Innovation in alarm & signal

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CATALOGUE 2018.02

Vessels and Heavy-Duty &
Equipment/
Explosion Proof

Qlight

Company Introduction

Qlight Gives You a Brighter Future!

Qlight has been a world-leading provider of visual and audible status indicating systems and solutions for the last three decades. We pride ourselves in developing products which help our customer's improve productivity, safety, and quality control in the industrial automation and commercial industries. Our strong dedication to innovative products, quality assurance, well-established supply chain, customizable manufacturing and strong customer relationships have helped us earn the top market share in Korea and China. These core values have also been fundamental to our continued growth into new markets. Qlight's products are certified by the International Quality Management System (ISO14001), IECEx, ATEX, UL, NEPSI, CE, Lloyd, KIMM, and KOSHA which display our dedication to stringent quality control and product development based on safety-pursuing industry standards.

Our assembly lines in Busan, South Korea and Shanghai, China presently provide a variety of more than 450 of products to more than 40 countries, based on sales offices in South Korea (Seoul, Busan) China (Shanghai, Shenzhen, Shenyang, Tianzhen, Tianjin, Wenzhou), and the U.S. (Silicon Valley). The Qlight brand reflects 30 years of research and development, certification, and manufacturing experience.

We will continue to establish ourselves as a industry-leading provider by pushing the boundaries of technology in order to enhance our customer's efficiency and safety in every industry and region of the world.
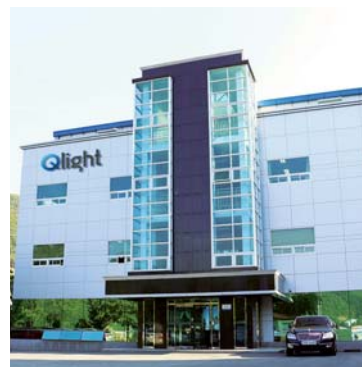

Qlight Global Networks

Country	Company name	Address	Phone
Korea	Qlight Co., Ltd.	HQ | A-412, 579, Gyeongin-ro, Guro-gu, Seoul, Korea	+82-80-328-2222
		Factory |185-25, Mukbang-Ro, Sangdong-Myeon, Gimhae-si, Gyeongsangnamdo, Korea	+82-80-328-1111
USA	Qlight USA, Inc.	#341, 3003 North First St., San Jose, CA 95134 USA	+1-408-519-5740
China	SHANGHAI Qlight Electronics Co.,Ltd	#19, Nanda Road, Baoshan Area, Shanghai, China	+86-21-6651-7100

Qlight Clients Heavy industry / Ship building / Automotive / Steel / Machinery / Petrochemical / Power plants / Electronics / Semiconductor / Emergency Vehicles

Company History

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

1986-1992	1993-2005	2006-2010	2011 to Present	- Future
Business foundation and consolidation	Growing as a signal transmission device specialist	A great leap forward & business reconstruction	New engines for growth	The 2nd growth and globalization

Year	Month	Event
2017	08	ISO 14001 : 2015 certificate aquired
	02	Obtained ICAO certification for SAOL1
2016	11	Obtained the patent for "multi-functional modular signal tower light" (Patent # : 10-1676863)
	09	Obtained the patent for "Emergency Vehicle Lightbar" (Patent # : 10-1662283)
	07	Obtained UL certificate for LED signal lights Q series
		Obtained the patent for "Bar style LED work lights" (Patent # : 10-1598123)
2015	09	The second headquarter factory built
	06	Limit switch models (3 items including SW2TS) acquired certificates from RMRS
	03	LED work lights (QML150/250, QMFL 500/600) UL listed
2014	10	Established the Qlight USA, Inc. in San Jose, CA. Horn which that emits light patented (Patent # : 10-1452447) Fan/ tilt type bracket patented (Patent # : 10-1452445)
	09	LED strobe light with multi-lens patented (Patent # : 10-1444391)
	08	Explosion proof product family including SNE, SNES, SESA, SEA, SPNA acquired IECEx certificates
	06	Selected as a promising export company by Small & Medium Business Admin., Korea
	01	Non-sparking explosion proof tower lights including ST45ML and STB45ML acquired KGS and NEPSI certificates
2013	01	Portable warning lights for agricultural machine applications patented (Patent # : 10-1226959)
2012	12	Explosion proof warning lights (SNE, SNES) acquired CCS certificates LED work light with cylindrical lens attached patented (Patent # : 10-1219020)
	09	Explosion proof warning lights (SESA, SEA, SPNA) and heavy-duty warning lights (SH1, SED, SEWN30) certified by CCS
	01	LED warning light with LED reflector patented (Patent # : 10-1108102)
2011	11	SNE, SNES certified by NEPSI, SNE, SNES, SESA, SEA, SPNA certified by KOSHA
	08	KCC (Korea Communications Commission) certificate acquired
	07	Light equipment applying prism system patented (Patent # : 10-1051056)
2010	05	QEB certified by KIMM LED warning light, bulb revolving warning light patented (Patent # : 10-0961472)
	03	Research and development center established
2009	12	SSEL certified by KIMM LED tower lights compliant with the RoHS directive
2008	04	Motor drive system patented (Patent # : 20-0439536)
	03	LED revolving type lens patent acquired (patent # :10-0808669)
2007	11	Explosion proof electric horn (SPNA) acquired NEPSI certificates
	05	Tower light models including ST45, ST56,ST80) UL listed
2005	07	Heavy-duty products for vessel applications acquired Lloyd's (UK's Maritime Classification Society) certificates
	04	ABS certificates acquired for 18 products including SH1
2004	06	ISO 9001:2000 certificates acquired
2001	02	Established Shanghai Qlight Electronic Co.,Ltd. in China
2000	07	Established Qlight Limited
1993	11	Nominated for developing domestic explosion proof warning lights by Korean Ministry of Science & Technology
1988	03	Developed limit switches for vessel applications
1986	07	Established Qlight

CATALOGUE

Signaling Products for Vessels and Heavy Industry Applications
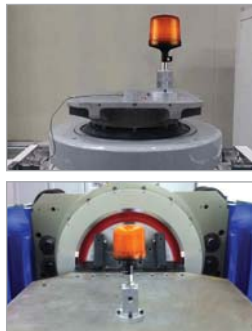
INNOVATION IN ALARM & SIGNAL

SH1

SEWN30T

SHD

QA70HLS
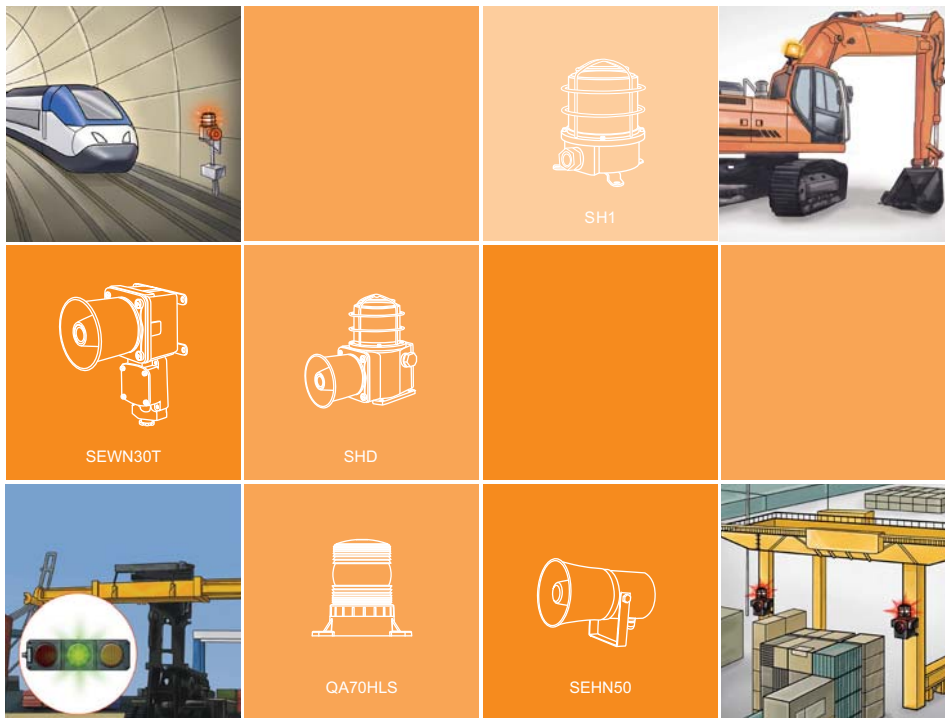
SEHN50

Technical Data of Heavy-Duty Products

Vibration and Shock of Heavy-Duty Products

Heavy-duty products must be tested by strict standards to withstand heavy vibration and shock environments.

Vibration Standard

- Test is conducted in 3 directions X, Y, Z, at 15g acceleration, frequency band 10Hz-200Hz (1.0 octave/ min), and 10mm maximum amplitude for four hours in Z direction and two hours in the X, Y direction. The test should be conducted for a total 8 hours.
  There should be no cracks on the exterior of the product or breakage, separation of components after the test, and should operate normally for two hours at its rated voltage.

Shock Standard

- Test is conducted in 3 directions X, Y, Z, at 100g impact acceleration for a 11ms duration.
  There should be no cracks on the exterior of the product or breakage, separation of components after the test, and should operate normally for two hours at its rated voltage.

Material Characteristics

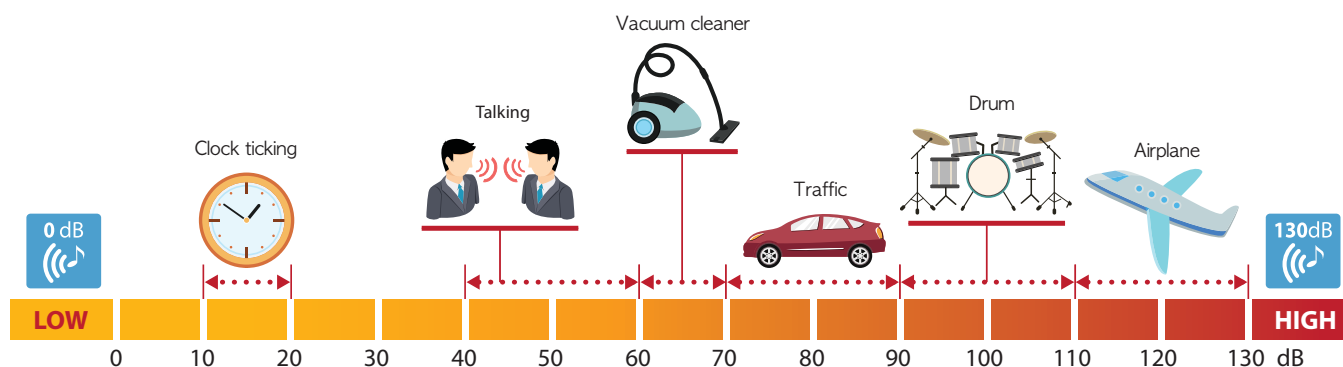Vessels and heavy-duty products require vibration, shock and corrosion resistant materials
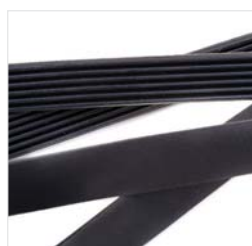
The characteristics of the materials that are mainly used in Qlight products

Material	Abbreviation	Characteristics
ABS resin	ABS	Has opaque gloss on the surface and has excellent shock resistance mainly used on exterior parts use of electrical and electronic components
Polycarbonate	PC	Has a high-strength and high-tensile chemical structure, with great electrical insulation and transparency, Mainly used on components that need impact resistance For example, transparent covers for car parts that requires transparency, and small electrical and electronic components, etc.
Acrylic	PMMA	Has a light transmittance over 90% with a high transparency, and has excellent chemical resistance to the external environment Mainly used for lens covers of interior lighting, and used for the replacement of glass in automobiles, aircraft, and ships
Aluminum	Al	Lightweight and durable, widely used throughout industry for its oxidation resistance Low density, low cost, and corrosion resistance- widely used in aerospace, transportation, architecture, cryogenic, and harsh environments
Bronze	BRASS	Bronze is an alloy of copper and tin. It has greater castability and abrasion resistance Mainly used in arts and crafts, valves, ship plates, statues, springs that require elasticity, parts of machinery, bearing materials, electrical, semiconductor materials
steel use stainless	SUS	The price is expensive compared to ordinary steel but has better corrosion resistance and there is no need for additional surface treatment Mainly used as external parts
Silicon rubber	Q(silicon)	For its cold resistance, heat-resistant, oil resistant, non-toxic, chemical resistance. It is mainly used in defense and aerospace industries, automotive, food containers, etc.
Nitrile rubber	NBR	Excellent resistance to high temperature and lubricant used mainly in oil sealing, gaskets, and oil hoses

Examples of Everyday Noise

In order to transmit sound effectively in noisy environments, products require a sound signaling device with a high volume.
The volume of the signaling devices compared with the noise of everyday life is shown below.

0 dB	Clock ticking	Talking	Vacuum cleaner	Traffic	Drum	Airplane	130dB

LOW												HIGH
0	10	20	30	40	50	60	70	80	90	100	110	120	130 dB

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)	Ø117	Ø123	Ø123
	Height	108	113	112	270	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 structure	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						
	Page	P10	P10	P11	P11	P12	P12

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 structure	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
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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 structure		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
Page		P15-21	P15-21	P15-21	P15-21	P37	P37

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 structure		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
Page		P31	P11	P32	P32	P33	P33

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 structure	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
	Page	P26-28	P26-28	P22-25	P22-25	P22-25	P22-25

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-PC+ABS	Horn-PC Housing-PC+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 structure	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
	Page	P39	P40

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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-PC +ABS	Horn-PC Housing-PC +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 structure	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
	Page	P41-42	P41-42	P43	P43	P44	P46

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-SUS316L	Housing-Al Horn Housing-SUS316L	Housing-Al Horn Housing-SUS316L	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 structure	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
	Page	P46	P46	P47	P47	P47	P49

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 structure	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
	Page	P50	P50	P51	P51	P52	P52

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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 structure	Wall mount	Wall mount	Wall mount		
	Cable entry	-	-	1/2"PF		
	Protection rating	IP44	IP44	IP56		
	Certificates					
	Customization					
	Page	P35	P35	P36		

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 structure	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	
	Page	P53	P53	P54	P54	

QA70HLS/ QA100HLS

LED Strobe Warning Lights for Heavy-Duty Equipment

Qlight

IP66　-30~+50℃

QA70HLS-Ø70mm
QA100HLS-Ø100mm

QA70HLS

QA100HLS

ⓘ Common Specifications(QA70HLS/ QA100HLS)

- Uses Qlight's original high brightness LED diffusion system that allows for operation outdoors in intense sunlight conditions
- Excellent vibration and shock resistant structure for superior durability
- Fully enclosed structure that can withstand storm and severe dust environments (IP66)
- Materials : Lens-PC, Housing-ABS+GF(for QA70HLS)/ ABS(for QA100HLS)
- Ambient operating temperature : -30°C to +50°C
- Protection rating : IP66
- Vibration resistant and shock-proof : can withstand 15g of vibration and 100g of shock

🔔 QA70HLS LED Strobe Warning Light

- Mountable with two bolts on the main structure of the warning light for convenient assembly
- Suitable for small agricultural machines
- Flashing rate : 45-55 flashes/min

Model number	Voltage	Current	Certificates	Weight	Color
QA70HLS	DC12V-24V	Max 0.620A	-	0.23kg	● R-Red ● A-Amber

※ DC type model has a free-voltage range of 10V-30V.

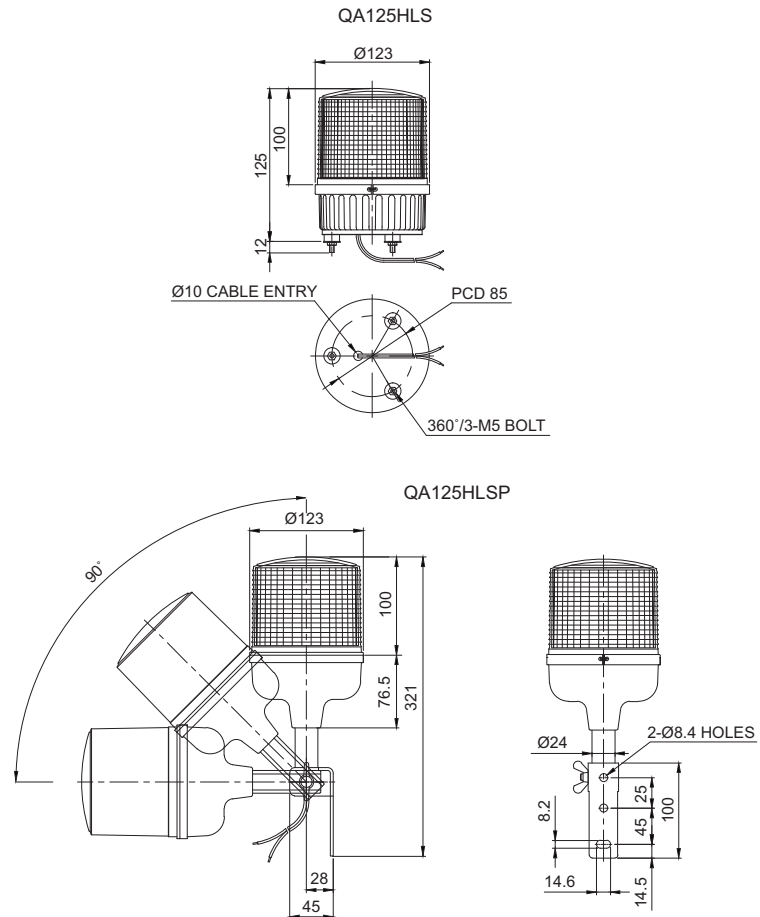### 🔔 QA100HLS LED Strobe Warning Light

- Flashing rate : 60-80 flashes/min

Model number	Voltage	Current	Certificates	Weight	Color
QA100HLS	DC12V-24V	Max 1.200A	CE	0.39kg	● R-Red ● A-Amber

※ DC type model has a free-voltage range of 10V-30V.

📐 Technical Diagram　　(Units : mm)

QA70HLS

Ø72
108
86
22
Ø9 CABLE ENTRY
93

QA100HLS

113
92
15
14
Ø101

2-Ø6.5 HOLES (Slot hole)
24.5
PCD 91~95
112

8.5
6.5
FITTING HOLES

360°/3-M4 BOLT
PCD 60
Ø10 CABLE ENTRY
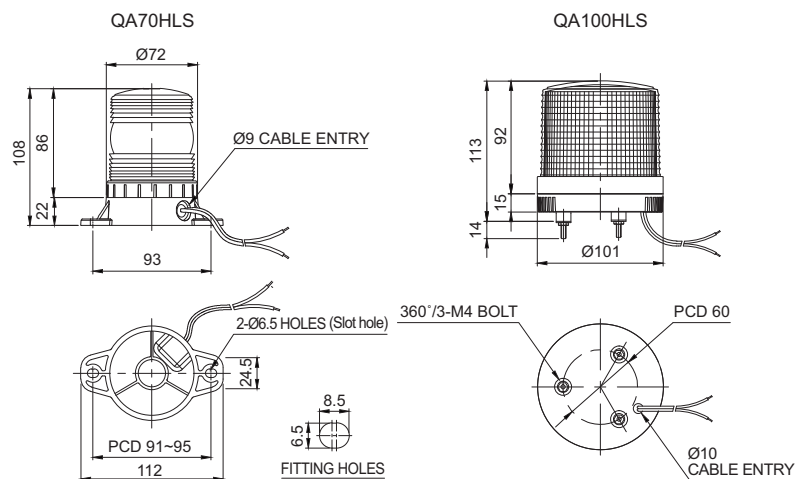
⚡ Wiring Instructions

- QA70HLS Model : External power line standard UL1015 AWG18(0.75sq)×2C 400mm
- QA100HLS Model : External power line standard KSC3304 (0.85sq)×2C 400mm
- Both models can be wired regardless of polarity

🖱 Ordering Specification

QA100HLS	-	12/24	-	R
[Model number]		[Voltage]		[Color]
• QA70HLS • QA100HLS		• 12/24-DC12V-24V		● R-Red ● A-Amber

QA115HLS series

LED Strobe Warning Lights for Heavy-Duty Equipment

IP66 **-30~+50°C**
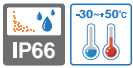
QA115HLS-Ø115mm
QA115HLSP-Ø115mm

Applies Qlight's exclusive patented light diffusion system

QA115HLS

QA115HLSP

Common Specifications(QA115HLS/ QA125HLS)

LED Strobe warning lights for heavy-duty equipment applications, featuring superior luminous efficiency with Qlight's exclusive light diffusion system

- Ability to compensate for signal attenuation phenomenon that occurs during daytime operation with a powerful xenon lamp.
- Can select between pole mount and direct mount type to fit your application needs
- Materials : Lens-PC, Housing-PC
- Ambient operation temperature : -30°C to +50°C
- Protection rating : IP66
- Vibration resistant and shock-proof : Can withstand 15g of vibration and 100g of shock

QA115HLS/ QA115HLSP LED Strobe Warning Lights

- Pole mount type model consists of a shock-proof rubber body; this feature provides excellent durability to vibration and shock
- Flashing rate : 45-55 flashes/min

Model number	Voltage	Current	Certificates	Weight	Color
QA115HLS	DC12V-24V	Max 0.730A	-	1.06kg	● R-Red
QA115HLSP				1.22kg	● A-Amber

※ DC type model has a free-voltage range of 10V-30V.

Technical Diagram (Units : mm)

QA115HLS

Ø150
Ø107
112
30

360°/3-Ø5.4 HOLES
PCD 130
Ø9 CABLE ENTRY

QA115HLS-P

Ø150
Ø133
129
30

360°/3-Ø5.4 HOLES
PCD 130
Ø9 CABLE ENTRY

QA115HLSP

Ø117
77
270
Ø24
110
20
47

9
14.5
46
99
40
16
2-Ø9 HOLES
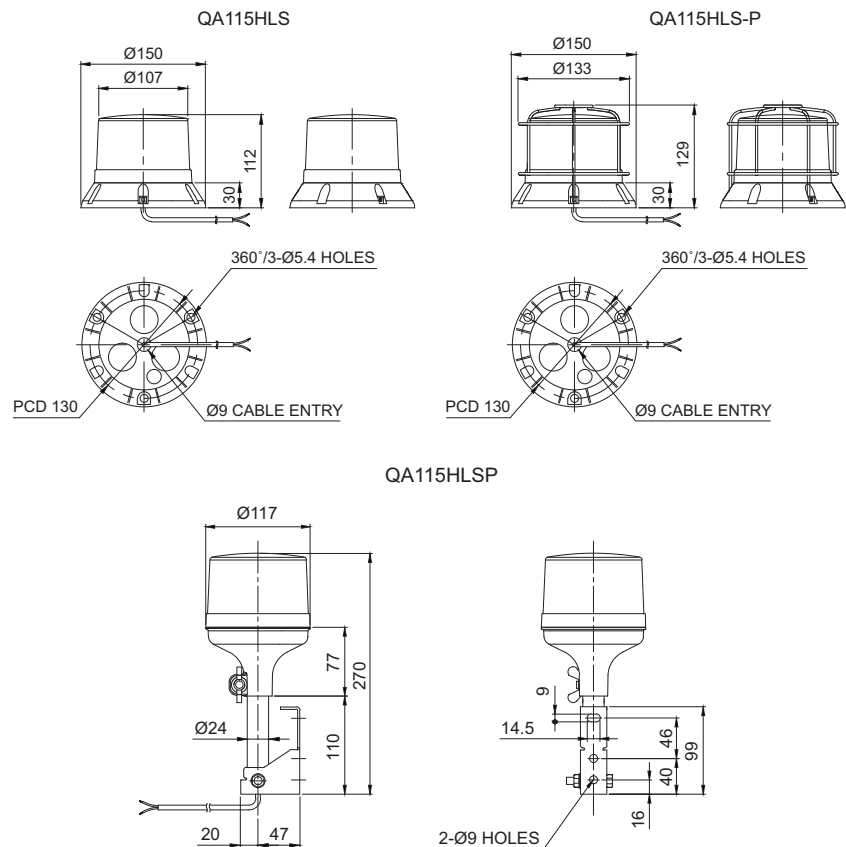
Ordering Specification

QA115HLSP	-	12/24	-	R
[Model number]		[Voltage]		[Color]

- QA115HLS
- QA115HLSP

- 12/24
  -DC12V-24V

● R-Red
● A-Amber

Wiring Instructions

- External power line standard : UL2464 18AWG×2C 400mm
- Product can be wired regardless of polarity

Customization

- User selected connector type available upon request
- Built-in protection cage (QA115HLS-P)

QA125HLS series

LED Strobe Warning Lights for Heavy-Duty Equipment

IP66 -30~+50℃
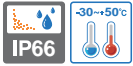
QA125HLS-Ø125mm
QA125HLSP-Ø125mm

QA125HLS

QA125HLSP

🔔 QA125HLS LED Strobe Warning Light

• Flashing rate : 60-80 flashes/min

Model number	Voltage	Current	Certificates	Weight	Color
QA125HLS	DC12V-24V	Max 1.650A	-	0.55kg	● R-Red ● A-Amber

※ DC type model has a free-voltage range of 10V-30V.

🔔 QA125HLSP LED Strobe Warning Light

• Flashing rate : 60-80 flashes/min

Model number	Voltage	Current	Certificates	Weight	Color
QA125HLSP	DC12V-24V	Max 1.650A	-	1.00kg	● R-Red ● A-Amber

※ DC type model has a free-voltage range of 10V-30V.

Technical Diagram (Units : mm)

QA125HLS

Ø123
125
100
12
Ø10 CABLE ENTRY
PCD 85
360°/3-M5 BOLT

QA125HLSP

Ø123
90°
100
76.5
321
28
45
Ø24
2-Ø8.4 HOLES
8.2
45
25
100
14.6
14.5

Wiring Instructions

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

Ordering Specification

QA125HLS	-	12/24	-	R
[Model number]		[Voltage]		[Color]
• QA125HLS • QA125HLSP		• 12/24-DC12V-24V		● R-Red ● A-Amber

- **Ø140mm high-intensity LED strobe warning lights for heavy-duty equipment**
- **Applies Qlight's exclusive patented diffusion lens and reflector system to maximize its light output**

QA140HLSP

💡 Common Specifications(QA140HLSP/ QA140DLSP)

- Applies a special built-in filter to compensate for shortcomings of the LED warning light when attenuation to sunlight in bright outdoor environments occur
- Wide angle filter provides excellent visibility from top to bottom
- Vibration resistant and shock-proof : Can withstand 15g of vibration and 100g of shock
- Pole mount type
- Equipped with angel-adjustable bracket
- Flashing rate : 60-80 flashes/min
- Materials : Housing-PC, Diffusion lens-PC, Lens-PC, Reflector-Heat resistant ABS, Bracket-SUS
- Ambient operating temperature : -30°C to +50°C
- Protection rating : IP66
- Designed for heavy equipment applications
- Certificates : CE Compliant, E11
- Compliant with RoHS directive

Superior light output through the Qlight's exclusive diffusion lens and reflector

The inner ring-shaped diffusion lens is specially designed to help minimize the loss of light output. The inner diffusion lens and reflector structure allows for light to be spread both horizontally and vertically for accurate signal light transmission.

Standard Model   **High Brightness Model**

Ensuring visibility with wide angle light output

To compliment the drawbacks of a typical one directional LED, The patented light emitting structure is designed to secure a wide viewing angel. Thus, eliminating potential disadvantages of mounting a typical LED at a higher position. It's design allows for easy visibility at close ranges and high mounting positions.

LED Strobe Warning Lights for Heavy-Duty Equipment

Qlight

IP66 -30~+50℃ RoHS
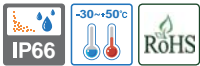
Excellent durability and shockproof by using high hardness PC material for the lens.

Bendable pole structure prevents damage from external impact.

Vibration resistant, shock-proof, dustproof, and waterproof products

Durable and enclosed product structure was produced for direct exposure to the environments of heavy equipment such as vibration and shock, dust and water.

Bendable pole structure prevents damage from external impact

Pole mount product is designed to prevented damage from external impact by bending in the opposite direction when impact occurs.

QA140HLSP LED Strobe Warning Light

Model number	Brightness type	Brightness	Voltage	Current	Certificates	Weight	Color
QA140HLSP	Standard	110Lux	DC12V	0.820A	CE DC24V Only E11	1.16kg	● R-Red ● A-Amber
			DC24V	0.600A			

QA140DLSP LED Strobe Warning Light

Model number	Brightness type	Brightness	Voltage	Current	Certificates	Weight	Color
QA140DLSP	High brightness	170Lux	DC12V	1.640A	-	1.18kg	● R-Red ● A-Amber
			DC24V	1.040A			

Technical Diagram   (Units : mm)

QA140HLSP

60° Ø140 325 78 121 Ø24
9 14.5 46 99 40 16 2-Ø9 HOLES
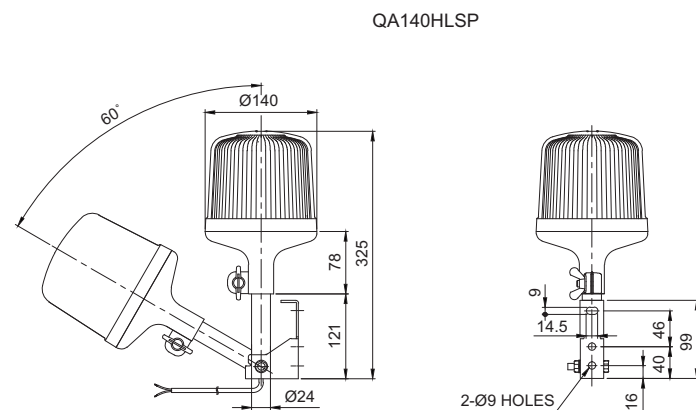
Wiring Instructions

• External power line standard : KSC3304 0.85sq×2C 400mm
• Product can be wired regardless of polarity

Customization

• Connector type wiring products

Ordering Specification

QA140HLSP	-	12	-	R
[Model number]		[Voltage]		[Color]

• QA140HLSP
• QA140DLSP

• 12-DC12V
• 24-DC24V

● R-Red
● A-Amber

SH1/ SH2 series

Qlight

Superior durability with fully enclosed structure and corrosion resistance, suitable for vessels and heavy industry applications

· **SH1 series-Ø125mm**
· **SH2 series-Ø150mm**

ⓘ Common Specifications

• Aluminum housing and polycarbonate lens material provides excellent impact resistance under seismic conditions
• Excellent hermetic structure that blocks water and dust
• Can select a variety of light sources (Bulb, LED, and xenon) for your application needs and environmental conditions
• Terminals located inside the terminal box or product
• Cable entry : 1/2″PF
• Materials : Lens-PC, Housing-Al, Protection cage-SUS316L, Reflector for LED type-PC/ Reflector for bulb type-Heat resistant ABS
• Housing standard color : MUNSELL No. 7.5BG 7/2
• Protection rating : IP66

■ A Variety of Selectable Light Source and Function Combinations

You can select from a variety of light sources for your work environment, condition, and purpose. Basic specifications are as follows :

• LED revolving type
• LED steady/flashing type
• xenon lamp strobe type
• Bulb revolving type

User-selected LED strobe type and LED simulated revolving type are available upon request.

