This leaflet is a light edition which summarizes the contents depending on the light source and operational type based on our total catalogue. The total catalogue will be provided upon request from the nearest distributer or sales division in head office.

SIMPLE CATALOGUE 2016 *Innovation in*

ALARM & SIGNAL

Qlight

Contents

New Products

We produce a diverse portfolio of xenon and LED warning/ signal/ stackable light products that vary in size from 50mm to 180mm in diameter. The xenon and LED filaments are used to improve the lifetime and brightness of the products.

Excellent products that provide visual signals and audible sound. These products recently added an SDcard slot which allows users to input their own sound suitable for their application condition.

Products for vessels, heavy-duty, and heavy equipment require anti-vibration, corrosion, and waterproof qualities. Qlight's products are compliant with ABS, LR, CCS, KR, CE certifications.

Explosion proof products are used in places such as offshore plants, petrochemical plants and gunpowder factories where lingering explosive gas/chemicals pose a higher risk for fire and explosion.
Qlight produces products which are compliant to IECEx, ATEX, NEPSI, KGS, KOSHA standards.

Contents

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.
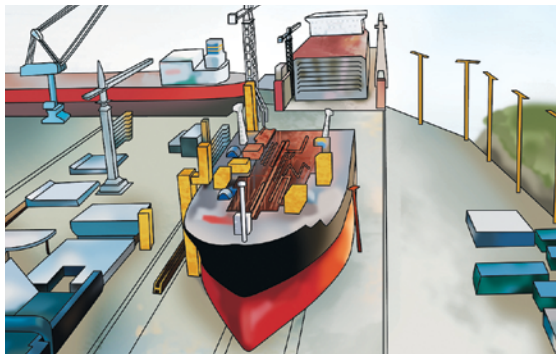
Shipbuilding Industry

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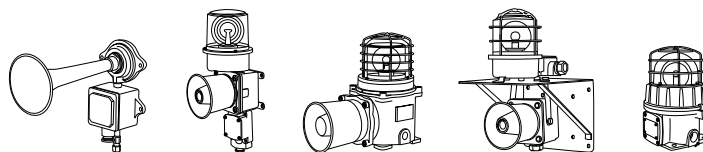
Semiconductor Manufacturing Equipment

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.
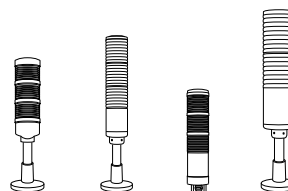
Offshore Plant

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.
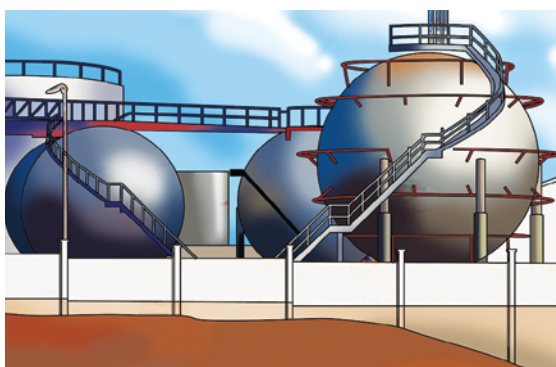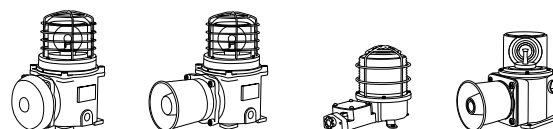
Petrochemical Plant

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.
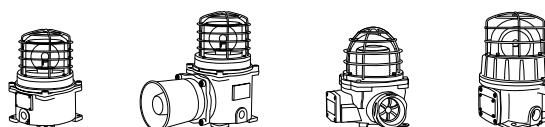
Application Areas

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.
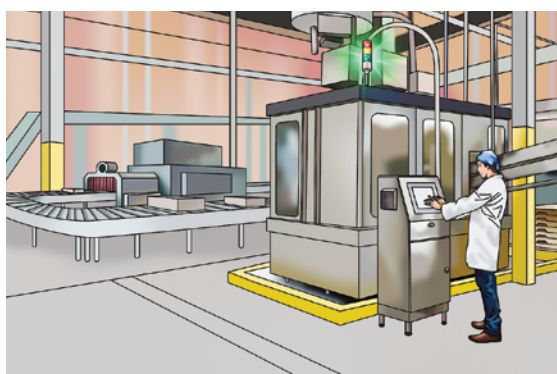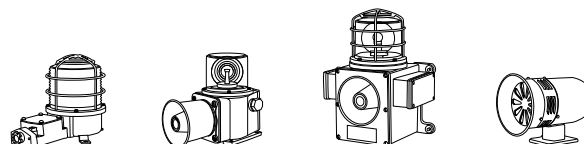
Unmanned Automation Equipment

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.
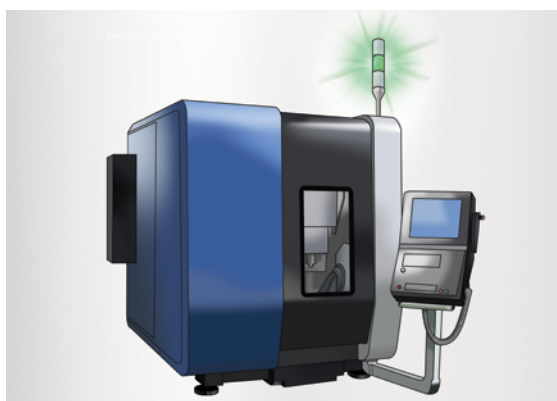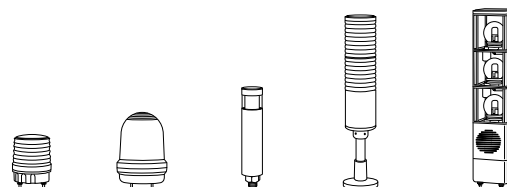
Machine Tools

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.
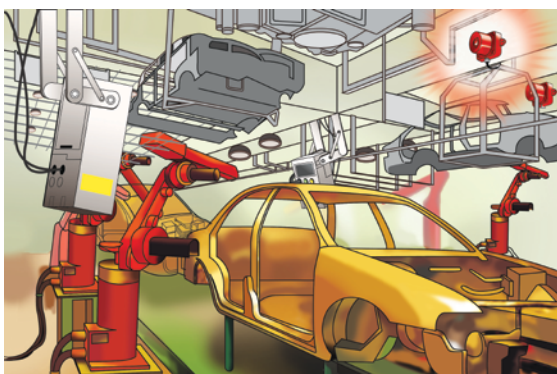
Automotive Industry

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.
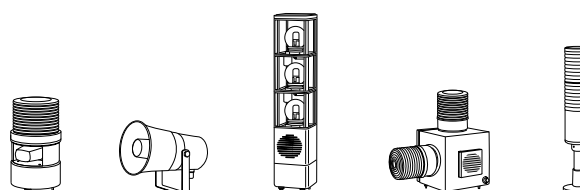
Application Areas

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.
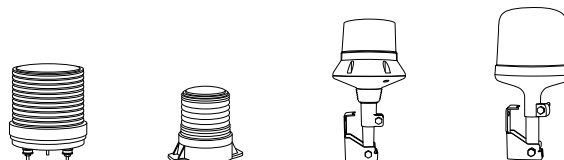
Obstruction Lights

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.
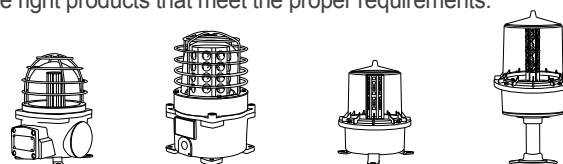
Road Safety and Emergency Vehicles

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.
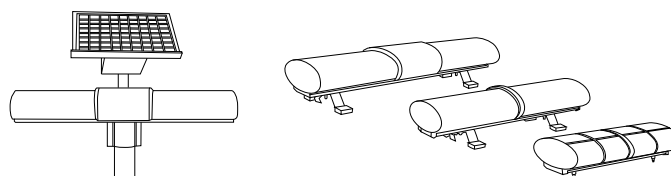
Light Source of Warning Light/ Signal Light

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.

Warning Light/ Indicator Light Operating Principle

Qlight

Bulb Steady/ Flashing Type

- Highly diffusible light bulb that refracts light though a special lens and can be used in a steady or flashing state
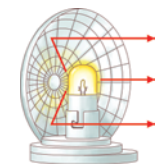
Bulb Revolving Type

- 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
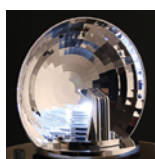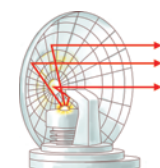
LED Revolving Type

- 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
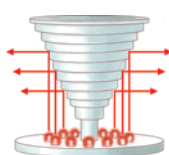
LED Steady/ Flashing Type

- 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
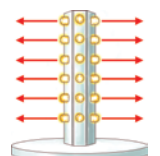
LED Strobe-Type

- 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
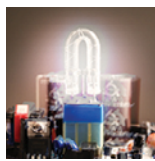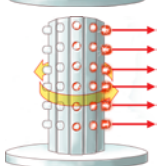
Xenon Lamp Strobe-Type

- 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

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**
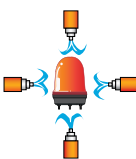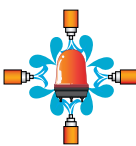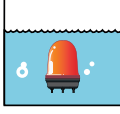
First Number
Protection against solid

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

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		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		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

Explosion Proof Technical Data
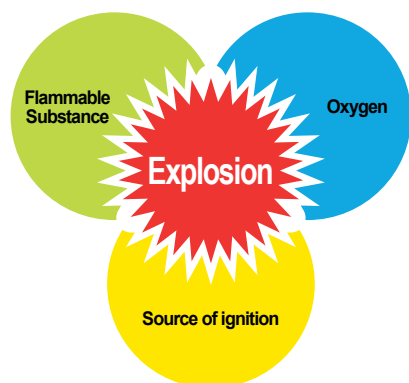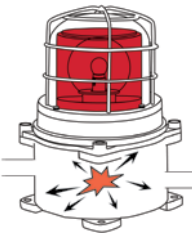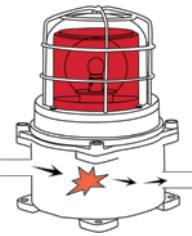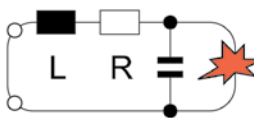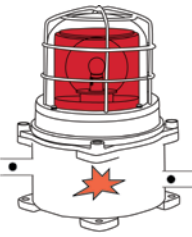
Technical Data for Explosion Proof Products

- **3 elements of explosion**
  Flammable substance, ignition source, and oxygen are the 3 elements of an explosion. The explosion will occur when the three components are met. If one the three components does not exist the explosion will not occur.

- **What is explosion proof?**
  Preventing the combination of the 3 elements of explosion.

- **Explosion proof product**
  Typically, products will include electrical parts that can be an explosion ignition source. However, explosion proof products are designed to prevent spark/ ignition.

Explosion Proof Structure Classifications

The data indicated below are some of the classification specifications by structure type of the explosion proof products. Furthermore, there are mold explosion proof structure, charging explosion proof structure and special explosion proof structure. The explosion proof classification structure is separated depending on product application areas.

Flame Proof		
	Ex d	Zone1, 2
	All electrical circuits are enclosed in a house strong enough to contain any explosion or fire that may take place on the inside.	

Purged/ Pressurized		
	Ex p	Zone1, 2
	Type of protection in which the protective inert gas inside the enclosure is maintained at a higher pressure than that of the surrounding atmosphere.	

Increased Safety		
	Ex e	Zone1, 2
	Electrical circuits incorporates special measures to reduce the probability of excessive temperatures and the occurrence of arcs and sparks in normal service.	

Non-Sparking		
	Ex n	Zone2
	Method of protection for electrical equipment designed so that it will not ignite the surrounding explosive atmosphere in normal operation and under certain fault conditions specifi ed in the standard.	

Intrinsic Safety		
	Ex i	Zone 0, 1, 2
	The electrical energy available in circuits and equipment, is limited to a level to low to ignite the most easily ignitable mixtures in a hazardous area.	

Dust Explosion Proof		
	Ex td	Zone 21, 22
	The apparatus is enclosed in a manner that will exclude ignitable amounts of dusts and will not permit arcs, sparks or heat generated or liberated inside the enclosures to cause ignition of exterior dust accumulations on the enclosure or of atmospheric dust suspensions in the vicinity of the enclosure.	

Technical Data of Explosion Proof

Classification by Group

Explosion proof equipment is classified as below depending on the risk characteristic of explosive gas.

EXPLOSION GROUP FLAMMABLE	FLAMMABLE SUBSTANCE	FLAMMABILITY
I	Methane	
IIA	Acetone, Petrol, Methanol, Propane, Toluene	Low
IIB	Ethylene, City gas	High
IIC	Hydrogen, Acetylene, Carbon sulphide	Very High

Temperature Class Definition

The temperature class is defined as below depending on the surface temperature of the explosion proof equipment.

The range of maximum surface temperature per temperature class	
The range of maximum surface temperature	temperature class
300°C - 450°C	T1
200°C - 300°C	T2
135°C - 200°C	T3
100°C - 135°C	T4
85°C - 100°C	T5
Below 85°C	T6

The Ignition Class and Temperature of The Explosive Gas

1) If the temperature class gets higher from T1 to T6, the ignition temperature gets lower.
2) If the explosion group changes from I to IIC, the explosion gets bigger.

	T1(G1)	T2(G2)	T3(G3)	T4(G4)	T5(G5)	T6(G6)
I	Methane					
IIA	Acetone, Ethane Ethyl ethanoate Ammonia Benzol(Pure) Ethanoic acid Carbon oxide Methane, Methanol Propane, Toluene Acetic acid Ethyl acetate Ethyl chloride Carbon Monoxide Methylene Chloride Naphthalene, Phenol	Ethanol i-Amyl acetate n-Butane n-Butyl alcohol Ethyl alcohol Cyclohexane Acetic anhydride	Benzene Diesel fuel Aircraft fuel Heating oils n-Hexane Petroleum spirit - Gen Jet propulsion fuel Heating fuel DIN 51603	Acetaldehyde Ethyl ether		
IIB	Town gas Coal gas (lighting gas)	Ethylene Ethylene oxide	Ethylene Ethylene oxide	Ethyl ether		
IIC	Hydrogen	Ethine(Acetylene)				Carbon disulphide

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 1st Group), WM (5 Melodies), WA (5 Alarms), WO (5 special warning sounds 2nd Group), and WN (5 special warning sounds 3rd Group) when not using a SDcard.
- Includes seven different functions. For example, it is able to playback the message continuously with the continuous play-back function for warning message that needs to be repeated often.

■ Function setting

SOUND SET   SD CARD   PLAY MODE   VOLUME

① Sound setting switch   ② MP3 playable SDcard   ③ Play mode setting switch   ④ Volume
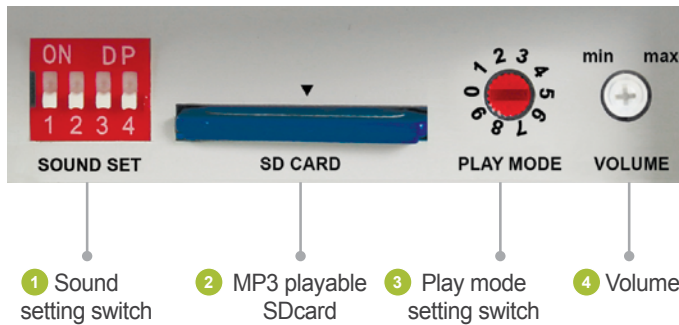
① Sound setting switch
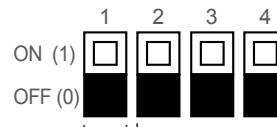
Group Choice in Bit Input Mode
001 : WS (5 Warning sounds)
010 : WP (5 special warning sounds 1st Group)
011 : WM (5 Melodies)
100 : WA (5 Alarms)
101 : WO (5 special warning sounds 2nd Group)
110 : WN (5 special warning sounds 3rd Group)

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 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

Left channel switch allows user to select from 31 sound tones.
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 (1st Group)	Ch1	Fire.A-ANG(560Hz~1.5kHz)	WO	5 Special Warning Sounds (2nd 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 PI. / 1 Long(1kHz)			Ch5	Fire.A-ANG(770Hz~1.11kHz)
WM	5 Melodies	Ch1	Sweet Home	WN	5 Special Warning Sounds (3rd 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

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

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

| 23 | _ | For Elise | .mp3 |

- 40 alphabets
- Indicator between file number and name
- File number 01-30
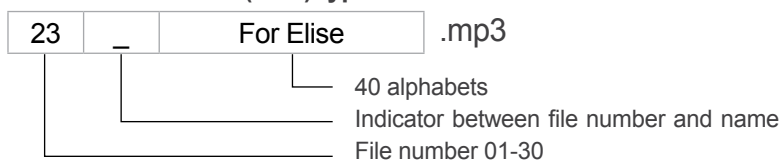
[Example]
♪ 01_Fire alarm.mp3
♪ 02_Emergency alarm.mp3
♪ 03_For Elise.mp3
⋮
♪ 30_Cuckoo Waltz.mp3

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

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

ON (1)
OFF (0)

Ch1 Ch2 Ch3 Ch4 Ch5
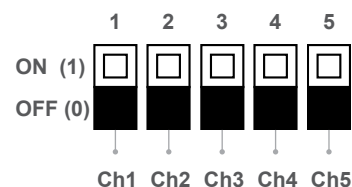
The Bit input method only recognizes one of the 5 switches at a time. This method doesn't support two inputs at once. The number of combinations is small, but it is much more convenient to remember the channel number.

