /high volume buzzer (-BZ type) combinations
- A variety of pre-recorded sounds and SDcard sound input supported
- Sound volume : Max 100dB at 1m (QAD100H)
- Sound volume : Max 105dB at 1m (QAD100BZ)
- Protection rating : IP65

**QAD125H/ QAD125BZ**

P129



- Signal light and smart electric horn (-H type) /high volume buzzer (-BZ type) combinations
- A variety of pre-recorded sounds and SDcard sound input supported
- Sound volume : Max 115dB at 1m (QAD125H)
- Sound volume : Max 105dB at 1m (QAD125BZ)
- Protection rating : IP65



# R&D Center and Lab for Testing Explosion Proof Products

## R&D Center

Qlight's R&D laboratory continually strives to enhance our technology in the areas of product miniaturization, unmanned operation, and strengthened durability in order to develop products that can satisfy our customer's sophisticated needs.

Considering our customer's diverse operational conditions, we constantly pursue the best product quality by testing and measuring our products under the most extreme conditions. We achieve our high quality through standardized processes acknowledged by world-leading certificate organizations such as UL, CE, ATEX, IECEx and etc.



## Research Achievements

01. Interchangeable layer type tower lights
02. Warning light globes applying optical-path direction lighting system
03. Floodlight with high efficiency LED for inspecting cracks in industrial sites and industrial machinery
04. A lens that helps deliver the LED's light in the lateral direction, and bulbs applying this lens (LR-transparent)
05. High intensity LED revolving warning lights applying multi-directional reflector
06. Explosion proof electric horns applying sintered flame arrester
07. Brushless DC motor
08. Motors applying V-belt drive, featuring high energy efficiency and minimized noise
09. Multiple color LED warning lights
10. Signal lights applying LED bulbs as light source
11. Solar powered warning lights
12. Direct-drive warning lights
13. Special driving gear for revolving warning lights
14. LED Bulb applying special lens
15. Warning lights for heavy industry applying multi lens system
16. Signal horns embedded in the enclosure body that functions as a light source
17. LED Work light bars specifically designed for machine tools with IP69K protection rating



## Lab for Testing Explosion Proof Products

Qlight has invested in our own explosion proof test facilities in order to quickly develop new technologies and conduct pre-certification testing. This helps us maximize our efficiency in developing products within market driven timelines.

The pre-certification testing follows the strict IEC 60079-0, IEC 60079-1 standards to ensure our product's quality and smooth certification process when submitted to universal standards bodies.



## Process of Explosion Proof Testing



# Company History

**Qlight has been striving to accomplish our mission to provide visual and audible status indicating systems and solutions to enhance our customer's work safety and efficiency for the last three decades.**