❶ Lenses

• Utilizes a strong and durable polycarbonate material with excellent shock and vibration resistance
• The lens surface has two types depending on the light source function-Light diffusion type and light transmission type

Light transmission type		LED revolving type Bulb revolving type	SH(　)LR SH(　)
Light diffusion type		LED steady/flashing type xenon lamp strobe type	SH(　)L/LF SH(　)S

❷ Protection cage

• The durable protection cage is made of corrosion resistant stainless steel that prevents damage to the lens from external contact
• Materials : SUS316L

❸ Housing

• The special aluminum body housing features superior durability
• The housing is corrosion resistant from a special anodized surface treatment process
• Materials : Al

❹ Fully enclosed structure

• The tightly sealed warning light structure is waterproof and dustproof
• Protection rating : IP66

❺ Terminal box

• Terminal box is located on the side of housing for easy wiring
• Materials : Al

❻ Brackets

• Stainless steel mounting bracket is conveniently attached to the outer surface of the product
• Materials : SUS

SH1/SH2 series Product Categories

Standard model
• Protection cage or terminal box not attached
• Terminals located inside the housing
• Use in environments that has low probability of damage to the lens due to external forces
• SH1/SH2 series is available in this model

Terminal box mounted type
• Equipped with a terminal box for easy wiring
• Terminal box enables easy wiring
• Use in environments that has low probability of damage to the lens due to external forces
• SH1T( )/ SH2T( ) is available in this model

Protection cage mounted type
• Equipped with a Protection cage
• Terminals located inside the housing
• Damage to the lens from external forces can be prevented with protection cage
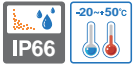• SH1( )P/SH2( )P is available in this model

Terminal box and protection cage mounted type
• Equipped with a protection cage and a terminal box
• Terminal box enables easy wiring
• Damage to the lens from external forces can be prevented with protection cage
• SH1T( )P/ SH2T( )P is available in this model

SH1LR/ SH2LR series

Heavy-Duty LED Revolving Warning Lights for Vessels and Heavy Industry Applications

Qlight

IP66 -20~+50℃

· SH1LR-Ø125mm
· SH2LR-Ø150mm

SH1LR

SH2LRP

SH1LR/SH2LR models are equipped with flexible connector, and SH1TLR/ SH2TLR models are equipped with 15C nipple at cable entry.

Flexible connector   15C nipple
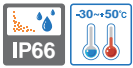

Common Specifications(SH1L/ SH2L)

• Features high visibility in all directions with special concentrated LED light structure and multi side reflector
• Revolving speed : 120-140RPM
• Materials : Lens-PC, Housing-Al, Protection cage-SUS316L, Reflector for LED : PC
• Ambient operation temperature : -20°C to +50°C
• Cable entry : 1/2″PF
• Housing standard color : MUNSELL No.7.5BG 7/2
• Protection rating : IP66

SH1LR LED Revolving Warning Light

• Certificates : KIMM, ABS, CCS

Model number	Voltage	Current	Certificates	Color
• SH1LR Standard type • SH1LRP Protection cage type • SH1TLR Terminal box type • SH1TLRP Protection cage and terminal box type	DC12V	0.422A	KIMM ABS CCS	● R-Red ● A-Amber ● G-Green ● B-Blue
	DC24V	0.266A		
	AC110V	0.082A		
	AC220V	0.041A		

SH2LR LED Revolving Warning Light

• Certificates : KIMM, ABS

Model number	Voltage	Current	Certificates	Color
• SH2LR Standard type • SH2LRP Protection cage type • SH2TLR Terminal box type • SH2TLRP Protection cage and terminal box type	DC12V	0.422A	KIMM ABS	● R-Red ● A-Amber ● G-Green ● B-Blue
	DC24V	0.266A		
	AC110V	0.082A		
	AC220V	0.041A		

SH1LR/SH2LR LED Reflector Warning Lights Specification Category and Products Weight Chart

Type	SH1 series		SH2 series	
Lens diameter	Ø125mm		Ø150mm	
Standard		SH1LR (1.64kg)		SH2LR (1.69kg)
Built-in protection cage		SH1LRP (1.89kg)		SH2LRP (1.98kg)
Built-in terminal box		SH1TLR (2.10kg)		SH2TLR (2.15kg)
Built-in protection cage &Terminal box		SH1TLRP (2.35kg)		SH2TLRP (2.44kg)

※ Product weight is based on AC type.

Ordering Specification

SH1LR	-	12	-	R
[Model number]		[Voltage]		[Color]

[Model number]
• SH1LR
• SH1LRP
• SH1TLR
• SH1TLRP
• SH2LR
• SH2LRP
• SH2TLR
• SH2TLRP

[Voltage]
• 12-DC12V
• 24-DC24V
• 110-AC110V
• 220-AC220V

[Color]
● R-Red
● A-Amber
● G-Green
● B-Blue

SH1L/ SH2L series

Heavy-Duty Steady/ Flash Signal Lights for Vessels and Heavy Industry Applications

Qlight

IP66 -30~+50℃

· **SH1L**-Ø125mm
· **SH2L**-Ø150mm

SH1LP

SH2TLP

SH1L/SH2L models are equipped with flexible connector, and SH1TL/SH2TL models are equipped with 15C nipple at cable entry.

Flexible connector   15C nipple

Common Specifications(SH1L/ SH2L)

• Uniform and clear light diffusion with multi layered LED light distribution reflector
• Built-in switch for selection between steady and flashing mode
• Flashing rate : 60-80 flashes/min
• Standard housing color : MUNSELL No. 7.5BG 7/2
• Materials : Lens-PC, Housing-Al, Protection cage-SUS316L, Reflector- Heat resistant ABS
• Ambient operation temperature : -30°C to +50°C
• Cable entry : 1/2″PF
• Protection rating : IP66

SH1L LED Steady/Flashing Signal Light

• Certificates : KIMM, ABS, CCS

Model number	Voltage	Current	Certificates	Color
• SH1L Standard type • SH1LP Protection cage type • SH1TL Terminal box type • SH1TLP Protection cage and terminal box type	DC12V	0.300A	KIMM ABS CCS	● R-Red ● A-Amber ● G-Green ● B-Blue
	DC24V	0.200A		
	AC110V	0.060A		
	AC220V	0.030A		

SH2L LED Steady/Flashing Signal Light

• Certificates : KIMM, ABS

Model number	Voltage	Current	Certificates	Color
• SH2L Standard type • SH2LP Protection cage type • SH2TL Terminal box type • SH2TLP Protection cage and terminal box type	DC12V	0.300A	KIMM ABS	● R-Red ● A-Amber ● G-Green ● B-Blue
	DC24V	0.200A		
	AC110V	0.060A		
	AC220V	0.030A		

SH1L/SH2L LED Steady/Flashing Signal Lights Specification Category and Products Weight Chart

Type	SH1 series		SH2 series	
Lens diameter	Ø125mm		Ø150mm	
Standard		SH1L (1.49kg)		SH2L (1.57kg)
Built-in protection cage		SH1LP (1.74kg)		SH2LP (1.86kg)
Built-in terminal box		SH1TL (1.95kg)		SH2TL (2.03kg)
Built-in protection cage &Terminal box		SH1TLP (2.20kg)		SH2TLP (2.32kg)

※ Product weight is based on AC type.

Ordering Specification

SH2L	-	220	-	R
[Model number]		[Voltage]		[Color]

[Model number]	[Voltage]	[Color]
• SH1L • SH1LP • SH1TL • SH1TLP • SH2L • SH2LP • SH2TL • SH2TLP	• 12-DC12V • 24-DC24V • 110-AC110V • 220-AC220V	● R-Red ● A-Amber ● G-Green ● B-Blue

SH1S/ SH2S series

Heavy-Duty Xenon Lamp Strobe Signal Lights for Vessels and Heavy Industry Applications

Qlight

IP66 -30~+50℃
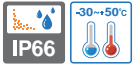
· **SH1S-Ø125mm**
· **SH2S-Ø150mm**

SH1S

SH2TS

SH1S/SH2S models are equipped with flexible connector, and SH1TS/SH2TS models are equipped with 15C nipple at cable entry.

Flexible connector   15C nipple

Common Specifications(SH1S/ SH2S)

- Convenient lamp change with connector type connection structure
- Flashing rate : 60-80 flashes/min
- Standard housing color : MUNSELL No. 7.5BG 7/2
- Materials : Lens-PC, Housing-Al, Protection cage-SUS316L
- Ambient operation temperature : -30°C to +50°C
- Cable entry : 1/2″PF
- Protection rating : IP66

SH1S Xenon Lamp Strobe Signal Light

- Certificates : KIMM, ABS, CCS

Model number		Voltage	Current	Bulb			Certificates	Color
				Spec	Standard	Parts no		
• SH1S	Standard type	DC12V	1.001A				KIMM	● R-Red
• SH1SP	Protection cage type	DC24V	0.616A	200V -550V	EUB0641 -1A(G)	48	ABS	● A-Amber
• SH1TS	Terminal box type	AC110V	0.133A		U type		CCS	● G-Green
• SH1TSP	Protection cage and terminal box type	AC220V	0.106A					● B-Blue

SH2S Xenon Lamp Strobe Signal Light

- Certificates : KIMM, ABS

Model number		Voltage	Current	Bulb			Certificates	Color
				Spec	Standard	Parts no		
• SH2S	Standard type	DC12V	1.001A				KIMM	● R-Red
• SH2SP	Protection cage type	DC24V	0.616A	200V -550V	EUB0641 -1A(G)	48	ABS	● A-Amber
• SH2TS	Terminal box type	AC110V	0.133A		U type			● G-Green
• SH2TSP	Protection cage and terminal box type	AC220V	0.106A					● B-Blue

SH1S/SH2S Xenon Strobe Signal Lights Specification Category and Products Weight Chart

Type	SH1S series		SH2S series	
Lens diameter	Ø125mm		Ø150mm	
Standard		SH1S (1.11 kg)		SH2S (1.19 kg)
Built-in protection cage		SH1SP (1.36 kg)		SH2SP (1.48 kg)
Built-in terminal box		SH1TS (1.57 kg)		SH2TS (1.65 kg)
Built-in protection cage &Terminal box		SH1TSP (1.82 kg)		SH2TSP (1.94 kg)

※ Product weight is based on AC type.

Ordering Specification

SH1S	-	12	-	R
[Model number]		[Voltage]		[Color]

- SH1S
- SH1SP
- SH1TS
- SH1TSP
- SH2S
- SH2SP
- SH2TS
- SH2TSP

- 12-DC12V
- 24-DC24V
- 110-AC110V
- 220-AC220V

- ● R-Red
- ● A-Amber
- ● G-Green
- ● B-Blue

SH1/ SH2 series

Heavy-Duty Bulb Revolving Signal Light for Vessels and Heavy Industry Applications

Qlight

IP66 **-20~+50°C**

· SH1-Ø125mm
· SH2-Ø150mm

SH1

SH2T

Common Specifications(SH1/ SH2)

• Excellent light diffusion effect with multi faced reflector
• Adopts a special power transmission system that reduces noise and wear
• Revolving speed : 120-140RPM
• Standard housing color : MUNSELL No. 7.5BG 7/2
• Materials : Lens-PC, Housing-Al, Protection cage-SUS316L, Reflector-PC
• Ambient operation temperature : -20°C to +50°C
• Cable entry : 1/2″PF
• Protection rating : IP66

SH1 Bulb Revolving Warning Light

• Certificates : KIMM, ABS, CCS, CE

Model number	Voltage	Current	Bulb			Certificates	Color
			Spec	Standard	Parts no		
• SH1 Standard type • SH1P Protection cage type • SH1T Terminal box type • SH1TP Protection cage and terminal box type	DC12V	1.544A	12V15W	G23 15S	17	KIMM ABS CCS CE DC24V Only	• R-Red • A-Amber • G-Green • B-Blue
	DC24V	0.766A	24V15W	G23 15S	18		
	AC110V	0.204A	12V15W	G23 15S	17		
	AC220V	0.102A	12V15W	G23 15S	17		

SH2 Bulb Revolving Warning Light

• Certificates : KIMM, ABS, CE

Model number	Voltage	Current	Bulb			Certificates	Color
			Spec	Standard	Parts no		
• SH2 Standard type • SH2P Protection cage type • SH2T Terminal box type • SH2TP Protection cage and terminal box type	DC12V	1.544A	12V15W	G23 15S	17	KIMM ABS CE DC24V Only	• R-Red • A-Amber • G-Green • B-Blue
	DC24V	0.766A	24V15W	G23 15S	18		
	AC110V	0.204A	12V15W	G23 15S	17		
	AC220V	0.102A	12V15W	G23 15S	17		

SH1/SH2 Bulb Revolving Warning Lights Specification Category and Products Weight Chart

Type	SH1 series		SH2 series	
Lens diameter	Ø125mm		Ø150mm	
Standard		SH1 (1.61kg)		SH2 (1.77kg)
Built-in protection cage		SH1P (1.86kg)		SH2P (2.06kg)
Built-in terminal box		SH1T (2.07kg)		SH2T (2.23kg)
Built-in protection cage &Terminal box		SH1TP (2.32kg)		SH2TP (2.52kg)

※ Product weight is based on AC type.

SH1/SH2 models are equipped with flexible connector, and SH1T/SH2T models are equipped with 15C nipple at cable entry.

Flexible connector   15C nipple

Ordering Specification

SH1T	-	220	-	R
[Model number]		[Voltage]		[Color]

[Model number]
• SH1
• SH1P
• SH1T
• SH1TP
• SH2
• SH2P
• SH2T
• SH2TP

[Voltage]
• 12-DC12V
• 24-DC24V
• 110-AC110V
• 220-AC220V

[Color]
• R-Red
• A-Amber
• G-Green
• B-Blue

Technical Diagram

(Units : mm)

SH1LRP/ SH1LP/ SH1SP/ SH1P

Ø135
178
*(167)
120
12
Ø136
149

PCD 155
CABLE ENTRY 1/2″ PF
360˚/3-Ø8 FITTING HOLES
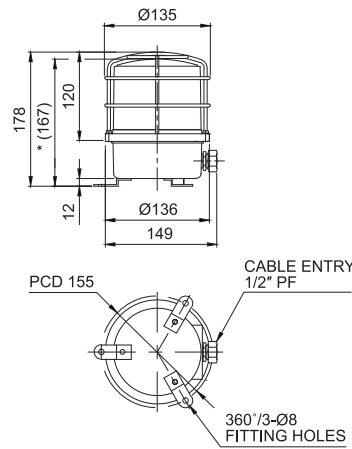
SH1TLRP/ SH1TLP/ SH1TSP/ SH1TP

Ø135
178
*(167)
120
12
Ø136
234
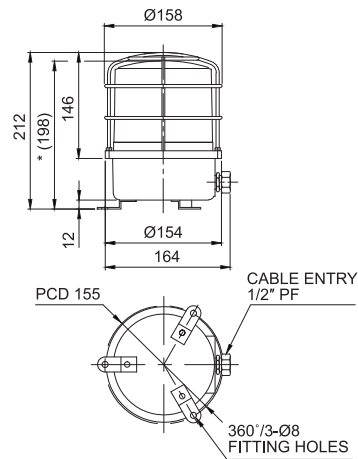
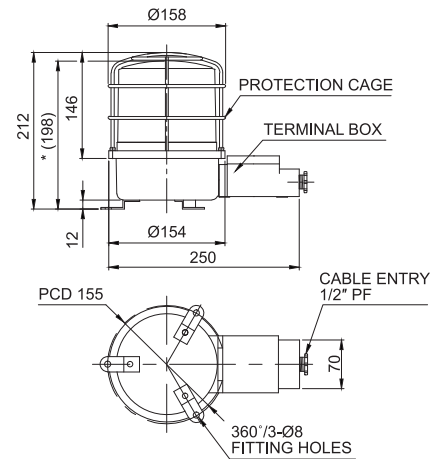PROTECTION CAGE
TERMINAL BOX

PCD 155
CABLE ENTRY 1/2″ PF
70
360˚/3-Ø8 FITTING HOLES
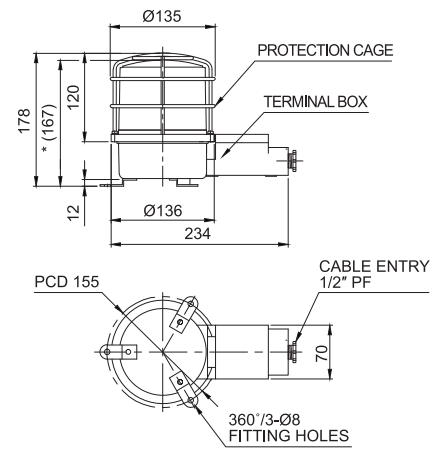
※ *(167) represents SH1LR/ SH1L/ SH1S/ SH1, SH1TLR/ SH1TL/ SH1TS/ SH1T size without protection cage.

SH2LRP/ SH2LP/ SH2SP/ SH2P

Ø158
212
*(198)
146
12
Ø154
164

PCD 155
CABLE ENTRY 1/2″ PF
360˚/3-Ø8 FITTING HOLES

SH2TLRP/ SH2TLP/ SH2TSP/ SH2TP

Ø158
212
*(198)
146
12
Ø154
250

PROTECTION CAGE
TERMINAL BOX

PCD 155
CABLE ENTRY 1/2″ PF
70
360˚/3-Ø8 FITTING HOLES

※ *(198)represents SH2LR/ SH2L/ SH2S/ SH2, SH2TLR/ SH2TL/ SH2TS/ SH2T size without protection cage.

Customization

• 3/4″PF cable entry
  Standard cable entry is 1/2″PF
  3/4″PF is customization

• Built-in cable gland type
  Flexible connector is equipped to the standard cable entry

• Brass housing product
  SH2 series brass housing provides products with
  excellent corrosion resistance as customization
  ※ Color will be MUNSELL No. 7.5BG 7/2 when Released.

• 2T type has 2 cable entries in the terminal box
  2 cable entries terminal box is a customized add-on,
  please refer to the technical diagram on page 21

Built-in cable gland type

Brass housing product

2 cable entries
terminal box model

Technical Diagram for 2T Type Cable Entries　　　(Units : mm)

SH1LR-2TP/ SH1L-2TP/ SH1S-2TP/ SH1-2TP

Ø135

PROTECTION CAGE

TERMINAL BOX

178
*(167)
120
12

Ø136

210

CABLE ENTRY
1/2″ PF

PCD 155

360˚/3-Ø8
FITTING HOLES
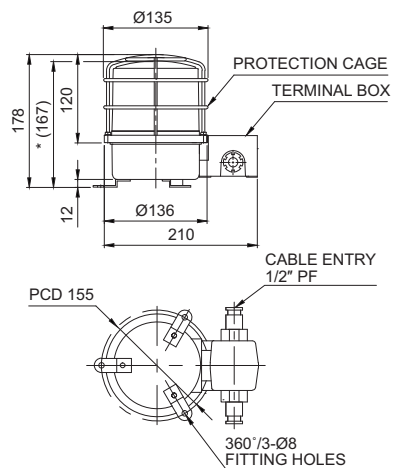
※ *(167) represents SH1LR-2T/ SH1L-2T/ SH1S-2T/ SH1-2T size without protection cage.

SH2LR-2TP/ SH2L-2TP/ SH2S-2TP/ SH2-2TP

Ø158

PROTECTION CAGE

TERMINAL BOX

212
*(198)
146
12

Ø154

223

CABLE ENTRY
1/2″ PF

PCD 155

360˚/3-Ø8
FITTING HOLES
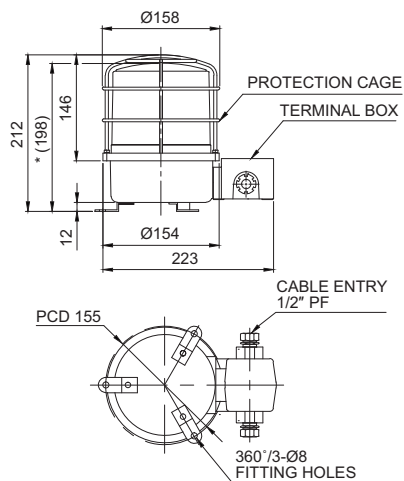
※ *(198) represents SH2LR-2T/ SH2L-2T/ SH2S-2T/ SH2-2T size without protection cage.

SHD/ SHD2 series

Warning/ Signal Light and Electric Horn Combinations for Vessels and Heavy Industry Applications

Warning light and electric horn combinations with excellent durability and perfectly enclosed structure, designed for vessels and heavy industry applications

- **SHD series - Single electric horn type**
- **SHD2 series - Dual-facing electric horn type**

Common Specifications

- Warning light and electric horn combination models for vessels and heavy industries applications
- Aluminum housing and polycarbonate lens material provides excellent durability under seismic conditions
- Excellent hermetic structure that blocks water and dust
- Superior impact and shock resistance
- You can select a variety of sound and light sources(bulb, LED and xenon)
- Equipped with a wire guard
- Terminal box located inside the housing
- Can adjust sound volume and select sound pattern with the switches built inside the products
- Cable entry : 1/2″PF
- Materials : Lens-PC, Housing-Al, Protection cage-SUS316L, Reflector-PC, Multi-tiered reflector-Heat resistance ABS
- Standard housing color : MUNSELL No. 7.5BG 7/2
- Protection rating : IP66
- Certificates : KIMM, ABS, CE Compliant

2 Lens
- Polycarbonate lens material provides excellent impact resistance

3 Protection cage
- The durable wire guard is made of corrosion resistant stainless steel that prevents damage to the lens from external contact
- Materials : SUS316L

4 Housing
- The special aluminum body housing features superior durability
- The housing is corrosion resistant from a special anodized surface treatment process
- Materials : Al

5 Fully enclosed structure
- The tightly sealed warning light structure is waterproof and dustproof
- Protection rating : IP66

■ A variety of selectable light source and function combinations

You can select from a variety of light sources for your the work environment, conditions, and purpose. Basic specifications are as follows :

- LED revolving type
- LED steady/flashing type
- Xenon lamp strobe type
- Bulb revolving type

User-selected LED strobe type and LED simulated revolving type are available upon request.

1 A variety of selectable warning sounds and sound messages

You can convey specific information with a variety of 20 warning sounds and voice messages.

Sound	Pattern	Ch	Sound Tone
WS	5 Warning sounds	Ch1 Ch2 Ch3 Ch4 Ch5	Fire.A-ANG Emergency WA-U(Yelp) Ambulance PI-PO(Hi-low) Machinery Fault High Expansion
WP	5 Special warning sounds	Ch1 Ch2 Ch3 Ch4 Ch5	Fire.A-ANG Abandon Alarm Machinery Fault High Expansion 7 Short PI. / 1 Long
WM	5 Melodies	Ch1 Ch2 Ch3 Ch4 Ch5	Sweet Home For Elise Cuckoo's Waltz Piano Sonata Turkish March
WA	5 Alarms	Ch1 Ch2 Ch3 Ch4 Ch5	Beep Intermittent Door Chime Phone Ring PI.PI.PI Short Tripping Beat
WV	5 Customizable sound messages	Ch1 - Ch5	Customized sound tones

SHD series Product Category Chart

SHD series		Light Source and Function	SHD2 series	
Standard Type	Protection Cage Equipped Type		Standard Type	Protection Cage Equipped Type
SHDLR	SHDLRP	LED revolving type	SHD2LR	SHD2LRP
SHDL	SHDLP	LED steady/ flashing type	SHD2L	SHD2LP
SHDS	SHDSP	Xenon lamp strobe type	SHD2S	SHD2SP
SHD	SHDP	Bulb revolving type	SHD2	SHD2P

SHD/ SHD2 series

Heavy-Duty Warning/ Signal Lights and Electric Horn for Vessels and Heavy Industry Applications

Qlight

IP66 | -20~+50℃ | -30~+50℃ | HORN | 118dB | NPN
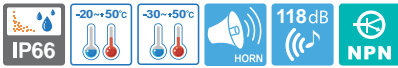
· **SHD series**
 -Single Electric Horn
· **SHD2 series**
 -Dual Electric Horn

SHDLR

SHD2LR

SHDLP　　**SHD2LP**

SHD2L used in KTX tunnels for an evacuation alarm warning light system.

SHDLR/ SHDLRP LED Revolving Warning Light & Electric Horn Combination

• Features high visibility in all directions with special concentrated LED light structure and multi side reflector
• Revolving speed : 120-140RPM
• Ambient operation temperature : -20°C to +50°C

Model number	Voltage	Current	Sound pattern and volume	Certificates	Weight	Color
SHDLR SHDLRP	DC12V	2.633A	• WS -5 Warning sounds : 118dB • WP -5 Special warning sounds : 118dB • WM -5 Melodies : 118dB • WA -5 Alarms : 116dB • WV -5 Customizable voices : 113dB	KIMM ABS	• SHDLR DC-3.21kg AC-3.91kg • SHDLRP DC-3.46kg AC-4.16kg	● R-Red ● A-Amber ● G-Green ● B-Blue
	DC24V	1.288A				
	AC110V	0.308A				
	AC220V	0.154A				

SHD2LR/ SHD2LRP LED Revolving Warning Light & Dual Electric Horn Combination

Model number	Voltage	Current	Sound pattern and volume	Certificates	Weight	Color
SHD2LR SHD2LRP	DC12V	4.844A	• WS -5 Warning sounds : 118dB×2 • WP -5 Special warning sounds : 118dB×2 • WM -5 Melodies : 118dB×2 • WA -5 Alarms : 116dB×2 • WV -5 Customizable voices : 113dB×2	KIMM ABS	• SHD2LR DC-4.26kg AC-4.97kg • SHD2LRP DC-4.51kg AC-5.22kg	● R-Red ● A-Amber ● G-Green ● B-Blue
	DC24V	2.255A				
	AC110V	0.535A				
	AC220V	0.267A				

SHDL/ SHDLP LED Steady/Flashing Warning Light & Electric Horn Combination

• Uniform and clear light diffusion with multi layered LED light distribution reflector
• Flashing rate : 60-80 flashes/min(Built-in steady/flashing selection switch)
• Ambient operation temperature : -30°C to +50°C

Model number	Voltage	Current	Sound pattern and volume	Certificates	Weight	Color
SHDL SHDLP	DC12V	2.511A	• WS -5 Warning sounds : 118dB • WP -5 Special warning sounds : 118dB • WM -5 Melodies : 118dB • WA -5 Alarms : 116dB • WV -5 Customizable voices : 113dB	KIMM ABS	• SHDL DC-3.02kg AC-3.39kg • SHDLP DC-3.27kg AC-3.64kg	● R-Red ● A-Amber ● G-Green ● B-Blue
	DC24V	1.222A				
	AC110V	0.286A				
	AC220V	0.143A				

SHD2L/ SHD2LP LED Steady/Flashing Warning Light & Dual Electric Horn Combination

Model number	Voltage	Current	Sound pattern and volume	Certificates	Weight	Color
SHD2L SHD2LP	DC12V	4.722A	• WS -5 Warning sounds : 118dB×2 • WP -5 Special warning sounds : 118dB×2 • WM -5 Melodies : 118dB×2 • WA -5 Alarms : 116dB×2 • WV -5 Customizable voices : 113dB×2	KIMM ABS	• SHD2L DC-4.07kg AC-4.45kg • SHD2LP DC-4.32kg AC-4.70kg	● R-Red ● A-Amber ● G-Green ● B-Blue
	DC24V	2.188A				
	AC110V	0.513A				
	AC220V	0.256A				

SHD/ SHD2 series

Warning Lights and Electric Horns for Vessels and Heavy Industry Applications

IP66 | -20~+50℃ | -30~+50℃ | HORN | 118dB | NPN

- **SHD series**
  -Single Electric Horn
- **SHD2 series**
  -Dual Electric Horn

SHDS

SHD2S

SHD   **SHD2P**

SHD/SHD2 series are equipped with flexible connector at cable entry. Cable gland is an optional item.

Flexible connector   Cable gland

SHDS/ SHDSP Xenon Lamp Strobe Warning Light and Electric Horn Combination

- Flashing rate : 60-80 flashes/min
- Ambient operating temperature : -30°C to +50°C

Model number	Voltage	Current	Bulb			Sound pattern and volume	Certificates	Weight	Color
			Spec	Standard	Parts no				
SHDS SHDSP	DC12V	2.933A	200V -550V	EUB0641 -1A(G) U Type	48	• WS-5 Warning sounds :118dB • WP -5 Special warning sounds :118dB • WM-5 Melodies : 118dB • WA-5 Alarms : 116dB • WV -5 Customizable voices : 113dB	KIMM ABS CE DC Only	• SHDS DC-3.05kg AC-3.38kg • SHDSP DC-3.3kg AC-3.6kg	• R-Red • A-Amber • G-Green • B-Blue
	DC24V	1.411A							
	AC110V	0.360A							
	AC220V	0.220A							

SHD2S/ SHD2SP Xenon Lamp Strobe Warning Light and Dual Electric Horn Combination

Model number	Voltage	Current	Bulb			Sound pattern and volume	Certificates	Weight	Color
			Spec	Standard	Parts no				
SHD2S SHD2SP	DC12V	5.144A	200V -550V	EUB0641 -1A(G) U Type	48	• WS-5 Warning sounds :118dB×2 • WP -5 Special warning sounds :118dB×2 • WM-5 Melodies : 118dB×2 • WA-5 Alarms : 116dB×2 • WV -5 Customizable voices : 113dB×2	KIMM ABS	• SHD2S DC-4.11kg AC-4.44kg • SHD2SP DC-4.36kg AC-4.69kg	• R-Red • A-Amber • G-Green • B-Blue
	DC24V	2.377A							
	AC110V	0.586A							
	AC220V	0.333A							

SHD/ SHDP Bulb Revolving Warning light and Electric Horn Combination

- Revolving speed : 120 - 140RPM
- Ambient operating temperature : -20°C to +50°C

Model number	Voltage	Current	Bulb			Sound pattern and volume	Certificates	Weight	Color
			Spec	Standard	Parts no				
SHD SHDP	DC12V	3.755A	12V15W	G23 15S	17	• WS-5 Warning sounds :118dB • WP -5 Special warning sounds :118dB • WM-5 Melodies : 118dB • WA-5 Alarms : 116dB • WV -5 Customizable voices : 113dB	KIMM ABS CE DC24V only	• SHD DC-3.18kg AC-3.89kg • SHDP DC-3.43kg AC-4.14kg	• R-Red • A-Amber • G-Green • B-Blue
	DC24V	1.788A	24V15W	G23 15S	18				
	AC110V	0.422A	12V15W	G23 15S	17				
	AC220V	0.211A	12V15W	G23 15S	17				

SHD2/ SHD2P Bulb Revolving Warning light and Dual Electric Horn Combination

Model number	Voltage	Current	Bulb			Sound pattern and volume	Certificates	Weight	Color
			Spec	Standard	Parts no				
SHD2 SHD2P	DC12V	5.966A	12V15W	G23 15S	17	• WS-5 Warning sounds :118dB×2 • WP -5 Special warning sounds :118dB×2 • WM-5 Melodies : 118dB×2 • WA-5 Alarms : 116dB×2 • WV -5 Customizable voices : 113dB×2	KIMM ABS	• SHD2 DC-4.23kg AC-4.95kg • SHD2P DC-4.48kg AC-5.20kg	• R-Red • A-Amber • G-Green • B-Blue
	DC24V	2.755A	24V15W	G23 15S	18				
	AC110V	0.648A	12V15W	G23 15S	17				
	AC220V	0.324A	12V15W	G23 15S	17				

SHD/SHD2 series

Technical Diagram

(Units : mm)

SHDP

Ø135
PROTECTION CAGE
CABLE ENTRY 1/2" PF
Ø120
116
*(227)
237
121
255

4-Ø8.5 FITTING HOLES
134
152
128 87 40
255
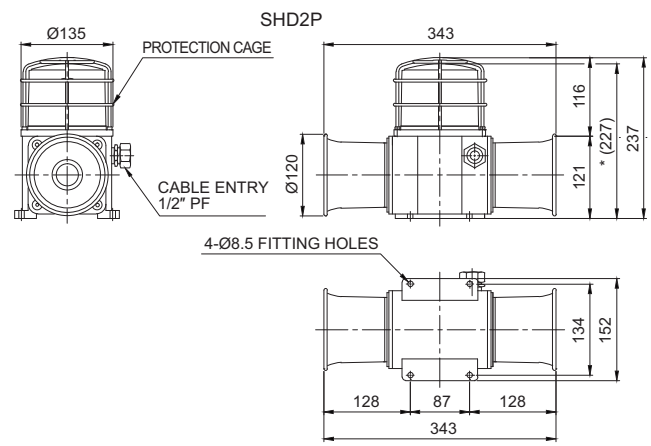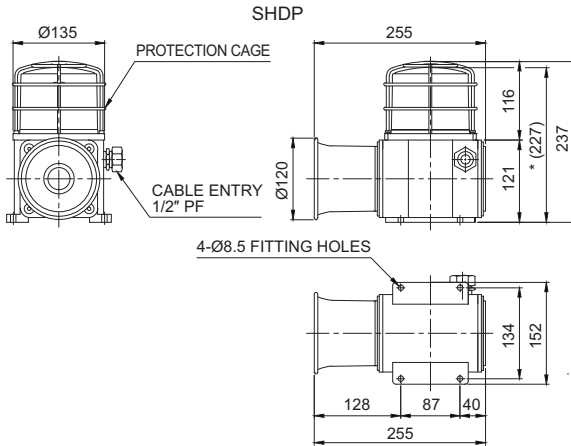
※ *(227) represents SHD size without protection cage.