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>
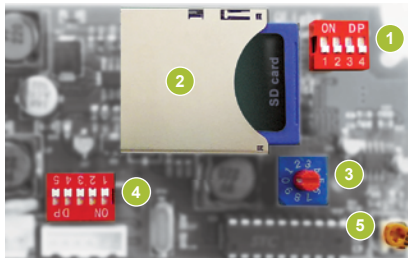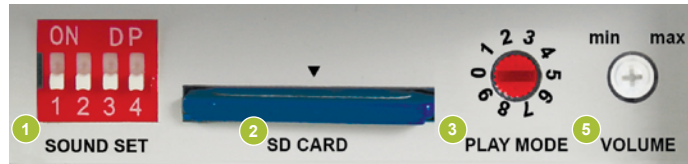
1. Sound setting switch
2. MP3 playable SDcard
3. Play mode setting switch
4. Sound select switch
5. Volume

■ How to set-up a MP3 type product

Select Built-in sound		Bit input mode	

Select built-in or external sound	**Play mode setting**	**Select sound group**	**Select sound** ◁)) **(play)**
Select Built-in or external sound by using # 1 switch in the sound setting switch. Please refer to our total catalogue page24 for special alarm type model, and page26 for multifunctional type model.	Select Bit/binary input by using # 3 the play mode setting switch. Please refer to our total catalogue page24 for special alarm type model, and page26 for multifunctional type model.	Select one of the 6 groups by using # 3 the sound setting switch. built-in sounds of special alarm type models does not support bit input. Refer to page17 for multifunctional type model.	Select and play one of the 5 sounds using # 4 sound select switch or line-out. Please refer to our total catalogue page25 for special alarm type model, and page27 for multifunctional type model.

Select external(MP3) sound

Binary input mode

Select sound ◁)) **(play)**
Select and play one of the 30/31 sounds using # 4 sound select switch or line-out. Please refer to our total catalogue page25 for special alarm type model, and page27 for multifunctional type model.

Bit input mode

Insert SDcard	**Play mode setting**		**Select sound** ◁)) **(play)**
Insert # 2 the SDcard that has the mp3 files into the SD-card slot.	Select Bit/binary input by using # 3 the play mode setting switch. Please refer to our total catalogue page24 for special alarm type model, and page26 for multifunctional type model.		Select and play one of the 5 sounds using # 4 sound select switch or line-out. Please refer to our total catalogue page25 for special alarm type model, and page27 for multifunctional type model.

Binary input mode

Select sound ◁)) **(play)**
Select and play one of the 30/31 sounds using # 4 sound select switch or line-out. Please refer to our total catalogue page25 for special alarm type model, and page27 for multifunctional type model.

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
Standard type pole mount installation. There is a screw at the end of the pole and it is equipped with nut for installation. Material : Steel	18mm SCREW & NUT (Standard Type)	Ø18 200 M18×1.5 THREAD 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
	24mm SCREW & NUT (Standard Type)	Ø24 120 M24×1.5 THREAD ST80B, ST80BF, ST80L, ST80LF, ST80EL, ST80ELF, STC80L, STC80LF, STC80EL, STC80ELF, QT70L, QT70LF, QT70LS, QT70LR, ST80EL-ETN, ST80L-ETN, ST80EL-USB, ST80L-USB
L-type bracket is attached to the pole mount tower light for installation to the side of the equipment. Material : Steel	LB18	Ø18 69 52 25 34 75 32 2-Ø8.5 HOLES 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
	LB24	Ø24 70 46 32 34 81 46 2-Ø8.5 HOLES ST80B, ST80BF, ST80L, ST80LF, ST80EL, ST80ELF, STC80L, STC80LF, STC80EL, STC80ELF, QT70L, QT70LF, QT70LS, QT70LR, ST80EL-ETN, ST80L-ETN, ST80EL-USB, ST80L-USB
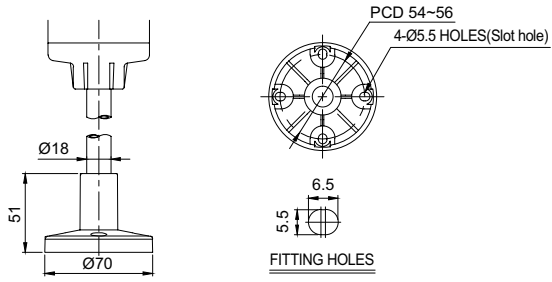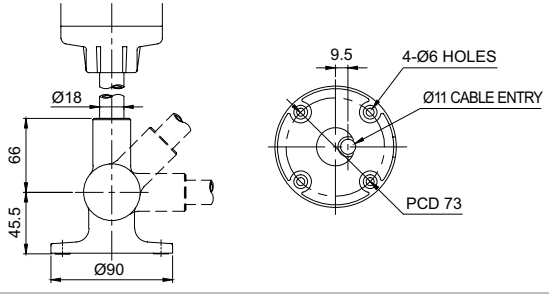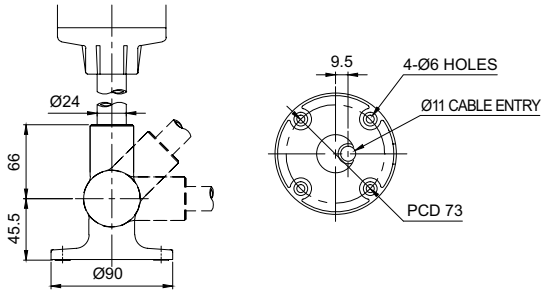
Tower Light Mounting Brackets

(Units : mm)

Features	Product Image	Technical Diagram for Applicable Models
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. Material : PC Color : Ivory	LW18	Ø18, 1/2″ PF, 52, 66, Ø28, 4-Ø5 HOLES, 14, 34, 46, 58, 38, 50, 12X22 CABLE ENTRY ST45B, ST45BF, ST45L, ST45LF, ST56B, ST56BF, ST56L, ST56LF, ST56EL, ST56ELF, STC45L, STC56EL, STC56L, QT50L, QT50LF, QT50LS, QT50LR, STG40L, STG40LF, STG50L, STG50LF
	LW24	Ø24, 33, 1/2″ PF, 52, 69.5, Ø35, 4-Ø5 HOLES, 18, 34, 46, 70, 38, 50, 12X22 CABLE ENTRY ST80B, ST80BF, ST80L, ST80LF, ST80EL, ST80ELF, STC80L, STC80LF, STC80EL, STC80ELF, QT70L, QT70LF, QT70LS, QT70LR
Round-shaped bracket for horizontal surface installation. Material : Al Color : Silver	SZ18	200, Ø18, 50, Ø70, 4-Ø5 HOLES PCD 56 ST45B, ST45BF, ST45L, ST45LF, ST56B, ST56BF, ST56L, ST56LF, ST56EL, ST56ELF, STC45, STC56EL, STC56L, QT50L, QT50LF, QT50LS, QT50LR, STG50L, STG40LF, STG50L, STG50LF
	SZ24	113, Ø24, 55.5, Ø90, 4-Ø5 HOLES PCD 73 ST80B, ST80BF, ST80L, ST80LF, ST80EL, ST80ELF, STC80L, STC80LF, STC80EL, STC80ELF, QT70L, QT70LF, QT70LS, QT70LR
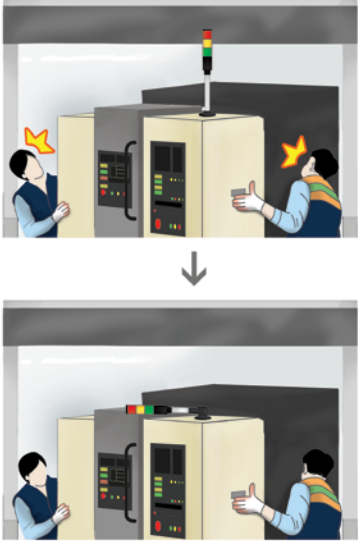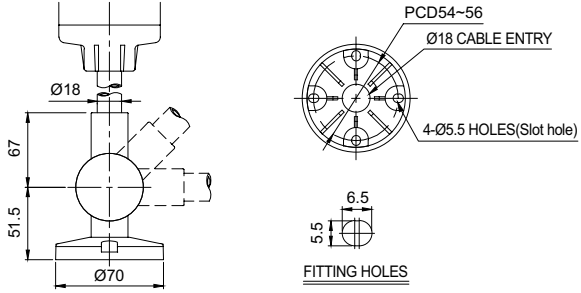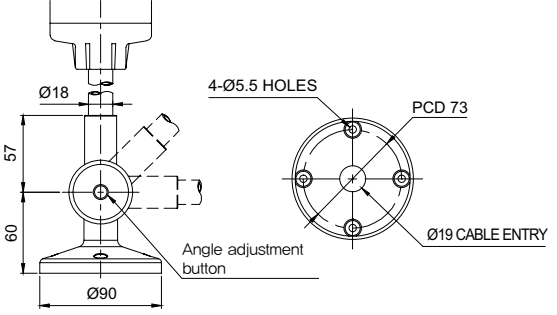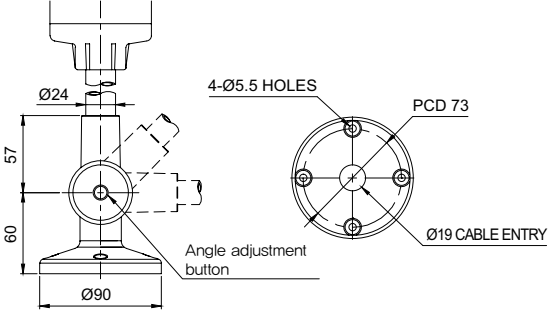
Tower Light Mounting Brackets

Features	Product Image	Technical Diagram for Applicable Models
Round-shaped bracket for horizontal surface installation. Material : PC Color : Black	QZ18	PCD 54~56 4-Ø5.5 HOLES(Slot hole) Ø18 51 Ø70 6.5 5.5 FITTING HOLES ST45B, ST45BF, ST45L, ST45LF, ST56B, ST56BF, ST56L, ST56LF, ST56EL, ST56ELF, STC45L, STC56EL, STC56L, QT50L, QT50LF, QT50LS, QT50LR, STG40L, STG40LF, STG50L, STG50LF
	QZ24	PCD 54~56 4-Ø5.5 HOLES(Slot hole) Ø24 55 Ø70 6.5 5.5 FITTING HOLES ST80B, ST80BF, ST80L, ST80LF, ST80EL, ST80ELF, STC80L, STC80LF, STC80EL, STC80ELF, QT70L, QT70LF, QT70LS, QT70LR
A angle adjustable bracket (15 degree intervals for a range of 0~180 degrees) enables easy vertical, horizontal, and slanted installation. Material : Al Color : Silver	SL18	9.5 4-Ø6 HOLES Ø18 Ø11 CABLE ENTRY 66 45.5 Ø90 PCD 73 ST45B, ST45BF, ST45L, ST45LF, ST56B, ST56BF, ST56L, ST56LF, ST56EL, ST56ELF, STC45L, STC56EL, STC56L, QT50L, QT50LF, QT50LS, QT50LR, STG40L, STG40LF, STG50L, STG50LF
	SL24	9.5 4-Ø6 HOLES Ø24 Ø11 CABLE ENTRY 66 45.5 Ø90 PCD 73 ST80B, ST80BF, ST80L, ST80LF, ST80EL, ST80ELF, STC80L, STC80LF, STC80EL, STC80ELF, QT70L, QT70LF, QT70LS, QT70LR
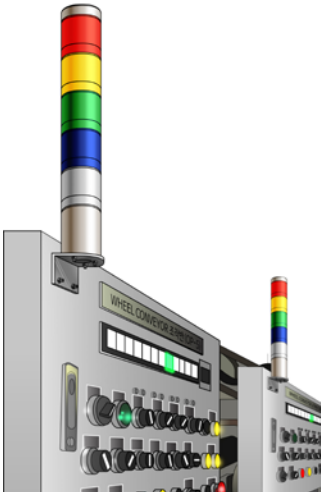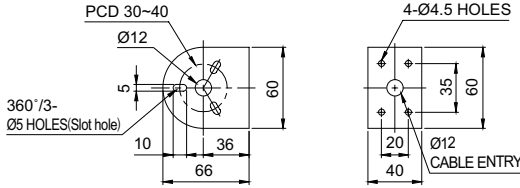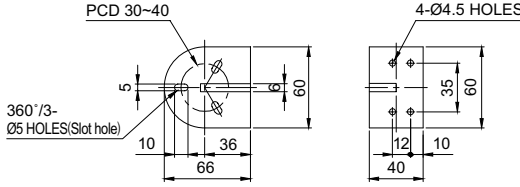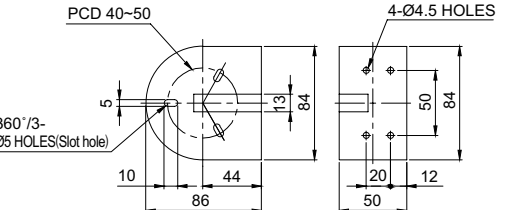
Tower Light Mounting Brackets

(Units : mm)

Features	Product Image	Technical Diagram for Applicable Models
A angle adjustable bracket (5 degree intervals for a range of 0~180 degrees) enables easy vertical, horizontal, and slanted installation. Material : PC Color : Black	QL18	Ø18, 67, 51.5, Ø70 PCD54~56, Ø18 CABLE ENTRY, 4-Ø5.5 HOLES(Slot hole) 6.5, 5.5, FITTING HOLES ST45B, ST45BF, ST45L, ST45LF, ST56B, ST56BF, ST56L, ST56LF, ST56EL, ST56ELF, STC45, STC56EL, STC56L, QT50L, QT50LF, QT50LS, QT50LR, STG40L, STG40LF, STG50L, STG50LF
	QL24	Ø24, 67, 51.5, Ø70 PCD54~56, Ø18 CABLE ENTRY, 4-Ø5.5 HOLES(Slot hole) 6.5, 5.5, FITTING HOLES ST80B, ST80BF, ST80L, ST80LF, ST80EL, ST80ELF, STC80L, STC80LF, STC80EL, STC80ELF, QT70L, QT70LF, QT70LS, QT70LR
QLA bracket is angle-adjustable with the adjustment button located on the side. It enables 3 angle adjustments at 0, 45, 90 degrees. Material : PC Color : Black	QLA18	Ø18, 57, 60, Ø90 4-Ø5.5 HOLES, PCD 73, Ø19 CABLE ENTRY, Angle adjustment button 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
	QLA24	Ø24, 57, 60, Ø90 4-Ø5.5 HOLES, PCD 73, Ø19 CABLE ENTRY, Angle adjustment button ST80B, ST80BF, ST80L, ST80LF, ST80EL, ST80ELF, STC80L, STC80LF, STC80EL, STC80ELF, QT70L, QT70LF, QT70LS, QT70LR

Tower Light Mounting Brackets

(Units : mm)

Features	Product Image	Technical Diagram for Applicable Models
Bracket options for direct mount tower light installation. Material : Steel Color : Silver, Ivory	TWS45	PCD 30~40 Ø12 360°/3-Ø5 HOLES(Slot hole) 5 / 60 / 10 / 36 / 66 4-Ø4.5 HOLES 35 / 60 / 20 / 40 / Ø12 CABLE ENTRY ST45MB, ST45MBF, ST45ML, ST45MLF, ST56MB, ST56MBF, ST56ML, ST56MLF, ST56MEL, ST56MELF, STG40ML, STG40MLF, STG50ML, STG50MFL, STC45ML, STC45MLF, STC56ML, STC56MLF, STC56MEL, STC56MELF, QTG50ML, QTG50MLF, QTG60ML, QTG60MLF, QTC50ML, QTC50MLF, QTC60ML, QTC60MLF, QTR50ML, QTR50MLF, QTR60ML, QTR60MLF, QT50ML, QT50MLF, QT50MLS, QT50MLR
	TWS80	PCD 40~50 PCD 40 Ø12 360°/3-Ø5 HOLES(Slot hole) 360°/3-Ø5 HOLES 5 / 84 / 10 / 44 / 86 4-Ø4.5 HOLES 50 / 84 / 25 / 50 / Ø12 CABLE ENTRY ST80MB, ST80MBF, ST80ML, ST80MLF, STC80ML, STC80MLF, QTG70ML, QTG70MLF, QTC70ML, QTC70MLF, QTR70ML, QTR70MLF, QT70ML, QT70MLF, QT70MLS, QT70MLR
High-end bracket options for direct mount tower light installation. Bracket structure allows for contained and tidy wiring with no exposed wires. Material : PC Color : Black, Ivory	TWA45	PCD 30~40 360°/3-Ø5 HOLES(Slot hole) 5 / 6 / 60 / 10 / 36 / 66 4-Ø4.5 HOLES 35 / 60 / 12 / 10 / 40 ST45MB, ST45MBF, ST45ML, ST45MLF, ST56MB, ST56MBF, ST56ML, ST56MLF, ST56MEL, ST56MELF, STG40ML, STG40MLF, STG50ML, STG50MFL, STC45ML, STC45MLF, STC56ML, STC56MLF, STC56MEL, STC56MELF, QTG50ML, QTG50MLF, QTG60ML, QTG60MLF, QTC50ML, QTC50MLF, QTC60ML, QTC60MLF, QTR50ML, QTR50MLF, QTR60ML, QTR60MLF, QT50ML, QT50MLF, QT50MLS, QT50MLR
	TWA80	PCD 40~50 360°/3-Ø5 HOLES(Slot hole) 5 / 13 / 84 / 10 / 44 / 86 4-Ø4.5 HOLES 50 / 84 / 20 / 12 / 50 ST80MB, ST80MBF, ST80ML, ST80MLF, STC80ML, STC80MLF, QTG70ML, QTG70MLF, QTC70ML, QTC70MLF, QTR70ML, QTR70MLF, QT70ML, QT70MLF, QT70MLS, QT70MLR