- 2019** 09 Completed Qidong factory
- 08 Explosion proof LED tower light (QTEXB) acquired TIIS mark
- 04 Explosion proof LED work lights (SESA/ SESAL/ SESALR/ SESAS) obtained KCs certificate
- 2018** 04 Launched new brand 'Qlightec' providing smart factory solutions
- 01 Explosion proof LED work lights (QLEX-SLM-250(PL)) obtained KCs certificate
- 10 Began construction of Qidong Factory, China
- 08 Explosion proof LED warning light(SNE, SNES) acquired NEPSI certificate
- 07 Explosion proof LED warning light (SNEL/ SNESLR) acquired TIIS certificate
- 03 Non-Sparking ex-proof LED work light (QMFL30-Ex-24) acquired NEPSI certificate
- 02 Explosion proof warning lights (SNEL/ SNESL/ SESAL) acquired CCC(F) certificate
- 02 Explosion proof LED tower light (QTEX/ QTEXB) acquired ATEX, IECEx certificate
- 2017** 02 ISO 14001 : 2015 certificate aquired
- 02 Obtained ICAO certificate for SAOL1
- 2016** 11 Obtained the patent for "multi-functional modular signal tower light" (Patent # : 10-1676863)
- 09 Obtained the patent for "Emergency Vehicle Lightbar" (Patent # : 10-1662283)
- 07 Obtained UL certificate for LED signal lights Q series
- 07 Obtained the patent for "Bar style LED work lights" (Patent # : 10-1598123)
- 2015** 06 Limit switch models (3 items including SW2TS) acquired certificates from RMRS
- 03 LED work lights (QML150/250, QMFL 500/600) UL listed
- 2014** 10 Established the Qlight USA, Inc. in San Jose, CA.
- 10 Horn which that emits light patented (Patent # : 10-1452447)
- 10 Fan/ tilt type bracket patented (Patent # : 10-1452445)
- 09 LED strobe light with multi-lens patented (Patent # : 10-1444391)
- 08 Explosion proof product family including SNE, SNES, SESA, SEA, SPNA acquired IECEx certificates
- 01 Non-sparking explosion proof tower lights including ST45ML and STB45ML acquired KGS and NEPSI certificates
- 2013** 01 Portable warning lights for agricultural machine applications patented (Patent # : 10-1226959)
- 2012** 12 Explosion proof warning lights (SNE, SNES) acquired CCS certificates
- 12 LED work light with cylindrical lens attached patented (Patent # : 10-1219020)
- 09 Explosion proof warning lights (SESA, SEA, SPNA) and heavy-duty warning lights (SH1, SED, SEWN30) certified by CCS
- 01 LED warning light with LED reflector patented (Patent # : 10-1108102)
- 2011** 11 Explosion proof warning light (SNE, SNES) acquired NEPSI certificate
- 08 KCC (Korea Communications Commission) certificate acquired
- 07 Light equipment applying prism system patented (Patent # : 10-1051056)
- 07 ATEX certificate acquired for PC controlled tower light (ST56EL-ETN)
- 2010** 05 QEB certified by KIMM
- 05 LED warning light, bulb revolving warning light patented (Patent # : 10-0961472)
- 2008** 04 Motor drive system patented (Patent # : 20-0439536)
- 03 LED revolving type lens patent acquired (patent # :10-0808669)
- 2007** 11 Explosion proof electric horn (SPNA) acquired NEPSI certificates
- 05 Tower light models including ST45, ST56,ST80) UL listed
- 2005** 07 Heavy-duty products for vessel applications acquired Lloyd's (UK's Maritime Classification Society) certificates
- 04 ABS certificates acquired for 18 products including SH1
- 2004** 06 ISO 9001:2000 certificates acquired
- 2001** 02 Established Shanghai Qlight Electronic Co.,Ltd. in China
- 2000** 07 Established Qlight Limited
- 1993** 11 Nominated for developing domestic explosion proof warning lights by Korean Ministry of Science & Technology
- 1986** 07 Established Qlight

# Company Introduction

Qlight uses novel management and production management systems in order to produce high quality products.

By adopting technology standards and quality assurance systems,

Qlight has achieved quality gentrification and standardization with a wide range of products in order to meet our customer's sophisticated needs.



## Enterprise Resource Planning(ERP) System



- **Enterprise Resource Planning(ERP) system maximizes our management's efficiency**

The comprehensive enterprise resource planning system allows Qlight to quickly understand, communicate, and manage current business conditions in an efficient and transparent platform.

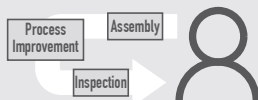
## Quick On-Time Delivery System



- **Highly efficient Supply Chain Management (SCM) ensures quick delivery time**

Our SCM's ability to visualize the entire supply chain at a glance from purchasing to production and to distribution allows for enhanced production efficiency for quick on-time delivery.

## Cell Based Manufacturing Systems



- **Apply Cell Manufacturing Systems where operators are responsible for the entire production procedure from beginning to end**

Modular parts and cell manufacturing systems allow for flexible manufacturing and mass product customization.

## Small Quantity Batch Production System



- **Flexible Customer-Driven Small Quantity Batch Production System (FMS: Flexible Manufacturing System)**

450 product families to satisfy diverse use cases and conditions. Prompt production system to produce approximately 15,000 types of parts.

## Quick Response to Market Change



- **One-stop System which allows Qlight to respond quickly to market needs**

Marketing strategy, R&D, purchasing, production and quality control activities are planned and carried out in one area with a one-stop system that allows Qlight to respond quickly to market needs.