SHD2P

Ø135
PROTECTION CAGE
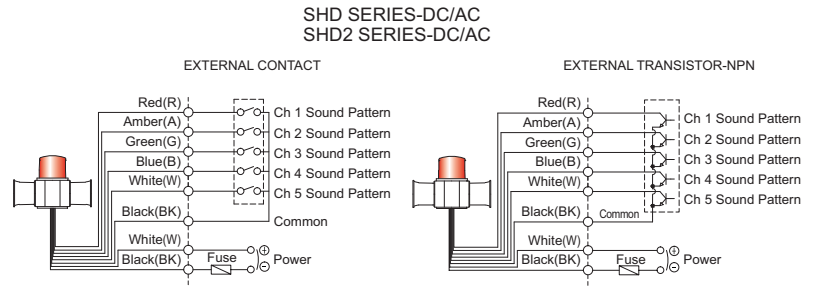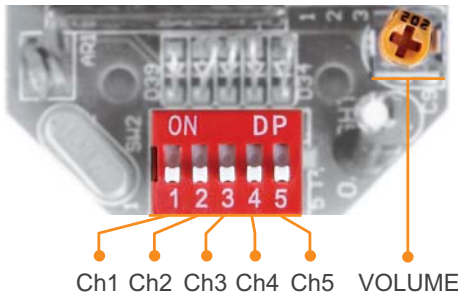CABLE ENTRY 1/2" PF
Ø120
116
*(227)
237
121
343

4-Ø8.5 FITTING HOLES
134
152
128 87 128
343

※ *(227) represents SHD2 size without protection cage.

Sound Selection Instructions and Wiring

• Standard Type : Select sound using the switch inside of the unit. When you turn on the dip switch for each channel, the designated sound will be played.

ON DP
1 2 3 4 5
Ch1 Ch2 Ch3 Ch4 Ch5   VOLUME

• Customization : External contact(LC)

SHD SERIES-DC/AC
SHD2 SERIES-DC/AC

EXTERNAL CONTACT
Red(R) — Ch 1 Sound Pattern
Amber(A) — Ch 2 Sound Pattern
Green(G) — Ch 3 Sound Pattern
Blue(B) — Ch 4 Sound Pattern
White(W) — Ch 5 Sound Pattern
Black(BK) — Common
White(W)
Black(BK) — Fuse — Power

EXTERNAL TRANSISTOR-NPN
Red(R) — Ch 1 Sound Pattern
Amber(A) — Ch 2 Sound Pattern
Green(G) — Ch 3 Sound Pattern
Blue(B) — Ch 4 Sound Pattern
White(W) — Ch 5 Sound Pattern
Black(BK) — Common
White(W)
Black(BK) — Fuse — Power

Customization

• Customized cable entry(3/4″PF) available(Standard : 1/2″PF)
• Cable gland type
• Customized external sound line type available : SHD/SHD2 series have built-in switch for sound tone selection

■ Sound tones for standard model

Sound	Built-in sound	Ch	Sound tone	Sound	Built-in sound	Ch	Sound tone
WS	5 Warning sounds	Ch1 Ch2 Ch3 Ch4 Ch5	Fire.A-ANG Emergency WA-U(Yelp) Ambulance PI-PO(Hi-low) Machinery Fault High Expansion	WM	5 Melodies	Ch1 Ch2 Ch3 Ch4 Ch5	Sweet Home For Elise Cuckoo's Waltz Piano Sonata Turkish March
WP	5 Special warning sounds	Ch1 Ch2 Ch3 Ch4 Ch5	Fire.A-ANG Abandon Alarm Machinery Fault High Expansion 7 Short PI. / 1 Long	WA	5 Alarms	Ch1 Ch2 Ch3 Ch4 Ch5	Beep Intermittent Door Chime Phone Ring PI.PI.PI Short Tripping Beat
				WV	5 Customizable Voices	Ch1-Ch5	Customized sound

※ Standard model has 5 warning sounds(WS), 5 special warning sounds(WP), 5 melodies(WM), 5 alarms(WA) and 5 customizable voices(WV).

Ordering Specification

SHD2L	-	WA	-	24	-	R
[Model number]		[Sound]		[Voltage]		[Color]

[Model number]
• SHDLR • SHDLRP • SHD2LR • SHD2LRP
• SHDL • SHDLP • SHD2L • SHD2LP
• SHDS • SHDSP • SHD2S • SHD2SP
• SHD • SHDP • SHD2 • SHD2P

[Sound]
• WS-Warning sounds
• WP-Special warning sounds
• WM-Melodies
• WA-Alarms
• WV-Customizable voices

[Voltage]
• 12-DC12V
• 24-DC24V
• 110-AC110V
• 220-AC220V

[Color]
● R-Red
● A-Amber
● G-Green
● B-Blue

SCD series

Warning Light and Electric Horn Combinations for Vessels and Heavy Industry Applications

Qlight

Light weight warning light and electric horn combinations with polycarbonate housing for vessels and heavy industry applications

· **SCDF series**
 - Self stand type
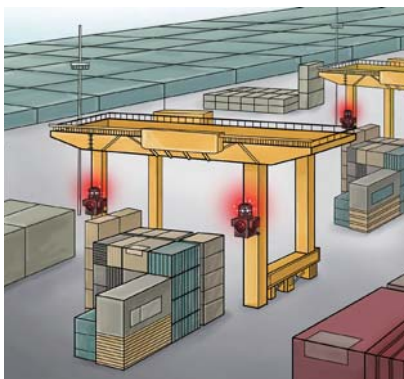
· **SCDW series**
 - Well mount type

Self stand type

Well mount type

Common Specifications(SCDF/SCDW)

• Warning light and electric horn combinations for vessels and heavy industrial applications
• Light weight model with special polycarbonate (PC+GF) housing
• Excellent hermetic structure that blocks water and dust
• Superior impact and shock resistance
• Prevents damage from external contact with recessed horn structure, high volume output possible with the extended length of the horn housing
• Easy wiring and sound control with the terminal box attached on the side of housing
• Standard model comes with a protection cage equipped
• Can select a variety of light sources and sound pattern combinations
• Detachable mounting bracket structure enables product to be either self stand type or wall mount type
• Can adjust sound volume and select sound pattern with the switches built inside the units
• Materials : Lens-PC, Housing-PC+GF, Protection cage-SUS316L, Reflector-PC, Multi-tiered reflector-Heat resistance ABS
• Cable entry : 1/2″PF
• Ambient operating temperature
  -20°C to +50°C : SCDFLR, SCDWLR, SCDF, SCDW
  -30°C to +50°C : SCDFL, SCDWL, SCDFS, SCDWS
• Protection rating : IP66
• Certificates : KIMM, KR, CE Compliant
• Mountings : Available in self stand type and wall mount type

SCD series Product Category Chart

	LED revolving type	LED steady/ flashing type	xenon lamp strobe type	Bulb revolving type
Self stand type	SCDFLR	SCDFL	SCDFS	SCDF
Well mount type	SCDWLR	SCDWL	SCDWS	SCDW

Easy control of the audible sound since the sound control board is located separately from the main board

Easy wire configuration possible with terminal box located on the side of the housing
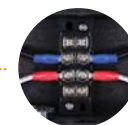
Recessed horn structure protects it from damage by external forces

Detachable mounting bracket structure enables product to be either self stand type or wall mount type

SCD series

Warning Light and Electric Horn Combinations for Vessels and Heavy Industry Applications

IP66 | -20~+50℃ | -30~+50℃ | HORN | 118dB | NPN

· SCDF series
 - Self stand type
· SCDW series
 - Wall mount type

SCDWLR

SCDFLR

SCDWL / SCDWS

SCDFL / SCDFS

SCDW

SCDF

SCDF/SCDW series are equipped with flexible connector at cable entry. Cable gland is an optional item.

Flexible connector   Cable gland

SCDFLR/ SCDWLR LED Revolving Warning Light and Electric Horn Combination

• Excellent omni-directional visibility with LED light collecting system and special multifaceted reflector
• Revolving speed : 120 - 140RPM
• Ambient operating temperature : -20°C to +50°C

Model number	Voltage	Current	Sound pattern and volume	Certificates	Weight	Color
SCDFLR SCDWLR	DC12V	2.633A	• WS-5 Warning sounds : 118dB • WP-5 Special warning sounds : 118dB • WM-5 Melodies : 118dB • WA-5 Alarms : 116dB • WV-5 Customizable voices : 113dB	KR	• SCDFLR DC-2.60kg AC-3.50kg • SCDWLR DC-2.70kg AC-3.45kg	● R-Red ● A-Amber ● G-Green ● B-Blue
	DC24V	1.288A				
	AC110V	0.308A				
	AC220V	0.154A				

SCDFL/ SCDWL LED Steady/Flashing Warning Light and Electric Horn Combination

• Multi layer LED reflect system emits clear and uniform level of signal lights throughout the lens
• Flashing rate : 60-80 flashes/min(Built-in steady/flashing selection switch)
• Ambient operating temperature : -30°C to +50°C

Model number	Voltage	Current	Sound pattern and volume	Certificates	Weight	Color
SCDFL SCDWL	DC12V	2.511A	• WS-5 Warning sounds : 118dB • WP-5 Special warning sounds : 118dB • WM-5 Melodies : 118dB • WA-5 Alarms : 116dB • WV-5 Customizable voices : 113dB	KR	• SCDFL DC-2.42kg AC-3.46kg • SCDWL DC-2.52kg AC-3.27kg	● R-Red ● A-Amber ● G-Green ● B-Blue
	DC24V	1.222A				
	AC110V	0.286A				
	AC220V	0.143A				

SCDFS/ SCDWS Xenon Lamp Strobe Warning Light and Electric Horn Combination

• Convenient lamp exchange by adopting connector type lamp installation
• Flashing rate : 60-80 flashes/min
• Ambient operating temperature : -30°C to +50°C

Model number	Voltage	Current	Bulb Spec	Bulb Standard	Parts no	Sound pattern and volume	Certificates	Weight	Color
SCDFS SCDWS	DC12V	2.933A	200V -550V	EUB0641 -1A(G) U Type	48	• WS-5 Warning sounds :118dB • WP -5 Special warning sounds :118dB • WM-5 Melodies : 118dB • WA-5 Alarms : 116dB • WV -5 Customizable voices : 113dB	KR	• SCDF DC-2.46kg AC-2.85kg • SCDW DC-2.46kg AC-3.85kg	● R-Red ● A-Amber ● G-Green ● B-Blue
	DC24V	1.411A							
	AC110V	0.360A							
	AC220V	0.220A							

SCDF/ SCDW Bulb Revolving Warning Light and Electric Horn Combination

• Multi layer reflector system provides excellent signal light diffusing effect
• Revolving speed : 120 - 140RPM
• Ambient operating temperature : -20°C to +50°C

Model number	Voltage	Current	Bulb Spec	Bulb Standard	Parts no	Sound pattern and volume	Certificates	Weight	Color
SCDF SCDW	DC12V	3.755A	12V15W	G23 15S	17	• WS-5 Warning sounds :118dB • WP -5 Special warning sounds :118dB • WM-5 Melodies : 118dB • WA-5 Alarms : 116dB • WV -5 Customizable voices : 113dB	KIMM KR CE DC24V only	• SCDF DC-2.58kg AC-3.60kg • SCDW DC-2.68kg AC-3.43kg	● R-Red ● A-Amber ● G-Green ● B-Blue
	DC24V	1.788A	24V15W	G23 15S	18				
	AC110V	0.422A	12V15W	G23 15S	17				
	AC220V	0.211A	12V15W	G23 15S	17				

**Warning Light and Electric Horn Combinations
for Vessels and Heavy Industry Applications**

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Technical Diagram

(Units : mm)

SCDFLR/ SCDFL/ SCDFS/ SCDF

SCDWLR/ SCDWL/ SCDWS/ SCDW

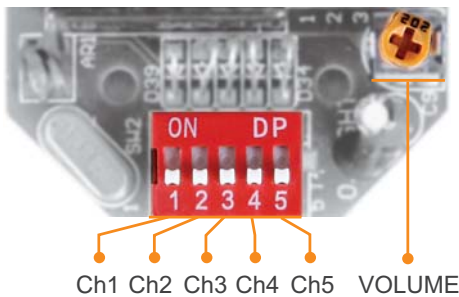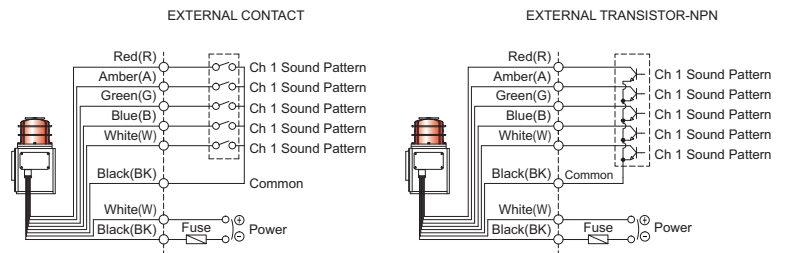**Sound Selection Instructions and Wiring**

• Standard Type : Select sound using the switch inside of the unit. When you turn on the dip switch for each channel, the designated sound will be played.

• Customization : External contact(LC)

Ch1 Ch2 Ch3 Ch4 Ch5   VOLUME

SCDW SERIES-DC/AC
SCDF SERIES-DC/AC

EXTERNAL CONTACT

EXTERNAL TRANSISTOR-NPN

Customization

• Customized cable entry(3/4″PF) available(Standard : 1/2″PF)
• Customized external sound line type available : SCD series has built-in switch for sound tone selection
• Customized wiring available to select the sound tone via external contact or transistor wiring type(Model number : -LC)
• Cable gland type

Ordering Specification

SCDW	-	WA	-	24	-	R
[Model number]		[Sound]		[Voltage]		[Color]

[Model number]	[Sound]	[Voltage]	[Color]
• SCDFLR	• WS-Warning sounds	• 12-DC12V	● R-Red
• SCDFL	• WP-Special warning sounds	• 24-DC24V	● A-Amber
• SCDFS	• WM-Melodies	• 110-AC110V	● G-Green
• SCDF	• WA-Alarms	• 220-AC220V	● B-Blue
• SCDWLR	• WV-Customizable voices		
• SCDWL			
• SCDWS			
• SCDW			

Wall mount warning light and electric horn combinations featuring superior durability, tight seal, and corrosion resistance, designed for vessels and heavy Industrial applications

· **SED series**
 - **125mm warning light & electric horn with Max 118dB sound output**
· **SD series**
 - **150mm warning light & electric horn with Max 118dB sound output**
· **SMD series**
 - **150mm warning light & electric horn with Max 120dB sound output**
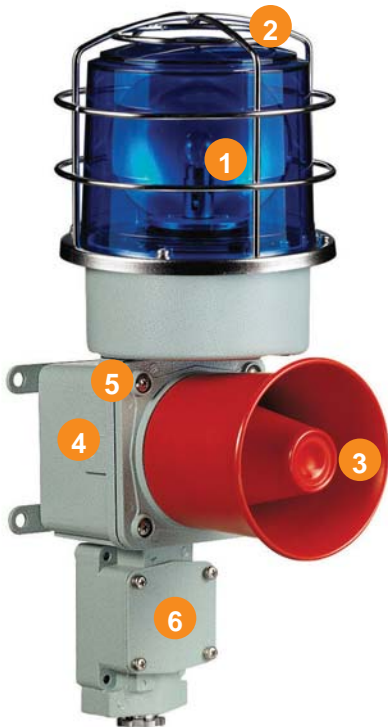
① Lens

Utilizes a strong and durable polycarbonate material with excellent shock and vibration resistance.

The lens surface has two types according to the light source type and function-light diffusion type and light transmission type.

Light transmission type		LED revolving type(SEDLR) Bulb revolving type(SED)
Light diffusion type		LED steady/flashing type(SEDL/LF) Xenon lamp strobe type(SEDS)

② Protection cage

• The durable protection cage is made of corrosion resistant stainless steel that prevents damage to the lens from external contact
• Materials : SUS316L

⑨ Common Specifications

• Wall mount warning light and electric horn combinations for vessels and heavy industrial applications
• Aluminum housing and polycarbonate lens material provides excellent impact and shock resistance
• Excellent hermetic structure that block water and dust
• Can select a variety of light source(bulb, LED, xenon lamp) and sound pattern combination
• Attached terminal box enables easy wiring
• Can adjust sound volume and select sound pattern with the switches built inside the products
• Cable entry : 1/2″PF
• Materials : Lens-PC, Housing-Al, Protection cage-SUS316L, Reflector-PC, Multi-tiered reflector-Heat resistance ABS
• Standard housing color : MUNSELL No. 7.5GBG 7/2
• Protection rating : IP66

■ **A variety of selectable light source and function combinations**
  You can select from a variety of light sources for your work environment, condition, and purpose. Basic specifications are as follows :

  • LED Revolving Type
  • Xenon Lamp Strobe Type
  • LED Steady/Flashing Type
  • Bulb Revolving Type

  User-selected LED strobe type and LED stimulated revolving type are available upon request.

③ A variety of selectable warning sounds and sound massages

You can convey specific information with a variety of 20 warning sounds and voice messages.

Sound	Pattern	Ch	Sound Tone
WS	5 Warning sounds	Ch1 Ch2 Ch3 Ch4 Ch5	Fire.A-ANG Emergency WA-U(Yelp) Ambulance PI-PO(Hi-low) Machinery Fault High Expansion
WP	5 Special warning sounds	Ch1 Ch2 Ch3 Ch4 Ch5	Fire.A-ANG Abandon Alarm Machinery Fault High Expansion 7 Short PI. / 1 Long
WM	5 Melodies	Ch1 Ch2 Ch3 Ch4 Ch5	Sweet Home For Elise Cuckoo's Waltz Piano Sonata Turkish March
WA	5 Alarms	Ch1 Ch2 Ch3 Ch4 Ch5	Beep Intermittent Door Chime Phone Ring PI.PI.PI Short Tripping Beat
WV	5 Customizable sound messages	Ch1-Ch5	Customized sound tones

④ Housing

• The special aluminum housing features superior durability
• The housing is corrosion resistant from a special anodized surface treatment process
• Materials : Al

⑤ Fully enclosed structure

• The tightly sealed warning light structure is waterproof and dustproof
• Protection rating : IP66

⑥ Terminal Box

• Terminal box is located at the bottom of the product for easy wiring
• Materials : Al

SED/ SD/ SMD series

Warning Light and Electric Horn Combinations for Vessels and Heavy Industry Applications

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SED/ SD/ SMD series Information

Standard type
- No protection cage is provided
- Recommended for the places where the lens is not damaged by external contact
- Model lists : SED/ SD/ SMD
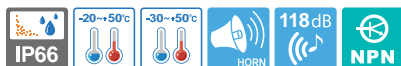
Protection cage type
- Provided with protection cage
- Lens can be protected from the damage by external contact
- Model lists : SEDP/ SDP/ SMDP

SED/ SD/ SMD series References

	SED series		SD series		SMD series	
Diameter / dB	Ø125mm / Max 118dB at 1m		Ø150mm / Max 118dB at 1m		Ø150mm / Max 120dB at 1m	
Materials	Lens - PC, Housing - Al, Protection cage-SUS316L, Reflector - PC/ Heat resistant ABS					
Protection rating	IP66					
Certificates	KIMM/ CCS/ KR/ CE		KIMM/ ABS/ LR/ KR/ CE			
Cable entry	Standard : 1/2″PF (Customized cable entry available : 3/4″PF)					
Mounting	Wall mounting					
	Standard	With protection cage	Standard	With protection cage	Standard	With protection cage
LED revolving	SEDLR	SEDLRP	SDLR	SDLRP	SMDLR	SMDLRP
LED steady/flashing	SEDL	SEDLP	SDL	SDLP	SMDL	SMDLP
Xenon lamp strobe	SEDS	SEDSP	SDS	SDSP	SMDS	SMDSP
Bulb revolving	SED	SEDP	SD	SDP	SMD	SMDP

SED series

Warning Lights and Electric Horns for Vessels and Heavy Industry Applications

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IP66 | -20~+50℃ | -30~+50℃ | HORN | 118dB | NPN

Ø125mm signal light and 118dB electric horn combination

SEDLR

SEDLP/ SEDSP

SED

ℹ️ **Common Specifications(SEDLR/ SEDL/ SEDS/ SED)**

• Materials : Lens-PC, Housing-Al, Protection cage-SUS316L, Reflector-PC/ Heat resistant ABS
• Cable entry : 1/2″PF
• Housing color : MUNSELL No. 7.5BG 7/2
• Protection rating : IP66

SEDLR/ SEDLRP LED Revolving Warning Light and Electric Horn Combination

• Revolving speed : 120-140RPM
• Ambient operating temperature : -20°C to + 50°C

Model number	Voltage	Current	Sound pattern and volume	Certificates	Weight	Color
SEDLR SEDLRP	DC12V	2.633A	• WS-5 Warning sounds : 118dB • WP-5 Special warning sounds : 118dB • WM-5 Melodies : 118dB • WA-5 Alarms : 116dB • WV-5 Customizable voices : 113dB	-	• SEDLR DC-3.09kg AC-3.86kg • SEDLRP DC-3.34kg AC-4.11kg	• R-Red • A-Amber • G-Green • B-Blue
	DC24V	1.288A				
	AC110V	0.308A				
	AC220V	0.154A				

SEDL/ SEDLP LED Steady/Flashing Warning Light and Electric Horn Combination

• Flashing rate : 60-80 flashes/min(Built-in steady/flashing selection switch)
• Ambient operating temperature : -30°C to +50°C

Model number	Voltage	Current	Sound pattern and volume	Certificates	Weight	Color
SEDL SEDLP	DC12V	2.511A	• WS-5 Warning sounds : 118dB • WP-5 Special warning sounds : 118dB • WM-5 Melodies : 118dB • WA-5 Alarms : 116dB • WV-5 Customizable voices : 113dB	KR	• SEDL DC-2.96kg AC-3.38kg • SEDLP DC-3.21kg AC-3.63kg	• R-Red • A-Amber • G-Green • B-Blue
	DC24V	1.222A				
	AC110V	0.286A				
	AC220V	0.143A				

SEDS/ SEDSP Xenon Lamp Strobe Warning Light and Electric Horn Combination

• Convenient lamp exchange by adopting a connector type lamp installation
• Flashing rate : 60-80 flashes/min
• Ambient operating temperature : -30°C to +50°C

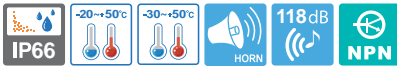| Model number	Voltage	Current	Bulb Spec	Bulb Standard	Parts no	Sound pattern and volume	Certificates	Weight	Color
SEDS SEDSP	DC12V	2.933A	200V -550V	EUB0641 -1A(G) U Type	48	• WS-5 Warning sounds :118dB • WP -5 Special warning sounds :118dB • WM-5 Melodies : 118dB • WA-5 Alarms : 116dB • WV -5 Customizable voices : 113dB	-	• SEDS DC-3.01kg AC-3.40kg • SEDSP DC-3.26kg AC-3.65kg	• R-Red • A-Amber • G-Green • B-Blue
	DC24V	1.411A							
	AC110V	0.360A							
	AC220V	0.220A							

SED/ SEDP Bulb Revolving Warning Light and Electric Horn Combination

• Revolving speed : 120-140RPM
• Ambient operating temperature : -20°C to + 50°C

Model number	Voltage	Current	Bulb Spec	Bulb Standard	Parts no	Sound pattern and volume	Certificates	Weight	Color
SED SEDP	DC12V	3.755A	12V15W	G23 15S	17	• WS-5 Warning sounds :118dB • WP -5 Special warning sounds :118dB • WM-5 Melodies : 118dB • WA-5 Alarms : 116dB • WV -5 Customizable voices : 113dB	KIMM ABS KR CCS C E DC24V only	• SED DC-3.17kg AC-3.94kg • SEDP DC-3.42kg AC-4.19kg	• R-Red • A-Amber • G-Green • B-Blue
	DC24V	1.788A	24V15W	G23 15S	18				
	AC110V	0.422A	12V15W	G23 15S	17				
	AC220V	0.211A	12V15W	G23 15S	17				

SD series

Qlight

IP66 | -20~+50℃ | -30~+50℃ | HORN | 118dB | NPN

Ø150mm signal light and 118dB electric horn combination

SDLR

SDL/ SDS

SD

ℹ Common Specifications(SDLR/ SDL/ SDS/ SD)

- Materials : Lens-PC, Housing-Al, Protection cage-SUS316L, Reflector-PC/Heat resistant ABS
- Cable entry : 1/2″PF
- Housing color : MUNSELL No. 7.5BG 7/2
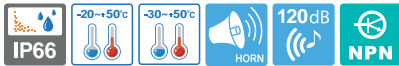- Protection rating : IP66

🔔 SDLR/ SDLRP LED Revolving Warning Light and Electric Horn Combination

- Revolving speed : 120-140RPM
- Ambient operating temperature : -20°C to + 50°C

Model number	Voltage	Current	Sound pattern and volume	Certificates	Weight	Color
SDLR SDLRP	DC12V	2.633A	• WS-5 Warning sounds : 118dB • WP-5 Special warning sounds : 118dB • WM-5 Melodies : 118dB • WA-5 Alarms : 116dB • WV-5 Customizable voices : 113dB	Ⓡ	• SDLR DC-3.36kg AC-4.13kg • SDLRP DC-3.65kg AC-4.42kg	• R-Red • A-Amber • G-Green • B-Blue
	DC24V	1.288A				
	AC110V	0.308A				
	AC220V	0.154A				

💡 SDL/ SDLP LED Steady/Flashing Warning Light and Electric Horn Combination

- Flashing rate : 60-80 flashes/min(Built-in steady/flashing selection switch)
- Ambient operating temperature : -30°C to +50°C

Model number	Voltage	Current	Sound pattern and volume	Certificates	Weight	Color
SDL SDLP	DC12V	2.511A	• WS-5 Warning sounds : 118dB • WP-5 Special warning sounds : 118dB • WM-5 Melodies : 118dB • WA-5 Alarms : 116dB • WV-5 Customizable voices : 113dB	Ⓡ	• SDL DC-3.22kg AC-3.64kg • SDLP DC-3.51kg AC-3.93kg	• R-Red • A-Amber • G-Green • B-Blue
	DC24V	1.222A				
	AC110V	0.286A				
	AC220V	0.143A				

💡 SDS/ SDSP Xenon Lamp Strobe Warning Light and Electric Horn Combination

- Convenient lamp exchange by adopting a connector type lamp installation
- Flashing rate : 60-80 flashes/min
- Ambient operating temperature : -30°C to +50°C

Model number	Voltage	Current	Bulb			Sound pattern and volume	Certificates	Weight	Color
			Spec	Standard	Parts no				
SDS SDSP	DC12V	2.933A	200V -550V	EUB0641 -1A(G) U Type	48	• WS-5 Warning sounds :118dB • WP -5 Special warning sounds :118dB • WM-5 Melodies : 118dB • WA-5 Alarms : 116dB • WV -5 Customizable voices : 113dB	Ⓡ	• SDS DC-3.28kg AC-3.66kg • SDSP DC-3.57kg AC-3.95kg	• R-Red • A-Amber • G-Green • B-Blue
	DC24V	1.411A							
	AC110V	0.360A							
	AC220V	0.220A							

🔔 SD/ SDP Bulb Revolving Warning Light and Electric Horn Combination

- Revolving speed : 120-140RPM
- Ambient operating temperature : -20°C to + 50°C

Model number	Voltage	Current	Bulb			Sound pattern and volume	Certificates	Weight	Color
			Spec	Standard	Parts no				
SD SDP	DC12V	3.755A	12V15W	G23 15S	17	• WS-5 Warning sounds :118dB • WP -5 Special warning sounds :118dB • WM-5 Melodies : 118dB • WA-5 Alarms : 116dB • WV -5 Customizable voices : 113dB	KIMM ABS Ⓡ KR CE DC24V only	• SD DC-3.43kg AC-4.21kg • SDP DC-3.72kg AC-4.50kg	• R-Red • A-Amber • G-Green • B-Blue
	DC24V	1.788A	24V15W	G23 15S	18				
	AC110V	0.422A	12V15W	G23 15S	17				
	AC220V	0.211A	12V15W	G23 15S	17				

SMD series

Warning Lights and Electric Horns for Vessels and Heavy Industry Applications

IP66 | -20~+50℃ | -30~+50℃ | HORN | 120dB | NPN

Ø150mm signal light and 120dB electric horn combination

SMDLR

SMDLP/SMDSP

SMDP

ⓘ **Common Specifications(SMDLR/ SMDL/ SMDS/ SMD)**

- Materials : Lens-PC, Housing-Al, Protection cage-SUS316L, Reflector-PC/ Heat resistant ABS
- Cable entry : 1/2″PF
- Housing color : MUNSELL No. 7.5BG 7/2
- Protection rating : IP66

SMDLR/ SMDLRP LED Revolving Warning Light and Electric Horn Combination

- Revolving speed : 120-140RPM
- Ambient operating temperature : -20°C to + 50°C

Model number	Voltage	Current	Sound pattern and volume	Certificates	Weight	Color
SMDLR SMDLRP	DC12V	2.522A	• WS-5 Warning sounds : 120dB • WP-5 Special warning sounds : 120dB • WM-5 Melodies : 120dB • WA-5 Alarms : 118dB • WV-5 Customizable voices : 115dB	-	• SMDLR DC-5.91kg AC-6.68kg • SMDLRP DC-6.20kg AC-6.97kg	● R-Red ● A-Amber ● G-Green ● B-Blue
	DC24V	1.322A				
	AC110V	0.326A				
	AC220V	0.163A				

SMDL/ SMDLP LED Steady/Flashing Warning Light and Electric Horn Combination

- Flashing rate : 60-80 flashes/min(Built-in steady/flashing selection switch)
- Ambient operating temperature : -30°C to +50°C

Model number	Voltage	Current	Sound pattern and volume	Certificates	Weight	Color
SMDL/ SMDLP	DC12V	2.400A	• WS-5 Warning sounds : 120dB • WP-5 Special warning sounds : 120dB • WM-5 Melodies : 120dB • WA-5 Alarms : 118dB • WV-5 Customizable voices : 115dB	-	·SMDL DC-5.77kg AC-6.19kg ·SMDLP DC-6.06kg AC-6.48kg	● R-Red ● A-Amber ● G-Green ● B-Blue
	DC24V	1.255A				
	AC110V	0.304A				
	AC220V	0.152A				

SMDS/ SMDSP Xenon Lamp and Electric Horn Combination

- Convenient lamp exchange by adopting connector type lamp installation
- Flashing rate : 60-80 flashes/min
- Ambient operating temperature : -30°C to +50°C

Model number	Voltage	Current	Bulb Spec	Bulb Standard	Parts no	Sound pattern and volume	Certificates	Weight	Color
SMDS SMDSP	DC12V	2.822A	200V -550V	EUB0641 -1A(G) U Type	48	• WS-5 Warning sounds :120dB • WP -5 Special warning sounds :120dB • WM-5 Melodies : 120dB • WA-5 Alarms : 118dB • WV -5 Customizable voices : 115dB	-	·SMDS DC-5.83kg AC-6.21kg ·SMDSP DC-6.12kg AC-6.50kg	● R-Red ● A-Amber ● G-Green ● B-Blue
	DC24V	1.444A							
	AC110V	0.377A							
	AC220V	0.228A							

SMD/ SMDP Bulb Revolving Warning Light and Electric Horn Combination

- Revolving speed : 120-140RPM
- Ambient operating temperature : -20°C to + 50°C

Model number	Voltage	Current	Bulb Spec	Bulb Standard	Parts no	Sound pattern and volume	Certificates	Weight	Color
SMD SMDP	DC12V	3.644A	12V15W	G23 15S	17	• WS-5 Warning sounds :120dB • WP -5 Special warning sounds :120dB • WM-5 Melodies : 120dB • WA-5 Alarms : 118dB • WV -5 Customizable voices : 115dB	-	·SMD DC-5.98kg AC-6.76kg ·SMDP DC-6.27kg AC-7.05kg	● R-Red ● A-Amber ● G-Green ● B-Blue
	DC24V	1.822A	24V15W	G23 15S	18				
	AC110V	0.448A	12V15W	G23 15S	17				
	AC220V	0.224A	12V15W	G23 15S	17				

SED/ SD/ SMD series

Qlight

Technical Diagram

（Units : mm）

SEDLRP/ SEDLP/ SEDSP/ SEDP

Ø135
175
PROTECTION CAGE
183
*(380)
390
86
Ø120
4-Ø8 FITTING HOLES
121
TERMINAL BOX
CABLE ENTRY 1/2″ PF
128

※ *(380)represents SEDLR/ SEDL/ SEDS/ SED size without protection cage.