Tower Light Mounting Brackets

(Units : mm)
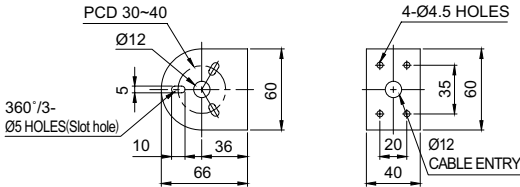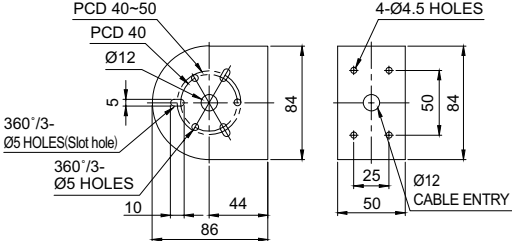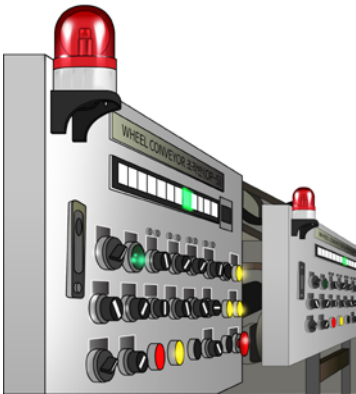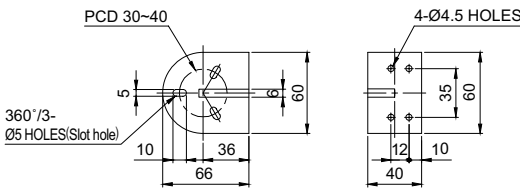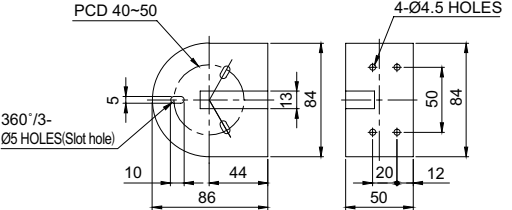
Features	Product Image	Technical Diagram for Applicable Models
Bracket options for installation of the direct mount slim tower light to the side of equipment. Material : Steel Color : Silver, Ivory	STAWB25	4-Ø8.5 HOLES Ø22 39 22.5 45 65 90 20 45 53 STA25SLM, STA35SL, STA35SLM
	STAWB45	4-Ø8.5 HOLES Ø22 49 27.5 50 65 90 20 45 53 STA45SLM

Warning/ Signal Light Mounting Brackets

Bracket instructions for warning/ signal lights
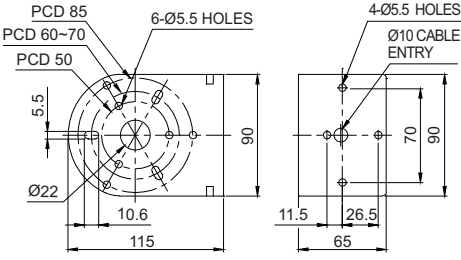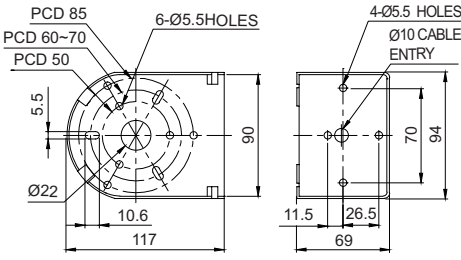
User can select from a variety of bracket options depending on their application conditions.

(Units : mm)

Features	Product Image	Technical Diagram for Applicable Models
Bracket options for direct mount warning/ signal light installation. Material : Steel Color : Silver, Ivory	TWS45	PCD 30~40, Ø12, 360˚/3-Ø5 HOLES(Slot hole), 5, 60, 10, 36, 66, 4-Ø4.5 HOLES, 35, 60, 20, 40, Ø12 CABLE ENTRY S50B, S50L, S60R, S60LR, S60L, MFL60
	TWS80	PCD 40~50, PCD 40, Ø12, 360˚/3-Ø5 HOLES(Slot hole), 360˚/3-Ø5 HOLES, 5, 84, 10, 44, 86, 4-Ø4.5 HOLES, 50, 84, 25, 50, Ø12 CABLE ENTRY S80R, S80RLR, S80U, S80LR, S80L, S80S, S80SOL, MFL80, SMCL80, QMCL80
Bracket options for direct mount warning/ signal light installation. Bracket structure allows for contained and tidy wiring with no exposed wires. Material : PC Color : Black, Ivory	TWA45	PCD 30~40, 360˚/3-Ø5 HOLES(Slot hole), 5, 6, 60, 10, 36, 66, 4-Ø4.5 HOLES, 35, 60, 12, 10, 40 S50B, S50L, S60R, S60LR, S60L, MFL60
	TWA80	PCD 40~50, 360˚/3-Ø5 HOLES(Slot hole), 5, 13, 84, 10, 44, 86, 4-Ø4.5 HOLES, 50, 84, 20, 12, 50 S80R, S80RLR, S80U, S80LR, S80L, S80S, S80SOL, MFL80, SMCL80, QMCL80

Warning/ Signal Light Mounting Brackets

(Units : mm)

Features	Product Image	Technical Diagram for Applicable Models
Bracket options for direct mount warning/ signal light installation. Material : Steel Color : Ivory	 SWP125	 PCD 85 PCD 60~70 PCD 50 6-Ø5.5 HOLES 4-Ø5.5 HOLES Ø10 CABLE ENTRY 5.5 90 Ø22 10.6 115 11.5 26.5 65 70 90 S100R, S100E, S100RLR, S100UR, S100URLR, S100U, S100UA, S100LR, S100L, S100S, S125R, S125E, S125RL, S100D, S125D, STDL, STNDL, STND100, STND125
Bracket options for direct mount warning/ signal light installation Bracket structure allows for contained and tidy wiring with no exposed wires. Material : PC Color : Ivory	 SWM125	 PCD 85 PCD 60~70 PCD 50 6-Ø5.5HOLES 4-Ø5.5 HOLES Ø10 CABLE ENTRY 5.5 90 Ø22 10.6 117 11.5 26.5 69 70 94 S100R, S100E, S100RLR, S100UR, S100URLR, S100U, S100UA, S100LR, S100L, S100S, S125R, S125E, S125RL, S100D, S125D, STDL, STNDL, STND100, STND125

Technical Information on LED Work Lights

CIE 1931 Color Space Chart
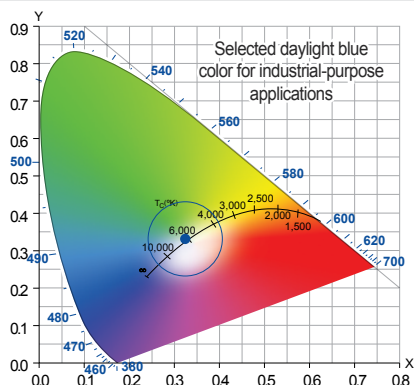
LED Colors are represented by the CIE 1931 RGB color space and CIE 1931 XYZ color space created by the International Commission on Illustration (CIE in 1931).

Color Space Chart is based on the brightness of the color. Green occupies the largest space since it has the largest effect on determining the brightness of colors, while blue color that shows the least effect occupies the smallest area. The mixing ratio of the brightness of the color is 3: 6: 1 (R: G: B), where the green portion occupies the largest space.

White color that is commonly used for work lights is composed of the color green, red, and blue. White color also varies due to the ratio of these three colors. The variationcolor ratios is referred as the color temperature.

Color Temperature

Unit : K(Kelvin)
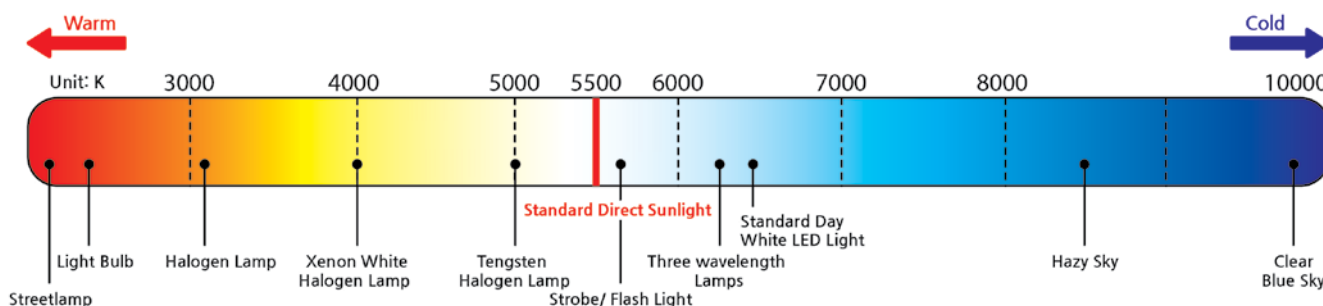
The color temperature of a light source is the temperature of an ideal black-housing radiator that radiates light of comparable hue to that light source. The Temperature is conventionally stated in units of absolute temperature, known as Kelvin (K).

The black housing radiates red spectrum when it starts to heat up, and will radiate blue light when the temperature gets even higher.

- Before Sunset : 2,200K (Candlelight, incandescent lamp)
- 40minutes after sunset : 3,000K(Warm white fluorescent lamp, high pressure natrium lamp)
- 2 hours after sunset : 4,000K (White halogen fluorescent lamp)
- Sunlight at noon : 5,800K (Daylight fluorescent lamp)
- Cloudy day : 7,000K (Daylight blue, fluorescent mercury lamp)

■ LED Color Wavelength

No.	Color	Wavelength(mm)
1	Red	618-632
2	Amber	585-595
3	Green	518-530
4	Blue	453-465

■ LED Color Temperature

No.	Color	Color Temperature(K)
1	incandescent	2,500-3,500
2	warmwhite	3,500-4,500
3	daylight	4,500-5,500
4	cooldaylight	5,500-7,000

LED Light Energy Saving Chart

Energy Saving per year

LED Work Light — 15.3 Kwh
Conventional Light Bulb — 88 Kwh

Reduces by **82**%

Eco-Friendliness

LED Work Light — 6 Kg
100V20W Light Bulb — 31 Kg

Reduces by **80**%

Long Lifetime

LED Work Light — 40,000 hours
100V20W Light Bulb — 4,000 ~ 8,000 hours

10 Times Longer

Low Heat Emission

LED Work Light — 41.5℃ (in room temperature)
Fluorescent Light (FL20SS) — 60℃ (in room temperature)

Reduces by **30**%
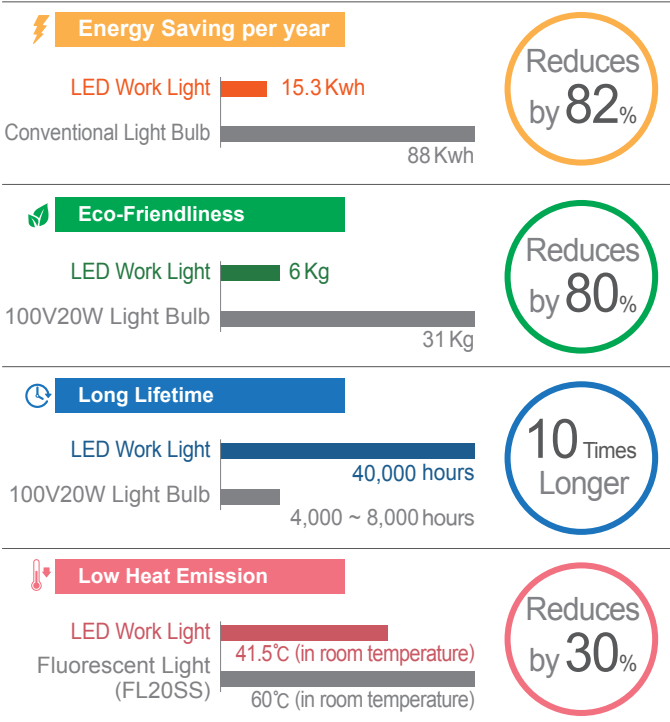
Technical Information on LED Work Lights

Understanding of Light Terms

Luminous flux(lm)

Luminance (cd/㎡)

Luminous Intensity (cd)
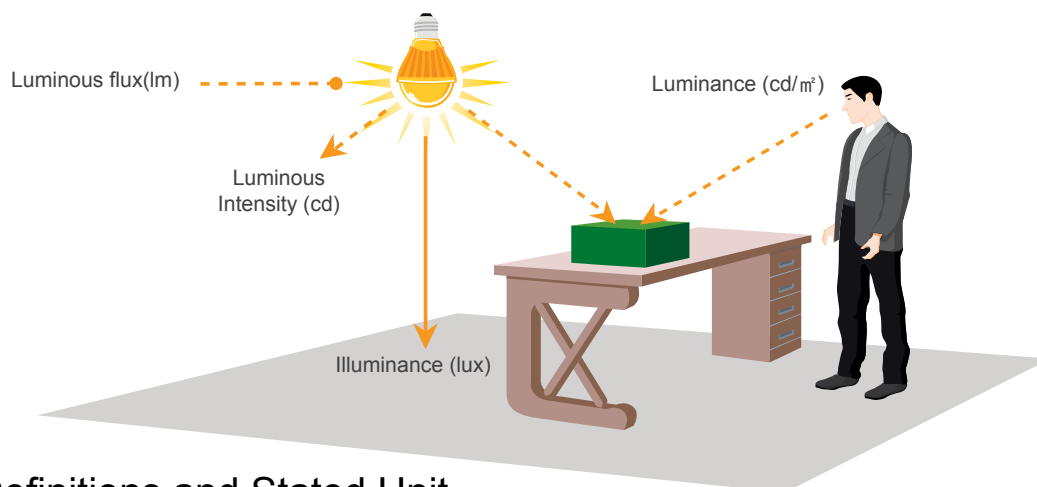
Illuminance (lux)

Term Definitions and Stated Unit

Illuminance
Unit : lux

Illuminance is the total Luminous flux incident on a surface per unit area which is conventionally stated as a unit of lux. Specifically, 1 lux equals the amount of light that falls on a one-square-meter surface that is one meter away from a single candle with light speed of 1lm.

Luminous Intensity
Unit : cd

Luminous intensity is a measure of the wavelength-weighted power emitted by a light source in a particular direction per unit solid angle based on the luminosity function(a standardized model of the sensitivity of the human eye). The standard unit of luminous intensity is the candela.

Luminance
Unit : cd/㎡

Luminance is a measure of the luminous intensity per unit area of light travelling in a given direction. It describes the amount of light that passes through, emitted or reflected from a particular area, and falls within a given solid angle. The standard unit for luminance is cd(luminance intensity per square meter (cd/m2).

Luminous flux
Unit : lm

Luminous flux is the measure of the perceived power of light. Standard unit of Luminous flux is the lumen (lm). Usually Luminous flux may be understood as the power of light.

Color Rendering
Unit : Ra

A color rendering index (CRI) is a quantitative measure of the ability of a light source to reveal the colors of various objects faithfully in comparison with an ideal or natural light source. Numerically, the highest possible CIE Ra value is 100, which would only be given to a source identical to standardized daylight or a body of black color, and its value drops to negative values for some light sources. The higher the CRI value is, the better the color rendering ability is. Light sources with a CRI of 85 to 90 are considered good at color rendering.

High Color Rendering(Ra80) Low Color Rendering(Ra70)

Light Distribution Curve

Light distribution curve, provides information on how light is emitted from a lamp or light fixture. The diagram represents a section cut through the fixture and shows the intensity of light emitted in each direction. The portion of the graph above the horizontal 90°-270° line indicates light that shines above the fixture (indirect), while the portion of the graph below represents light shining down (direct). The straight lines radiating from the center point identify the angle of the light emitted while the circles represent the intensity.
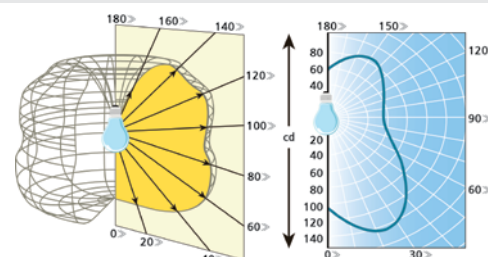
Bulb Specification

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	
	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

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.

ISO International Organization for Standardization

Qlight quality assurance systems have been certified by ISO by applying the ISO 9001:2008, KS Q ISO 9001:2009 regulation.

IECEx International Explosion Proof certification (IECEx)

Certified that Qlight's products are being manufactured and manage according to international standards.

ATEX The european Regulatory Framework or Manufacture, Installation and Use of Equipment in Explosive Atmospheres

Qlight explosion proof products comply with ATEX Directives 94/9/EC.