SDLRP/ SDLP/ SDSP/ SDP

Ø158
175
PROTECTION CAGE
217
*(410)
424
86
Ø120
4-Ø8 FITTING HOLES
121
TERMINAL BOX
CABLE ENTRY 1/2″ PF
128
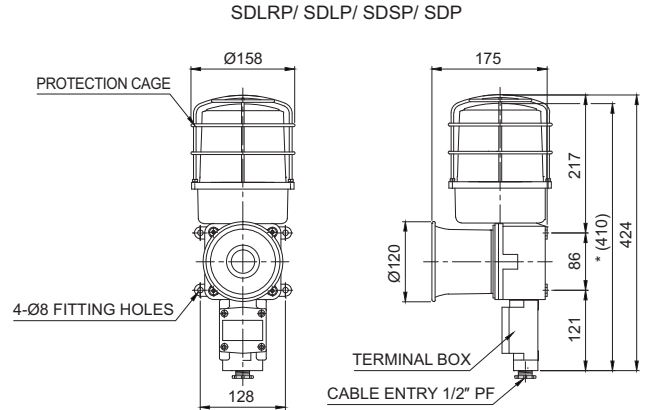
※ *(410)represents SDLR/ SDL/ SDS/ SD size without protection cage.

SMDLRP/ SMDLP/ SMDSP/ SMDP

Ø158
210
PROTECTION CAGE
226
*(462)
476
125
Ø172
4-Ø9 FITTING HOLES
125
TERMINAL BOX
CABLE ENTRY 1/2″ PF
183
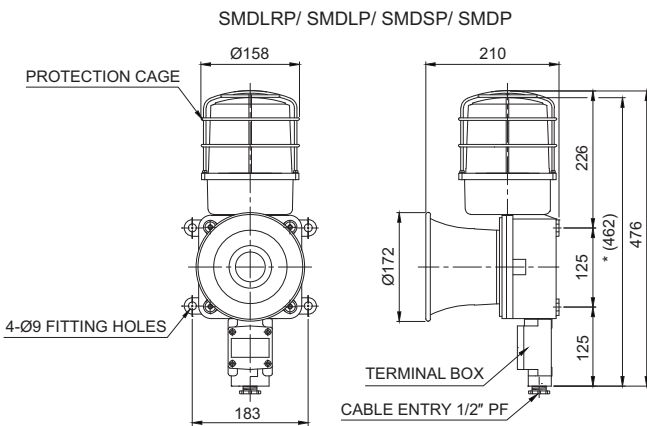
※ *(462) represents SMDLR/ SMDL/ SMDS/ SMD size without protection cage.

Customization

- Cable gland type
- Customized cable entry(3/4″PF) available(Standard : 1/2″PF)
- Customized external sound line type available : SED/SD/SMD series have built-in switch for sound tone selection
  Customized wiring in case of external contact or transistor wiring type as sound tone selector (Model number : -LC)
- Brass housing
  Brass housing for SD/ SMD series are optionally provided which has excellent anti-corrosive properties

※ Color will be MUNSELL No. 7.5BG 7/2 when released.

Sound Selection Instructions and Wiring

- Standard Type : Select sound using the switch inside of the unit. When you turn on the dip switch for each channel, the designated sound will be played.

ON   DP
1 2 3 4 5
Ch1 Ch2 Ch3 Ch4 Ch5   VOLUME

- Customization : External contact(LC)
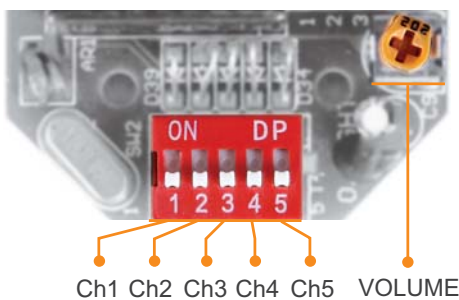
SED SERIES-DC/AC
SD SERIES-DC/AC
SMD SERIES-DC/AC

EXTERNAL CONTACT

Red(R) — Ch 1 Sound Pattern
Amber(A) — Ch 2 Sound Pattern
Green(G) — Ch 3 Sound Pattern
Blue(B) — Ch 4 Sound Pattern
White(W) — Ch 5 Sound Pattern
Black(BK) — Common
White(W)
Black(BK) — Fuse — Power

EXTERNAL TRANSISTOR-NPN

Red(R) — Ch 1 Sound Pattern
Amber(A) — Ch 2 Sound Pattern
Green(G) — Ch 3 Sound Pattern
Blue(B) — Ch 4 Sound Pattern
White(W) — Ch 5 Sound Pattern
Black(BK) — Common
White(W)
Black(BK) — Fuse — Power

Ordering Specification

SEDLR	-	WA	-	24	-	R
[Model number]		[Sound]		[Voltage]		[Color]

[Model number]
- SEDLR • SEDLRP • SEDL • SEDLP
- SEDS • SEDSP • SED • SEDP
- SDLR • SDLRP • SDL • SDLP
- SDS • SDSP • SD • SDP
- SMDLR • SMDLRP • SMDL • SMDLP
- SMDS • SMDSP • SMD • SMDP

[Sound]
- WS-Warning sounds
- WP-Special warning sounds
- WM-Melodies
- WA-Alarms
- WV-Customizable voices

[Voltage]
- 12-DC12V
- 24-DC24V
- 110-AC110V
- 220-AC220V

[Color]
- R-Red
- A-Amber
- G-Green
- B-Blue

SC series

Warning Light & Electric Horn Combinations

IP44 **-20~+50℃** **HORN** **108** dB **115** dB

SC series can combine all of our warning light and electric horn products into a single combination model depending on your specific needs

SC1

The budget model of small-sized warning light and electric horn combinations

• Protection rating : IP44

ⓘ Specification for Standard Model

• Standard combination includes S100R products combination with SRN (same as pictured to the left)

Technical Diagram (Units : mm)

SC1

137
287
3t
200
25
105
20
4-Ø9 FITTING HOLES
120
150

SC1
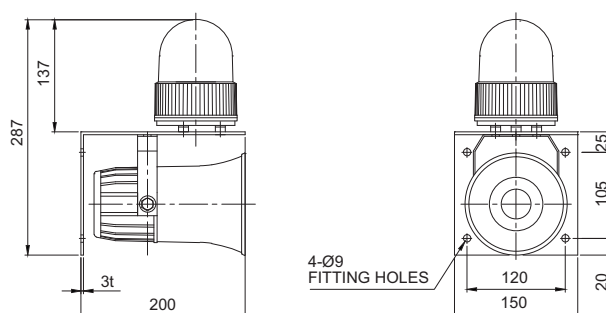
✎ Customization

• Warning light : Select one from S100 series for the combination
• Electric horn : Select one from SN, SRN, SEN15/ 25 for the combination

SC2

Most commonly used standard-sized warning light and electric horn combination model

• Protection rating : IP44

ⓘ Specification for Standard Model

• Standard combination includes S125U products combined with the SEN15 (Same as pictured to the left)

Technical Diagram (Units : mm)

SC2

155
312
3t
232
25
105
20
4-Ø9 FITTING HOLES
140
174

SC2
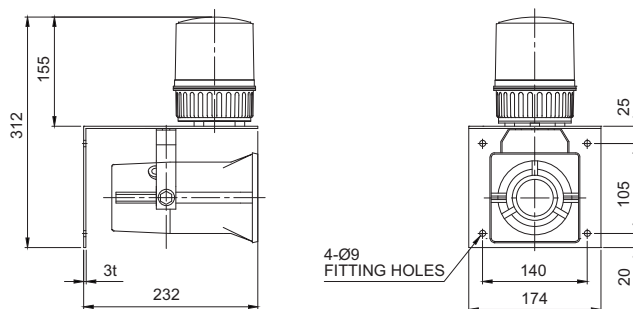
✎ Customization

• Warning light : Select one from S125 series for the combination
• Electric horn : Select one from SN, SRN, SEN15/ 25 for the combination

SC series

Warning Light & Electric Horn Combinations

IP56 | -20→50℃ | HORN | 118dB | 120dB

SC3

SC3

Waterproof, dustproof type warning light and electric horn combinations
• Protection rating : IP56

Common Specifications

• Combination of SH1-2T and signal horn SEWN30L(Same as pictured to the left)

Technical Diagram   （Units : mm）

SC3

TERMINAL BOX
CABLE ENTRY
1/2" PF

178
381
*(371)
3.2t
292

PROTECTION CAGE

28
150
203
25
4-Ø9
FITTING HOLES
200
244
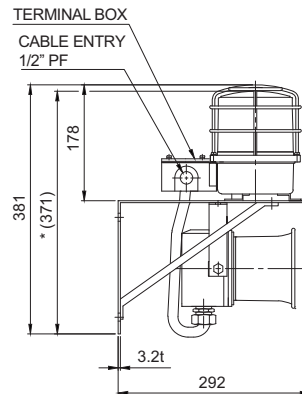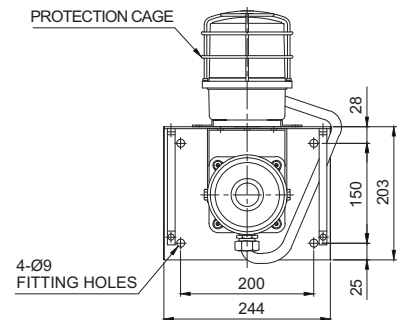
※ *(371) represents SC3 size without protection cage.

Customization

• Warning light : Select between models SH1P-2T and SH2P-2T series
(Please refer to page 15-21)
• Electric horn : Choose one model among SEWN30L/50L, SEHN25 and SEHN50
(Please refer to page 43-48)
• Stainless steel bracket

Standard Model Number

SC1	-	220	-	R
[Model number]		[Voltage]		[Color]

• SC1 (S100R+SRN)
• SC2 (S125U+SEN15)
• SC3 (SH1P-2T+SEWN30L)

• 12-DC12V
• 24-DC24V
• 110-AC110V
• 220-AC220V

● R-Red
● A-Amber
● G-Green
● B-Blue

Ordering Specification

SC3	- (	SH1P-2T	-	R	+	SEWN30L	-	WS	) -	220
[Model number]		[Light type]		[Color]		[Horn type]		[Sound]		[Voltage]

• SC1 — • Select 1 model among S100 series

• SC2 — • Select 1 model among S125 series

• SC3 — • Select 1 model among SH1P-2T and SH2P-2T series

● R-Red
● A-Amber
● G-Green
● B-Blue

• Select 1 model among SN, SRN and SEN15/25

• Select 1 model among SRN and SEN15/25

• Select 1 model among SEWN30L/50L and SEHN25/50

• WS
-Warning sounds
• WP
-Special warning sounds
• WM
-Melodies
• WA
-Alarms
• WV
-Customizable voices

• 12-DC12V
• 24-DC24V
• 110-AC110V
• 220-AC220V

※ Light sources can be selected among LED revolving, LED steady/flashing, xenon strobe and bulb revolving type.

SSL series

LED Signal Lights for Container Spreaders

IP68 | -30~+60℃

Provides excellent durability to extreme vibration and shock

Suitable for container spreader, harbor loading equipment, and outdoor conveyor applications

**SSL100W/ SSL200W
SSL300W/ SSL400W**

**SSL100M/ SSL200M
SSL300M/ SSL400M**

SSL LED Steady Signal Lights for Container Spreaders

- Special anti-reflective lens applied to avoid mistaking the reflected sun light as a signal light (W type)
- M type has excellent visibility from a distance with clear and distinctive layer colors
- Superior durability in extreme vibration and shock thanks to a molded assembly process instead of conventional bolt fastened assembly method
- Customized color arrangement available(Lens color configuration is initiated from the side of cable entry)
- Materials : Housing-Al, Lens-PC
- Protection rating : IP68 (IEC60529)

Specification

Model number	Voltage	Current	Certificates	Weight	Cable entry	Color
SSL100	DC12V	0.280A		1.80kg		● R-Red
	DC24V	0.151A		1.80kg		
	AC110V	0.040A		1.85kg		
	AC220V	0.040A		1.85kg		
SSL200	DC12V	0.560A		2.15kg		● R-Red
	DC24V	0.302A		2.15kg		● G-Green
	AC110V	0.080A		2.20kg		
	AC220V	0.080A		2.20kg	M12-5PIN	
SSL300	DC12V	0.840A	-	2.50kg	C10-Cable	● R-Red
	DC24V	0.453A		2.50kg	(Customization)	● A-Amber
	AC110V	0.120A		2.55kg		● G-Green
	AC220V	0.120A		2.55kg		
SSL400	DC12V	1.120A		2.95kg		● R-Red
	DC24V	0.604A		2.95kg		● A-Amber
	AC110V	0.160A		3.00kg		● G-Green
	AC220V	0.160A		3.00kg		● B-Blue

SSL series Vibration and Shock Test Conditions

Axial direction	Direction X	Direction Y	Direction Z
Vibration test conditions	10-38 Hz, 3.5mm 38-500 Hz, 20g 1 oct/min, 2 hours	10-38 Hz, 3.5mm 38-500 Hz, 20g 1 oct/min, 2 hours	10-38 Hz, 3.5mm 38-500 Hz, 20g 1 oct/min, 2 hours
Shock test conditions	50g 6 ms ±1000 shocks	50g 6 ms ±1000 shocks	50g 6 ms ±1000 shocks

Ordering Specification

SSL100W	-	24	-	R
[Model number]		[Voltage]		[Color]

- SSL100W • SSL100M
- SSL200W • SSL200M
- SSL300W • SSL300M
- SSL400W • SSL400M

- 12-DC12V
- 24-DC24V
- 110-AC110V
- 220-AC220V

- ● R-Red
- ● A-Amber
- ● G-Green
- ● B-Blue

Lens   Molding paste

LED Circuit Board
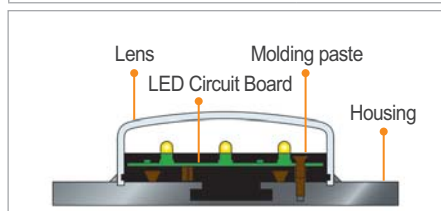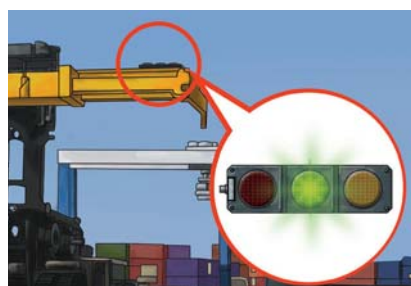
Housing

Cross-section of lens structure

SSL series has high resistance to vibration and shock by sealing the housing, lens, and LED circuit board together with epoxy mold compound.

SSL series   LED Signal Lights for Container Spreaders

Qlight

(Units : mm)

Technical Diagram	Wiring Instructions(External Contact)

SSL100W/ SSL100M

150
120
Ø93
160
130
4-Ø10 Holes
43
80
80
13
31
51
M12-5Pin Connector

SSL100W-AC/DC SSL100M-AC/DC

EXTERNAL CONTACT

Black
2 1
3 4
Blue
M12-5Pin Connector

Black2 Steady 1
Black1 Fuse Power
C10 Cable

- **M12-5PIN connector type**
  Pin no. 3 is common, however equipped built-in Bridge circuit, power line can be wired to Pin no.3 or 4 regardless of polarity
- **C10 CABLE TREADING TYPE**
  Treading power line, signal line standard : 7G×0.5mm² 600V/80°C I WIRE 1,000mm treading

SSL200W/ SSL200M

150
120
Ø93
305
275
4-Ø10 Holes
43
80
145
80
13
31
51
M12-5Pin Connector

SSL200W-AC/DC SSL200M-AC/DC

EXTERNAL CONTACT

White
Black
2 1
5
3 4
Blue Common
M12-5Pin Connector

Black2 1
Black3 2
Steady
Black1 Fuse Power
C10 Cable

- **M12-5PIN connector type**
  Pin no. 3 is common, however equipped built-in Bridge circuit, power line can be wired to Pin no.3 or 1, 4 regardless of polarity
- **C10 CABLE TREADING TYPE**
  Treading power line, signal line standard : 7G×0.5mm² 600V/80°C I WIRE 1,000mm treading

SSL300W/ SSL300M

150
120
Ø93
450
420
4-Ø10 Holes
43
80
145
145
80
13
31
51
M12-5Pin Connector

SSL300W-AC/DC SSL300M-AC/DC

EXTERNAL CONTACT

White
Brown
Black
2 1
3 4
Blue Common
M12-5Pin Connector

BLACK2 1
BLACK3 2
BLACK4 3
Steady
BLACK1 FUSE Power
C10 Cable

- **M12-5PIN connector type**
  Pin no. 3 is common, however equipped built-in Bridge circuit, power line can be wired to Pin no.3 or 1, 2, 4 regardless of polarity
- **C10 CABLE TREADING TYPE**
  Treading power line, signal line standard : 7G×0.5mm² 600V/80°C I WIRE 1,000mm treading

SSL400W/ SSL400M

150
120
Ø93
595
565
4-Ø10 Holes
43
80
145
145
145
80
13
31
51
M12-5Pin Connector

SSL400W-AC/DC SSL400M-AC/DC

EXTERNAL CONTACT

Brown
White
Gray
Black
2 1
5
3 4
Blue Common
M12-5Pin Connector

BLACK2 1
BLACK3 2
BLACK4 3
BLACK5 4
Steady
BLACK1 Fuse Power
C10 Cable

- **M12-5PIN connector type**
  Pin no. 3 is common, however equipped built-in Bridge circuit, power line can be wired to Pin no. 3 and pin no. 1, 2, 4, 5 regardless of polarity
- **C10 CABLE TREADING TYPE**
  Treading power line, signal line standard : 7G×0.5mm² 600V/80°C I WIRE 1,000mm treading

QWCD series
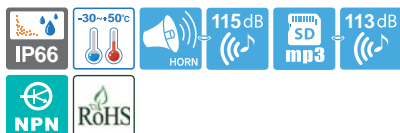
LED Strobe Signal Light and Electric Horn Combinations

IP66 | -30~+50℃ | HORN | 115 dB | SD mp3 | 113 dB

NPN | RoHS

- **Qlight's exclusive inno-vative design - the horn cover emits light!**

- **Combination of 31 sound options built in and SD Card(MP3) option**

QWCD35 series

QWCD35 model applied in an automobile production plant environment.

ⓘ Common Specifications(QWCD35/ QWCD35SD/ QWCD50/ QWCD50SD)

- Easy device customization with built in sound selection function, volume adjustment function and an SD Card slot for user inputted tones
- 31 available tones that can be selected for a variety of environments
- The user can select their own tones by inputting the MP3 file directly into the SD Card
- 31 pre-recorded tones available via binary input
- Suitable for use in environments that require a tight seal and superior dust protection rated IP66
- Flashing rate : 60-80 flashes/min(steady/flashing mode selection available in built in switch)
- Materials : Horn-PC, Body-PC+ABS
- Ambient operating temperature : -50°C to +60°C(Standard type)
                                  -20°C to +50°C(SD Card type)
- Protection Rating : IP66
- Certificates : CE Compliant, UL Listed
- Compliant with RoHS directive

🔔 QWCD35 LED Strobe Signal Light and Electric Horn Combination

Model number	Voltage	Current	Sound Pattern and Volume	Certificates	Weight	Color
QWCD35 Built-in standard sound	DC12V-24V	Max 1.30A	• Bit Input : 5Ch (SD Card) • Binary Input : 31Ch • Warning Sounds: 115dB • MP3 Messages : 113dB	CE DC Only	1.10kg	● R-Red ● A-Amber ● G-Green ● B-Blue
QWCD35SD MP3	AC110V-220V	Max 0.31A		UL DC Only	1.15kg	

※ DC type model has a free-voltage range of 10V-30V.
※ AC type model has a free-voltage range of 100V-240V.

📐 Technical Diagram   (Units : mm)

QWCD35

2-Ø8 HOLES(Slot hole)
136 | 42 | 136 | PCD 150~163 | 179

Ø135 | 23 | 126

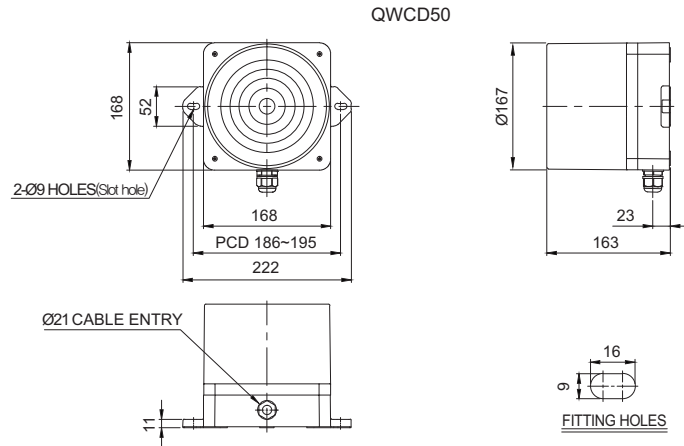Ø21 CABLE ENTRY | 9

14.5 | 8 | FITTING HOLES
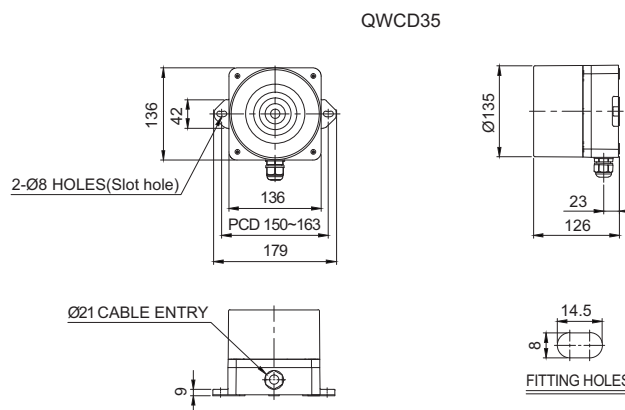
📝 Customization

- External signal line available for users to connect their own sound input (Model number : -LC)

🖱 Ordering Specification

QWCD35	-	110/220	-	R	-	LC
[Model number]		[Voltage]		[Color]		[sound selection]

- QWCD35
- QWCD35SD

- 12/24 -DC12V-24V
- 110/220 -AC110V-220V

● R-Red
● A-Amber
● G-Green
● B-Blue

- Standard -Built-in switch
- LC -External contact

QWCD series
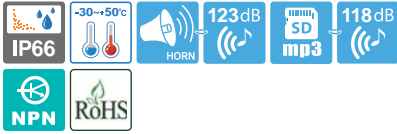
LED Strobe Signal Light and Electric Horn Combinations

Qlight

IP66 | -30~+50℃ | HORN | 123dB | SD mp3 | 118dB

NPN | RoHS

- **Qlight's exclusive innovative design - the horn cover emits light!**

- **Combination of 31 sound options built in and SD Card(MP3) option**

QWCD50 series

QWCD50 LED Strobe Light and Electric Horn Combination

Model number	Voltage	Current	Sound Pattern and Volume	Certificates	Weight	Color
QWCD50 Built-in standard sound	DC12V	6.4A	• Bit Input : 5Ch (SD Card)	CE DC Only	2.7kg	● R-Red
	DC24V	3.2A	• Binary Input : 31Ch		2.7kg	● A-Amber ● G-Green
QWCD50SD MP3	AC110V-220V	Max 0.600A	• Warning Sounds: 123dB • MP3 Messages : 118dB	UL DC Only	3.0kg	● B-Blue

※ AC type model has a free-voltage range of 100V-240V.

Technical Diagram
(Units : mm)

QWCD50

168
52
2-Ø9 HOLES(Slot hole)
168
PCD 186~195
222

Ø167
23
163

Ø21 CABLE ENTRY
11

16
9
FITTING HOLES

Wiring Instructions

- Standard specification : Use internal switches
- Customization : Use external contact

QWCD-DC/AC

EXTERNAL CONTACT

Red(R) — Ch 1
Amber(A) — Ch 2
Green(G) — Ch 3
Blue(B) — Ch 4
White(W) — Ch 5
Black(BK) — Common
White(W)
Black(BK) — Fuse — Power

EXTERNAL TRANSISTOR-NPN

Red(R) — Ch 1
Amber(A) — Ch 2
Green(G) — Ch 3
Blue(B) — Ch 4
White(W) — Ch 5
Black(BK) — Common
White(W)
Black(BK) — Fuse — Power
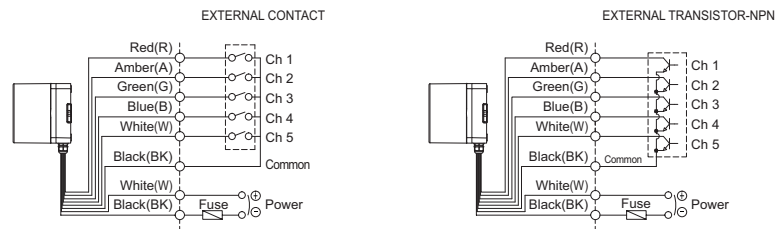
- Wiring to external contact and transistor
- Wiring to transistor, use the NPN transistor
- Power line standard UL1015 AWG18(0.75sq)×2C 400mm
- Signal line standard UL1007 AWG22(0.3sq) 400mm
- DC type : Black output line is negative(-)
- Channel selection : Bit input, 5 sound tones for each group
- Binary input 31 sound tones output

※ Please refer to Page 92 for set of channel input.
 (If wiring is changed by channel selection switch)

Customization

- External sound selection line(Model number : -LC)

Ordering Specification

QWCD50	-	110/220	-	R	-	LC

[Model number]
- QWCD50
- QWCD50SD

[Voltage]
- 12-DC12V
- 24-DC24V
- 110/220 -AC110V-220V

[Color]
- ● R-Red
- ● A-Amber
- ● G-Green
- ● B-Blue

[sound selection]
- Standard -Built-in switch
- LC -External contact

QWH series

Wall Mount Electric Horn with Pre-Recorded Special Warning Sound

Wall mount electric horn that offers 31 pre-recorded warning sounds and 30 user selected sound messages

- Bit input offers 5 channels with 6 sound outputs
- Binary input offers 31 sound outputs and SD Card (MP3) combination

• Sound Selection and Volume Adjustment Instructions

QWH series has control switches inside the unit for sound selection and volume adjustment. You can play customized sound message(MP3) with SD Card.

QWH series Product Category	
QWH35	Standard pre-recorded sound type
QWH35SD	SD Card(MP3) type
QWH50	Standard pre-recorded sound type with high volume output
QWH50SD	SD Card (MP3)type with high volume output

Common Specifications(QWH35/ QWH35SD/ QWH50/ QWH50SD)

- Signal fit for the specific environment and condition.
- Options to select between 31 special warning sounds included in the pre-recorded sound type and SD Card(MP3) type
- Volume adjustment and sound selection switches located inside the unit. SD Card in the unit offers convenient operation.
- SD Card type allows the user to input the proper voice messages for specific operating conditions.
- The SD Card type 31 Special alarms built in which includes the voice alert from the SD Card (MP3). 31 special warning sounds are built both in pre-recorded sound type and SD Card type
- Offers both Binary and Bit input mode options (only the SD Card type has the bit input)
- Tightly sealed structure that blocks water and dust with IP66 protection rating suitable for outdoor installation
- Cable entry : PG 13.5
- Materials : Horn-PC, Housing-PC+ABS
- Ambient operating temperature : -30°C to +50°C(Standard type)
  -30°C to +50°C(SD Card type)
- Protection rating : IP66
- Certificates : CE Compliant
- Compliant with RoHS directive

Pre-recorded sound type
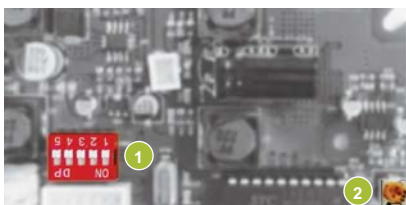
1. Switch for channel selection
2. Switch for volume adjustment

SD Card (MP3) type
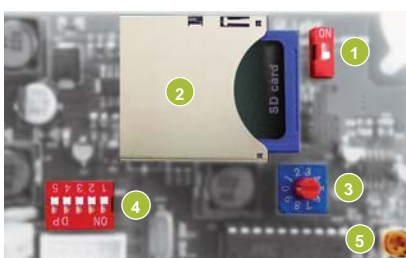
1. Switch for sound pattern selection
2. SD Card slot for MP3
3. Switch for play mode selection
4. Switch for channel selection
5. Switch for volume adjustment

### The input method of built-in sound type

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

Select from 31 pre-recorded output sound options by using a combination of the 5 channel input switches.

The binary input method allows you to express each of the 31 alarm sound signals with a ″0″or ″1″by switching the 5 channels on and off as shown in the table.

Sound selection instruction for SD Card type

You can select between pre-recorded sound mode and SD Card sound (MP3) mode with the SOUND selection switch.
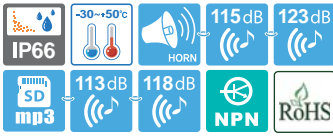
ON (1)
OFF (0)
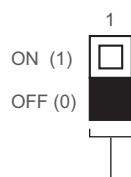
Selection between pre-recorded sound mode and SD Card sound mode
0 : pre-recorded sound mode
1 : SD Card sound mode

- 31 built-in alarm sounds and special sound
- Supports SD Cards for external sound (MP3)
- Binary Input : 31Ch
- Bit Input : 5Ch(SD Card only)
- A versatile product that can play MP3 files via the SD card
- For detailed setup instructions, please see page 92 for the special beep-type products.
- Channel 1 is set as the factory default

QWH series

Wall Mount Electric Horn with Pre-recorded Special Warning Sound

Qlight

IP66 | -30~+50℃ | HORN | 115dB | 123dB
SD mp3 | 113dB | 118dB | NPN | RoHS

115dB

QWH35 series

123dB

QWH50 series

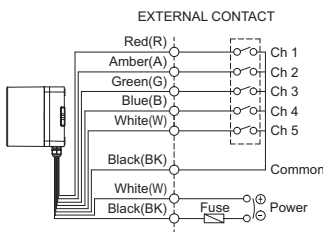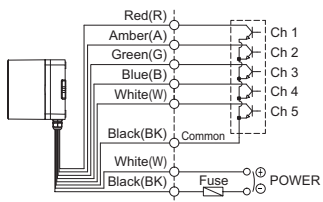## Sound Selection and Wiring Instructions

• Standard : Internal switch
• Customization : External contact(LC)

QWH35/ QWH50-DC/AC

EXTERNAL CONTACT

Red(R) — Ch 1
Amber(A) — Ch 2
Green(G) — Ch 3
Blue(B) — Ch 4
White(W) — Ch 5
Black(BK) — Common
White(W)
Black(BK) — Fuse — Power

EXTERNAL TRANSISTOR-NPN

Red(R) — Ch 1
Amber(A) — Ch 2
Green(G) — Ch 3
Blue(B) — Ch 4
White(W) — Ch 5
Black(BK) — Common
White(W)
Black(BK) — Fuse — POWER

• Channel selection, 5 sounds available with Bit input and 31 sound available with Binary input
• DC type : Black line is negative(-)

※ Please refer to Page 92 for channel input. (Wiring Instructions is changed to channel selection switches)

QWH35 Wall Mount Electric Horn MP3(SD Card) with Pre-recorded Special Warning Sound

Model number	Voltage	Current	Volume	Binary input/ Channels	Certificates	Weight
QWH35	DC12V-24V AC110V-220V	Max 0.800A Max 0.290A	• Special warning sound : 115dB • MP3 sound : 113dB	Binary Input : 31Ch	CE DC Only	0.9kg
QWH35SD				Bit Input : 5Ch (SD Card only) Binary Input : 31Ch		

※ DC type model has a free-voltage range of 10V-30V.
※ AC type model has a free-voltage range of 100V-240V.

Technical Diagram (Units : mm)

QWH35

136
42
2-Ø8 HOLES (Slot hole)
136
PCD 150~163
179
Ø135
23
126

Ø21 CABLE ENTRY
9

14.5
8
FITTING HOLES

QWH50 Wall Mount Electric Horn MP3(SD Card) with Pre-recorded Special Warning Sounds

Model number	Voltage	Current	Volume	Binary input /Channels	Certificates	Weight
QWH50	DC12V DC24V AC110V-220V	Max 5.800A Max 0.600A	• Special warning sound : 123dB • MP3 sound : 118dB	Binary Input : 31Ch	CE DC Only	2.7kg
QWH50SD				Bit Input : 5Ch (SD Card only) Binary Input : 31Ch		

※ AC type model has a free-voltage range of 100V-240V.

Technical Diagram (Units : mm)

QWH50

168
52
2-Ø9 HOLES (Slot hole)
168
PCD 186~195
222
Ø167
23
163

Ø21 CABLE ENTRY
11

16
9
FITTING HOLES

Customization

• External threading of sound selection signal line (Model number : -LC)

Ordering Specification

QWH50	-	110/220	-	LC
[Model number]		[Voltage]		[Sound selection]

• QWH35
• QWH35SD

• QWH50
• QWH50SD

• 12/24-DC12V-24V
• 110/220-AC110V-220V

• 12-DC12V
• 24-DC24V
• 110/220-AC110V-220V

• Standard
 -Built-in Switch
• LC
 -External contact

SN/ SEHN25

Electric Horns for Vessels and Heavy Industrial Applications

Qlight

IP55 | -25~+50℃ | HORN | 105dB | 115dB | NPN

Steel Housing

105dB

SN

115dB

SEHN25

ⓘ Common Specifications(SN/ SEHN25/ SEHN50)

- Steel housing provides excellent vibration and shock resistance under seismic conditions
- A variety of sound selections between warning sounds, alarm sounds, melodies and voice messages to fit your sophisticated application needs
- Can adjust sound volume with the switch built inside the unit
- Materials : Housing-Steel, Horn housing -Steel
- Housing standard color : Red
- Ambient operating temperature : -25°C to +50°C
- Protection rating : IP55, Suitable for outdoor installation
- Certificates : KIMM Compliant

SN Max 105dB, Self Stand Type

Model number	Sound pattern		Volume	Voltage / Current	Certificates	Weight
SN	WS	5 Warning sounds	105dB	DC12V / 0.266A DC24V / 0.211A AC110V / 0.062A AC220V / 0.031A	KIMM	DC-0.91kg AC-1.06kg
	WM	5 Melodies	105dB			
	WA	5 Alarms	103dB			
	WV	5 Customizable sounds	95dB			

※ Please refer to Page 90 for detailed information about selectable sound patterns.
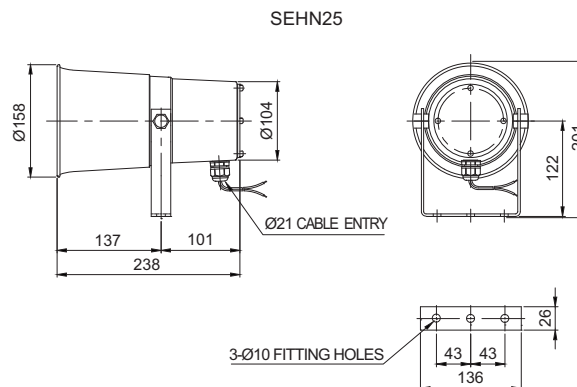
📐 Technical Diagram （Units : mm)

SN

Ø119 | Ø78 | 150 | 86 | 107 | 60 | Ø10 CABLE ENTRY | 167

3-Ø8 FITTING HOLES | 25 | 25 | 92 | 20
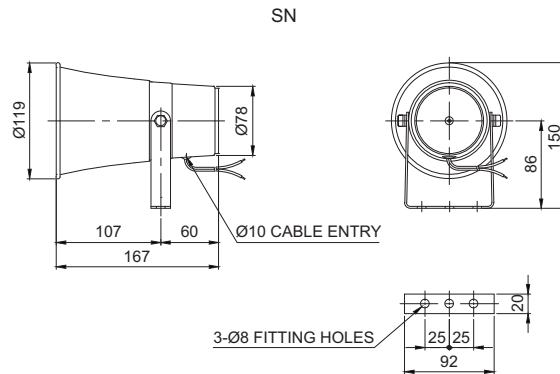
SEHN25 Max 115dB, Self Stand Type

Model number	Sound pattern		Volume	Voltage / Current	Certificates	Weight
SEHN25	WS	5 Warning sounds	115dB	DC12V / 2.211A DC24V / 1.022A AC110V / 0.226A AC220V / 0.113A	KIMM	DC-2.26kg AC-2.48kg
	WM	5 Melodies	115dB			
	WA	5 Alarms	113dB			
	WV	5 Customizable sounds	108dB			

※ Please refer to Page 90 for detailed information about selectable sound patterns.

📐 Technical Diagram （Units : mm)

SEHN25

Ø158 | Ø104 | 201 | 122 | 137 | 101 | Ø21 CABLE ENTRY | 238

3-Ø10 FITTING HOLES | 43 | 43 | 136 | 26

SEHN50

Electric Horns for Vessels and Heavy Industrial Applications

IP55 | -25~+50℃ | HORN | 120dB | NPN

Steel Housing

120dB

SEHN50

SEHN50 Max 120dB, Self Stand Type

Model number	Sound pattern		Volume	Voltage / Current	Certificates	Weight
SEHN50	WS	5 Warning sounds	120dB	DC12V / 2.440A DC24V / 1.186A AC110V / 0.244A AC220V / 0.122A	KIMM	DC-2.67kg AC-3.30kg
	WM	5 Melodies	120dB			
	WA	5 Alarms	118dB			
	WV	5 Customizable sounds	115dB			

※ Please refer to Page 90 for detailed information about selectable sound patterns.

Technical Diagram
(Units : mm)

SEHN50

Ø167
Ø120
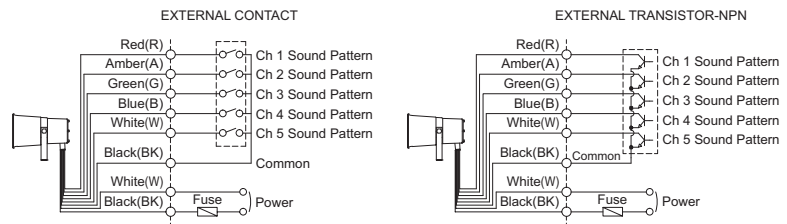Ø21 CABLE ENTRY
149
93
242
206
122
3-Ø10 FITTING HOLES
43 43
136
26
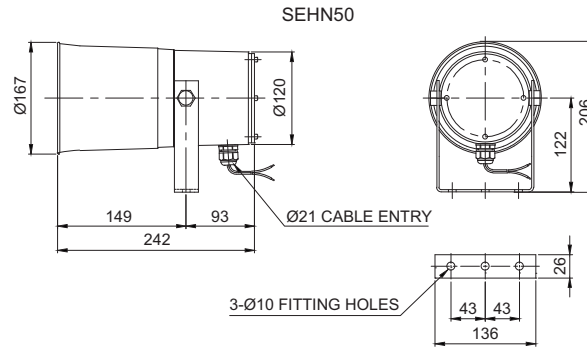
Sound Selection and Wiring Instructions

• Standard : Internal switch
• When each channel dip switch is on, a related sound will be played

ON   DP
1 2 3 4 5

Ch1 Ch2 Ch3 Ch4 Ch5   VOLUME
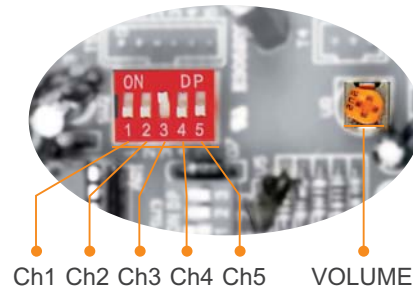
• Customization : External contact(LC)

SN/ SEHN25/ SEHN50-DC/AC

EXTERNAL CONTACT

Red(R) — Ch 1 Sound Pattern
Amber(A) — Ch 2 Sound Pattern
Green(G) — Ch 3 Sound Pattern
Blue(B) — Ch 4 Sound Pattern
White(W) — Ch 5 Sound Pattern
Black(BK) — Common
White(W)
Black(BK) — Fuse — Power

EXTERNAL TRANSISTOR-NPN

Red(R) — Ch 1 Sound Pattern
Amber(A) — Ch 2 Sound Pattern
Green(G) — Ch 3 Sound Pattern
Blue(B) — Ch 4 Sound Pattern
White(W) — Ch 5 Sound Pattern
Black(BK) — Common
White(W)
Black(BK) — Fuse — Power

• External power line standard : VCTF(0.75sq)×2C 400mm
• LC type signal line standard : UL1007 AWG22(0.3sq) 400mm
• Product can be wired regardless of polarity

Customization

• You can select the audible sound pattern using external contacts or transistor with a customized external sound line.
(Model number : -LC)

Ordering Specification

SEHN25	-	WA	-	220	-	LC
[Model number]		[Sound]		[Voltage]		[Sound selection]

• SN
• SEHN25
• SEHN50

• WS-Warning
• WM-Melody
• WA-Alarm
• WV-Customizable sound

• 12-DC12V
• 24-DC24V
• 110-AC110V
• 220-AC220V

• Standard
 -Built-in switch
• LC
 -External contact

Electric horns for vessels and heavy industrial applications featuring excellent sealing, corrosion resistance, and durability

Can select from wall mount type, self stand type, and terminal box type for your various application needs

SEWN30 - Max 118dB
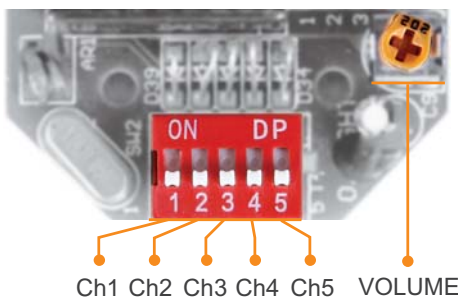### SEWN50 - Max 120dB
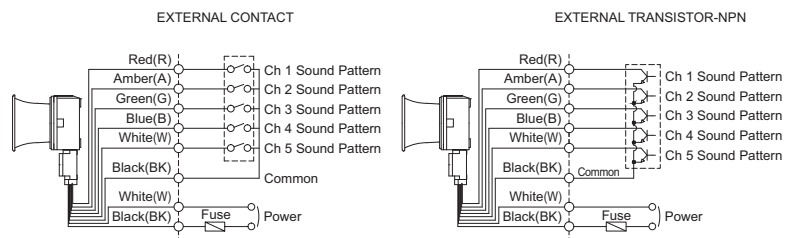### Aluminum housing

Common Specifications(SEWN30/ SEWN50)

• Electric horn with tightly sealed structure has excellent durability. Suitable for vessels, steel industry, and outdoor plant applications
• Can select between a variety of mounting options (wall mount type, self stand type, and terminal box type)
• Aluminum housing provides excellent durability
• A variety of sound selection between warning sounds, alarm sounds, melodies and voice messages to fit your sophisticated application needs
• Can adjust sound volume with the dial built inside the unit
• Terminals located inside the terminal box or product
• Cable entry : 1/2″PF
• Materials : Housing-Al, Horn housing-PC/ SUS316L
• Standard Housing color : MUNSELL No. 7.5BG 7/2
• Ambient operating temperature : -30°C to +50°C
• Protection rating : IP56, Suitable for outdoor installation
• Certificates : KIMM, ABS, CCS, CE Compliant

Sound Selection and Wiring Instructions

• Standard type : Select sound using the switch inside the unit. When you turn on the dip switch for each channel the sound is turned on.

• Customized type : Select sound using the external contact(LC)
You can select the audible sound pattern using external contacts or transistor with a customized external sound line(Model number : -LC)
• Product can be wired regardless of polarity

Ch1 Ch2 Ch3 Ch4 Ch5   VOLUME

SEWN30 SERIES-DC/AC
SEWN50 SERIES-DC/AC

EXTERNAL CONTACT

Red(R) — Ch 1 Sound Pattern
Amber(A) — Ch 2 Sound Pattern
Green(G) — Ch 3 Sound Pattern
Blue(B) — Ch 4 Sound Pattern
White(W) — Ch 5 Sound Pattern
Black(BK) — Common
White(W)
Black(BK) — Fuse — Power

EXTERNAL TRANSISTOR-NPN

Red(R) — Ch 1 Sound Pattern
Amber(A) — Ch 2 Sound Pattern
Green(G) — Ch 3 Sound Pattern
Blue(B) — Ch 4 Sound Pattern
White(W) — Ch 5 Sound Pattern
Black(BK) — Common
White(W)
Black(BK) — Fuse — Power

SEWN30 series

Electric Horns for Vessels and Heavy Industries Applications

Qlight

| IP56 | -30~+50℃ | HORN | 118dB | NPN |

SEWN30 series Max 118dB

Model number		Sound pattern	Volume	Voltage / Current	Certificates	Weight
SEWN30E -Wall mount	WS	5 Warning sounds	118dB	DC12V / 2.211A DC24V / 1.022A AC110V / 0.226A AC220V / 0.113A	KIMM CCS ABS CE DC24V only	SEWN30E DC-1.76kg AC-2.11kg
	WP	5 Special warning sounds	118dB			
SEWN30L -Self stand	WM	5 Melodies	118dB			SEWN30L AC-1.74kg AC-2.13kg
SEWN30T -Wall mount with terminal box	WA	5 Alarms	116dB			SEWN30T DC-2.23kg AC-2.58kg
	WV	5 Customizable sounds	113dB			

※ Please refer to Page 90 for detailed information about selectable sound patterns.

118dB

SEWN30E

SEWN30L

SEWN30T

- SEWN30E/ SEWN30L model uses flexible connector at cable entry and SEWN30T model use 15C nipple at cable entry.
- Cable gland is customizable

Flexible connector   15C nipple

Technical Diagram
(Units : mm)

SEWN30E

128
114
114
86
4-Ø9 FITTING HOLES
CABLE ENTRY 1/2" PF
175
80
3
Ø120
36

SEWN30L

114
114
CABLE ENTRY 1/2" PF
172
80
Ø120
159
101
33
114
56
3-Ø9 FITTING HOLES
25 25
120
20

SEWN30T

128
114
114
86
4-Ø9 FITTING HOLES
175
80
3
Ø120
223
TERMINAL BOX
CABLE ENTRY 1/2" PF
32
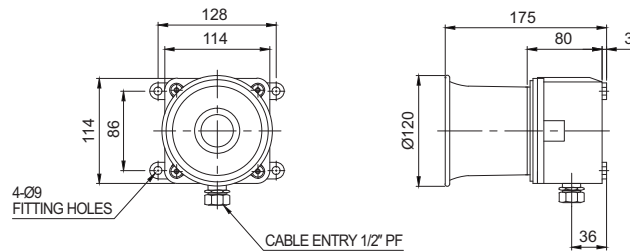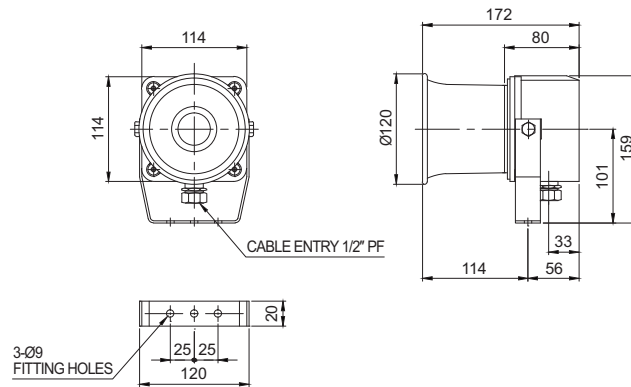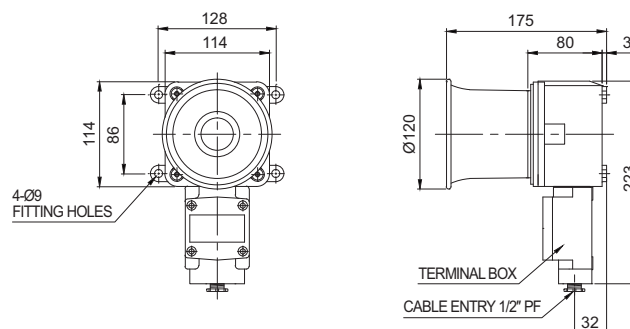
SEWN50 series

Electric Horns for Vessels and Heavy Industries Applications

IP56 | -30~+50℃ | HORN | 120dB | NPN

120dB

SEWN50E

SEWN50L

SEWN50T

- SEWN50E/ SEWN50L model uses flexible connector at cable entry and SEWN50T model uses 15C nipple at cable entry.
- Cable gland is customizable

Flexible connector　　15C nipple

SEWN50 series Max 120dB

Model number		Sound pattern	Volume	Voltage / Current	Certificates	Weight
SEWN50E -Wall mount SEWN50L -Self stand SEWN50T -Wall mount with terminal box	WS	5 Warning sounds	120dB	DC12V / 2.440A DC24V / 1.186A AC110V / 0.244A AC220V / 0.122A	KIMM CE DC24V only	SEWN50E DC-4.22kg AC-4.52kg SEWN50L AC-4.20kg AC-4.50kg SEWN50T DC-4.65kg AC-4.95kg
	WP	5 Special warning sounds	120dB			
	WM	5 Melodies	120dB			
	WA	5 Alarms	118dB			
	WV	5 Customizable sounds	115dB			

※ Please refer to Page 90 for detailed information about selectable sound patterns.
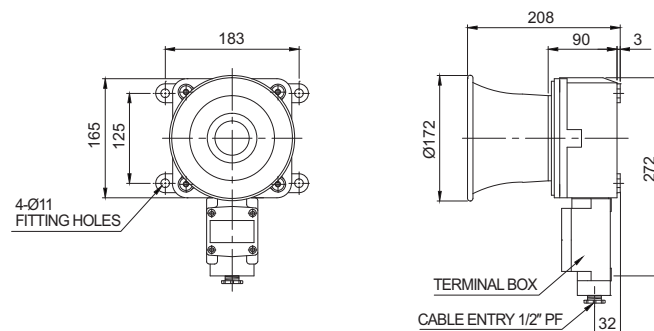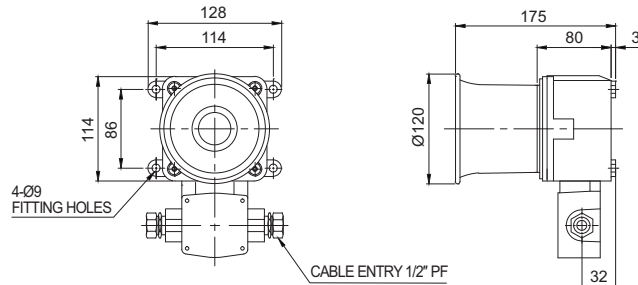
Technical Diagram

(Units : mm)

SEWN50E

210
165
165
125
Ø172
208
90
3
36
4-Ø11 FITTING HOLES
CABLE ENTRY 1/2" PF

SEWN50L

165
126
165
205
90
Ø172
207
124
142
33
63
CABLE ENTRY 1/2" PF
3-Ø11 HOLES
60 60
170
30

SEWN50T

183
165
125
Ø172
208
90
3
272
4-Ø11 FITTING HOLES
TERMINAL BOX
CABLE ENTRY 1/2" PF
32

SEWN series

Electric Horns for Vessels and Heavy Industries Applications

Qlight

2 Cable Entry Terminal Box Type Technical Diagram　(Units : mm)

SEWN30-2T

128
114
114
86
Ø120
175
80
3
32
4-Ø9
FITTING HOLES
CABLE ENTRY 1/2″ PF

SEWN50-2T

210
183
165
165
125
Ø172
208
90
3
272
32
4-Ø11
FITTING HOLES
CABLE ENTRY 1/2″ PF
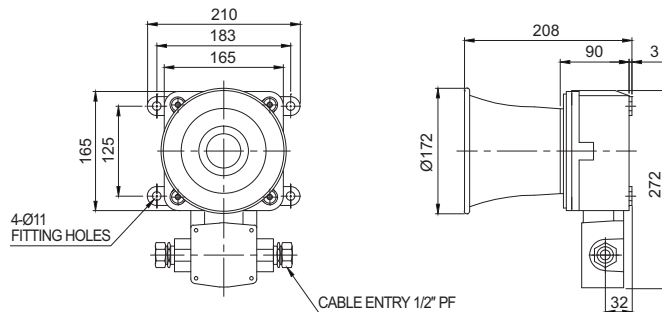
Customization

• Cable gland available

• 3/4″PF cable entry (Standard : 1/2″PF)

• 2 cable entries terminal box :
  Customized terminal box available with two cable entries
  in opposite directions
  (Model number : SEWN30-2T, SEWN50-2T)

• Brass housing product :
  Brass housing products provide improved corrosion
  resistance.

※ Color will be MUNSELL No. 7.5BG 7/2 when released.

• External threading of sound line (Model number : -LC)

Brass housing product

Ordering Specification

SEWN30T	-	WS	-	220	-	LC
[Model number]		[Sound]		[Voltage]		[Sound selection]

- SEWN30E
- SEWN30L
- SEWN30T
- SEWN50E
- SEWN50L
- SEWN50T

• WS-Warning
• WP-Special warning sounds
• WM-Melody
• WA-Alarm
• WV-Customizable sound

• 12-DC12V
• 24-DC24V
• 110-AC110V
• 220-AC220V

• Standard
  -Built-in switch
• LC
  -External contact

SHDN series

Dual-Facing Electric Horns for Vessels and Heavy Industry Applications

Qlight

IP56 | -30~+50℃ | HORN | 118dB | NPN

Aluminum housing
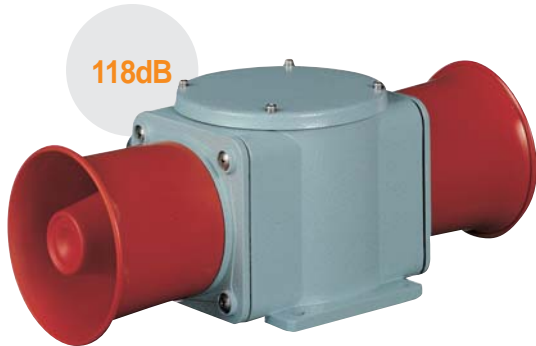
118dB

SHDN30

SHDN30 Max 118dB×2 Direct Mount Type

- Electric horn with tightly sealed structure and excellent durability, suitable for vessels, steel industry, and outdoor plant applications
- Aluminum housing provides excellent durability
- A variety of sound selection between warning sounds, alarm sounds, melodies and voice messages to fit your sophisticated application needs
- Terminals located inside the terminal box or product
- Cable entry : 1/2″PF
- Materials : Housing-Al, Horn housing-PC
- Can adjust sound volume with the switch built inside the unit
- Standard Housing color : MUNSELL No. 7.5BG 7/2
- Ambient operating temperature : -30°C to +50°C
- Protection rating : IP56, Suitable for outdoor installation

Model number	Sound pattern		Volume	Voltage / Current	Certificates	Weight
SHDN30	WS	5 Warning sounds	118dB×2	DC12V / 4.422A DC24V / 2.044A AC110V / 0.453A AC220V / 0.226A	-	DC-3.49kg AC-4.21kg
	WP	5 Special warning sounds	118dB×2			
	WM	5 Melodies	118dB×2			
	WA	5 Alarms	116dB×2			
	WV	5 Customizable sounds	113dB×2			

※ Please refer to Page 90 for detailed information about selectable sound patterns.

Sound Selection Instructions

- Standard Type : Select sound using the switch inside of the unit. When you turn on the dip switch for each channel, the designated sound will be played.

Ch1 Ch2 Ch3 Ch4 Ch5   VOLUME
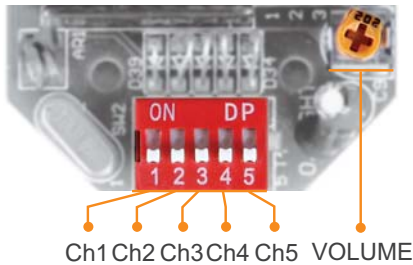
- Customized type : Select using the external contact(LC)
  You can select the audible sound pattern using external contacts or transistor with a customized external sound line (Model number : -LC)
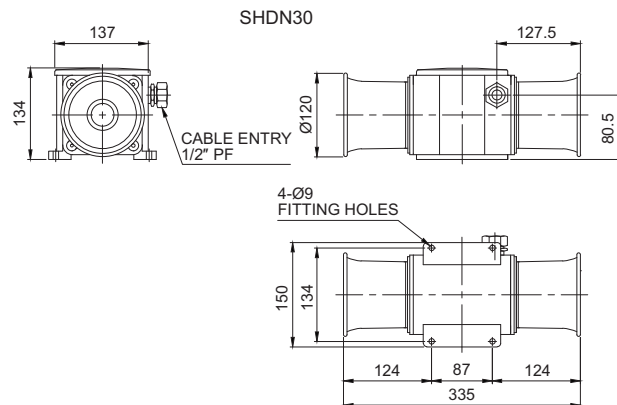- Product can be wired regardless of polarity

Technical Diagram

(Units : mm)

SHDN30

137
134
CABLE ENTRY 1/2″ PF

127.5
Ø120
80.5

4-Ø9 FITTING HOLES
150
134
124   87   124
335

Wiring Instructions

SHDN30-DC/AC
EXTERNAL CONTACT

Red(R) — Ch 1 Sound Pattern
Amber(A) — Ch 2 Sound Pattern
Green(G) — Ch 3 Sound Pattern
Blue(B) — Ch 4 Sound Pattern
White(W) — Ch 5 Sound Pattern
Black(BK) — Common
White(W)
Black(BK) — Fuse — Power

SHDN30-DC/AC
EXTERNAL TRANSISTOR-NPN

Red(R) — Ch 1 Sound Pattern
Amber(A) — Ch 2 Sound Pattern
Green(G) — Ch 3 Sound Pattern
Blue(B) — Ch 4 Sound Pattern
White(W) — Ch 5 Sound Pattern
Black(BK) — Common
White(W)
Black(BK) — Fuse — Power

Customization

- Customized cable entry(3/4″PF) available
- Customized external sound line type available
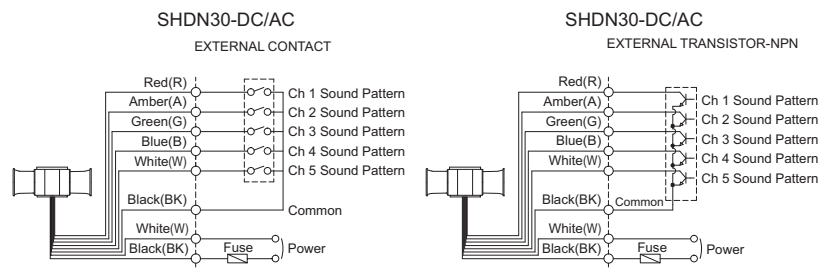
Ordering Specification

SHDN30	-	WP	-	110	-	LC
[Model number]		[Sound]		[Voltage]		[Sound selection]

- SHDN30

- WS-Warning
- WP-Special warning sounds
- WM-Melody
- WA-Alarm
- WV-Customizable sound

- 12-DC12V
- 24-DC24V
- 110-AC110V
- 220-AC220V

- Standard
  -Built-in switch
- LC
  -External contact

SM series   Motor Sirens

IP44 | **-25~+50°c** | **MOTOR** | **110dB** | **116dB**

110dB

SM30

116dB

SM40

⚠️ Continuous operation rating time is 10 mins. Over 10 mins of continuous operation may cause motor damage. Please be careful.