NEPSI National Supervision and Inspection Center for Explosion Protection and Safety of Instrumentation

Qlight's design and manufacturing system meets the People's Republic of China National explosion-proof Standard. (ChineseStandard-GB3836/GB12476)

KIMM Korea Institute of Machinery & Materials

QLight are consistent with the standards of the Korea Institute of Machinery and Materials. It is accredited.

KGS Korea Gas Safety Corporation

Approved from "Korea Gas Safety Corporation" that Qlight's design and manufacturing system meets the standard of KGS.

KOSHA Korea Occupational Safety and Health Agency

Approved by the "Korea Occupational Safety and Health Agency" that Qlight's design and manufacturing system meets the standard of KOSHA.

ABS American Bureau of Shipping

Qlights design and quality assurance system has been certified by the American Bureau of Shipping.

LR Lloyd's Register

Qlight design and quality assurance system has been certified from Lloyd's Register.

CCS China Classification Society

Qlight design and quality assurance system has been certified by the China Classification Society.

RMRS Russian Maritime Register of Shipping

Qlight design and quality assurance system has been certified from Russian Maritime Register of Shipping.

KR Korean register of shipping

Qlight design and quality assurance system has been certified by the Korean register of shipping.

CE European Commission

Qlight has been certified by the European Commission.

UL Underwriters Laboratories

Qlight design and quality assurance system has been certified from UL to ensure the stability of consumption goods and to protect consumers.

KC Korea Safety Certification

Qlight products are certified by KC for preventing accident caused by fire.

RoHS Restriction of Hazardous Substances Directive

Qlight complies with the Restriction of Hazardous Substances Directive by limiting its use of hazardous materials.

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	Ø83
	Height	121	131	133	153	155	125	127
	Depth	-	-	-	-	-	113	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	-	-

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	138
	Depth	-	-	-	-	185(Length)	183(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	-	-

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	Ø140	
	Height	193	196	189	194	
	Depth					
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	-	-	

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	Ø83
	Height	121	131	133	153	155	125	127
	Depth	-	-	-	-	-	113	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	-	-	-	-	-
Customization		Wall mount	Wall mount	Wall mount	Pole mount	Pole mount	-	-

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	Ø119
	Height	149	152	155	149	161	158	161
	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	-	-
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

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	194
	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
Customization		-	-	Oval-shaped rubber magnet	2 tones buzzer	2 tones buzzer	-	-

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	□95×95	□95×95
	Height	206	210	216	162-350	363-551	183-375	387-579
	Depth							
Volume		-	-	Max 90dB at 1m	-	-	Max 90dB at 1m	Max 90dB at 1m
Material		Lens-AS Housing-STS	Lens-AS Housing-STS	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

LED Steady/ Flashing Signal Lights

Model number		S50L	S60L	S80L	S80LK	S80AL	S100L	S125L
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	Ø50	Ø70	Ø83	Ø84	Ø83	Ø101	Ø119
	Height	60	121	133	155	127	152	158
	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, KIMM	CE, KIMM
Customization		Wall mount	Wall mount	Wall mount	Pole mount	-	Wall mount 2 tones buzzer	Wall mount 2 tones buzzer
Transistor								

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, DC24V AC110V, AC220V	DC12V, DC24V AC110V, AC220V	DC12V, DC24V AC110V, AC220V	DC12V, DC24V AC110V, AC220V
Dimension (mm)	Diameter	□105×105	□105×105	□105×105	□105×105	Ø138	Ø138	Ø140	Ø140
	Height	98	98	90	90	193	196	189	194
	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-STS	Lens-PC Housing-STS
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									
Customization		-	-	Color combination except for standard	Color combination except for standard	2 tones buzzer	2 tones buzzer	-	-

Model number		S80SOL	S100SOL	S125SOL	SRL	SRLP	SJL	SJLP	S125TL
Voltage		DC2.4V	DC2.4V	DC2.4V	DC12V, DC24V AC110V, AC220V	DC12V, DC24V AC110V, AC220V	DC12V, DC24V AC110V, AC220V	DC12V, DC24V AC110V, AC220V	DC12V, DC24V AC110V, AC220V
Dimension (mm)	Diameter	Ø83	Ø101	Ø119	Ø83	Ø83	□95×95	□95×95	Ø125
	Height	133	152	158	162-350	363-551	183-375	387-579	207-407
	Depth								
Volume		-	-	-	-	-	Max 90dB at 1m	Max 90dB at 1m	-
Material		Lens-PC Housing-ABS	Lens-PC Housing-ABS	Lens-PC 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		IP65	IP65	IP65	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

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	Ø83
	Height	100	129	334	120	157	278
	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

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	Ø97	Ø116	Ø116	Ø116
	Height	136	173	294	155	192	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

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	Ø116
	Height	100	120	136	155
	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	CE	CE	CE
Customization		Wall mount	Wall mount	Wall mount	Wall mount

Multiple Color LED Signal Lights

Model number		SWTC	SWTCE
Voltage		DC12V, DC24V AC110V, AC220V	DC12V, DC24V AC110V, AC220V
Dimension (mm)	Diameter	Ø90(Half)	Ø90(Half)
	Height	216	216
	Depth	46	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

Specification List for Revolving Warning/ Signal Lights

Multiple Color LED Signal Lights

Model number		SMCL80	SMCL100	SMCL125	QMCL60	QMCL80	QMCL100	QMCL125
Voltage		DC12V, DC24V AC110V, AC220V	DC12V, DC24V AC110V, AC220V	DC12V, DC24V AC110V, AC220V	DC12V, DC24V	DC12V, DC24V	DC12V, DC24V	DC12V, DC24V
Dimension (mm)	Diameter	Ø83	Ø101	Ø119	Ø69	Ø83	Ø97	Ø116
	Height	132	152	158	80	85	95	110
	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	CE	CE	CE
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

LED Strobe Signal Lights

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

Xenon Lamp Strobe Signal Lights

Model number	S80S	S80SM	S80AS	S100S	S100SM
Voltage	DC12V, DC24V AC110V, AC220V	DC12V, DC24V	DC12V, DC24V AC110V, AC220V	DC12V, DC24V AC110V, AC220V	DC12V, DC24V
Diameter	Ø83	Ø83	Ø83	Ø101	Ø101
Height	106	106	127	113	113
Depth	-	-	113	-	-
Volume	-	-	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
Mount bracket	Self stand	Detachable magnet	Wall mount	Self stand	Detachable magnet
Protection rating	IP54	IP54	IP44	IP54	IP54
Certificates	CE	-	-	CE, KIMM	-
Customization	Wall mount	AC type	Dome type lens	Wall mount	AC type

Model number		S125S	S125SM	S150US	S150US-FT	S150RS	S150RS-FT	S180US/ S180UHS
Voltage		DC12V, DC24V AC110V, AC220V	DC12V, DC24V	DC12V, DC24V AC110V, AC220V	DC12V, DC24V AC110V, AC220V	DC12V, DC24V AC110V, AC220V	DC12V, DC24V AC110V, AC220V	DC12V, DC24V AC110V, AC220V
Dimension (mm)	Diameter	Ø123	Ø123	Ø138	Ø138	Ø140	Ø140	Ø186
	Height	125	123	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	-	-	-	-	-	-
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

Reference for Warning/ Signal Lights & Electric Horns

Model number		S60AD	QWTD	QAD80H	QAD80BZ	QAD100H	QAD100BZ
Voltage		DC12V, DC24V AC110V, AC220V	AC/DC12V, AC/DC24V AC110V-AC220V	DC12V-24V	DC12V, DC24V	DC12V-24V AC110V-220V	DC12V, DC24V AC110V-220V
Dimension (mm)	Diameter	Ø70	Ø70	Ø83	Ø83	Ø97	Ø97
	Height	233	154-318	198	198	215	218
	Depth	86	76	93	93	109	109
Material		Lens-AS Housing-ABS	Lens-AS Housing-ABS	Lens-PC Housing-ABS	Lens-PC Housing-ABS	Lens-PC Housing-ABS	Lens-PC Housing-ABS
Lamp & Operation	Bulb Steady/Flashing	●					
	Bulb Revolving						
	LED Revolving						
	LED Steady/Flashing	●	●	●	●	●	●
	LED Strobe						
	LED Simulated revolving						
	Xenon lamp strobe	●					
Sound & Volume	High Buzzer	Max 100dB at 1m			Max 105dB at 1m		Max 105dB at 1m
	5 Signal sounds		Max 85dB at 1m				
	Voice						
	30 signal sounds			Max 100dB at 1m		Max 100dB at 1m	
	31 signal sounds						
	MP3					Max 95dB at 1m	
Mount type		Wall mount	Wall mount	Wall mount	Wall mount	Wall mount	Wall mount
IP		IP54	IP54	IP65	IP65	IP65	IP65
Certificates		CE	CE	CE, UL	CE, UL	CE, UL	CE, UL
Customization		2 tones buzzer	2 tones buzzer, Color combinations except for standard	-	-	-	-
transistor		-	NPN Type	NPN Type	-	NPN Type	-

Model number		QAD125H	QAD125BZ	QWCD35	QWCD50	SJD
Voltage		DC12V-24V AC110V-220V	DC12V, DC24V AC110V-220V	DC12V-DC24V AC110V-220V	DC12V, DC24V AC110V-220V	DC12V, DC24V AC110V, AC220V
Dimension (mm)	Diameter	Ø116	Ø116	136×179	168×222	95×95(Cubic)
	Height	244	244	-	-	274-466
	Depth	132	132	126	163	-
Material		Lens-PC Housing-ABS	Lens-PC Housing-ABS	Horn-PC Housing-ABS	Horn-PC Housing-ABS	Lens-AS Housing-ABS
Lamp & Operation	Bulb Steady/Flashing					
	Bulb Revolving					●
	LED Revolving					
	LED Steady/Flashing	●	●			●
	LED Strobe				●	
	LED Simulated revolving					
	Xenon lamp strobe					●
Sound & Volume	High Buzzer		Max 105dB at 1m			
	5 Signal sounds					Max 90dB at 1m
	Voice					Max 80dB at 1m
	30 signal sounds	Max 115dB at 1m				
	31 signal sounds			Max 115dB at 1m	Max 123dB at 1m	
	MP3	Max 100dB at 1m		Max 113dB at 1m	Max 118dB at 1m	
Mount type		Wall mount	Wall mount	Wall mount	Wall mount	Self stand
IP		IP65	IP65	IP66	IP66	IP23
Certificates		CE, UL	CE, UL	CE, UL	CE, UL	CE, UL
Customization		-	-	External signal line	External signal line	Lens color expect for standard
transistor		NPN Type	-	NPN Type	NPN Type	NPN Type

Reference for Warning/ Signal Lights & Electric Horns

Model number		STD	S100D	S125D	STNDL	STND100	STND125
	Voltage	AC/DC12V, AC/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	Ø80(Globe) Ø119(Body)	Ø101(Globe) Ø119(Body)	Ø115(Globe) Ø119(Body)	Ø80(Globe) Ø119(Body)	Ø101(Globe) Ø119(Body)	Ø115(Globe) Ø119(Body)
	Height	232-512	226	215	267-547	261	250
	Depth	-	-	-	-	-	-
	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
Lamp & Operation	Bulb Steady/Flashing	●			●	●	●
	Bulb Revolving		●	●			
	LED Revolving		●	●			
	LED Steady/Flashing	●		●	●	●	●
	LED Strobe						
	LED Simulated revolving						
	Xenon lamp strobe		●	●			
Sound & Volume	High Buzzer						
	5 Signal sounds	Max 105dB at 1m	Max 105dB at 1m	Max 105dB at 1m			
	Voice	Max 95dB at 1m	Max 95dB at 1m	Max 95dB at 1m			
	30 signal sounds				Max 105dB at 1m	Max 105dB at 1m	Max 105dB at 1m
	31 signal sounds						
	MP3				Max 98dB at 1m	Max 98dB at 1m	Max 98dB at 1m
	Mount type	Self stand	Self stand	Self stand	Self stand	Self stand	Self stand
	IP	IP54	IP54	IP54	IP54	IP54	IP54
	Certificates	CE	CE	CE	-	-	-
	Customization	Customized lens height	-	-	Customized lens height	-	-
	transistor	NPN Type	NPN Type	NPN Type	NPN Type	NPN Type	NPN Type

Model number(Series)		QA70HLS	QA100HLS	QA115HLS	QA115HLSP	QA125HLS	QA125HLSP
	Voltage	DC12V-24V	DC12V-24V	DC12V-24V	DC12V-24V	DC12V-24V	DC12V-24V
Dimension (mm)	Diameter	Ø72	Ø101	Ø107(Lens) Ø150(Housing)	Ø107(Lens) Ø150(Housing)	Ø123	Ø123
	Height	108	113	112	325	125	321
	Depth						
	Materials	Lens-PC Housing-ABS+GF	Lens-PC Housing-ABS	Lens-PC Housing-PC	Lens-PC Housing-PC	Lens-PC Housing-PC	Lens-PC Housing-PC
Light source & Operation	Bulb Steady/Flashing						
	Bulb Revolving						
	LED Revolving						
	LED Steady/Flashing						
	LED Strobe	●	●	●	●	●	●
	LED Simulated revolving						
	Xenon Strobe						
	Mounting type	Self stand	Self stand	Self stand	Pole mount	Self stand	Pole mount
	Cable entry						
	Protection rating	IP66	IP66	IP66	IP66	IP66	IP66
	Certificates	CE	-	-	-	-	-
	Customization						
	Transistor						

Model number(Series)		QA140HLSP	SH1	SH1P	SH1T	SH1TP
	Voltage	DC12V, DC24V	DC12V, DC24V AC110V, AC220V	DC12V, DC24V AC110V, AC220V	DC12V, DC24V AC110V, AC220V	DC12V, DC24V AC110V, AC220V
Dimension (mm)	Diameter	Ø140	Ø119(Lens)	Ø135(Cage)	Ø119(Lens)	Ø135(Cage)
	Height	325	168	178	168	178
	Depth	-	-	-	234(Length)	234(Length)
	Materials	Lens-PC Housing-PC	Lens-PC Housing-Al	Lens-PC Housing-Al	Lens-PC Housing-Al	Lens-PC Housing-Al
Light source & Operation	Bulb Steady/Flashing					
	Bulb Revolving		●	●	●	●
	LED Revolving		●	●	●	●
	LED Steady/Flashing		●	●	●	●
	LED Strobe	●				
	LED Simulated revolving					
	Xenon Strobe		●	●	●	●
	Mounting type	Pole mount	Self stand	Self stand	Self stand	Self stand
	Cable entry	-	1/2"PF	1/2"PF	1/2"PF	1/2"PF
	Protection rating	IP66	IP66	IP66	IP66	IP66
	Certificates	CE, E11	KIMM, ABS, CCS, CE	KIMM, ABS, CCS, CE	CE	CE
	Customization	-	Built-in cable gland, Cable entry : 3/4"PF	Built-in cable gland, Cable entry : 3/4"PF	Built-in cable gland, 2 ways terminal box, cable entry : 3/4"PF	Built-in cable gland, 2 ways terminal box, cable entry : 3/4"PF
	Transistor					

Product Specification List for Vessels and Heavy-Duty Equipment/ Industrial Applications

Model number(Series)		SH2	SH2P	SH2T	SH2TP	SSLW	SSLM
	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
Dimension (mm)	Diameter	Ø138(Lens)	Ø158(Cage)	Ø138(Lens)	Ø158(Cage)	Ø93	Ø93
	Height	198	212	198	212	180-615	180-615
	Depth	-	-	250(Length)	250(Length)	43	43
	Materials	Lens-PC Housing-Al	Lens-PC Housing-Al	Lens-PC Housing-Al	Lens-PC Housing-Al	Lens-PC Housing-Al	Lens-PC Housing-Al
Light source & Operation	Bulb Steady/Flashing						
	Bulb Revolving	●	●	●	●		
	LED Revolving	●	●				
	LED Steady/Flashing	●	●	●	●	●(Steady)	●(Steady)
	LED Strobe						
	LED Simulated revolving						
	Xenon Strobe	●	●	●	●		
	Mounting type	Self stand	Self stand	Self stand	Self stand	Wall mount	Wall mount
	Cable entry	1/2″PF	1/2″PF	1/2″PF	1/2″PF	M12-5PIN connector	M12-5PIN connector
	Protection rating	IP66	IP66	IP66	IP66	IP68	IP68
	Certificates	KIMM, ABS, CE	KIMM, ABS, CE	CE	CE	-	-
	Customization	Built-in cable gland, Cable entry : 3/4″PF, Brass housing	Built-in cable gland, Cable entry : 3/4″PF, Brass housing	Built-in cable gland, 2 ways terminal box, Cable entry : 3/4″PF, Brass housing	Built-in cable gland, 2 ways terminal box, Cable entry : 3/4″PF, Brass housing	C10 cable	C10 cable
	Transistor						