Ordering Specification

SM30	-	**24**
[Model number]		[Voltage]
• SM30 • SM40		• 12-DC12V • 24-DC24V • 110-AC110V • 220-AC220V

SM30 Miniature Motor Siren

- Ø80mm compact structure with 110dB sound output
- Motor RPM : 10,000RPM
- Materials : Steel
- Power consumption : 40W
- Protection rating : IP 44
- Housing standard color : Red
- Insulation resistance : 100MΩ(at 500 VDC)
- Ambient operation temperature : -25°C to +50°C

Specifications

Model number	Volume	Voltage	Current	Certificates	Weight	Rated time
SM30	110dB	DC12V	3.222A	-	0.22kg	10 min
		DC24V	1.779A		0.22kg	
		AC110V	1.333A		0.42kg	
		AC220V	1.000A		0.42kg	

Technical Diagram   (Units : mm)

SM30-DC12/24

SM30-AC110/220

Ø77
84.5
47
47   35
82
Ø22 CABLE ENTRY

Ø77
84.5
47
72.5   32
104.5
Ø22 CABLE ENTRY

28   65   71   81
20
27
40
Ø9 CABLE ENTRY
4-Ø4 FITTING HOLES

28   65   71   81
20
27
40
Ø9 CABLE ENTRY
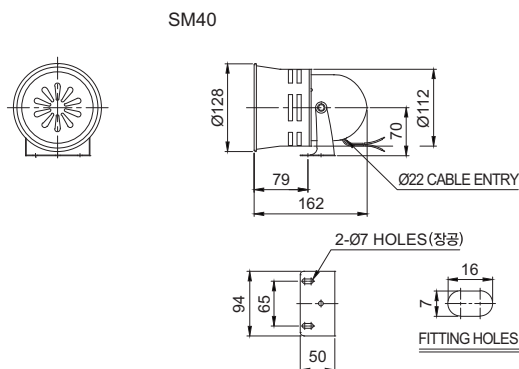4-Ø4 FITTING HOLES
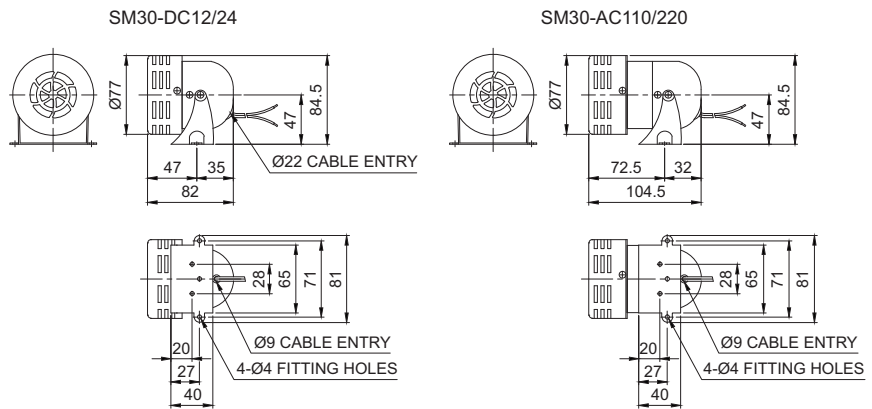
SM40 Miniature Motor Siren

- Ø100mm compact structure with 116dB sound output
- Motor RPM : 7,000RPM
- Materials : ABS
- Power consumption : 80W
- Protection rating : IP 44
- Housing standard color : Gray
- Insulation resistance : 100MΩ(at 500 VDC)
- Ambient operation temperature : -25°C to +50°C

Specifications

Model number	Volume	Voltage	Current	Certificates	Weight	Rated time
SM40	116dB	DC12V	6.778A	-	0.53kg	10 min
		DC24V	3.666A		0.53kg	
		AC110V	1.000A		0.68kg	
		AC220V	0.722A		0.68kg	

Technical Diagram   (Units : mm)

SM40

Ø128   Ø112
70
79
162
Ø22 CABLE ENTRY

2-Ø7 HOLES(장공)
94   65
50
16
7
FITTING HOLES

SM series Motor Sirens

IP44 | -25~+50℃ | MOTOR | 120dB | 123dB

120dB

SM200

123dB

SM400

⚠ Continuous operation rating time of SM400 is 3 mins. Over 3 mins of continuous operation may cause damage to the motor. Please be careful.

Ordering Specification

SM200	-	24
[Model number]		[Voltage]

- SM200
- SM400

- 24-DC24V
- 110-AC110V
- 220-AC220V

SM200 120dB Heavy-Duty Motor Siren

- Excellent durability and high volume are suitable for noisy environment
- Motor RPM : 7,200RPM
- Materials : Steel/Al
- Ambient operation temperature : -25°C to +50°C
- Certificates : CE Compliant
- Housing standard color : Red
- Insulation resistance : 100MΩ(at 500 VDC)
- Protection rating : IP 44

Specifications

Model number	Volume	Voltage	Current	Certificates	Weight	Rated time
SM200	120dB	DC24V	7.820A	CE	2.19kg	10 min
		AC110V	2.105A	-	2.55kg	
		AC220V	1.005A		2.55kg	

Technical Diagram (Units : mm)

SM200

Ø143 | Ø114 | 94 | 121 | 231
100 | 74 | 65 | 85 | 42
6-Ø9 FITTING HOLES
Ø9 CABLE ENTRY
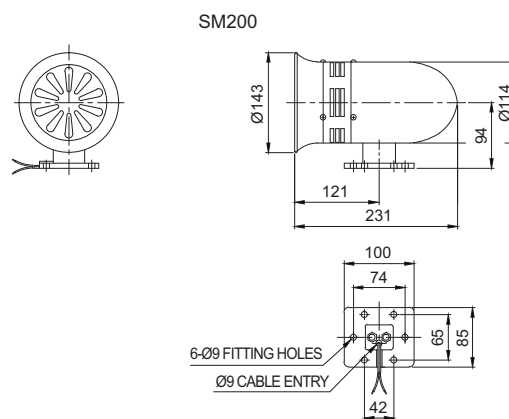
SM400 Sound 123dB Heavy-Duty Motor Siren

- 123dB high volume model suitable for long-distance audible signal in noisy environments
- Motor RPM : 7,600RPM
- Materials : Steel/ABS
- Ambient operation temperature : -25°C to +50°C
- Housing standard color : Red
- Insulation resistance : 100MΩ(at 500 VDC)
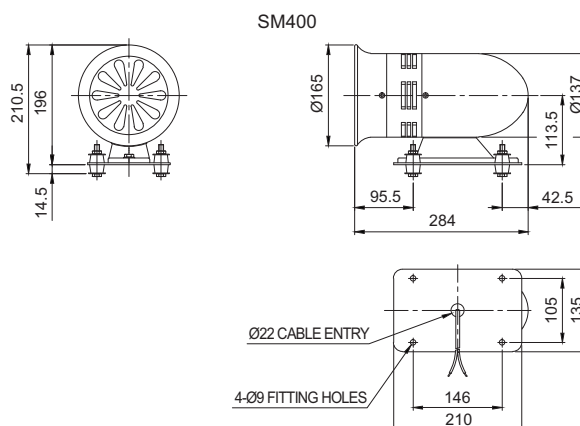- Protection rating : IP 44

Specifications

Model number	Volume	Voltage	Current	Certificates	Weight	Rated time
SM400	123dB	DC24V	12.000A	-	3.19kg	3 min
		AC110V	6.300A		3.75kg	
		AC220V	3.800A		3.75kg	

Technical Diagram (Units : mm)

SM400

210.5 | 196 | 14.5
Ø165 | Ø137 | 113.5 | 95.5 | 42.5 | 284
Ø22 CABLE ENTRY
4-Ø9 FITTING HOLES
105 | 135 | 146 | 210

SAB series

Alarm Bells with Lamp Attached for Vessels and Heavy Industrial Applications

Qlight

IP56 | -25~+50°C | BELL | 95dB
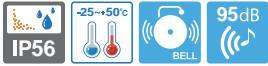
SAB130
-Bell housing Ø130mm

SAB200
-Bell housing Ø200mm

95dB

SAB130

95dB

SAB200

SAB130/ SAB200 Max 95dB

- Electric solenoid bell system provides excellent durability to vibration and shock for vessels and large facilities
- Special material for bell housing provides clear and crisp alarm sound
- Excellent vibration and shock resistant structure for superior durability
- Easy wiring and maintenance with terminal box attached
- Lamp attached provides visual signals
- Bell and lamp operation is synchronized. Each function can also operate separately
- Sound volume : Max 95dB at 1m
- Standard color : Housing-beige, Bell/ Lamp-Red
- Materials : Bell-Steel, Housing-ABS
- Ambient operating temperature : -25°C to +50°C
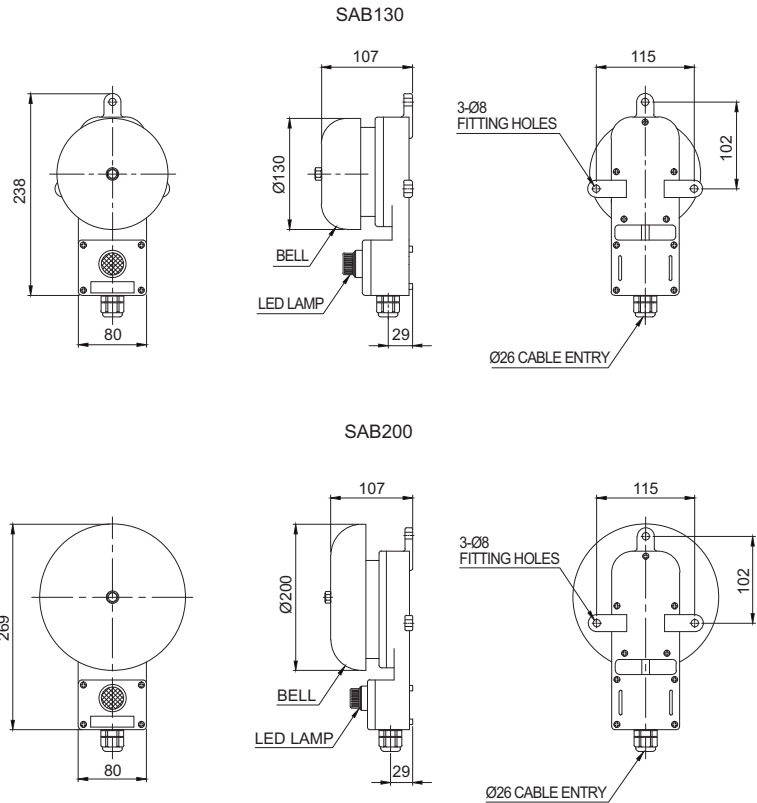- Protection rating : IP56
- Cable entry : PG19

Specifications

Model number	Frequency	Volume	Bell diameter	Voltage	Current	Certificates	Weight	Bell/ Lamp color
SAB130	400-600Hz	95dB	130mm	DC24V	1.100A	-	1.88kg	● R-Red
SAB200			200mm	AC110V	0.350A		2.00kg	
				AC220V	0.300A			

Technical Diagram （Units : mm）

SAB130

107 · 115

238 · Ø130 · 3-Ø8 FITTING HOLES · 102

BELL

LED LAMP

80 · 29

Ø26 CABLE ENTRY

SAB200

107 · 115

269 · Ø200 · 3-Ø8 FITTING HOLES · 102

BELL

LED LAMP

80 · 29

Ø26 CABLE ENTRY

Customization

- Two way cable entries with PG19

Ordering Specification

SAB200	-	**110**	-	**CG**
[Model number]		[Voltage]		[Cable gland]

- SAB130
- SAB200

- 24-DC24V
- 110-AC110V
- 220-AC220V

- Standard
  -Back wiring type
- CG
  -Built-in cable gland type

SANA series

Air Horns for Vessels and Heavy Industrial Applications

IP56 | -20~+60℃ | HORN | 130dB

SANA200-200-300HZ
SANA400-400-600HZ
SANA700-700-800HZ

SANA200

SANA400

Common Specifications(SANA200/ SANA400/ SANA700)

- High volume horn uses compressed air to power the high pitched sound made with the diaphragm
- Uses a special material which consumes a small quantity of compressed air and has long durability
- Suitable for applications like a large and noisy engine rooms, a phone alarm in a pump room, or as an emergency alarm
- Sound volume : Max 130dB at 1m
- Housing standard color : ● R-Red, ● B-Black, ● 7.5BG-MUNSELL No.7.5BG 7/2
- Materials : Horn-PC, Solenoid valve box-ABS
- Air pressure : 5-7kg/cm^2
- Ambient operation temperature : -20℃ to +60℃
- Protection rating : IP 56
- Certificates : KIMM Compliant

Model number	Frequency	Volume	Certificates	Weight	Voltage	Current	Color
SANA200	200-300Hz			1.19kg		0.448A	● R-Red
SANA400	400-600Hz	Max 130dB	KIMM	1.13kg	DC24V AC110V AC220V	0.111A	● BK-Black
SANA700	700-800Hz			1.07kg		0.055A	● 7.5BG

SANA200 200-300Hz

Technical Diagram　　　　　　　　　　　（Units : mm）

SANA200

Ø146 | 333 | Ø115 | 222 | 99 | 93 | 17 | 99 | 100 | 55 | 23 | Ø27 CABLE ENTRY | NIPPLE 10C | 153 | 132 | 2-Ø9 FITTING HOLES | 118 | 2-Ø8 HOLES(Slot hloe) | 132 | 15.3 | 150 | 11 | 8 | FITTING HOLES

SANA400 400-600Hz

Technical Diagram　　　　　　　　　　　（Units : mm）

SANA400

Ø110 | 193 | Ø115 | 222 | 99 | 93 | 17 | 99 | 100 | 55 | 23 | Ø27 CABLE ENTRY | NIPPLE 10C | 153 | 132 | 2-Ø9 FITTING HOLES | 118 | 2-Ø8 HOLES(Slot hloe) | 132 | 15.3 | 150 | 11 | 8 | FITTING HOLES

SANA series

Air Horns for Vessels and Heavy Industrial Applications

SANA700 700-800Hz

SANA700

Technical Diagram　　(Units : mm)

SANA700
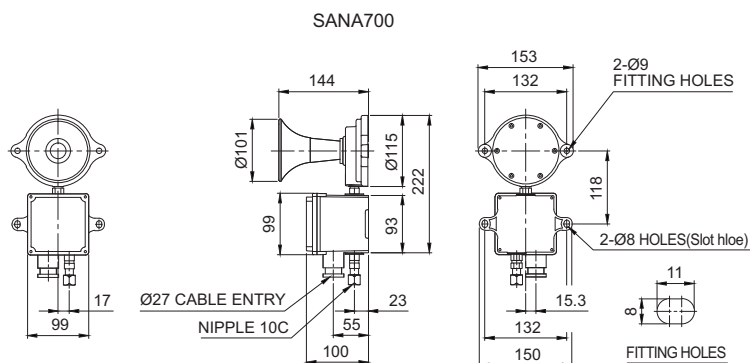
Ordering Specification

SANA200	-	220	-	R
[Model number]		[Voltage]		[Color]

- SANA200
- SANA400
- SANA700

- 24-DC24V
- 110-AC110V
- 220-AC220V

- ● R-Red
- ● BK-Black
- ● 7.5BG

Customization

- Horn and solenoid valve box available separately for individual installation
- Non return valve and Y filter installation
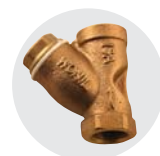
Non return valve　　Y filter

QEB

Explosion Proof Solenoid Valve Box

IP66　-40~+60℃

QEB Explosion Proof Solenoid Valve Box

- Materials : Housing, Cover-Al
- Ambient operation temperature : -40℃ ≤ T_{amb} ≤ +60℃
- Protection rate : Ex d ⅡC T6, IP66
- Certificates : KIMM Compliant
- Left picture has a cable gland installed, explosion proof cable gland configuration is available as a customized option

Technical Diagram　　(Units : mm)

QEB

QEB
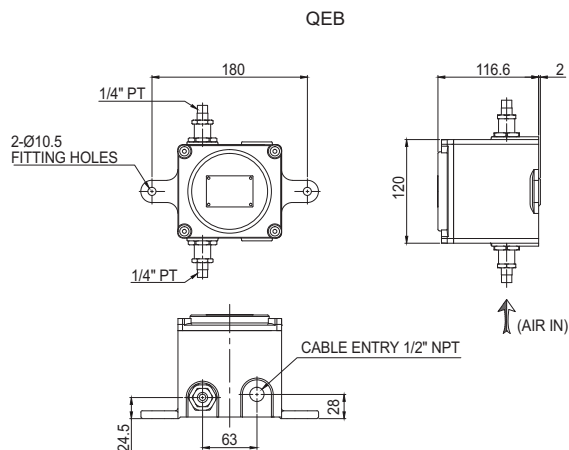
Ordering Specification

QEB	-	24
[Model number]		[Voltage]

- QEB

- 24-DC24V
- 110-AC110V
- 220-AC220V

CATALOGUE

Explosion Proof Products

INNOVATION IN ALARM & SIGNAL
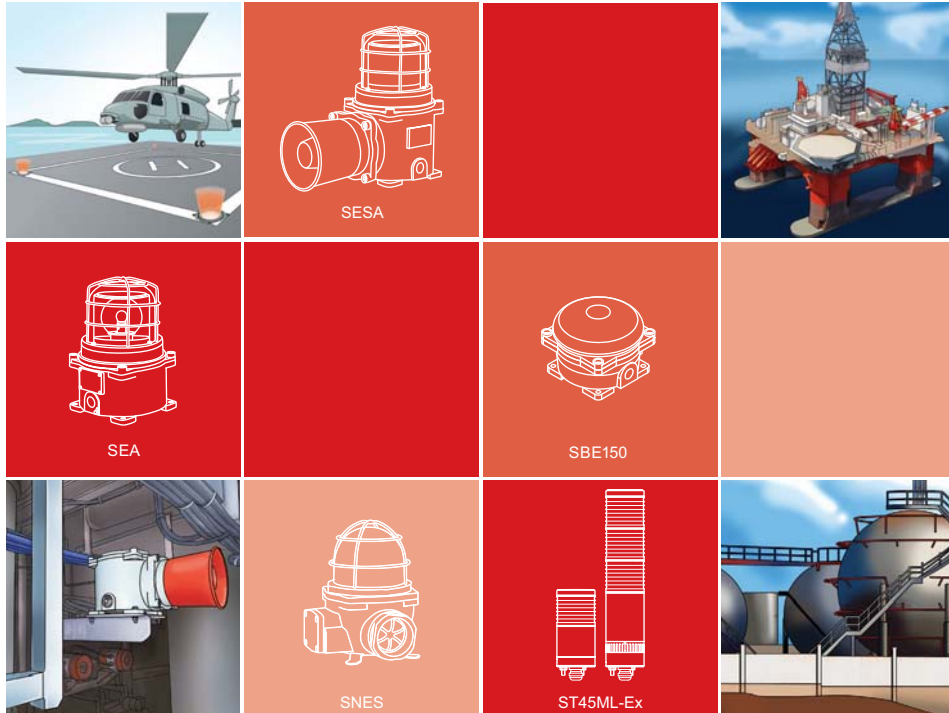
SESA

SEA

SBE150

SNES

ST45ML-Ex

Explosion Proof Product Applications

Semiconductor Factory

Applied in a plumbing system for flammable materials used in the semiconductor manufacturing process
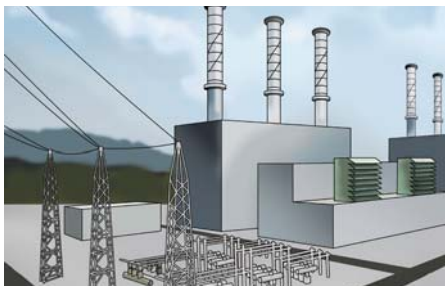
Power Plant

Applied in hazardous areas with possibilities of explosion cause by coal dust in thermal power plants

Petrochemical Plant

Applied in areas such as refineries where explosive materials are always present
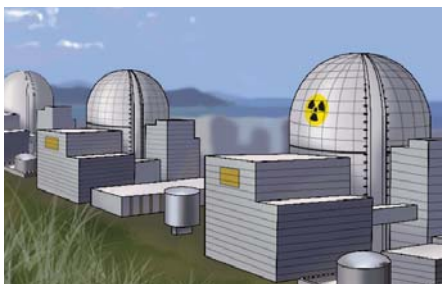
Nuclear Power Plant

Applied in areas where explosive materials are always present such as pipes and ducts of a generator cooling system

Oil Tanker

Applied in areas where explosive materials are always present such as ships carrying oil and gas

Electric Facilities

Applied in electrical equipment where flammable gas, vapor or dust exist
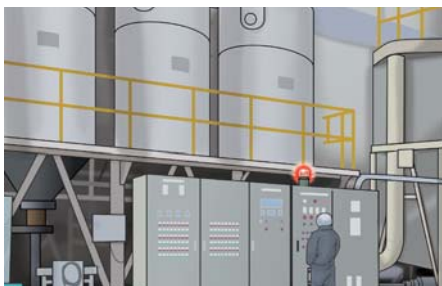
Flour Factory

Applied in danger zones where there is a possibility of explosion caused by grain dust
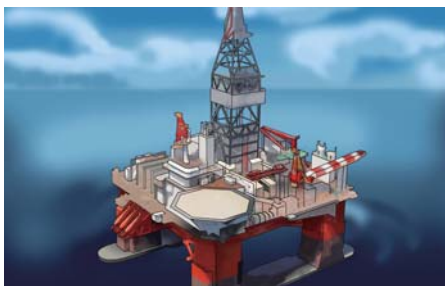
Off Shore Plant

Applied in mining equipment which produces or stores flammable materials such as oil and gas

Coal Mine

Applied in areas where hazardous materials such as coal dust is always present

Steel Industry

Applied in danger zones where hazardous materials such as gas is always present

Gas Station

Applied in danger zones where flammable materials are stored

Metal Processing Industry

Applied in danger zones where explosive metal, dust, and flammable gas are always present
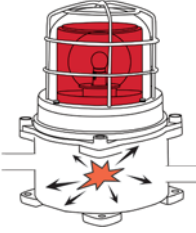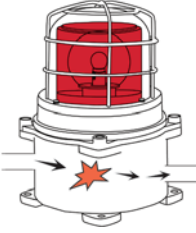
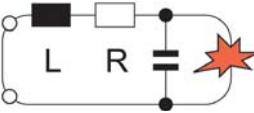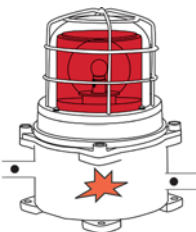# Explosion Proof Technical Data
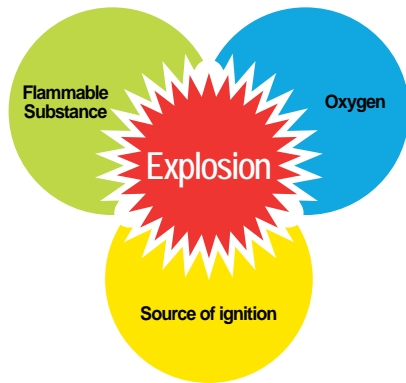
Technical Data for Explosion Proof Products

- **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.

Flammable Substance — Oxygen — Explosion — Source of 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

Hazardous Area Classification

Zone 0	Where ignitable concentrations of flammable gases, vapors, or liquids are present continuously or for long periods of time under normal operating conditions.
Zone 1	Where ignitable concentrations of flammable gases, vapors, or liquids are likely to exist under normal operating conditions.
Zone 2	Where ignitable concentrations of flammable gases, vapors, or liquids can occur for only a short period of time.
Zone 20	Where explosive atmosphere in the form of a cloud of combustible dust in air is present continuously, or for long periods or frequently.
Zone 21	Where explosive atmosphere in the form of a cloud of combustible dust in air is likely to occur, occasionally, in normal operation.
Zone 22	Where explosive atmosphere in the form of a cloud of combustible dust in air is not likely to occur in normal operation but, if it does occur, will persist for a short period only.

\<Areas classification example\>
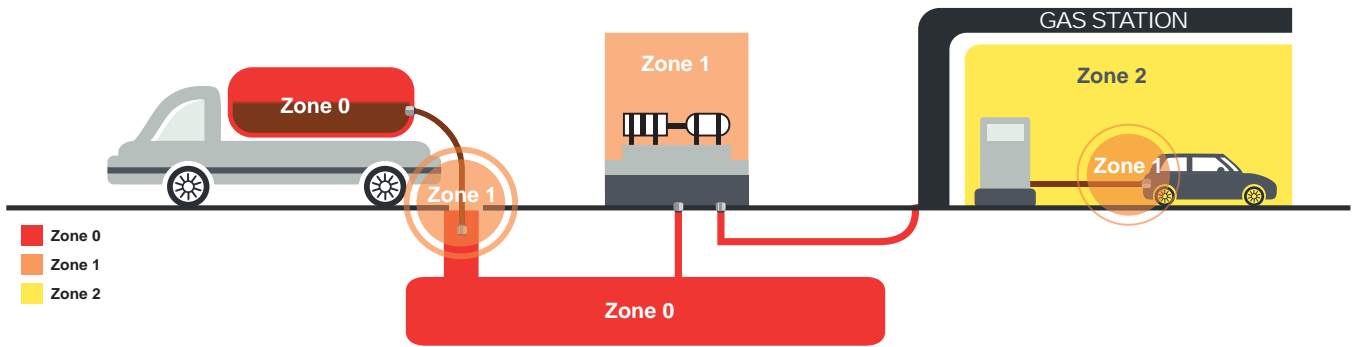
Condition	IEC	NEC500	JIS, KS
Continuous hazard (more than 1000 hours per year)	Zone 0 Zone 20(DUST)	Division 1	Zone 0
Intermittent hazard (10-1000 hours per year)	Zone 1 Zone 21(DUST)		Zone 1
Possible hazard (0.1-10 hours per year)	Zone 2 Zone 22(DUST)	Division 2	Zone 2

Models Available for Each Zone

Area Classification	Model
Zone 1	SNE, SEA, SE, SSEL, SESA, SEBA, SNES, SPNA, QEB, SBE130, SBE150, QEAL1, QEAL2, QTEX, QTEXB
Zone 2	SNE, SEA, SE, SSEL, SESA, SEBA, SNES, SPNA, QEB, SBE130, SBE150, QEAL1, QEAL2, QTEX, QTEXB, ST45ML-Ex, STB45ML-Ex

Technical Data of Explosion Proof

Qlight

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 Max imum surface temperature per temperature class	
The range of Max imum 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

Technical Data of Explosion Proof

Explosion Proof Marking

CE	2004	⟨Ex⟩ ATEX	Ⅱ	2	G	Ex d	ⅡC	T6	Gb	IP66	- 40°C ≤ T$_{amb}$ ≤ +60°C
①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩	⑪	⑫

①	CE mark
②	Identification number of the notified body
③	Marking for equipment for use in explosive atmospheres.
④	Ⅰ: Mines Ⅱ: Surface industries
⑤	'1'=Zone 0, '2'=Zone 1, '3'=Zone 2
⑥	"M" = methane gas, 'G' = gas, 'D' = dust
⑦	Types of protection
⑧	Equipment groups
⑨	Temperature class
⑩	'Ga'=Zone 0, 'Gb'= Zone 1, 'Gc'=Zone 2
⑪	Protection rating(IP)
⑫	Ambient operating temperature

Area Classification

International Classification of Zones.

AREA CLASSIFICATION			
	Continuous hazard	Intermittent hazard	Possible hazard
IEC/ CENELEC	Zone 0 Zone 20(DUST)	Zone 1 Zone 21(DUST)	Zone 2 Zone 22(DUST)
USA — NEC505	Zone 0	Zone 1	Zone 2
USA — NEC500 CLASS Ⅰ (GAS) CLASS Ⅱ(DUST) CLASS Ⅲ(FIBERS)	DIVISION 1		DIVISION 2

Technical Data of Explosion Proof

The Temperature Classification

The temperature classification is based on the Max imum surface temperature of equipment.

The range of Max imum surface temperature per temperature class			
IEC/ EN/ NEC505		NEC500	
The range of Max imum surface temperature	Temperature class	The range of Max imum surface temperature	Temperature class
300°C - 450°C	T1	300°C - 450°C	T1
200°C - 300°C	T2	280°C - 300°C 260°C - 280°C 230°C - 260°C 215°C - 230°C 200°C - 215°C	T2 T2A T2B T2C T2D
135°C - 200°C	T3	180°C - 200°C 165°C - 180°C 160°C - 165°C 135°C - 160°C	T3 T3A T3B T3C
100°C - 135°C	T4	120°C - 135°C 100°C - 120°C	T4 TA
85°C - 100°C	T5	85°C - 100°C	T5
Below 85°C	T6	Below 85°C	T6

Classification by Group According to NEC500

Classification of flammable material according to NEC500.

CLASS/ GROUP		GAS
CLASS 1	GROUP A	Acetylene or Equal
	GROUP B	Hydrogen, Butadiene, Ethylene oxide, Propylene oxide, Acrolein
	GROUP C	Ethyl ether, Ethylene, Acetaldehyde, Allyl alcohol, N-Butyraldehyde, Carbon monoxide, Crontonaldehyde, Cyclopropane, Diethyl ether, Diethylamine, Epichlorohydrin, Ethylene, Ethylenimine, Hydrogen Sulfide, Morpholine, 2-Nitropropane tetrahydrofuran, Isoprene or Unsymmetrical dimethylhydrazine(UDMH)
	GROUP D	Acetic acid (glacial), Acetone, Acrylonitrile, Ammonia, Benzine, Butane, 1-Butanol (Butyl alcohol), 2-Butanol(Secondary butyl alcohol), N-Butyl acetate, Isobutyl Acetate, Di-Isobutylene, Ethane, Ethanol(Ethyl alcohol), Ethyl acetate, Ethyl acrylate(Inhibited), Ethylenediamine(Anhydrous), Ethylene dichloride, Gasoline, Heptanes, Hexanes, Isoprene, Isopropyl, Ether, Mesityl oxide, Methane(Natural gas), Methanol (Methyl alcohol), 3-Methyl-1-Butanol(ISOAmyl alcohol), Methyl ethyl ketone, Methyl, Isobutyl ketone, 2-Methyl-1-Propanol(Isobutyl alcohol), 2-Methyl-2-Propanol (Tertiary butyl alcohol), Petroleum naphtha, Pyridine, Octanes, Pentanes, 1-Pentanol(Army alcohol), Propane, 1-Propanol(Propyl alcohol), 2-Propanol (Isopropyl alcohol), Propylene, Styrene, Toluene, Vinyl acetate, Vinyl chloride or Xylenes
CLASS 2	GROUP E	Metal dusts, Aluminum, Magnesium
	GROUP F	Coal, Coke, Carbon black, Charcoal dust
	GROUP G	GROUP E or F, Including flour, Starch, Grain, Wood, Plastic, Chemicals

Explosion Proof Type Specification List

Model number(series)		ST45ML-Ex	QTEX	SNE	SE	SEA	SSEL
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
Dimension (mm)	Diameter	Ø45	Ø144	Ø152(Cage)	Ø155(Cage)	Ø167(Cage)	154×154
	Height	114-278	472(Self stand) 457(Wall mount)	226	267	287	100
	Depth	-	155(Wall mount)	183(Length)	189(Length)	172(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
Light source & Operation	Bulb Steady/Flashing						
	Bulb Revolving			●	●	●	
	LED Revolving			●	●	●	
	LED Steady/Flashing	●(Steady)		●	●	●	●(Steady)
	LED Strobe						
	LED Simulated revolving xenon Strobe						
Mounting structure		Self stand	Self stand, Wall mount	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
Protection rating		IP54	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
Certificates		NEPSI, KGS	IECEx	IECEx, ATEX, NEPSI, KIMM, KOSHA, CCS	KIMM, ABS	IECEx, ATEX, NEPSI, KIMM, KOSHA, ABS, CCS, KR	KIMM, ABS
Explosion proof rating		Ex nR ⅡT4, Ex nR ⅡT6(Layer 3 Only)	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)
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
Transistors		NPN/ PNP Type	PNP Type	-	-	-	-
Page		P64	P66	P70-71	P74-75	P76-77	P81

Model number(series)		STB45ML-Ex	QTEXB	SNES	SESA	SEBA	SPNA
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
Dimension (mm)	Diameter	Ø45	Ø144	Ø152(Cage)	Ø167(Cage)	Ø167(Cage)	Ø134(Horn)
	Height	153-317	472(Self stand) 457(Wall mount)	226	333	333	158
	Depth	-	155(Wall mount)	183(Length)	327(Length)	240(Length)	327(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-SUS316L 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	
	Voice signal				Max 113dB at 1m		Max 113dB at 1m
	30 signal sounds						
	31 signal sounds						
	MP3						
Mounting structure		Self stand	Self stand, Wall mount	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
Protection rating		IP54	IP66	IP66	IP66	IP55	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
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
Explosion proof rating		Ex nR ⅡT4, Ex nR ⅡT6(Layer 3 Only)	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)
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
Transistors		NPN/ PNP Type	PNP Type	-	NPN Type	-	NPN Type
Page		P65	P67	P72-73	P78-79	P80	P82

Explosion Proof Type Specification List

Model number(series)		QEAL1	QEAL2	SBE130	SBE150		
	Voltage	DC12V, DC24V AC110V, AC220V	DC12V, DC24V AC110V, AC220V	DC24V AC110V, AC220V	DC24V AC110V, AC220V		
Dimension (mm)	Diameter	Ø152(Cage)	Ø167(Cage)	Ø120(Bell)	Ø150(Bell)		
	Height	238	287	120	120		
	Depth	183(Length)	172(Length)	138(Length)	138(Length)		
	Materials	Lens-Tempered glass Housing-Al	Lens-Tempered glass Housing-Al	Bell-Al Housing-Al	Bell-Al Housing-Al		
Light source & Operation	Bulb Steady/Flashing						
	Bulb Revolving						
	LED Revolving						
	LED Steady/Flashing	●(Steady)	● (Flashing)				
	LED Strobe						
	LED Simulated revolving xenon Strobe						
Sound Pattern / dB	1 tone Buzzer						
	15 signal sounds						
	Bell			Max. 95dB at 1m	Max. 95dB at 1m		
	Voice signal						
	30 signal sounds						
	31 signal sounds						
	MP3						
	Mounting structure	Self stand	Self stand	Self stand	Self stand		
	Cable entry	1/2″ NPT	1/2″ NPT	1/2″ NPT	1/2″ NPT		
	Protection rating	IP66	IP66	IP56	IP56		
	Usage area	ZONE 1, ZONE 2	ZONE 1, ZONE 2	ZONE 1, ZONE 2	ZONE 1, ZONE 2		
	Certificate	KOSHA	KOSHA	KIMM	KIMM		
	Explosion proof rating	Ex d ⅡC T4 (KOSHA)	Ex d ⅡC T4 (KOSHA)	Ex d ⅡC T6 (KIMM)	Ex d ⅡC T6 (KIMM)		
	Customization	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	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	-	-	-	-		
	Page	P85	P86	P83	P83		

Model number(series)		QMFL-300-Ex-24				
	Voltage	DC24V				
	Power consumption	10W				
Dimension (mm)	Length	290				
	Width	38				
	Height	64				
	Materials	Lens-Tempered glass Housing-Al				
	Lens color	Translucent				
	Light color	Cool daylight				
	Efficacy (lm/W)	260Lux				
	Mounting structure	Mount bracket				
	Protection rating	IP67/ IP69K				
	Certificate	KC(KGS)				
	Explosion proof rating	Ex nR Ⅱ T6				
	Customization					
	Page	P84				

ST45ML-Ex

Non Sparking Explosion Proof LED Tower Lights

Qlight

IP54 | -20~+50℃ | NPN | PNP
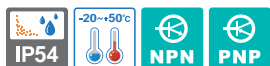
ST45ML-Ex
Standard Model

Non-sparking explosion proof LED tower lights suitable for use in zone 2 hazardous areas

ST45ML-Ex

Gas cabinets used in the semiconductor industry require constant supply of specialty gases and pressure to properly store the devices. Non-sparking explosion proof products (ST45ML-EX) must be used in these conditions.