Model number(Series)		SED	SEDP	SD	SDP	SMD	SMDP
	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
Dimension (mm)	Diameter	Ø119(Lens)	Ø135(Cage)	Ø138(Lens)	Ø158(Cage)	Ø138(Lens)	Ø158(Cage)
	Height	380	390	410	424	462	476
	Depth	175	175	175	175	210	210
	Materials	Lens-PC Housing-Al	Lens-PC Housing-Al	Lens-PC Housing-Al	Lens-PC Housing-Al	Lens-PC Housing-Al	Lens-PC Housing-Al
Light source & Operation	Bulb Steady/Flashing						
	Bulb Revolving	●	●	●	●	●	●
	LED Revolving	●	●	●	●	●	●
	LED Steady/Flashing	●	●	●	●	●	●
	LED Strobe						
	LED Simulated revolving						
	Xenon Strobe	●	●	●	●	●	●
Sound pattern / dB	Hi buzzer						
	15 signal sounds	Max 118dB at 1m	Max 118dB at 1m	Max 118dB at 1m	Max 118dB at 1m	Max 120dB at 1m	Max 120dB at 1m
	Voice signal	Max 113dB at 1m	Max 113dB at 1m	Max 113dB at 1m	Max 113dB at 1m	Max 115dB at 1m	Max 115dB at 1m
	30 signal sounds						
	31 signal sounds						
	MP3						
	Mounting type	Wall mount	Wall mount	Wall mount	Wall mount	Wall mount	Wall mount
	Cable entry	1/2″PF	1/2″PF	1/2″PF	1/2″PF	1/2″PF	1/2″PF
	Protection rating	IP66	IP66	IP66	IP66	IP66	IP66
	Certificates	CE, KIMM, KR, CCS, ABS	CE, KIMM, KR, CCS, ABS	CE, KR, KIMM, LR, ABS	CE, KR, KIMM, LR, ABS	-	-
	Customization	Built-in cable gland, 2 ways terminal box, Cable entry : 3/4″PF, External signal sound line	Built-in cable gland, 2 ways terminal box, Cable entry : 3/4″PF, External signal sound line	Built-in cable gland, 2 ways terminal box, Cable entry : 3/4″PF, External signal sound line, Brass housing	Built-in cable gland, 2 ways terminal box, Cable entry : 3/4″PF, External signal sound line, Brass housing	Built-in cable gland, 2 ways terminal box, Cable entry : 3/4″PF, External signal sound line, Brass housing	Built-in cable gland, 2 ways terminal box, Cable entry : 3/4″PF, External signal sound line, Brass housing
	Transistor	NPN type	NPN type	NPN type	NPN type	NPN type	NPN type

Product Specification List for Vessels and Heavy-Duty Equipment/ Industrial Applications

Model number(Series)		SCDF	SCDW	SHD	SHDP	SHD2	SHD2P
	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
Dimension (mm)	Diameter	Ø140(Cage)	Ø140(Cage)	Ø119(Lens)	Ø135(Cage)	Ø119(Lens)	Ø135(Cage)
	Height	322	313	227	237	227	237
	Depth	167(Length)	177	255(Length)	255(Length)	343(Length)	343(Length)
	Materials	Lens-PC Housing-PC+GF	Lens-PC Housing-PC+GF	Lens-PC Housing-Al	Lens-PC Housing-Al	Lens-PC Housing-Al	Lens-PC Housing-Al
Light source & Operation	Bulb Steady/Flashing						
	Bulb Revolving	●	●	●	●	●	●
	LED Revolving	●	●	●	●	●	●
	LED Steady/Flashing	●	●	●	●	●	●
	LED Strobe						
	LED Simulated revolving						
	Xenon Strobe	●	●	●	●	●	●
Sound pattern / dB	Hi buzzer						
	15 signal sounds	Max 118dB at 1m	Max 118dB at 1m	Max 118dB at 1m	Max 118dB at 1m	Max 118dB×2 at 1m	Max 118dB×2 at 1m
	Voice signal	Max 113dB at 1m	Max 113dB at 1m	Max 113dB at 1m	Max 113dB at 1m	Max 113dB×2 at 1m	Max 113dB×2 at 1m
	30 signal sounds						
	31 signal sounds						
	MP3						
	Mounting type	Self mount	Wall mount	Self mount	Self mount	Self mount	Self mount
	Cable entry	1/2"PF	1/2"PF	1/2"PF	1/2"PF	1/2"PF	1/2"PF
	Protection rating	IP66	IP66	IP66	IP66	IP66	IP66
	Certificates	KIMM, KR, CE	KIMM, KR, CE	KIMM, ABS, CE	KIMM, ABS, CE	KIMM, ABS	KIMM, ABS
	Customization	Built-in cable gland, Cable entry : 3/4"PF, External signal sound line	Built-in cable gland, Cable entry : 3/4"PF, External signal sound line	Built-in cable gland, Cable entry : 3/4"PF, External signal sound line, Brass housing	Built-in cable gland, Cable entry : 3/4"PF, External signal sound line, Brass housing	Built-in cable gland, Cable entry : 3/4"PF, External signal sound line, Brass housing	Built-in cable gland, Cable entry : 3/4"PF, External signal sound line, Brass housing
	Transistor	NPN Type	NPN Type	NPN Type	NPN Type	NPN Type	NPN Type

Model number(Series)		QWCD35	QWCD50
	Voltage	DC12V-DC24V AC110V-220V	DC12V, DC24V AC110V-220V
Dimension (mm)	Diameter	136×179	168×222
	Height		
	Depth	126	163
	Materials	Horn-PC Housing-ABS	Horn-PC Housing-ABS
Light source & Operation	Bulb Steady/Flashing		
	Bulb Revolving		
	LED Revolving		
	LED Steady/Flashing		
	LED Strobe	●	●
	LED Simulated revolving		
	Xenon Strobe		
Sound pattern / dB	Hi buzzer		
	15 signal sounds		
	Voice signal		
	30 signal sounds		
	31 signal sounds	Max 115dB at 1m	Max 123dB at 1m
	MP3	Max 113dB at 1m	Max 118dB at 1m
	Mounting type	Wall Mount	Wall Mount
	Cable entry	Ø21	Ø21
	Protection rating	IP66	IP66
	Certificates	CE, UL	CE, UL
	Customization	External signal sound line	External signal sound line
	Transistor	NPN Type	NPN Type

Product Specification List for Vessels and Heavy-Duty Equipment/ Industrial Applications

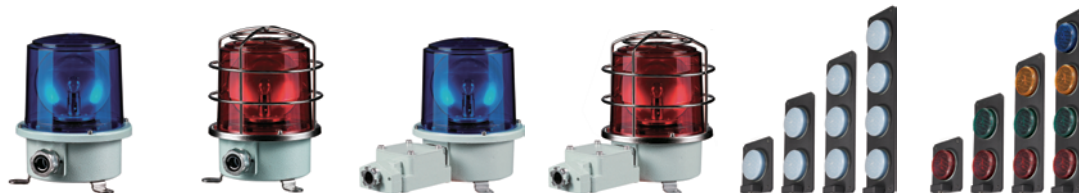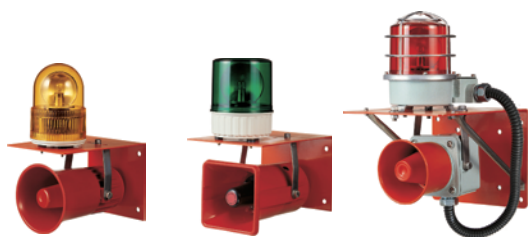| Model number(Series)		SC1	SC2	SC3		
	Voltage	DC12V, DC24V AC110V, AC220V	DC12V, DC24V AC110V, AC220V	DC12V, DC24V AC110V, AC220V		
Dimension (mm)	Diameter	150(Width)	174(Width)	244(Width)		
	Height	287	312	381		
	Depth	200	232	292		
	Materials	Lens-AS Housing-ABS	Lens-AS Housing-ABS	Lens-PC Housing-Al		
Light source & Operation	Bulb Steady/Flashing	●	●	●		
	Bulb Revolving	●	●	●		
	LED Revolving	●	●	●		
	LED Steady/Flashing	●	●	●		
	LED Strobe	●	●	●		
	LED Simulated revolving	●	●	●		
	Xenon Strobe	●	●	●		
Sound pattern / dB	Hi buzzer					
	15 signal sounds	Max 108dB at 1m	Max 115dB at 1m	Max 120dB at 1m		
	Voice signal	Max 98dB at 1m	Max 108dB at 1m	Max 115dB at 1m		
	30 signal sounds					
	31 signal sounds					
	MP3					
	Mounting type	Wall mount	Wall mount	Wall mount		
	Cable entry	-	-	1/2″PF		
	Protection rating	IP44	IP44	IP56		
	Certificates					
	Customization					

Model number(Series)		SANA200	SANA400	SANA700	QEB
	Voltage	DC24V AC110V, AC220V	DC24V AC110V, AC220V	DC24V AC110V, AC220V	DC24V AC110V, AC220V
Dimension (mm)	Diameter	Ø146(Horn)	Ø110(Horn)	Ø101(Horn)	120×120
	Height	222	222	222	-
	Depth	333	193	144	119
	Materials	Horn-PC Solenoid Box-ABS	Horn-PC Solenoid Box-ABS	Horn-PC Solenoid Box-ABS	Housing, Cover-Al
	Volume	Max 130dB at 1m	Max 130dB at 1m	Max 130dB at 1m	-
	Mounting type	Wall mount	Wall mount	Wall mount	Wall mount
	Cable entry	20C, 10C nipple(Air)	20C, 10C nipple(Air)	20C, 10C nipple(Air)	1/2″ NPT, 10C nipple(Air)
	Protection rating	IP56	IP56	IP56	IP66
	Certificates	KIMM	KIMM	KIMM	KIMM
	Customization	Separate design between horn and solenoid box, Non return valve, Built-in Y filter	Separate design between horn and solenoid box, Non return valve, Built-in Y filter	Separate design between horn and solenoid box, Non return valve, Built-in Y filter	Built-in Ex-Proof cable gland, 2 ways entries, Cable entry : 3/4″ NPT

Product Specification List for Vessels and Heavy-Duty Equipment/ Industrial Applications

Model number(Series)		QWH35	QWH50	SN	SEHN25	SEHN50	SEWN30E
	Voltage	DC12V-DC24V AC110V-220V	DC12V, DC24V AC110V-220V	DC12V, DC24V AC110V, AC220V	DC12V, DC24V AC110V, AC220V	DC12V, DC24V AC110V, AC220V	DC12V, DC24V AC110V, AC220V
Dimension (mm)	Diameter	136×179	168×222	Ø119(Horn)	Ø158(Horn)	Ø167(Horn)	Ø120(Horn)
	Height						
	Depth	126	163	167(Length)	238(Length)	242(Length)	175
	Materials	Horn-PC Housing-ABS	Horn-PC Housing-ABS	Housing-Steel	Housing-Steel	Housing-Steel	Housing-Al Horn Housing-PC
Sound pattern / dB	15 signal sounds			Max 105dB at 1m	Max 115dB at 1m	Max 120dB at 1m	Max 118dB at 1m
	Voice signal			Max 95dB at 1m	Max 108dB at 1m	Max 115dB at 1m	Max 113dB at 1m
	30 signal sounds						
	31 signal sounds	Max 115dB at 1m	Max 123dB at 1m				
	MP3	Max 113dB at 1m	Max 118dB at 1m				
	Mounting type	Wall mount	Wall mount	Self stand	Self stand	Self stand	Wall mount
	Cable entry	Ø21	Ø21	Ø10	Ø21	Ø21	1/2″PF
	Protection rating	IP66	IP66	IP55	IP55	IP55	IP56
	Certificates	CE	CE	KIMM	KIMM	KIMM	KIMM, ABS, CCS, CE
	Customization	-	-	External signal sound line	External signal sound line	External signal sound line	Built-in cable gland, Cable entry : 3/4″PF, External signal sound line, Brass housing
	Transistor	NPN type	NPN type	NPN type	NPN type	NPN type	NPN type

Model number(Series)		SEWN30L	SEWN30T	SEWN50E	SEWN50L	SEWN50T	SHDN30
	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
Dimension (mm)	Diameter	Ø120(Horn)	Ø120(Horn)	Ø172(Horn)	Ø172(Horn)	Ø172(Horn)	Ø120(Horn)
	Height	-	223	-	-	272	134
	Depth	170(Length)	175	208	203(Length)	208	335(Length)
	Materials	Housing-Al Horn Housing-PC	Housing-Al Horn Housing-PC	Housing-Al Horn Housing-STS316L	Housing-Al Horn Housing-STS316L	Housing-Al Horn Housing-STS316L	Housing-Al Horn Housing-PC
Sound pattern / dB	15 signal sounds	Max 118dB at 1m	Max 118dB at 1m	Max 120dB at 1m	Max 120dB at 1m	Max 120dB at 1m	Max 118dB at 1m×2
	Voice signal	Max 113dB at 1m	Max 113dB at 1m	Max 115dB at 1m	Max 115dB at 1m	Max 115dB at 1m	Max 113dB at 1m×2
	30 signal sounds						
	31 signal sounds						
	MP3						
	Mounting type	Self stand	Wall mount	Wall mount	Self stand	Wall mount	Self stand
	Cable entry	1/2″PF	1/2″PF	1/2″PF	1/2″PF	1/2″PF	1/2″PF
	Protection rating	IP56	IP56	IP56	IP56	IP56	IP56
	Certificates	CE	CE	CE, KIMM, ABS	CE	CE	-
	Customization	Built-in cable gland, Cable entry : 3/4″PF, External signal sound line, Brass housing	Built-in cable gland, 2 ways terminal box, Cable entry : 3/4″PF, External signal sound line, Brass housing	Built-in cable gland, Cable entry : 3/4″PF, External signal sound line, Brass housing	Built-in cable gland, Cable entry : 3/4″PF, External signal sound line, Brass housing	Built-in cable gland, 2 ways terminal box, Cable entry : 3/4″PF, External signal sound line, Brass housing	External signal sound line, Cable entry : 3/4″PF
	Transistor	NPN Type	NPN Type	NPN Type	NPN Type	NPN Type	NPN Type

Model number(Series)		SM30	SM40	SM200	SM400	SAB130	SAB200
	Voltage	DC12V, DC24V AC110V, AC220V	DC12V, DC24V AC110V, AC220V	DC24V AC110V, AC220V	DC24V AC110V, AC220V	DC24V AC110V, AC220V	DC24V AC110V, AC220V
Dimension (mm)	Diameter	Ø77	Ø128	Ø143	Ø165	Ø130(Bell)	Ø200(Bell)
	Height	-	-		-	238	269
	Depth	82(Length)	162(Length)	231(Length)	284(Length)	107	107
	Materials	Housing-Steel	Housing-ABS	Housing-Steel	Housing-Steel	Bell-Steel Housing-ABS	Bell-Steel Housing-ABS
	Volume	Max 110dB at 1m	Max 116dB at 1m	Max 120dB at 1m	Max 123dB at 1m	Max 95dB at 1m	Max 95dB at 1m
	Mounting type	Self stand	Self stand	Self stand	Self stand	Wall mount	Wall mount
	Cable entry	Ø22	Ø22	Ø9	Ø22	Ø26	Ø26
	Protection rating	IP44	IP44	IP44	IP44	IP56	IP56
	Certificates	-	-	CE	-	-	-
	Customization	-	-	-	-	2 ways cable entries	2 ways cable entries

Explosion Proof Type Specification List

Model number(series)	ST45ML-Ex	QTEX	SNE	SE	SEA	SSEL	QEAL1	QEAL2
Voltage	AC/DC12V AC/DC24V	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	Ø45	Ø144	Ø152(Cage)	Ø155(Cage)	Ø167(Cage)	154×154	Ø152(Cage)	Ø167(Cage)
Height	114-278	472(Self stand) 457(Wall mount)	226	267	287	100	226	287
Depth	-	155(Wall mount)	189(Length)	189(Length)	172(Length)	172(Length)	189(Length)	172(Length)
Materials	Lens-PC Housing-PC	Lens-Tempered glass Housing-Al	Lens-Tempered glass Housing-Al	Lens-Tempered glass Housing-Brass	Lens-Tempered glass Housing-Al	Lens-Tempered glass Housing-Al	Lens-Tempered glass Housing-Al	Lens-Tempered glass Housing-Al
Light source & Operation — Bulb Steady/Flashing								
Bulb Revolving			●	●	●			
LED Revolving								
LED Steady/Flashing	●(Steady)	●	●	●	●	●(Steady)	●(Steady)	●(Flashing)
LED Strobe								
LED Simulated revolving								
Xenon Strobe			●	●	●			
Mount type	Self stand	Self stand, Wall mount	Self stand	Self stand	Self stand	Self stand	Self stand	Self stand
Cable entry	-	3/4″ NPT	1/2″ NPT	1/2″ NPT	1/2″ NPT	1/2″ NPT	1/2″ NPT	1/2″ NPT
Protection rating	IP54	IP66	IP66	IP66	IP66	IP66	IP66	IP66
Usage area	ZONE 2	ZONE 1, ZONE 2	ZONE 1, ZONE 2	ZONE 1, ZONE 2	ZONE 1, ZONE 2	ZONE 1, ZONE 2	ZONE 1, ZONE 2	ZONE 1, ZONE 2
Certificates	NEPSI, KGS	IECEx	IECEx, ATEX, NEPSI, KIMM, KOSHA, CCS	KIMM, ABS	IECEx, ATEX, NEPSI, KIMM, KOSHA, ABS, CCS, KR	KIMM, ABS	KOSHA	KOSHA
Explosion proof rating	Ex nR Ⅱ T4 (KGS)	Ex d ⅡC T6 Gb (IECEx)	Ex d ⅡC T6 Gb (IECEx)	Ex d ⅡC T6 (KIMM)	Ex d ⅡC T6 Gb (IECEx)	Ex d ⅡC T6 (KIMM)	Ex d ⅡC T4 (KOSHA)	Ex d ⅡC T4 (KOSHA)
Customization	-	Explosion proof cable gland, 2 ways cable entry, Cable entry	Explosion proof cable gland, 2 ways cable entry, Cable entry : M20x1.5	Explosion proof cable gland, 2 ways cable entry, Cable entry : ¾″ NPT, M20x1.5	Explosion proof cable gland, 2 ways cable entry, Cable entry : ¾″ NPT, M20x1.5, M25x1.5	Explosion proof cable gland, 2 ways cable entry, Cable entry : ¾″ NPT, M20x1.5, M25x1.5	Explosion proof cable gland, 2 ways cable entry, M20x1.5	Explosion proof cable gland, 2 ways cable entry, Cable entry : ¾″ NPT, M20x1.5, M25x1.5
Transistors	NPN/ PNP Type	PNP Type	-	-	-	-	-	-