Common Specifications(ST45ML-Ex/ STB45ML-Ex)

- Non- sparking explosion protected high-intensity LED steady tower lights
- Excellent distance visibility by using a special reflector to arrogate the light from the LED filament
- Reduced maintenance with use of long-lasting LED light source
- Lens and housing are made of polycarbonate with excellent durability, suitable for potentially hazardous and explosive environments
- Can be used for Zone 2 application with explosion proof rating of nR
- ※ Zone2 : Equipment is capable of operating under abnormal high risk environmental conditions for a short duration
- Materials : Lens-PC, Housing-PC, Mounting housing-Al
- Certificates : NEPSI, KCs(KGS)
- Explosion protection rating: Ex nRⅡT4, Ex nRⅡT6(Layer 3 Only)
- Protection rating : IP54
- Ambient operating temperature : -20°C ≤ T$_{amb}$ ≤ +50°C

ST45ML-Ex Non-Sparking Explosion Proof LED Tower Light

Model number	Layer	Voltage	Current	Certificate	Weight	Color
ST45ML-Ex	1	AC/DC12V	0.024A		0.19kg	● R-Red
		AC/DC24V	0.012A		0.19kg	
	2	AC/DC12V	0.048A		0.24kg	● R-Red ● G-Green
		AC/DC24V	0.024A		0.24kg	
	3	AC/DC12V	0.072A	Ex NEPSI	0.29kg	● R-Red ● A-Amber ● G-Green
		AC/DC24V	0.036A	KCs	0.29kg	
	4	AC/DC12V	0.096A		0.32kg	● R-Red ● A-Amber ● G-Green ● B-Blue
		AC/DC24V	0.048A		0.32kg	
	5	AC/DC12V	0.120A		0.36kg	● R-Red ● A-Amber ● G-Green ● B-Blue ○ W-White
		AC/DC24V	0.060A		0.36kg	
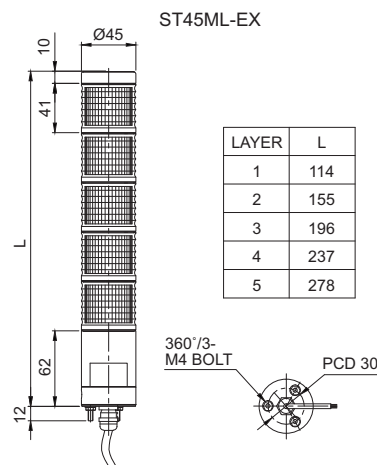
Technical Diagram

(Units : mm)

ST45ML-EX

LAYER	L
1	114
2	155
3	196
4	237
5	278

Ø45
10
41
L
62
12

360°/3-M4 BOLT
PCD 30

STB45ML-Ex

Built-in Buzzer Non-Sparking Explosion Proof Tower Lights

Qlight

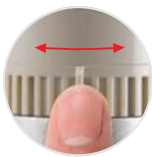IP54 | -20~+50℃ | BUZZER | 80dB | NPN | PNP

STB45ML-Ex
Built-in buzzer type

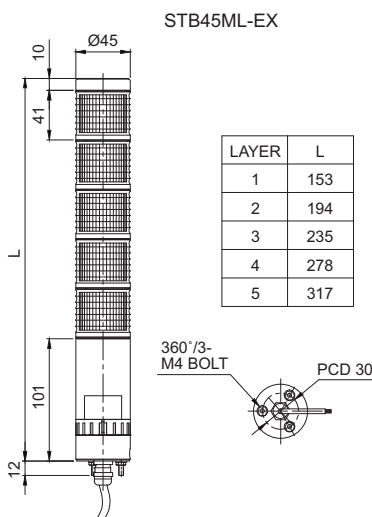Non-sparking explosion proof LED tower lights suitable for use in zone 2 hazardous areas

STB45ML-Ex

Sound volume adjustable by volume control lever
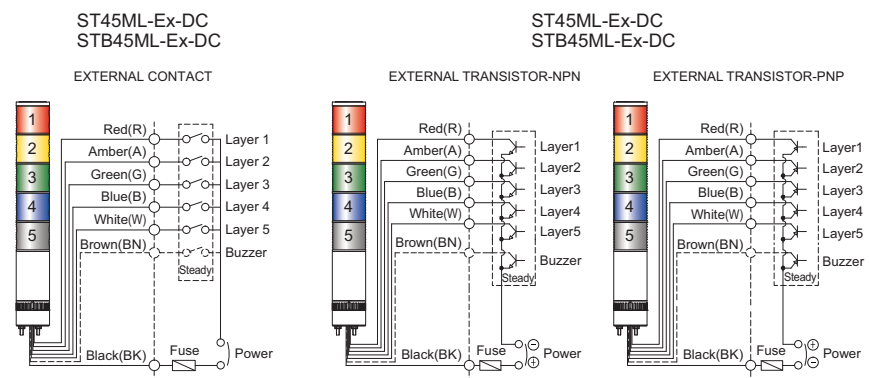
Technical Diagram (Units : mm)

STB45ML-EX

LAYER	L
1	153
2	194
3	235
4	278
5	317

Ø45

10
41

L

101

12

360°/3-M4 BOLT   PCD 30

STB45ML-Ex Built-in Buzzer Non-Sparking Explosion Proof Tower Lights

• Sound volume adjustable by volume control lever
• Sound volume : Max 80dB at 1m

Model number	Layer	Voltage	Current	Certificates	Weight	Color
STB45ML-Ex	1	AC/DC12V	0.040A		0.26kg	● R-Red
		AC/DC24V	0.043A		0.26kg	
	2	AC/DC12V	0.064A		0.30kg	● R-Red ● G-Green
		AC/DC24V	0.055A		0.30kg	
	3	AC/DC12V	0.088A	Ex NEPSI	0.34kg	● R-Red ● A-Amber ● G-Green
		AC/DC24V	0.067A		0.34kg	
	4	AC/DC12V	0.112A	KCs	0.38kg	● R-Red ● A-Amber ● G-Green ● B-Blue
		AC/DC24V	0.079A		0.38kg	
	5	AC/DC12V	0.136A		0.42kg	● R-Red ● A-Amber ● G-Green ● B-Blue ○ W-White
		AC/DC24V	0.091A		0.42kg	

Wiring Instructions

ST45ML-Ex-DC
STB45ML-Ex-DC

EXTERNAL CONTACT

ST45ML-Ex-DC
STB45ML-Ex-DC

EXTERNAL TRANSISTOR-NPN

EXTERNAL TRANSISTOR-PNP

• External power line/ Signal line standard : UL2464 AWG22(0.3sq) 400mm

Ordering Specification

ST45ML-Ex	-	**3**	-	**12**	-	**RAG**
[Model number]		[Layer]		[Voltage]		[Color]

• ST45ML-Ex
• STB45ML-Ex

• 1-1layer
• 2-2layers
• 3-3layers
• 4-4layers
• 5-5layers

• 12-DC12V
• 24-DC24V

● R-Red
● A-Amber
● G-Green
● B-Blue
○ W-White

⚠ Cautions in use of explosion proof tower lights

Contact structure of an explosion proof product must be a qualified part we provide, please do not disassemble, assemble, modify or repair arbitrarily.

QTEX series

Explosion Proof LED Tower Lights Flame Proof Housing

Qlight

IP66 | **-40~+60℃** | **PNP**
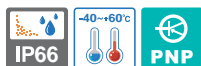
QTEX - Standard model

Explosion proof LED
tower lights with flame proof
housing

QTEX
Direct mount type

QTEX
Wall mount type

Common Specifications(QTEX/ QTEXB)

- Explosion proof LED tower lights with Ex d ⅡC rating can be used in explosive gas environments
- Excellent distance visibility by using a special reflector to aggregate the light from the LED filament
- Ø80 LED tower light mounted inside the flame proof housing
- Aluminum housing provides excellent durability
- Long-lasting high intensity LED light source
- Terminal box located inside the housing for easy power wiring
- Direct mount type and wall mount type available depending on application needs.
- Flashing rate: 60-80 flashes/min
- Selectable between steady/flashing mode with proper wire arrangement
- Sound volume : Max 80dB at 1m(QTEXB Type)
- Lens colors arrangement : ●R-Red ●A-Amber ●G-Green ●B-Blue ●W-White
- Standard housing color : Silver
- Cable entry : 3/4″ NPT
- Materials : Lens-Tempered glass, Filter lens-AS, Housing-Al, Reflector-Heat resistant ABS
- Certificates : IECEx
- Protection rating : Ex d ⅡC T6 Gb, IP66
- Ambient operating temperature : -40°C ≤ T_{amb} ≤ +60°C

QTEX Explosion Proof LED Tower Lights with Flame Proof Housing

Model number	Layer	Voltage	Current	Certificate	Weight	Color
QTEX (Steady/ Flashing)	1	DC12V	0.080A		4.01kg	● R-Red
		DC24V	0.040A		4.01kg	
		AC110V	0.046A		4.02kg	
		AC220V	0.023A		4.02kg	
	2	DC12V	0.160A		4.15kg	● R-Red ● G-Green
		DC24V	0.080A		4.15kg	
		AC110V	0.051A		4.16kg	
		AC220V	0.025A		4.16kg	
	3	DC12V	0.240A	IECEx	4.31kg	● R-Red ● A-Amber ● G-Green
		DC24V	0.120A		4.31kg	
		AC110V	0.057A		4.32kg	
		AC220V	0.028A		4.32kg	
	4	DC12V	0.320A		4.46kg	● R-Red ● A-Amber ● G-Green ● B-Blue
		DC24V	0.160A		4.46kg	
		AC110V	0.064A		4.47kg	
		AC220V	0.032A		4.47kg	
	5	DC12V	0.400A		4.61kg	● R-Red ● A-Amber ● G-Green ● B-Blue ● W-White
		DC24V	0.200A		4.61kg	
		AC110V	0.071A		4.62kg	
		AC220V	0.035A		4.62kg	

Hazardous Area Classification

● **Zone 0 : Dangerous status**
Ignitable concentrations of flammable gases or vapors which are present continuously or for long periods of time.

● **Zone 1 : Normal status**
Ignitable concentrations of flammable gases or vapors which are likely to occur under normal operating conditions.

● **Zone 2 : Abnormal status or places**
Ignitable concentrations of flammable gases or vapors which are not likely to occur under normal operating conditions and do so only for a short period of time.

QTEX series

Explosion Proof LED Tower Lights with Flame Proof Housing

| IP66 | -40~+60℃ | BUZZER | 80dB | PNP |

QTEXB - Built-in buzzer type


QTEXB
Direct mount type

QTEXB
Wall mount type

🔔 QTEXB Built-in Siren Buzzer Type Explosion Proof LED Tower Lights with Flame Proof Housing

• Explosion proof LED tower lights with visual & audible signal that can be used in hazardous environments
• Sound tone & volume : Siren buzzer, Max 80dB at 1m

Model number	Layer	Voltage	Current	Certificate	Weight	Color
QTEXB (Steady/ Flashing)	1	DC12V	0.100A		4.11kg	● R-Red
		DC24V	0.050A		4.11kg	
		AC110V	0.073A		4.12kg	
		AC220V	0.053A		4.12kg	
	2	DC12V	0180A		4.25kg	● R-Red ● G-Green
		DC24V	0.090A		4.25kg	
		AC110V	0.078A		4.26kg	
		AC220V	0.055A		4.26kg	
	3	DC12V	0.260A	IECEx	4.41kg	● R-Red ● A-Amber ● G-Green
		DC24V	0.130A		4.41kg	
		AC110V	0.084A		4.42kg	
		AC220V	0.058A		4.42kg	
	4	DC12V	0.340A		4.56kg	● R-Red ● A-Amber ● G-Green ● B-Blue
		DC24V	0.170A		4.56kg	
		AC110V	0.091A		4.57kg	
		AC220V	0.062A		4.57kg	
	5	DC12V	0.420A		4.71kg	● R-Red ● A-Amber ● G-Green ● B-Blue ○ W-White
		DC24V	0.210A		4.71kg	
		AC110V	0.098A		4.72kg	
		AC220V	0.065A		4.72kg	

Explosion proof structure for buzzer model

Siren Buzzer
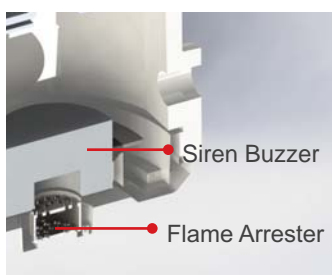
Flame Arrester

What is a Flame Arrester?

A flame arrester(also called a deflagration arrester) functions by absorbing the heat from a flame front traveling at sub-sonic velocities, thus dropping the burning gas/air mixture below its auto-ignition temperature: consequently, the flame cannot survive. The heat is absorbed through channels (passages) designed into an element.

📝 Customization

• Built-in explosion proof cable gland
• Two way cable entries

🖱 Ordering Specification

QTEX	-	3	-	12	-	RAG
[Model number]		[Layer]		[Voltage]		[Color]

• QTEX
• QTEXB

• 1-1layer
• 2-2layers
• 3-3layers
• 4-4layers
• 5-5layers

• 12-DC12V
• 24-DC24V
• 110-AC110V
• 220-AC220V

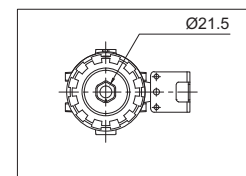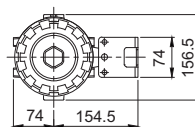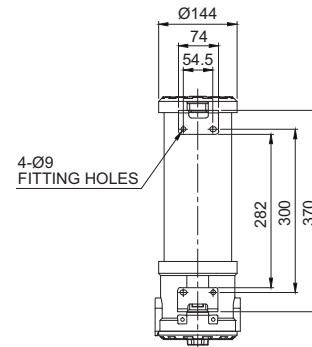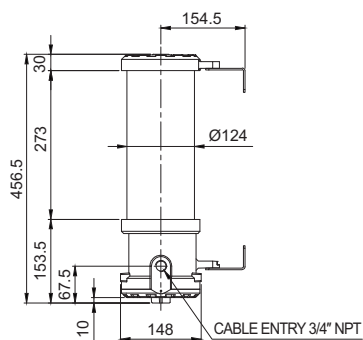● R-Red
● A-Amber
● G-Green
● B-Blue
○ W-White

QTEX series

Explosion Proof LED Tower Lights with Flame Proof Housing

Qlight

Technical Diagram

(Units : mm)

108
30
273
471.5
168.5
82.5
15
Ø124
CABLE ENTRY 3/4″ NPT

Ø144
156.5

4-Ø9 FITTING HOLES
54.5
74
156.5
218
236

Ø21.5

154.5
30
273
456.5
153.5
67.5
10
148
Ø124
CABLE ENTRY 3/4″ NPT

74
156.5
74
154.5

Ø144
74
54.5
4-Ø9 FITTING HOLES
282
300
370

Ø21.5
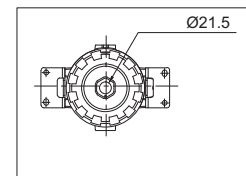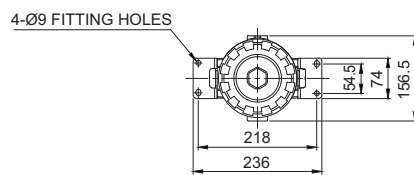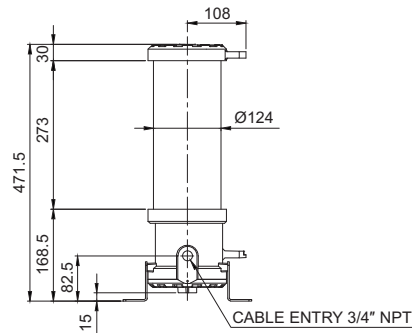
⚠ **Cautions in using explosion proof tower lights**

• Explosion proof products should be maintained by explosion proof regulation, please do not disassemble, assemble, modify or repair arbitrarily. In case disassembly is required for wiring or repair, structures such as the contact parts should maintain the same initial condition that we provided.

• Cable gland must be used in explosion proof certified products which satisfy the T6 temperature rating and IP66 protection rating.

QTEX series

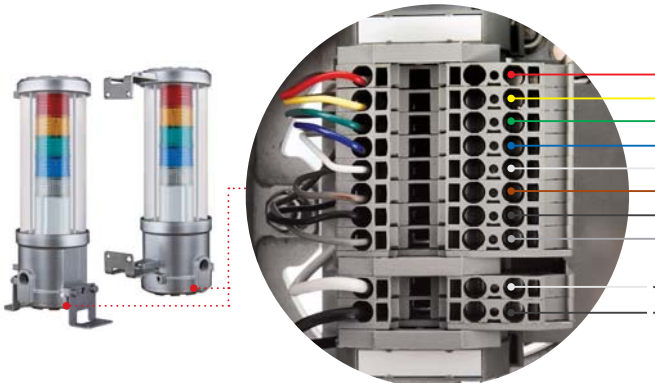Explosion Proof LED Tower Lights with Flame Proof Housing

Wiring Instructions

• QTEX/ QTEXB wiring with transistors and external contacts
• In case of wiring with transistors, please use PNP transistors and wiring exactly following below technical diagram

External contacts type	Transistor type
 DC steady/ flashing type QTEX/ QTEXB-DC	 QTEX/ QTEXB-DC
 AC steady/ flashing type QTEX/ QTEXB-AC	 QTEX/ QTEXB-AC
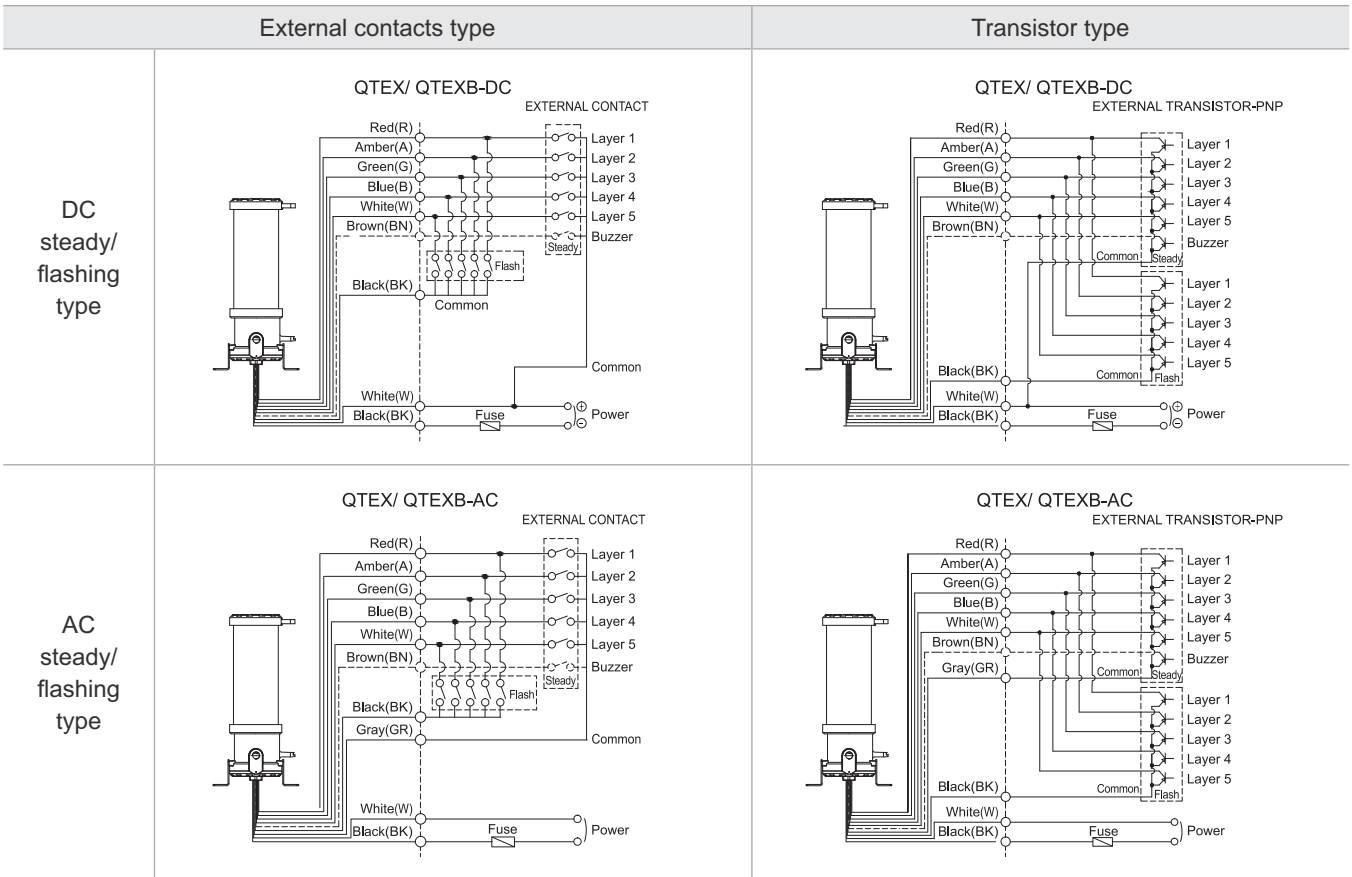
Terminal Wiring Information

1Layer(RED LED)
2Layers(AMBER LED)
3Layers(GREEN LED)
4Layers(BLUE LED)
5Layers(WHITE LED)
Buzzer
Flashing common
Steady common

Power

QTEX series consists of a blocked terminal which is convenient for internal wiring of the terminal box.
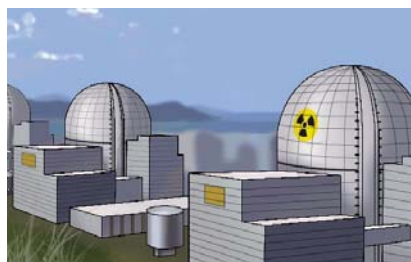Please refer to technical diagram for detailed Wiring Instructions.

SNE series

Ø130mm Explosion Proof Warning/ Signal Lights

Qlight

IP66 -40→60℃

SNELR

SNEL

ℹ Common Specifications(SNELR/ SNEL/ SNE-S/ SNE)

• Light weight and compact explosion proof warning lights with a variety of light source selections from bulb, LED, and xenon lamp
• Aluminum housing provides excellent durability
• Fully enclosed structure with protection rating of IP66
• Integrated housing and terminal box model
• Housing standard color : MUNSELL No. 7.5BG 7/2
• Cable entry : 1/2″ NPT
• Materials : Lens-Tempered glass, Inner lens-PC, Housing-Al, Protection cage-STS 316L, Reflector for LED type-PC/ Reflector for bulb type-Heat resistant ABS
• Certificates : IECEx, ATEX, NEPSI, KIMM, KOSHA, CCS
• Protection rating :
   IECEx - Ex d ⅡC T6 Gb, IP66
   ATEX - ⟨Ex⟩Ⅱ 2G Ex d ⅡC T6, IP66
   NEPSI, KIMM, KOSHA - Ex d ⅡC T6, IP66
• Ambient operating temperature : -40°C ≤ T$_{amb}$ ≤ +60°C

🔔 SNELR LED Revolving Warning Light

• Features high visibility in all directions with special concentrated LED light structure and multi side reflector
• Revolving speed : 120-140RPM

Model number	Voltage	Current	Certificates	Weight	Color
SNELR	DC12V	0.183A	IECEx ATEX Ex/NEPSI KOSHA CCS	3.15kg	● R-Red ● A-Amber ● G-Green ● B-Blue
	DC24V	0.127A		3.15kg	
	AC110V	0.035A		3.85kg	
	AC220V	0.017A		3.85kg	

🔆 SNEL LED Steady/ Flashing Signal Light

• Long-lasting high intensity LED light source
• Suitable for applications where bulb replacement is hard
• Built in switch for steady/flashing selection
• Flashing rate : 60-80 flashes/min

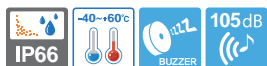| Model number	Voltage	Current	Certificates	Weight	Color
SNEL	DC12V	0.123A	IECEx ATEX Ex/NEPSI KIMM KOSHA CCS	3.65kg	● R-Red ● A-Amber ● G-Green ● B-Blue
	DC24V	0.094A		3.65kg	
	AC110V	0.035A		4.30kg	
	AC220V	0.017A		4.30kg	

📝 Customization

• Explosion proof cable gland attached type available (Standard type does not provide explosion proof cable gland)
• Customized 2 way cable entries
• Customized cable entry (M20×1.5) available
• ATEX certified type
• IECEx certified type

Flameproof warning/ indicator lights are applied in an areas where potentially explosive materials may linger. For example, from a pipe or duct in a coolant generator system in a nuclear power plant in the image above.

SNE series

Ø130mm Explosion Proof Warning/ Signal Lights

IP66 **-40~+60℃**

SNE-S

SNE

SNE-S Xenon Lamp Strobe Signal Light

- Lamp connector fastening structure allows for convenient lamp replacement
- Excellent long-distance visibility with strong flashing signal diffusion
- Flashing rate : 60-80 flashes/min

Model number	Voltage	Current	Bulb			Certificates	Weight	Color
			Spec	Standard	Parts no			
SNE-S	DC12V	0.433A	200V -550V	EUB0641 -1A(G) U Type	48	IECEx ATEX ExNEPSI KIMM KOSHA CCS	3.60kg	● R-Red ● A-Amber ● G-Green ● B-Blue
	DC24V	0.216A					3.60kg	
	AC110V	0.076A					4.25kg	
	AC220V	0.081A					4.25kg	

SNE Bulb Revolving Warning Light

- Excellent signal light diffusion effect with multi-faced reflector
- Revolving speed : 120-140RPM

Model number	Voltage	Current	Bulb			Certificates	Weight	Color
			Spec	Standard	Parts no			
SNE	DC12V	1.155A	12V15W	G23 15S	17	IECEx ATEX ExNEPSI KIMM KOSHA CCS	3.25kg	● R-Red ● A-Amber ● G-Green ● B-Blue
	DC24V	0.766A	24V15W	G23 15S	18		3.25kg	
	AC110V	0.204A	12V15W	G23 15S	17		3.95kg	
	AC220V	0.102A	12V15W	G23 15S	17		3.95kg	

Technical Diagram

(Units : mm)

SNELR/ SNEL/ SNE-S/ SNE

182.5

238

100

37

71

CABLE ENTRY
1/2" NPT

Ø152

Ø79

106.5

114

78

114

4-Ø8 FITTING HOLES

Ordering Specification

SNE	-	**220**	-	**R**

[Model number]
- SNELR
- SNEL
- SNE-S
- SNE

[Voltage]
- 12-DC12V
- 24-DC24V
- 110-AC110V
- 220-AC220V

[Color]
- ● R-Red
- ● A-Amber
- ● G-Green
- ● B-Blue

SNES series

Ø130mm Explosion Proof Warning/ Signal Lights with Siren Buzzer

IP66 | **-40~+60℃** | **BUZZER** | **105dB**

Siren buzzer sound output of Max 105dB

SNESLR

SNESL

Flameproof warning/ signal lights applied in an areas where potentially explosive materials may linger as shown in the refinery image above.

Common Specifications(SNESLR/ SNESL/ SNES-S/ SNES)

- Light weight and compact explosion proof warning lights with a siren buzzer
- A variety of light source selections from bulb, LED, and xenon lamp
- Aluminum housing provides excellent durability
- Fully enclosed structure with protection rating of IP66
- Integrated housing and terminal box model
- Sound type and sound volume : Siren buzzer- Max 105dB at 1m/ 7 sounds buzzer, Max 95dB at 1m
- User selected built-in buzzer with 7 sound patterns available upon request
- Housing standard color : MUNSELL No. 7.5BG 7/2
- Cable entry : 1/2″ NPT
- Materials : Lens-Tempered glass, Inner lens-PC, housing-Al, Protection cage-STS 316L, Reflector for LED type-PC/ Reflector for bulb type-Heat resistant ABS
- Certificates : IECEx, ATEX, NEPSI, KIMM, KOSHA, CCS
- Protection rating :
  IECEx - Ex d ⅡC T6 Gb, IP66
  ATEX - ⟨Ex⟩Ⅱ2G Ex d ⅡC T6, IP66
  KOSHA - Ex d ⅡB+H2 T6
  NEPSI, KIMM - Ex d ⅡC T6, IP66
- Ambient operating temperature : -40°C ≤ T_{amb} ≤ +60°C

SNESLR LED Revolving Warning Light with Siren Buzzer

- Excellent omni-directional visibility with LED light collecting system and special multifaceted reflector
- Revolving speed : 120-140RPM

Model number	Voltage	Current	Sound pattern/ dB	Certificates	Weight	Color
SNESLR	DC12V	0.485A	• Warning sound(Buzzer) : 105dB • 7 sounds(Buzzer): 95dB	IECEx, ATEX, Ex NEPSI, KOSHA, CCS	3.60kg	• R-Red • A-Amber • G-Green • B-Blue
	DC24V	0.411A			3.60kg	
	AC110V	0.111A			4.30kg	
	AC220V	0.055A			4.30kg	

SNESL LED Steady/ Flashing Signal Light with Siren Buzzer

- Long-lasting high intensity LED light source
- Suitable for applications where bulb replacement is hard
- Built in switch for steady/flashing selection
- Flashing rate : 60-80 flashes/min

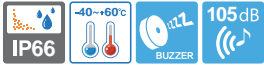| Model number	Voltage	Current	Sound pattern/ dB	Certificates	Weight	Color
SNESL	DC12V	0.432A	• Warning sound(Buzzer) : 105dB • 7 sounds(Buzzer): 95dB	IECEx, ATEX, Ex NEPSI, KIMM, KOSHA, CCS	3.65kg	• R-Red • A-Amber • G-Green • B-Blue
	DC24V	0.377A			3.65kg	
	AC110V	0.111A			4.30kg	
	AC220V	0.055A			4.30kg	

Customization

- Explosion proof cable gland attached type available (Standard type does not come with explosion proof cable gland)
- Customized 2 way cable entries
- Customized cable entry (M20×1.5) available
- ATEX certified type
- IECEx certified type
- Customized built-in buzzer type with 7 sound patterns available

IP66 | -40~+60℃ | BUZZER | 105dB

Siren buzzer sound output of Max 105dB

SNES-S

SNES

Flameproof warning/ signal lights applied in dust explosion areas such as coal dust shown in thermoelectric power plant image above.