Model number(series)	STB45ML-Ex	QTEXB	SNES	SESA	SEBA	SPNA	SBE130	SBE150
Voltage	AC/DC12V AC/DC24V	DC12V, DC24V AC110V, AC220V	DC12V, DC24V AC110V, AC220V	DC12V, DC24V AC110V, AC220V	DC12V, DC24V AC110V, AC220V	DC12V, DC24V AC110V, AC220V	DC24V AC110V, AC220V	DC24V AC110V, AC220V
Dimension (mm) — Diameter	Ø45	Ø144	Ø152(Cage)	Ø167(Cage)	Ø167(Cage)	Ø134(Horn)	Ø120(Bell)	Ø150(Bell)
Height	153-317	472(Self stand) 457(Wall mount)	226	333	333	158	120	120
Depth	-	155(Wall mount)	189(Length)	327(Length)	240(Length)	327(Length)	138(Length)	138(Length)
Materials	Lens-PC Housing-PC	Lens-Tempered glass Housing-Al	Lens-Tempered glass Housing-Al	Lens-Tempered glass Housing-Al	Lens-Tempered glass Housing-Al	Horn-STS316L Housing-Al	Bell-Al Housing-Al	Bell-Al Housing-Al
Light source & Operation — Bulb Steady/Flashing								
Bulb Revolving			●	●	●			
LED Revolving			●	●	●			
LED Steady/Flashing	●(Steady)	●	●	●	●			
LED Strobe								
LED Simulated revolving								
Xenon Strobe								
Sound Pattern / dB — 1 tone Buzzer	Max 80dB at 1m	Max 80dB at 1m	Max 105dB at 1m					
15 signal sounds				Max 118dB at 1m		Max 118dB at 1m		
Bell					Max 95dB at 1m		Max 95dB at 1m	Max 95dB at 1m
Voice signal				Max 113dB at 1m		Max 113dB at 1m		
30 signal sounds								
31 signal sounds								
MP3								
Mount type	Self stand	Self stand, Wall mount	Self stand	Self stand	Self stand	Self stand	Self stand	Self stand
Cable entry	-	3/4″ NPT	1/2″ NPT	1/2″ NPT	1/2″ NPT	1/2″ NPT	1/2″ NPT	1/2″ NPT
Protection rating	IP54	IP66	IP66	IP66	IP55	IP66	IP56	IP56
Usage area	ZONE 2	ZONE 1, ZONE 2	ZONE 1, ZONE 2	ZONE 1, ZONE 2	ZONE 1, ZONE 2	ZONE 1, ZONE 2	ZONE 1, ZONE 2	ZONE 1, ZONE 2
Certificate	NEPSI, KGS	IECEx	IECEx, ATEX, NEPSI, KIMM, KOSHA, CCS	IECEx, ATEX, NEPSI, KIMM, KOSHA, ABS, CCS, KR	KIMM, ABS, KR	IECEx, ATEX, NEPSI, KIMM, KOSHA, ABS, CCS, KR	KIMM	KIMM
Explosion proof rating	Ex nR Ⅱ T4 (KGS)	Ex d ⅡC T6 Gb (IECEx)	Ex d ⅡC T6 Gb (IECEx)	Ex d ⅡC T6 Gb (IECEx)	Ex d ⅡC T6 (KIMM)	Ex d ⅡC T6 Gb (IECEx)	Ex d ⅡC T6 (KIMM)	Ex d ⅡC T6 (KIMM)
Customization	-	Explosion proof cable gland, 2 ways cable entry, Cable entry	Explosion proof cable gland, 2 ways cable entry, Cable entry : M20x1.5, 7 tone Buzzer	Explosion proof cable gland, 2 ways cable entry, Cable entry : ¾″ NPT, M20x1.5, M25x1.5	Explosion proof cable gland, 2 ways cable entry, Cable entry : ¾″ NPT, M20x1.5, M25x1.5	Explosion proof cable gland, 2 ways cable entry, Cable entry : ¾″ NPT, M20x1.5, M25x1.5	Explosion proof cable gland, 2 ways cable entry, Cable entry : ¾″ NPT, M20x1.5, M25x1.5	Explosion proof cable gland, 2 ways cable entry, Cable entry : ¾″ NPT, M20x1.5, M25x1.5
Transistors	NPN/ PNP Type	PNP Type	-	NPN Type	-	NPN Type	-	-

Warning Light Bars & Aviation Obstruction Lights

Warning Light Bars

Model number(series)		QLV	QLV-SET	ELV	ELM	ELR-SOL	SAMP
	Voltage	DC12V	DC12V	DC12V, DC24V	DC12V, DC24V	DC12V	DC12V, DC24V
Dimension (mm)	Diameter	300×64	300×64	285×167	280×136	1152(Width)	175(Width)
	Height	129	129	229	161	685	73
	Depth	885~1250(Length)	885~1250(Length)	1152(Length)	588~1708(Length)	484	165
	Materials	Lens-PC Cover, Board-Al	QLV-PC Other SAMP-100-Steel SM-100ND-Steel	Lens, Housing-PC Board-Al	Lens, Housing-PC Board-Al	Lens, Housing-PC Board-Al	Housing-Al
Light source & Operation	Bulb Steady/Flashing						
	Bulb Revolving						
	LED Revolving						
	LED Steady/Flashing						
	LED Strobe	●	●	●	●	●	
	LED Simulated revolving						
	Xenon Strobe			●	●		
	Sound & Volume		Max. 135dB at 1m	Max. 126dB at 1m	Max. 126dB at 1m	-	-
	Mount bracket	Direct mount	Direct mount	Direct mount	Direct mount	Direct mount	Bracket mounting type
	Cable entry						
	Protection rating	IP56	IP56	IP56	IP56	IP56	-
	Certificates						
	Customization						

Aviation Obstruction Lights

Model number(series)		SAOL1	SAOL2	SAOL3	SAOL4	QEAL1	QEAL2
	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
Dimension (mm)	Diameter	Ø115	Ø139	Ø157	Ø180	Ø152(Cage)	Ø167(Cage)
	Height	275	178(SAOL2) 258(SAOL2P)	215(SAOL3) 288(SAOL3P)	290	226	287
	Depth	-	-	-	172(Length)	189(Length)	172(Length)
	Materials	Lens, Housing-PC Bracket-Al	Lens-PC, Housing-Al Bracket-Al	Lens-PC, Housing-Al Bracket-Al	Lens-PC, Housing-Al Cover-Al	Lens-Tempered glass Housing-Al	Lens-Tempered glass Housing-Al
Light source & Operation	Bulb Steady/Flashing						
	Bulb Revolving						
	LED Revolving						
	LED Steady/Flashing	●(Steady)	●(Steady)	●(Steady)	●	●(Steady)	●(Flashing)
	LED Strobe						
	LED Simulated revolving						
	Xenon Strobe						
	Mount bracket	Direct mount	Direct mount	Direct mount	Direct mount	Direct mount	Direct mount
	Cable entry	-	-	-	-	1/2″ NPT	1/2″ NPT
	Protection rating	IP56	IP66	IP66	IP66	IP66	IP66
	Certificates	ICAO	ICAO	ICAO	ICAO	KOSHA	KOSHA
	Customization	-	Cable gland - 1/2″ PF, Built-in darkness detecting sensor	Cable gland - 1/2″ PF, Built-in darkness detecting sensor	Cable gland - 1/2″ PF, Built-in darkness detecting sensor	Explosion proof cable gland, 2 ways cable entry, M20x1.5, Built-in darkness detecting sensor	Explosion proof cable gland, 2 ways cable entry, Cable entry : ¾″ NPT, M20x1.5, M25x1.5, Built-in darkness detecting sensor

Model number(series)		STA25SLM	STA35SL	STA35SLM	STA45SLM	STA45SLMP	QT56HEX
	Voltage	AC/DC12V AC/DC24V AC110V, AC220V	AC/DC12V AC/DC24V AC110V, AC220V	AC/DC12V AC/DC24V AC110V, AC220V	AC/DC12V AC/DC24V AC110V, AC220V	AC/DC12V AC/DC24V AC110V, AC220V	DC24V
Dimension (mm)	Diameter	Ø25	Ø35	Ø35	Ø45	Ø45	Ø45
	Height	368-488	85-265	205-385	198-378	398-568	397
	Depth						
	Materials	Lens-AS Housing-Al	Lens-AS Housing-ABS	Lens-AS Housing-Al	Lens-Acryl Inner lens-AS Housing-Al	Lens-Acryl Inner lens-AS Housing-Al	Lens-PC Housing-Al
	Layers	1-5 Layers	1-5 Layers	1-5 Layers	1-5 Layers	1-5 Layers	1-3 Layers
Light source & Operation	Bulb Steady/Flashing						
	LED Steady	●	●	●	●	●	●
	LED Steady/Flashing						
	LED Strobe						
	LED Simulated revolving						
Sound & Volume	1 buzzer sound				Max 90dB at 1m	Max 90dB at 1m	Max 90dB at 1m
	Layer color change	No	No	No	No	No	No
	Mount bracket	Direct mount	Direct mount	Direct mount	Direct mount	Pole mount	Pole mount
	Bracket	STAWB25	STAWB25	STAWB25	STAWB45	LB18, LW18, QZ18, SZ18, QL18, SL18, QLA18	-
	Protection rating	IP44	IP44	IP44	IP23(Buzzer type), IP44(Standard)	IP23(Buzzer type), IP44(Standard)	IP23(Buzzer type), IP44(Standard)
	Certificates	-	-	-	CE, UL	CE, UL	
	Customization	Same lens color with LED, Wall mount bracket	Wall mount bracket	Wall mount bracket	Wall mount bracket	Pole length adjustment	-
	Transistor	NPN/ PNP type	NPN/ PNP type	NPN/ PNP type	NPN/ PNP type	NPN/ PNP type	NPN/ PNP type

Model number(series)		SWT	SWTE	QWT	ST45MB	ST45B	ST56MB	ST56B
	Voltage	AC/DC12V AC/DC24V AC110V, AC220V	AC/DC12V AC/DC24V AC110V, AC220V	AC/DC12V AC/DC24V AC110V~AC220V	AC/DC12V AC/DC24V AC110V, AC220V	AC/DC12V AC/DC24V AC110V, AC220V	AC/DC12V AC/DC24V AC110V, AC220V	AC/DC12V AC/DC24V AC110V, AC220V
Dimension (mm)	Diameter	Ø90(Half)	Ø90(Half)	Ø70	Ø45	Ø45	Ø56	Ø56
	Height	216	216	122-286	116-362	330-576	157-502	371-716
	Depth	46	46	76	-	-	-	-
	Materials	Lens-PC Housing-ABS	Lens-PC Housing-ABS	Lens-PC Housing-ABS	Lens-AS Housing-ABS	Lens-AS Housing-ABS	Lens-AS Housing-ABS	Lens-AS Housing-ABS
	Layers	2-3 Layers	2-3 Layers	1-5 Layers	1-5 Layers	1-5 Layers	1-5 Layers	1-5 Layers
Light source & Operation	Bulb Steady/Flashing				●	●	●	●
	LED Steady							
	LED Steady/Flashing	●	●	●				
	LED Strobe							
	LED Simulated revolving							
Sound & Volume	1 buzzer sound	Max 90dB at 1m	Max 90dB at 1m	Max 85dB at 1m	Max 90dB at 1m	Max 90dB at 1m	Max 90dB at 1m	Max 90dB at 1m
	Layer color change	No	No	Yes	Yes	Yes	Yes	Yes
	Mount bracket	Wall mount	Wall mount	Wall mount	Direct mount	Pole mount	Direct mount	Pole mount
	Bracket	-	-	-	TWS45, TWA45	LB18, LW18, QZ18, SZ18, QL18, SL18, QLA18	TWS45, TWA45	LB18, LW18, QZ18, SZ18, QL18, SL18, QLA18
	Protection rating	IP55	IP55	IP54	IP23(Buzzer type), IP44(Standard)	IP23(Buzzer type), IP44(Standard)	IP23(Buzzer type), IP44(Standard)	IP23(Buzzer type), IP44(Standard)
	Certificates	CE, UL	CE, UL	CE	CE	CE	CE	CE
	Customization	Color combination except for standard, 2 buzzer sounds, Transparent inner lens	Color combination except for standard, 2 buzzer sounds, Transparent inner lens	Color combination except for standard	Wall mount bracket, 2 Buzzer sounds	Pole length adjustment, 2 Buzzer sounds	Wall mount bracket, 2 buzzer sounds	Pole length adjustment, 2 buzzer sounds
	Transistor	NPN/ PNP type	NPN/ PNP type	NPN/ PNP type	-	-	-	-

References for Signal Tower Lights

Qlight

Model number(series)		ST80MB	ST80B	ST45ML	ST45L	ST56MEL	ST56EL
Voltage		AC/DC12V AC/DC24V AC110V, AC220V	AC/DC12V AC/DC24V AC110V, AC220V	AC/DC12V AC/DC24V AC110V, AC220V	AC/DC12V AC/DC24V AC110V, AC220V	AC/DC12V AC/DC24V AC110V, AC220V	AC/DC12V AC/DC24V AC110V, AC220V
Dimension (mm)	Diameter	Ø80	Ø80	Ø45	Ø45	Ø56	Ø56
	Height	180-460	317-597	106-358	320-572	127-352	341-566
	Depth	-	-				
Materials		Lens-AS Housing-ABS	Lens-AS Housing-ABS	Lens-AS Housing-ABS	Lens-AS Housing-ABS	Lens-AS Housing-ABS	Lens-AS Housing-ABS
Layers		1-5 Layers	1-5 Layers	1-5 Layers	1-5 Layers	1-5 Layers	1-5 Layers
Light source & Operation	Bulb Steady/Flashing	●	●				
	LED Steady						
	LED Steady/Flashing			●	●	●	●
	LED Strobe						
	LED Simulated revolving						
Sound & Volume	1 buzzer sound	Max 90dB at 1m	Max 90dB at 1m	Max 90dB at 1m	Max 90dB at 1m	Max 90dB at 1m	Max 90dB at 1m
	5 signal sounds	-	-	Max 85dB at 1m	Max 85dB at 1m	Max 85dB at 1m	Max 85dB at 1m
Layer color change		Yes	Yes	Yes	Yes	Yes	Yes
Mount bracket		Direct mount	Pole mount	Direct mount	Pole mount	Direct mount	Pole mount
Bracket		TWS80, TWA80	LB24, LW24, QZ24, SZ24, QL24, SL24, QLA24	TWS45, TWA45	LB18, LW18, QZ18, SZ18, QL18, SL18, QLA18	TWS45, TWA45	LB18, LW18, QZ18, SZ18, QL18, SL18, QLA18
Protection rating		IP23(Buzzer type), IP44(Standard)	IP23(Buzzer type), IP44(Standard)	IP23(Buzzer type), IP44(Standard)	IP23(Buzzer type), IP44(Standard)	IP23(Buzzer type), IP44(Standard)	IP23(Buzzer type), IP44(Standard)
Certificates		-	-	CE, UL	CE, UL	CE, UL	CE, UL
Customization		Wall mount bracket, 2 buzzer sounds	Pole length adjustment, 2 buzzer sounds	2 buzzer sounds, Wall mount bracket, AC each layer power supplied, DC24V UL listed	2 buzzer sounds, Pole length adjustment, AC each layer power supplied, DC24V UL listed	2 buzzer sounds, Wall mount bracket, AC each layer power supplied, DC24V UL listed	2 buzzer sounds, Pole length adjustment, AC each layer power supplied, DC24V UL listed
Transistor		-	-	NPN/ PNP type	NPN/ PNP type	NPN/ PNP type	NPN/ PNP type

Model number(series)		ST56ML	ST56L	ST80MEL	ST80EL	ST80ML	ST80L
Voltage		AC/DC12V AC/DC24V AC110V, AC220V	AC/DC12V AC/DC24V AC110V, AC220V	AC/DC12V AC/DC24V AC110V, AC220V	AC/DC12V AC/DC24V AC110V, AC220V	AC/DC12V AC/DC24V AC110V, AC220V	AC/DC12V AC/DC24V AC110V, AC220V
Dimension (mm)	Diameter	Ø56	Ø56	Ø80	Ø80	Ø80	Ø80
	Height	157-502	371-716	150-310	287-447	180-460	317-597
	Depth						
Materials		Lens-AS Housing-ABS	Lens-AS Housing-ABS	Lens-AS Housing-ABS	Lens-AS Housing-ABS	Lens-AS Housing-ABS	Lens-AS Housing-ABS
Layers		1-5 Layers	1-5 Layers	1-5 Layers	1-5 Layers	1-5 Layers	1-5 Layers
Light source & Operation	Bulb Steady/Flashing						
	LED Steady						
	LED Steady/Flashing	●	●	●	●	●	●
	LED Strobe						
	LED Simulated revolving						
Sound & Volume	1 buzzer sound	Max 90dB at 1m	Max 90dB at 1m	Max 90dB at 1m	Max 90dB at 1m	Max 90dB at 1m	Max 90dB at 1m
	5 signal sounds	Max 85dB at 1m	Max 85dB at 1m	Max 85dB at 1m	Max 85dB at 1m	Max 85dB at 1m	Max 85dB at 1m
Layer color change		Yes	Yes	Yes	Yes	Yes	Yes
Mount bracket		Direct mount	Pole mount	Direct mount	Pole mount	Direct mount	Pole mount
Bracket		TWS45, TWA45	LB18, LW18, QZ18, SZ18, QL18, SL18, QLA18	TWS80, TWA80	LB24, LW24, QZ24, SZ24, QL24, SL24, QLA24	TWS80, TWA80	LB24, LW24, QZ24, SZ24, QL24, SL24, QLA24
Protection rating		IP23(Buzzer type), IP44(Standard)	IP23(Buzzer type), IP44(Standard)	IP23(Buzzer type) IP44(Standard)	IP23(Buzzer type) IP44(Standard)	IP23(Buzzer type) IP44(Standard)	IP23(Buzzer type) IP44(Standard)
Certificates		CE, UL	CE, UL	CE, UL	CE, UL	CE, UL	CE, UL
Customization		2 buzzer sounds, Wall mount bracket, AC each layer power supplied, DC24V UL listed	2 buzzer sounds, Pole length adjustment, AC each layer power supplied, DC24V UL listed	2 buzzer sounds, Wall mount bracket, AC each layer power supplied, DC24V UL listed	2 buzzer sounds, Pole length adjustment, AC each layer power supplied, DC24V UL listed	2 buzzer sounds, Wall mount bracket, AC each layer power supplied, DC24V UL listed	2 buzzer sounds, Pole length adjustment, AC each layer power supplied, DC24V UL listed
Transistor		NPN/ PNP type	NPN/ PNP type	NPN/ PNP type	NPN/ PNP type	NPN/ PNP type	NPN/ PNP type

References for Signal Tower Lights

Multiple Color LED Signal Tower Lights

Model number(series)		STC45ML	STC45L	STC56ML	STC56L	STC80ML	STC80L
	Voltage	AC/DC12V, AC/DC24V AC110V, AC220V	AC/DC12V, AC/DC24V AC110V, AC220V	AC/DC12V, AC/DC24V AC110V, AC220V	AC/DC12V, AC/DC24V AC110V, AC220V	AC/DC12V, AC/DC24V AC110V, AC220V	AC/DC12V, AC/DC24V AC110V, AC220V
Dimension (mm)	Diameter	Ø45	Ø45	Ø56	Ø56	Ø80	Ø80
	Height	106-198	320-412	157-287	371-501	180	317
	Depth						
	Materials	Lens-AS Housing-ABS	Lens-AS Housing-ABS	Lens-AS Housing-ABS	Lens-AS Housing-ABS	Lens-AS Housing-ABS	Lens-AS Housing-ABS
	Layers	2-3 Colors	2-3 Colors	2-3 Colors	2-3 Colors	2-3 Colors	2-3 Colors
Light source & Operation	Bulb Steady/Flashing						
	LED Steady						
	LED Steady/Flashing	●	●	●	●	●	●
	LED Strobe						
	LED Simulated revolving						
Sound & Volume	1 buzzer sound	Max 90dB at 1m	Max 90dB at 1m	Max 90dB at 1m	Max 90dB at 1m	Max 90dB at 1m	Max 90dB at 1m
	5 signal sounds						
	Layer color change						
	Mount bracket	Direct mount	Pole mount	Direct mount	Pole mount	Direct mount	Pole mount
	Bracket	TWS45, TWA45	LB18, LW18, QZ18, SZ18, QL18, SL18, QLA18	TWS45, TWA45	LB18, LW18, QZ18, SZ18, QL18, SL18, QLA18	TWS80, TWA80	LB24, LW24, QZ24, SZ24, QL24, SL24, QLA24
	Protection rating	IP23(Buzzer type), IP44(Standard)	IP23(Buzzer type), IP44(Standard)	IP23(Buzzer type), IP44(Standard)	IP23(Buzzer type), IP44(Standard)	IP23(Buzzer type), IP44(Standard)	IP23(Buzzer type), IP44(Standard)
	Certificates	CE	CE	CE	CE	CE	CE
	Customization	2 buzzer sounds, Wall mount bracket	2 buzzer sounds, Pole length adjustment	2 Buzzer sounds, Lens length 40mm, Color combination except for standard, Wall mount Bracket	2 Buzzer sounds, Lens length 40mm, Color combination except for standard, Pole length adjustment	2 Buzzer sounds, Lens length 40mm, Color combination except for standard, Wall mount Bracket	2 Buzzer sounds, Lens length 40mm, Color combination except for standard, Pole length adjustment
	Transistor	NPN/ PNP type	NPN/ PNP type	NPN/ PNP type	NPN/ PNP type	NPN/ PNP type	NPN/ PNP type

Model number(series)		QT56MCL	STG40ML	STG40L	STG50ML	STG50L
	Voltage	DC24V	AC/DC12V, AC/DC24V AC110V-220V	AC/DC12V, AC/DC24V AC110V-220V	AC/DC12V, AC/DC24V AC110V-220V	AC/DC12V, AC/DC24V AC110V-220V
Dimension (mm)	Diameter	Ø45	Ø40	Ø40	Ø50	Ø50
	Height	276	111-339	339-567	106-314	334-542
	Depth					
	Materials	Lens-PC Housing-Al	Lens-AS Housing-ABS	Lens-AS Housing-ABS	Lens-AS Housing-ABS	Lens-AS Housing-ABS
	Layers	7 Colors	1-5 Layers	1-5 Layers	1-5 Layers	1-5 Layers
Light source & Operation	Bulb Steady/Flashing					
	LED Steady	●				
	LED Steady/Flashing		●	●	●	●
	LED Strobe					
	LED Simulated revolving					
Sound & Volume	1 buzzer sound	Max 90dB at 1m	Max 85dB at 1m	Max 85dB at 1m	Max 85dB at 1m	Max 85dB at 1m
	5 signal sounds					
	Layer color change	-	Yes	Yes	Yes	Yes
	Mount bracket	Pole mount	Direct mount	Pole mount	Direct mount	Pole mount
	Bracket	-	TWS45, TWA45	LB18, LW18, QZ18, SZ18, QL18, SL18, QLA18	TWS45, TWA45	LB18, LW18, QZ18, SZ18, QL18, SL18, QLA18
	Protection rating	IP23(Buzzer type), IP44(Standard)	IP54(Buzzer type), IP65(Standard)	IP54(Buzzer type), IP65(Standard)	IP54(Buzzer type), IP65(Standard)	IP54(Buzzer type), IP65(Standard)
	Certificates	-	CE	CE	CE	CE
	Customization	-	Wall mount bracket, 2 buzzer sounds	2 buzzer sounds, Pole length adjustment	Wall mount bracket, 2 buzzer sounds	2 buzzer sounds, Pole length adjustment
	Transistor	NPN/ PNP type	NPN/ PNP type	NPN/ PNP type	NPN/ PNP type	NPN/ PNP type

References for Signal Tower Lights

Model number(series)		**QTG50ML**	**QTG50L**	**QTG60ML**	**QTG60L**	**QTG70ML**	**QTG70L**
	Voltage	AC/DC12V, AC/DC24V AC110V-220V	AC/DC12V, AC/DC24V AC110V-220V	AC/DC12V, AC/DC24V AC110V-220V	AC/DC12V, AC/DC24V AC110V-220V	AC/DC12V, AC/DC24V AC110V-220V	AC/DC12V, AC/DC24V AC110V-220V
Dimension (mm)	Diameter	Ø50	Ø50	Ø60	Ø60	Ø70	Ø70
	Height	116-364	344-592	126-399	352-635	126-399	274-557
	Depth						
	Materials	Lens-PC Housing-ABS	Lens-PC Housing-ABS	Lens-PC Housing-ABS	Lens-PC Housing-ABS	Lens-PC Housing-ABS	Lens-PC Housing-ABS
	Layers	1-5 Layers	1-5 Layers	1-5 Layers	1-5 Layers	1-5 Layers	1-5 Layers
Light source & Operation	Bulb Steady/Flashing						
	LED Steady						
	LED Steady/Flashing	●	●	●	●	●	●
	LED Strobe						
	LED Simulated revolving						
Sound & Volume	1 buzzer sound	Max 85dB at 1m	Max 85dB at 1m	Max 85dB at 1m	Max 85dB at 1m	Max 85dB at 1m	Max 85dB at 1m
	5 signal sounds						
	Layer color change	Yes	Yes	Yes	Yes	Yes	Yes
	Mount bracket	Direct mount	Pole mount	Direct mount	Pole mount	Direct mount	Pole mount
	Bracket	TWS45, TWA45	LB18, LW18, QZ18, SZ18, QL18, SL18, QLA18	TWS45, TWA45	LB18, LW18, QZ18, SZ18, QL18, SL18, QLA18	TWS80, TWA80	LB24, LW24, QZ24, SZ24, QL24, SL24, QLA24
	Protection rating	IP54(Buzzer type), IP65(Standard)	IP54(Buzzer type), IP65(Standard)	IP54(Buzzer type), IP65(Standard)	IP54(Buzzer type), IP65(Standard)	IP54(Buzzer type), IP65(Standard)	IP54(Buzzer type), IP65(Standard)
	Certificates	CE, UL	CE, UL	CE, UL	CE, UL	CE, UL	CE, UL
	Customization	2 buzzer sounds, Wall mount bracket, Strong buzzer, Black housing	2 buzzer sounds, Pole length adjustment, Strong buzzer, Black housing	2 buzzer sounds, Wall mount bracket, Strong buzzer, Black housing	2 buzzer sounds, Pole length adjustment, Strong buzzer, Black housing	2 buzzer sounds, Wall mount bracket, Strong buzzer, Black housing	2 buzzer sounds, Pole length adjustment, Strong buzzer, Black housing
	Transistor	NPN/ PNP type	NPN/ PNP type	NPN/ PNP type	NPN/ PNP type	NPN/ PNP type	NPN/ PNP type

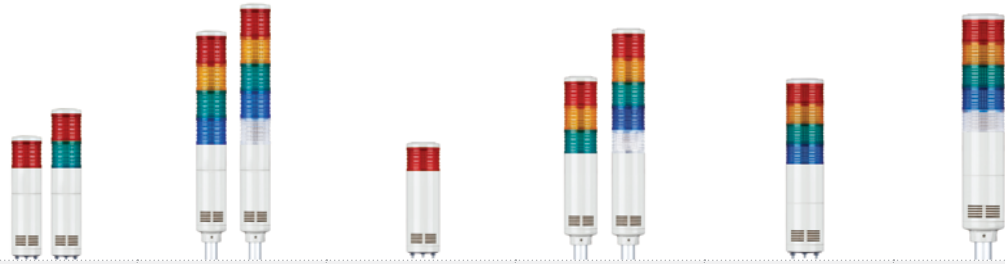| Model number(series)		**QTC50ML**	**QTC50L**	**QTC60ML**	**QTC60L**	**QTC70ML**	**QTC70L**
	Voltage	AC/DC12V, AC/DC24V AC110V-220V	AC/DC12V, AC/DC24V AC110V-220V	AC/DC12V, AC/DC24V AC110V-220V	AC/DC12V, AC/DC24V AC110V-220V	AC/DC12V, AC/DC24V AC110V-220V	AC/DC12V, AC/DC24V AC110V-220V
Dimension (mm)	Diameter	Ø50	Ø50	Ø60	Ø60	Ø70	Ø70
	Height	116-364	344-592	126-399	352-635	126-399	274-557
	Depth						
	Materials	Lens, Inner Lens -PC Housing-ABS	Lens, Inner Lens -PC Housing-ABS	Lens, Inner Lens -PC Housing-ABS	Lens, Inner Lens -PC Housing-ABS	Lens, Inner Lens -PC Housing-ABS	Lens, Inner Lens -PC Housing-ABS
	Layers	1-5 Layers	1-5 Layers	1-5 Layers	1-5 Layers	1-5 Layers	1-5 Layers
Light source & Operation	Bulb Steady/Flashing						
	LED Steady						
	LED Steady/Flashing	●	●	●	●	●	●
	LED Strobe						
	LED Simulated revolving						
Sound & Volume	1 buzzer sound	Max 85dB at 1m	Max 85dB at 1m	Max 85dB at 1m	Max 85dB at 1m	Max 85dB at 1m	Max 85dB at 1m
	5 signal sounds						
	Layer color change	Yes	Yes	Yes	Yes	Yes	Yes
	Mount bracket	Direct mount	Pole mount	Direct mount	Pole mount	Direct mount	Pole mount
	Bracket	TWS45, TWA45	LB18, LW18, QZ18, SZ18, QL18, SL18, QLA18	TWS45, TWA45	LB18, LW18, QZ18, SZ18, QL18, SL18, QLA18	TWS80, TWA80	LB24, LW24, QZ24, SZ24, QL24, SL24, QLA24
	Protection rating	IP54(Buzzer type), IP65(Standard)	IP54(Buzzer type), IP65(Standard)	IP54(Buzzer type), IP65(Standard)	IP54(Buzzer type), IP65(Standard)	IP54(Buzzer type), IP65(Standard)	IP54(Buzzer type), IP65(Standard)
	Certificates	CE, UL	CE, UL	CE, UL	CE, UL	CE, UL	CE, UL
	Customization	2 buzzer sounds, Wall mount bracket, Strong buzzer, Black housing	2 buzzer sounds, Pole length adjustment,, Strong buzzer, Black housing	2 buzzer sounds, Wall mount bracket, Strong buzzer, Black housing	2 buzzer sounds, Pole length adjustment, Strong buzzer, Black housing	2 buzzer sounds, Wall mount bracket, Strong buzzer, Black housing	2 buzzer sounds, Pole length adjustment, Strong buzzer, Black housing
	Transistor	NPN/ PNP type	NPN/ PNP type	NPN/ PNP type	NPN/ PNP type	NPN/ PNP type	NPN/ PNP type

References for Signal Tower Lights

Model number(series)		QTR50ML	QTR50L	QTR60ML	QTR60L	QTR70ML	QTR70L
	Voltage	AC/DC12V, AC/DC24V AC110V-220V	AC/DC12V, AC/DC24V AC110V-220V	AC/DC12V, AC/DC24V AC110V-220V	AC/DC12V, AC/DC24V AC110V-220V	AC/DC12V, AC/DC24V AC110V-220V	AC/DC12V, AC/DC24V AC110V-220V
Dimension (mm)	Diameter	Ø50	Ø50	Ø60	Ø60	Ø70	Ø70
	Height	116-364	344-592	126-399	352-635	126-399	274-557
	Depth						
	Materials	Lens-PC Housing-ABS	Lens-PC Housing-ABS	Lens-PC Housing-ABS	Lens-PC Housing-ABS	Lens-PC Housing-ABS	Lens-PC Housing-ABS
	Layers	1-5 Layers	1-5 Layers	1-5 Layers	1-5 Layers	1-5 Layers	1-5 Layers
Light source & Operation	Bulb Steady/Flashing						
	LED Steady						
	LED Steady/Flashing	●	●	●	●	●	●
	LED Strobe						
	LED Simulated revolving						
Sound & Volume	1 buzzer sound	Max 85dB at 1m	Max 85dB at 1m	Max 85dB at 1m	Max 85dB at 1m	Max 85dB at 1m	Max 85dB at 1m
	5 signal sounds						
	Layer color change	Yes	Yes	Yes	Yes	Yes	Yes
	Mount bracket	Direct mount	Pole mount	Direct mount	Pole mount	Direct mount	Pole mount
	Bracket	TWS45, TWA45	LB18, LW18, QZ18, SZ18, QL18, SL18, QLA18	TWS45, TWA45	LB18, LW18, QZ18, SZ18, QL18, SL18, QLA18	TWS80, TWA80	LB24, LW24, QZ24, SZ24, QL24, SL24, QLA24
	Protection rating	IP54(Buzzer type), IP65(Standard)	IP54(Buzzer type), IP65(Standard)	IP54(Buzzer type), IP65(Standard)	IP54(Buzzer type), IP65(Standard)	IP54(Buzzer type), IP65(Standard)	IP54(Buzzer type), IP65(Standard)
	Certificates	CE, UL	CE, UL	CE, UL	CE, UL	CE, UL	CE, UL
	Customization	2 buzzer sounds, Wall mount bracket, Strong buzzer, Black housing	2 buzzer sounds, Pole length adjustment, Strong buzzer, Black housing	2 buzzer sounds, Wall mount bracket, Strong buzzer, Black housing	2 buzzer sounds, Pole length adjustment, Strong buzzer, Black housing	2 buzzer sounds, Wall mount bracket, Strong buzzer, Black housing	2 buzzer sounds, Pole length adjustment, Strong buzzer, Black housing
	Transistor	NPN/ PNP type	NPN/ PNP type	NPN/ PNP type	NPN/ PNP type	NPN/ PNP type	NPN/ PNP type

Model number(series)		QT50ML	QT50L	QT70ML	QT70L
	Voltage	DC12V, DC24V AC110V, AC220V	DC12V, DC24V AC110V, AC220V	DC12V, DC24V AC110V, AC220V	DC12V, DC24V AC110V, AC220V
Dimension (mm)	Diameter	Ø50	Ø50	Ø70	Ø70
	Height	83-247	297-461	98-322	237-461
	Depth				
	Materials	Lens-PC Housing-ABS	Lens-PC Housing-ABS	Lens-PC Housing-ABS	Lens-PC Housing-ABS
	Layers	1-5 Layers	1-5 Layers	1-5 Layers	1-5 Layers
Light source & Operation	Bulb Steady/Flashing				
	LED Steady				
	LED Steady/Flashing	●	●	●	●
	LED Strobe	●	●	●	●
	LED Simulated revolving	●	●	●	●
Sound & Volume	1 buzzer sound	Max 90dB at 1m	Max 90dB at 1m	Max 90dB at 1m	Max 90dB at 1m
	5 signal sounds	Max 85dB at 1m	Max 85dB at 1m	Max 85dB at 1m	Max 85dB at 1m
	Layer color change	Yes	Yes	Yes	Yes
	Mount bracket	Direct mount	Pole mount	Direct mount	Pole mount
	Bracket	TWS45, TWA45	LB18, LW18, QZ18, SZ18, QL18, SL18, QLA18	TWS80, TWA80	LB24, LW24, QZ24, SZ24, QL24, SL24, QLA24
	Protection rating	IP54(Buzzer type), IP65(Standard)	IP54(Buzzer type), IP65(Standard)	IP54(Buzzer type), IP65(Standard)	IP54(Buzzer type), IP65(Standard)
	Certificates	-	-	CE(Buzzer type only)	CE(Buzzer type only)
	Customization	Beige color, Wall mount bracket, LED strobe, LED simnulated revolving	Beige color, Pole length adjustment, LED strobe, LED simnulated revolving	Beige color, Wall mount bracket, LED strobe, LED simnulated revolving	Beige color, Pole length adjustment, LED strobe, LED simnulated revolving
	Transistor	NPN/ PNP type	NPN/ PNP type	NPN/ PNP type	NPN/ PNP type

Specification List for USB LED Tower Lights

Model number(series)		ST45ML-USB	ST45L-USB	ST56MEL-USB	ST56EL-USB	ST80MEL-USB	ST80EL-USB
	Voltage	USB DC 5V	USB DC 5V	USB DC 5V	USB DC 5V	USB DC 5V	USB DC 5V
Dimension (mm)	Diameter	Ø45	Ø45	Ø56	Ø56	Ø80	Ø80
	Height	198-358	412-572	192-352	406-566	230-390	367-527
	Depth						
	Materials	Lens-AS Housing-ABS	Lens-AS Housing-ABS	Lens-AS Housing-ABS	Lens-AS Housing-ABS	Lens-AS Housing-ABS	Lens-AS Housing-ABS
	Layer	1-5 Layers	1-5 Layers	1-5 Layers	1-5 Layers	1-5 Layers	1-5 Layers
Light source & Operation	Bulb Steady/Flashing						
	LED Steady						
	LED Steady/Flashing	●	●	●	●	●	●
	LED Strobe						
	LED Simulated revolving						
Sound & volume	1 buzzer sound	Max 90dB at 1m	Max 90dB at 1m	Max 90dB at 1m	Max 90dB at 1m	Max 90dB at 1m	Max 90dB at 1m
	5 Signal sounds	Max 85dB at 1m	Max 85dB at 1m	Max 85dB at 1m	Max 85dB at 1m	Max 85dB at 1m	Max 85dB at 1m
	Layer color change	Support	Support	Support	Support	Support	Support
	Mount bracket	Direct mount	Pole mount	Direct mount	Pole mount	Direct mount	Pole mount
	Bracket	TWS45, TWA45	LB18, LW18, QZ18, SZ18, QL18, SL18, QLA18	TWS45, TWA45	LB18, LW18, QZ18, SZ18, QL18, SL18, QLA18	TWS80, TWA80	LB24, LW24, QZ24, SZ24, QL24, SL24, QLA24
	Protection rating	IP23	IP23	IP23	IP23	IP23	IP23
	Certificates						
	Customization	Customized color arrangements, Wall mount brackets	Customized color arrangements, Customized pole length	Customized color arrangements, 70mm lens height, Wall mount brackets	Customized color arrangements, 70mm lens height, Customized pole length	Customized color arrangements, 70mm lens height, Wall mount brackets	Customized color arrangements, 70mm lens height, Customized pole length

Model number(series)		QT50ML-USB	QT50L-USB	QT70ML-USB	QT70L-USB	STDEL-USB
	Voltage	USB DC 5V	USB DC 5V	USB DC 5V	USB DC 5V	DC12V, DC24V AC110V, AC220V
Dimension (mm)	Diameter	Ø50	Ø50	Ø70	Ø70	Ø80(Lens) Ø119(Housing)
	Height	208-372	422-586	148-372	287-511	204-364
	Depth					
	Materials	Lens-PC Housing-PC	Lens-PC Housing-PC	Lens-PC Housing-PC	Lens-PC Housing-PC	Lens-AS Housing-ABS
	Layer	1-5 Layers	1-5 Layers	1-5 Layers	1-5 Layers	1-5 Layers
Light source & Operation	Bulb Steady/Flashing					
	LED Steady					
	LED Steady/Flashing	●	●	●	●	●
	LED Strobe	●	●	●	●	
	LED Simulated revolving	●	●	●	●	
Sound & volume	1 buzzer sound	Max 90dB at 1m	Max 90dB at 1m	Max 90dB at 1m	Max 90dB at 1m	
	5 Signal sounds	Max 85dB at 1m	Max 85dB at 1m	Max 85dB at 1m	Max 85dB at 1m	Max 105dB at 1m
	Layer color change	Support	Support	Support	Support	Support
	Mount bracket	Direct mount	Pole mount	Direct mount	Pole mount	Direct mount
	Bracket	TWS45, TWA45	LB18, LW18, QZ18, SZ18, QL18, SL18, QLA18	TWS80, TWA80	LB24, LW24, QZ24, SZ24, QL24, SL24, QLA24	-
	Protection rating	IP54	IP54	IP54	IP54	IP54
	Certificates					
	Customization	Customized color arrangements, Beige color, LED strobe, LED simulated revolving, Wall mount brackets	Customized color arrangements, Beige color, LED strobe, LED simulated revolving, Customized pole length	Customized color arrangements, Beige color, LED strobe, LED simulated revolving, Wall mount brackets	Customized color arrangements, Beige color, LED strobe, LED simulated revolving, Customized pole length	Customized color arrangements, 70mm lens height

Specification List for Ethernet LED Tower Lights

Model number(series)		ST45ML-ETN	ST45L-ETN	ST56MEL-ETN	ST56EL-ETN	ST80MEL-ETN	ST80EL-ETN
	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
Dimension (mm)	Diameter	Ø45	Ø45	Ø56	Ø56	Ø80	Ø80
	Height	244-404	458-618	257-517	471-731	230-390	367-527
	Depth						
	Materials	Lens-AS Housing-ABS	Lens-AS Housing-ABS	Lens-AS Housing-ABS	Lens-AS Housing-ABS	Lens-AS Housing-ABS	Lens-AS Housing-ABS
	Layer	1-5 Layers	1-5 Layers	1-5 Layers	1-5 Layers	1-5 Layers	1-5 Layers
Light source & Operation	Bulb Steady/Flashing						
	LED Steady						
	LED Steady/Flashing	●	●	●	●	●	●
	LED Strobe						
	LED Simulated revolving						
Sound & volume	1 buzzer sound	Max 90dB at 1m	Max 90dB at 1m	Max 90dB at 1m	Max 90dB at 1m	Max 90dB at 1m	Max 90dB at 1m
	5 Signal sounds	Max 85dB at 1m	Max 85dB at 1m	Max 85dB at 1m	Max 85dB at 1m	Max 85dB at 1m	Max 85dB at 1m
	Layer color change	Support	Support	Support	Support	Support	Support
	Mount bracket	Direct mount	Pole mount	Direct mount	Pole mount	Direct mount	Pole mount
	Bracket	TWS45, TWA45	LB18, LW18, QZ18, SZ18, QLA18	TWS45, TWA45	LB18, LW18, QZ18, SZ18, QLA18	TWS80, TWA80	LB24, LW24, QZ24, SZ24, QLA24
	Protection rating	IP23	IP23	IP23	IP23	IP23	IP23
	Certificates	-	-	-	KCC	-	-
	Customization	Customized color arrangements, Wall mount brackets	Customized color arrangements, Customized pole length	Customized color arrangements, 70mm lens height, Wall mount brackets	Customized color arrangements, 70mm lens height, Customized pole length	Customized color arrangements, 70mm lens height, Wall mount brackets	Customized color arrangements, 70mm lens height, Customized pole length

Model number(series)		QT50ML-ETN	QT50L-ETN	QT70ML-ETN	QT70L-ETN	
	Voltage	DC12V, DC24V	DC12V, DC24V	DC12V, DC24V	DC12V, DC24V	
Dimension (mm)	Diameter	Ø50	Ø50	Ø70	Ø70	
	Height	208-372	422-586	148-372	287-511	
	Depth					
	Materials	Lens-PC Housing-PC	Lens-PC Housing-PC	Lens-PC Housing-PC	Lens-PC Housing-PC	
	Layer	1-5 Layers	1-5 Layers	1-5 Layers	1-5 Layers	
Light source & Operation	Bulb Steady/Flashing					
	LED Steady					
	LED Steady/Flashing	●	●	●	●	
	LED Strobe	●	●	●	●	
	LED Simulated revolving	●	●	●	●	
Sound & volume	1 buzzer sound	Max 90dB at 1m	Max 90dB at 1m	Max 90dB at 1m	Max 90dB at 1m	
	5 Signal sounds	Max 85dB at 1m	Max 85dB at 1m	Max 90dB at 1m	Max 90dB at 1m	
	Layer color change	Support	Support	Support	Support	
	Mount bracket	Direct mount	Pole mount	Direct mount	Pole mount	
	Bracket	TWS45, TWA45	LB18, LW18, QZ18, SZ18, QLA18	TWS80, TWA80	LB24, LW24, QZ24, SZ24, QLA24	
	Protection rating	IP54	IP54	IP54	IP54	
	Certificates					
	Customization	Customized color arrangements, Beige color, LED strobe, LED simulated revolving, Wall mount brackets	Customized color arrangements, Beige color, LED strobe, LED simulated revolving, Customized Pole Length	Customized color arrangements, Beige color, LED strobe, LED simulated revolving, Wall mount brackets	Customized color arrangements, Beige color, LED strobe, LED simulated revolving, Customized Pole Length	

Reference for Electric Horn/ Speaker/ Motor Siren/ Buzzer Horn/ Bell

Model number(series)		SPK	QMPS	S60ADH	QAD80HC	QAD80BZC	QAD100HC	QAD100BZC
Voltage		DC12V, DC24V AC110V, AC220V	DC12V-24V AC110V-220V	DC12V, DC24V AC110V, AC220V	DC12V-DC24V	DC12V, DC24V	DC12V-24V AC110V-220V	DC12V, DC24V AC110V-220V
Dimension (mm)	Diameter	80×80	120×120	Ø75	Ø83	Ø83	Ø97	Ø97
	Height	-	-	158	129	129	137	137
	Depth	75	69	86	93	93	109	109
Materials		ABS	ABS	ABS	ABS	ABS	ABS	ABS
Sound & Volume	1 Tone Buzzer			Max 100dB at 1m		Max 105dB at 1m		Max 105dB at 1m
	5 Signal Sounds	Max 85dB at 1m						
	Voice							
	30 Signal Sounds		Max 98dB at 1m		Max 100dB at 1m		Max 100dB at 1m	
	31 Signal Sounds							
	MP3		Max 95dB at 1m				Max 95dB at 1m	
	Other Sound							
Mount bracket		Panel mount	Panel mount	Wall mount	Wall mount	Wall mount	Wall mount	Wall mount
Caple entry		-	-	-	Ø10	Ø10	Ø10	Ø10
Protection rating		IP23	IP54	IP54	IP65	IP65	IP65	IP65
Certificate		CE	CE, UL	CE	-	-	-	-
Customization		-	-	Strong buzzer 105dB	-	-	-	-
Transistor		NPN type	NPN type		NPN type	-	NPN type	-

Model number(series)		QAD125HC	QAD125BZC	SRN	SEN15	SEN25	SMP35	SMP50
Voltage		DC12V-24V AC110V-220V	DC12V, DC24V AC110V-220V	DC12V, DC24V AC110V, AC220V	DC12V, DC24V AC110V, AC220V	DC12V, DC24V AC110V, AC220V	DC12V-24V AC110V-220V	DC12V, DC24V AC110V-220V
Dimension (mm)	Diameter	Ø116	Ø116	Ø125	130	130	145×177	145×177
	Height	149	149	-	-	-	-	-
	Depth	132	132	185(Length)	200(Length)	200(Length)	216(Length)	216(Length)
Materials		ABS	ABS	ABS	ABS	ABS	ABS	ABS
Sound & Volume	1 Tone Buzzer		Max 105dB at 1m					
	5 Signal Sounds			Max 108dB at 1m	Max 108dB at 1m	Max 115dB at 1m		
	Voice			Max 98dB at 1m	Max 98dB at 1m	Max 108dB at 1m		
	30 Signal Sounds	Max 115dB at 1m					Max 115dB at 1m	Max 123dB at 1m
	31 Signal Sounds							
	MP3	Max 100dB at 1m					Max 113dB at 1m	Max 118dB at 1m
	Other Sound							
Mount bracket		Wall mount	Wall mount	Self stand	Self stand	Self stand	Self stand	Self stand
Caple entry		Ø10	Ø10	Ø10	Ø10	Ø10	Ø21	Ø21
Protection rating		IP65	IP65	IP55	IP55	IP55	IP65	IP65
Certificate		-	-	CE	CE	CE	-	-
Customization		-	-	External sound pattern signal line	External sound pattern signal line	External sound pattern signal line	External sound pattern signal line	External sound pattern signal line
Transistor		NPN type	-	NPN type	NPN type	NPN type	NPN type	NPN type

Reference for Electric Horn/ Speaker/ Motor Siren/ Buzzer Horn/ Bell

Model number(series)		SN	SEHN25	SEHN50	SN-1	SM30	SM40
	Voltage	DC12V, DC24V AC110V, AC220V	DC12V, DC24V AC110V, AC220V	DC12V, DC24V AC110V, AC220V	DC12V, DC24V	DC12V, DC24V AC110V, AC220V	DC12V, DC24V AC110V, AC220V
Dimension (mm)	Diameter	Ø119(Horn)	Ø158(Horn)	Ø167(Horn)	Ø135(Horn)	Ø77	Ø128
	Height						
	Depth	167(Length)	238(Length)	242(Length)	140(Length)	82(Length)	162(Length)
	Materials	Housing-Steel	Housing-Steel	Housing-Steel	Housing-Steel	Housing-Steel	Housing-ABS
Sound & Volume	1 Tone Buzzer						
	5 Signal Sounds	Max 105dB at 1m	Max 115dB at 1m	Max 120dB at 1m	-	-	-
	Voice	Max 95dB at 1m	Max 108dB at 1m	Max 115dB at 1m	-	-	-
	30 Signal Sounds						
	31 Signal Sounds						
	MP3						
	Other Sound				Max 100dB at 1m	Max 110dB at 1m	Max 116dB at 1m
Mount bracket		Self stand	Self stand	Self stand	Self stand	Self stand	Self stand
Caple entry		Ø10	Ø21	Ø21	Ø10	Ø22	Ø22
Protection rating		IP55	IP55	IP55	IP55	IP44	IP44
Certificate		KIMM	KIMM	KIMM	-	-	-
Customization		External sound pattern signal line	External sound pattern signal line	External sound pattern signal line	-	-	-
Transistor		NPN type	NPN type	NPN type	-	-	-
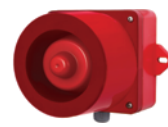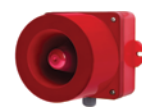
Model number(series)		SM200	SM400	SAB130	SAB200	QWH35	QWH50
	Voltage	DC24V AC110V, AC220V	DC24V AC110V, AC220V	DC24V AC110V, AC220V	DC24V AC110V, AC220V	DC12V-24V AC110V-220V	DC12V, DC24V AC110V-220V
Dimension (mm)	Diameter	Ø143	Ø165	Ø130(Bell)	Ø200(Bell)	136×179	168×222
	Height	-	-	238	269	-	-
	Depth	231(Length)	284(Length)	107	107	126	163
	Materials	Housing-Steel	Housing-Steel	Bell-Steel Housing-ABS	Bell-Steel Housing-ABS	Horn-PC Housing-ABS	Horn-PC Housing-ABS
Sound & Volume	1 Tone Buzzer						
	5 Signal Sounds						
	Voice						
	30 Signal Sounds						
	31 Signal Sounds	-	-	-	-	Max 115dB at 1m	Max 123dB at 1m
	MP3	-	-	-	-	Max 113dB at 1m	Max 118dB at 1m
	Other Sound	Max 120dB at 1m	Max 123dB at 1m	Max 95dB at 1m	Max 95dB at 1m	-	-
Mount bracket		Direct mount	Direct mount	Wall mount	Wall mount	Wall mount	Wall mount
Caple entry		Ø9	Ø22	Ø26	Ø26	Ø21	Ø21
Protection rating		IP44	IP44	IP56	IP56	IP66	IP66
Certificate		CE					
Customization		-	-	2 way cable entries	2 way cable entries	-	-
Transistor		-	-	-	-	NPN type	NPN type