SNES-S Xenon Strobe Signal Light with Siren Buzzer

• Lamp connector fastening structure allows for convenient lamp replacement
• Excellent long-distance visibility with strong flashing signal diffusion
• Flashing rate : 60-80 flashes/min

Model number	Voltage	Current	Bulb			Sound pattern/dB	Certificates	Weight	Color
			Spec	Standard	Parts no				
SNES-S	DC12V	0.655A	200V -550V	EUB0641 -1A(G) U Type	48	• Warning sounds(Buzzer) : 105dB • 7 sounds(Buzzer) : 95dB	IECEx ATEX Ex NEPSI KIMM KOSHA CCS	3.60kg	• R-Red • A-Amber • G-Green • B-Blue
	DC24V	0.500A						3.60kg	
	AC110V	0.104A						4.25kg	
	AC220V	0.066A						4.25kg	

SNES Bulb Revolving Warning Light

• Excellent signal light diffusion effect with multi-faced reflector
• Revolving speed : 120-140RPM

Model number	Voltage	Current	Bulb			Sound pattern/dB	Certificates	Weight	Color
			Spec	Standard	Parts no				
SNES	DC12V	1.766A	12V15W	G23 15S	17	• Warning sounds(Buzzer) : 105dB • 7 sounds(Buzzer) : 95dB	IECEx ATEX Ex NEPSI KIMM KOSHA CCS	3.70kg	• R-Red • A-Amber • G-Green • B-Blue
	DC24V	1.044A	24V15W	G23 15S	18			3.70kg	
	AC110V	0.288A	12V15W	G23 15S	17			4.40kg	
	AC220V	0.144A	12V15W	G23 15S	17			4.40kg	

Technical Diagram

(Units : mm)

SNESLR/ SNESL/ SNES-S/ SNES

Ø152

182.5

238

100

49

37

Ø79

CABLE ENTRY 1/2" NPT

106.5

107

114

114

4-Ø8 FITTING HOLES

Ordering Specification

SNES	-	220	-	R
[Model number]		[Voltage]		[Color]
• SNESLR • SNESL • SNES-S • SNES		• 12-DC12V • 24-DC24V • 110-AC110V • 220-AC220V		• R-Red • A-Amber • G-Green • B-Blue

SE series

Brass Housing Explosion Proof Warning/ Signal Lights
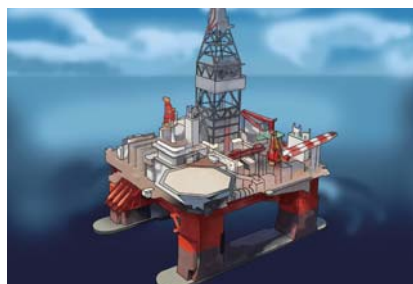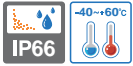
Qlight

IP66 -40~+60℃

The brass housing product with excellent corrosion resistance

SELR

SEL

Flameproof warning/ signal lights applied in Oil/ Natural Gas offshore rigs where explosions can be ignited by mining, production, and storage as shown in the offshore rig image above.

Common Specifications(SELR/ SEL/ SE-S/ SE)

• Brass housing explosion proof warning lights with excellent corrosion resistant
• A variety of light source selections from bulb, LED, and xenon lamp
• Fully enclosed structure with protection rating of IP66
• Integrated housing and terminal box model
• Housing standard color : MUNSELL No. 7.5BG 7/2
• Cable entry : 1/2″ NPT
• Materials : Lens-Tempered glass, Inner lens-PC, Housing-Al, Protection cage-STS 316L, Reflector for LED type-PC/ Reflector for bulb type-Heat resistant ABS
• Certificates : KIMM, ABS
• Protection rating :
  KIMM-Ex d ⅡC T6, IP66
• Ambient operating temperature : -40°C ≤ T_{amb} ≤ +60°C

SELR LED Revolving Warning Light

• Excellent omni-directional visibility with LED light collecting system and special multifaceted reflector
• Revolving speed : 120-140RPM

Model number	Voltage	Current	Certificate	Weight	Color
SELR	DC12V	0.183A	KIMM ABS	13.35kg	● R-Red ● A-Amber ● G-Green ● B-Blue
	DC24V	0.127A		13.35kg	
	AC110V	0.035A		13.91kg	
	AC220V	0.017A		13.91kg	

SEL LED Steady/ Flashing Signal Light

• Long-lasting high intensity LED light source
• Suitable for applications where bulb replacement is hard
• Built in switch for steady/flashing selection
• Flashing rate : 60-80 flashes/min

Model number	Voltage	Current	Certificate	Weight	Color
SEL	DC12V	0.123A	KIMM ABS	13.29kg	● R-Red ● A-Amber ● G-Green ● B-Blue
	DC24V	0.094A		13.29kg	
	AC110V	0.035A		14.26kg	
	AC220V	0.017A		14.26kg	

Customization

• Explosion proof cable gland attached type available (Standard type does not provide explosion proof cable gland)
• Customized 2 way cable entries
• Customized cable entry (3/4″ NPT, M20×1.5) available

Brass Housing Explosion Proof Warning/ Signal Lights

Qlight

IP66 -40~+60℃

SE-S Xenon Strobe Signal Light

- Lamp connector fastening structure allows for convenient lamp replacement
- Excellent long-distance visibility with strong strobe signal diffusion
- Flashing rate : 60-80 flashes/min

Model number	Voltage	Current	Bulb			Certificates	Weight	Color
			Spec	Standard	Parts no			
SE-S	DC12V	0.433A	200V -550V	EUB0641 -1A(G) U Type	48	KIMM ABS	13.53kg	● R-Red ● A-Amber ● G-Green ● B-Blue
	DC24V	0.216A					13.53kg	
	AC110V	0.076A					13.51kg	
	AC220V	0.061A					13.51kg	

SE-S

SE Bulb Revolving Warning Light

- Excellent signal light diffusion effect with multi-faced reflector
- Revolving speed : 120-140RPM

Model number	Voltage	Current	Bulb			Certificates	Weight	Color
			Spec	Standard	Parts no			
SE	DC12V	1.155A	12V15W	G23 15S	17	KIMM ABS	13.35kg	● R-Red ● A-Amber ● G-Green ● B-Blue
	DC24V	0.766A	24V15W	G23 15S	18		13.35kg	
	AC110V	0.204A	12V15W	G23 15S	17		13.91kg	
	AC220V	0.102A	12V15W	G23 15S	17		13.91kg	

SE

Technical Diagram

(Units : mm)

SELR/ SEL/ SE-S/ SE

Ø155 Ø155
267 110 56 101
Ø189
113
CABLE ENTRY 1/2" NPT
113 135 135 143
4-Ø10 FITTING HOLES

Ordering Specification

SE	-	220	-	R
[Model number]		[Voltage]		[Color]

- SELR
- SEL
- SE-S
- SE

- 12-DC12V
- 24-DC24V
- 110-AC110V
- 220-AC220V

- ● R-Red
- ● A-Amber
- ● G-Green
- ● B-Blue

SEA series

Ø150mm Explosion Proof Warning/ Signal Lights

Qlight

IP66 -40~+60℃
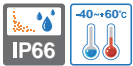
SEALR

SEAL

Flameproof warning/ signal lights applied in areas where combustible substances such as oil are carried in bulk on a vessel.

Common Specifications(SEALR/ SEAL/ SEAS/ SEA)

• Large explosion proof warning/ signal lights with excellent visibility for long distance
• A variety of light source selections from bulb, LED, and xenon lamp
• Aluminum housing provides excellent durability
• Fully enclosed structure with protection rating of IP66
• Integrated housing and terminal box model
• Housing standard color : MUNSELL No. 7.5BG 7/2
• Cable entry : 1/2″ NPT
• Materials : Lens-Tempered glass, Inner lens-PC, Housing-Al, Protection cage-STS 316L, Reflector for LED type-PC/ Reflector for bulb type-Heat resistant ABS
• Certificates : IECEx, ATEX, NEPSI, KIMM, KOSHA, ABS, CCS, KR
• Explosive protection rating :
   IECEx - Ex d ⅡC T6 Gb, IP66
   ATEX - Ⓔx Ⅱ2G Ex d ⅡC T6, IP66
   NEPSI, KIMM, KOSHA - Ex d ⅡC T6, IP66
• Ambient operating temperature : -40°C ≤ T$_{amb}$ ≤ +60°C

SEALR LED Revolving Warning Light

• Excellent omni-directional visibility with LED light collecting system and special multifaceted reflector
• Revolving speed : 120-140RPM

Model number	Voltage	Current	Certificates	Weight	Color
SEALR	DC12V	0.183A	IECEx ATEX Ex NEPSI KIMM KOSHA ABS CCS KR	5.33kg	● R-Red ● A-Amber ● G-Green ● B-Blue
	DC24V	0.127A		5.33kg	
	AC110V	0.035A		5.74kg	
	AC220V	0.017A		5.74kg	

SEAL LED Steady/ Flashing Signal Light

• Long-lasting high intensity LED light source
• Suitable for applications where bulb replacement is difficult
• Built in switch for steady/flashing selection
• Flashing rate : 60-80 flashes/min

Model number	Voltage	Current	Certificates	Weight	Color
SEAL	DC12V	0.182A	IECEx ATEX Ex NEPSI KIMM KOSHA ABS CCS KR	4.87kg	● R-Red ● A-Amber ● G-Green ● B-Blue
	DC24V	0.163A		4.87kg	
	AC110V	0.044A		5.25kg	
	AC220V	0.022A		5.25kg	

Customization

• Explosion proof cable gland attached type available (Standard type does not come with explosion proof cable gland)
• Customized 2 way cable entries
• Customized cable entry (3/4″ NPT, M20×1.5, M25×1.5) available
• ATEX certified type
• IECEx certified type

SEA series

Ø150mm Explosion Proof Warning/ Signal Lights

IP66 | **-40~+60℃**

SEAS Xenon Lamp Strobe Signal Light

• Lamp connector fastening structure allows for convenient lamp replacement
• High efficiency strobe light offers excellent visibility for long distances
• Flashing rate : 60-80 flashes/min

Model number	Voltage	Current	Bulb			Certificates	Weight	Color
			Spec	Standard	Parts no			
SEAS	DC12V	1.001A	200V -550V	EUB0641 -1A(G) U Type	48	IECEx ATEX Ex NEPSI KIMM KOSHA ABS CCS KR	5.39kg	● R-Red ● A-Amber ● G-Green ● B-Blue
	DC24V	0.616A					5.39kg	
	AC110V	0.133A					5.35kg	
	AC220V	0.106A					5.35kg	

SEAS

SEA Bulb Revolving Warning Light

• Excellent diffusion effect with special multifaceted reflector
• Revolving speed : 120-140RPM

Model number	Voltage	Current	Bulb			Certificates	Weight	Color
			Spec	Standard	Parts no			
SEA	DC12V	1.155A	12V15W	G23 15S	17	IECEx ATEX Ex NEPSI KIMM KOSHA ABS CCS KR	5.36kg	● R-Red ● A-Amber ● G-Green ● B-Blue
	DC24V	0.766A	24V15W	G23 15S	18		5.36kg	
	AC110V	0.204A	12V15W	G23 15S	17		5.75kg	
	AC220V	0.102A	12V15W	G23 15S	17		5.75kg	

SEA

Technical Diagram   (Units : mm)

SEALR/ SEAL/ SEAS/ SEA

Ø167
287
141
85
10
172
32
CABLE ENTRY 1/2″ NPT

4-Ø8.5 FITTING HOLES
154
134
134
154

Ordering Specification

SEA	-	220	-	R
[Model number]		[Voltage]		[Color]

• SEALR
• SEAL
• SEAS
• SEA

• 12-DC12V
• 24-DC24V
• 110-AC110V
• 220-AC220V

● R-Red
● A-Amber
● G-Green
● B-Blue

SESA series

Explosion Proof Warning/ Signal Light and Max 118dB Electric Horn Combinations

IP66 | -40→+60°C | HORN | 118dB | NPN

Explosion proof warning light and electric horn combinations with sound output of Max 118dB

SESALR

SESAL

SESAS

Common Specifications(SESALR/ SESAL/ SESAS/ SESA)

• Large explosion proof warning light and electric horn combinations
• A variety of light sources and sound selections to fit your sophisticated application needs
• Aluminum housing provides excellent durability
• Fully enclosed structure with protection rating of IP66
• Integrated housing and terminal box model
• Sound volume : Max 118dB at 1m(Volume adjustable)
• Standard housing color : MUNSELL No. 7.5BG 7/2
• Cable entry : 1/2″ NPT
• Materials : Lens-Tempered glass, Filter-PC, Housing-Al, Protection cage-SUS316L, Reflector for LED type-PC/Reflector for bulb type-Heat resistant ABS
• Certificates : IECEx, ATEX, NEPSI, KIMM, KOSHA, ABS, CCS, KR
• Protection rating :
  IECEx - Ex d ⅡC T6 Gb, IP66
  ATEX - ⟨Ex⟩ Ⅱ2G Ex d ⅡC T6, IP66
  NEPSI, KIMM, KOSHA - Ex d ⅡC T6, IP66
• Ambient operating temperature : -40°C ≤ T_{amb} ≤ +60°C

SESALR LED Revolving Warning Light and Electric Horn Combination

• Excellent omni-directional visibility with LED light collecting system and special multifaceted reflector
• Revolving speed : 120-140RPM

Model number	Voltage	Current	Sound pattern and volume	Certificates	Weight	Color
SESALR	DC12V	2.633A	• WS-5 Warning sounds : 118dB • WP-5 Special warning sounds : 118dB • WM-5 Melodies : 118dB • WA-5 Alarms : 115dB • WV-5 Customizable voices : 113dB	IECEx ATEX Ex NEPSI KIMM KOSHA ABS CCS KR	8.31kg	● R-Red ● A-Amber ● G-Green ● B-Blue
	DC24V	1.288A			8.31kg	
	AC110V	0.308A			7.92kg	
	AC220V	0.154A			7.92kg	

SESAL LED Steady/ Flashing Signal Light and Electric Horn Combination

• Long product lifetime with the application of a high intensity LED light source
• Suitable for locations where bulb replacement is inconvenient
• Built in switch for steady/flashing selection
• Flashing rate : 60-80 flashes/min

Model number	Voltage	Current	Sound pattern and volume	Certificates	Weight	Color
SESAL	DC12V	2.511A	• WS-5 Warning sounds : 118dB • WP-5 Special warning sounds : 118dB • WM-5 Melodies : 118dB • WA-5 Alarms : 115dB • WV-5 Customizable voices : 113dB	IECEx ATEX Ex NEPSI KIMM KOSHA ABS CCS KR	8.42kg	● R-Red ● A-Amber ● G-Green ● B-Blue
	DC24V	1.222A			8.42kg	
	AC110V	0.286A			9.02kg	
	AC220V	0.143A			9.02kg	

SESAS Xenon Lamp Strobe Signal Light and Electric Horn Combination

• Lamp connector fastening structure allows for convenient lamp replacement
• High efficiency strobe light offers excellent visibility for long distances
• Flashing rate : 60-80 flashes/min

Model number	Voltage	Current	Bulb Spec	Bulb Standard	Bulb Parts no	Sound pattern and volume	Certificates	Weight	Color
SESAS	DC12V	2.933A	200V -550V	EUB0641 -1A(G) U Type	48	• WS-5 Warning sounds :118dB • WP -5 Special warning sounds :118dB • WM-5 Melodies : 118dB • WA-5 Alarms : 115dB • WV -5 Customizable voices : 113dB	IECEx ATEX Ex NEPSI KIMM KOSHA ABS CCS KR	8.45kg	● R-Red ● A-Amber ● G-Green ● B-Blue
	DC24V	1.411A						8.45kg	
	AC110V	0.360A						8.86kg	
	AC220V	0.220A						8.86kg	

SESA series

Explosion Proof Warning/ Signal Light and Max 118dB Electric Horn Combinations

Qlight

IP66 | -40~+60°C | HORN | 118dB | NPN

SESA Bulb Revolving Warning Light and Electric Horn Combinations
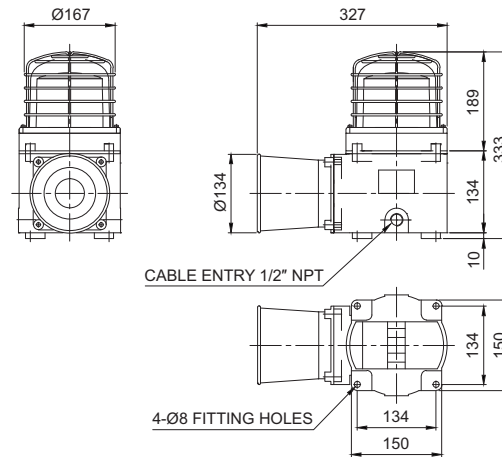
- Excellent diffusion effect with special multifaceted reflector
- Revolving speed : 120-140RPM

Model number	Voltage	Current	Bulb			Sound pattern and volume	Certificates	Weight	Color
			Spec	Standard	Parts no				
SESA	DC12V	3.755A	12V15W	G23 15S	17	• WS-5 Warning sounds :118dB • WP -5 Special warning sounds :118dB • WM-5 Melodies : 118dB • WA-5 Alarms : 115dB • WV -5 Customizable voices : 113dB	IECEx ATEX Ex NEPSI KIMM KOSHA ABS CCS KR	8.57kg	● R-Red ● A-Amber ● G-Green ● B-Blue
	DC24V	1.788A	24V15W	G23 15S	18			8.57kg	
	AC110V	0.422A	12V15W	G23 15S	17			9.27kg	
	AC220V	0.211A	12V15W	G23 15S	17			9.27kg	

SESA

Technical Diagram

(Units : mm)

SESALR/ SESAL/ SESAS/ SESA

Ø167
327
189
333
Ø134
134
10
CABLE ENTRY 1/2″ NPT
134
150
4-Ø8 FITTING HOLES
134
150

Sound Selection Instructions and Wiring

- Standard type : Select sound using the switch inside of the unit. When you turn on the dip switch for each channel, designated sound is played.

- Customization : External contact(LC)
  Customization of signal line threading can be choice between external contact and transistor which can be fit for control unit.
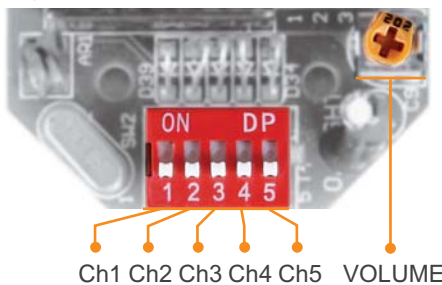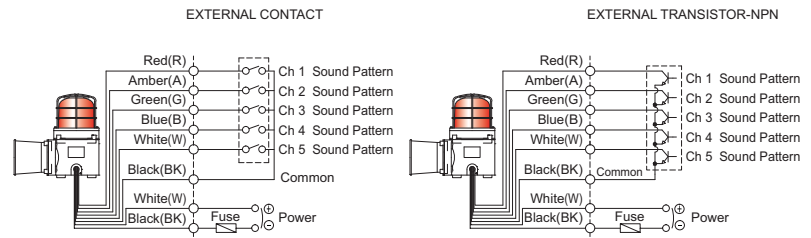
ON DP
1 2 3 4 5

Ch1 Ch2 Ch3 Ch4 Ch5 VOLUME

SESA SERIES-DC/AC

EXTERNAL CONTACT

Red(R) — Ch 1 Sound Pattern
Amber(A) — Ch 2 Sound Pattern
Green(G) — Ch 3 Sound Pattern
Blue(B) — Ch 4 Sound Pattern
White(W) — Ch 5 Sound Pattern
Black(BK) — Common
White(W)
Black(BK) — Fuse — Power

EXTERNAL TRANSISTOR-NPN

Red(R) — Ch 1 Sound Pattern
Amber(A) — Ch 2 Sound Pattern
Green(G) — Ch 3 Sound Pattern
Blue(B) — Ch 4 Sound Pattern
White(W) — Ch 5 Sound Pattern
Black(BK) — Common
White(W)
Black(BK) — Fuse — Power

Customization

- Built-in explosion proof cable gland type
- 2 way cable entries
- Customized cable entry (3/4″ NPT, M20×1.5, M25×1.5) available
- ATEX compliant products
- IECEx compliant products

Ordering Specification

SESAS	-	WS	-	220	-	R

[Model number]
- SESALR
- SESAL
- SESAS
- SESA

[Sound]
- WS-Warning sounds
- WP-Special warning sounds
- WM-Melodies
- WA-Alarms
- WV-Customizable sounds

[Voltage]
- 12-DC12V
- 24-DC24V
- 110-AC110V
- 220-AC220V

[Color]
- ● R-Red
- ● A-Amber
- ● G-Green
- ● B-Blue

SEBA series

Explosion Proof Warning/ Signal Lights and Alarm Bell Combinations

Qlight

IP55 | -40→+60°c | BELL | 95dB
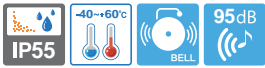
SEBA

SEBAL/ SEBAS **SEBALR**

Customization

• Built-in explosion proof cable gland type explosion proof gland cable are not equipped on standard model
• 2 way cable entries
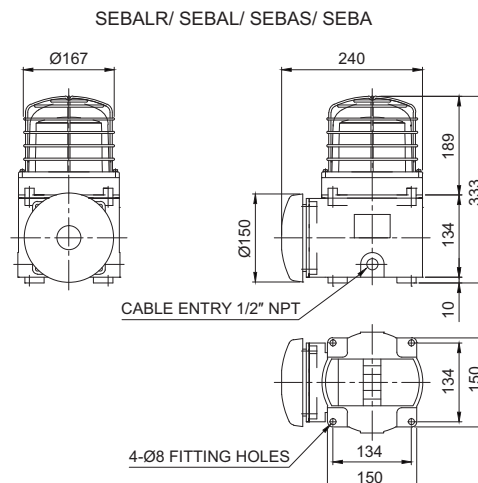• Customized cable entry (3/4″ NPT, M20×1.5, M25×1.5) available

Ordering Specification

SEBA	-	220	-	R

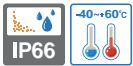| [Model number]	[Voltage]	[Color]
• SEBALR	• 12-DC12V	● R-Red
• SEBAL	• 24-DC24V	● A-Amber
• SEBAS	• 110-AC110V	● G-Green
• SEBA	• 220-AC220V	● B-Blue

Common Specifications(SEBALR/ SEBAL/ SEBAS/ SEBA)

• Large explosion proof warning/ signal light and alarm bell combinations
• Standard housing color : MUNSELL No. 7.5BG 7/2
• Cable entry : 1/2″ NPT
• Materials : Lens-Tempered glass, Filter-PC, housing-Al, Protection cage-SUS316L, Reflector-PC/ Reflector for bulb type-Heat resistant ABS
• Certificates : KIMM, ABS, KR
• Protection rating : Ex d ⅡC T6, IP55
• Ambient operating temperature : -40°C ≤ T$_{amb}$ ≤ +60°C

SEBALR LED Revolving Warning Light and Alarm Bell

• Revolving speed : 120-140RPM

Model number	Voltage	Current	Volume	Certificates	Weight	Color
SEBALR	DC12V	0.230A	95dB	KIMM ABS KR	7.20kg	● R-Red
	DC24V	0.172A			7.20kg	● A-Amber
	AC110V	0.122A			7.92kg	● G-Green
	AC220V	0.061A			7.92kg	● B-Blue

SEBAL LED Steady/ Flashing Signal Light and Alarm Bell

• Flashing rate : 60-80 flashes/min(Built in switch for steady/flashing selection)

Model number	Voltage	Current	Volume	Certificates	Weight	Color
SEBAL	DC12V	0.232A	95dB	KIMM ABS KR	7. 25kg	● R-Red
	DC24V	0.213A			7.25kg	● A-Amber
	AC110V	0.131A			7.99kg	● G-Green
	AC220V	0.065A			7.99kg	● B-Blue

SEBAS Xenon Strobe signal Light and Alarm Bell

• Lamp connector fastening structure allows for convenient lamp replacement
• Flashing rate : 60-80 flashes/min

Model number	Voltage	Current	Bulb Spec	Bulb Standard	Parts no	Volume	Certificates	Weight	Color
SEBAS	DC12V	1.051A	200V -550V	EUB0641 -1A(G) U Type	48	95dB	KIMM ABS KR	7.24kg	● R-Red
	DC24V	0.666A						7.24kg	● A-Amber
	AC110V	0.222A						7.67kg	● G-Green
	AC220V	0.150A						7.67kg	● B-Blue

SEBA Bulb Revolving Warning Light and Alarm Bell

• Revolving speed : 120-140RPM

Model number	Voltage	Current	Bulb Spec	Bulb Standard	Parts no	Volume	Certificates	Weight	Color
SEBA	DC12V	1.591A	12V15W	G23 15S	17	95dB	KIMM ABS KR	7.37kg	● R-Red
	DC24V	0.811A	24V15W	G23 15S	18			7.37kg	● A-Amber
	AC110V	0.291A	12V15W	G23 15S	17			8.06kg	● G-Green
	AC220V	0.145A	12V15W	G23 15S	17			8.06kg	● B-Blue

Technical Diagram
(Units : mm)

SEBALR/ SEBAL/ SEBAS/ SEBA

Ø167
240
189
333
Ø150
134
10
CABLE ENTRY 1/2″ NPT
134
150
134
150
4-Ø8 FITTING HOLES

SSEL

Explosion Proof LED Perimeter Light

IP66 -40~+60℃

SSEL

SSEL Model applied in helideck

🔔 SSEL Explosion Proof LED Perimeter Light

• Suitable for helideck and other dangerous areas that require a perimeter light
• Structure minimizing the projection of lens, can be protected from damage by external impact
• Product structure with 100mm height meets the IMD regulation condition
• Aluminum housing provides excellent durability
• Terminal for power wiring located inside of the housing
  Signal colors : ●R-Red ●A-Amber ●G-Green ●B-Blue
• Standard housing color : MUNSELL No. 7.5BG 7/2
• Cable entry : 1/2″ NPT
• Materials : Lens-Tempered glass, Housing–Al
• Certificates : KIMM, ABS
• Protection rating : Ex d ⅡC T6, IP66
• Ambient operating temperature : -40°C ≤ T$_{amb}$ ≤ +60°C

💡 Specifications

Model number	Voltage	Current	Certificates	Weight	Color
SSEL	DC12V	0.466A	KIMM	2.54kg	● R-Red
	DC24V	0.255A		2.54kg	● A-Amber
	AC110V	0.040A	ABS	2.54kg	● G-Green
	AC220V	0.040A		2.54kg	● B-Blue

📐 Technical Diagram （Units : mm）

SSEL

154
134
4-Ø8.5 FITTING HOLES
154
134

CABLE ENTRY 1/2″ NPT

15
80
5
172

📝 Customization

• Explosion proof cable gland attached type available (Standard type does not provide explosion proof cable gland)
• Customized 2 way cable entries
• Customized cable entry(3/4″ NPT, M20×1.5, M25×1.5) available

🖱 Ordering Specification

SSEL	-	220	-	R
[Model number]		[Voltage]		[Color]
• SSEL		• 12-DC12V		● R-Red
		• 24-DC24V		● A-Amber
		• 110-AC110V		● G-Green
		• 220-AC220V		● B-Blue

SPNA

Explosion Proof Electric Horn

Qlight

IP66 | -40~+60°C | HORN | 118dB | NPN

SPNA

SPNA Max 118dB Explosion Proof Electric Horn

- Explosion proof electric horn
- Various sound tones can be selected ; warning sound, alarm, melody
- Aluminum housing provides excellent durability
- Equipped terminal box for power line wiring in housing
- Sound volume : Max 118dB at 1m(Volume adjustable)
- Standard housing color : MUNSELL No. 7.5BG 7/2
- Cable entry : 1/2″ NPT
- Materials : Housing-Al, Protection cage-SUS316L
- Certificates : IECEx, ATEX, NEPSI, KIMM, KOSHA, ABS, CCS, KR
- Protection rating :
  IECEx - Ex d ⅡC T6 Gb, IP66
  ATEX - Ⅱ2G Ex d ⅡC T6, IP66
  NEPSI, KIMM, KOSHA - Ex d ⅡC T6, IP66
- Ambient operating temperature : -40°C ≤ T_{amb} ≤ +60°C

Sound Selection Instructions and Wiring

- Standard type : Select using the switch inside of the unit.
  When you turn on the dip switch for each channel, designated sound is being played.

ON   DP
1 2 3 4 5

Ch1 Ch2 Ch3 Ch4 Ch5 VOLUME
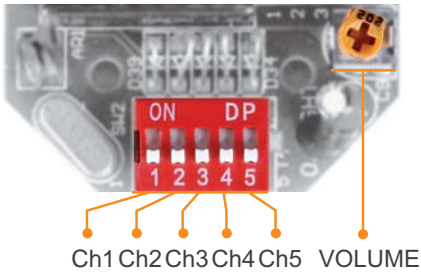
- Customization : External contact(LC)
- In case of select sound between external contact and transistors, sound line is threading as customization when product released(LC).

SPNA-DC/AC

EXTERNAL CONTACT

Red(R)   Ch 1 Sound Pattern
Amber(A)   Ch 2 Sound Pattern
Green(G)   Ch 3 Sound Pattern
Blue(B)   Ch 4 Sound Pattern
White(W)   Ch 5 Sound Pattern

Black(BK)   Common

White(W)
Black(BK) Fuse Power

SPNA-DC/AC

EXTERNAL TRANSISTOR-NPN

Red(R)   Ch 1 Sound Pattern
Amber(A)   Ch 2 Sound Pattern
Green(G)   Ch 3 Sound Pattern
Blue(B)   Ch 4 Sound Pattern
White(W)   Ch 5 Sound Pattern

Black(BK) Common

White(W)
Black(BK) Fuse Power

Specifications

Model number	Voltage	Current	Sound Pattern and Volume	Certificate	Weight
SPNA	DC12V	2.211A	• WS-5 Warning sounds : 118dB • WP-5 Special warning sounds : 118dB • WM-5 Melodies : 118dB • WA-5 Alarms : 115dB • WV-5 Customizable voices : 113dB	IECEx, ATEX, NEPSI, KIMM, KOSHA, ABS, CCS, KR	6.09kg
	DC24V	1.022A			6.09kg
	AC110V	0.226A			6.44kg
	AC220V	0.113A			6.44kg

※ Please refer to Page 90 for detailed information about selectable sound patterns.

Technical Diagram

(Units : mm)

SPNA

172

327

Ø134

127

31

CABLE ENTRY 1/2″ NPT

4-Ø8 FITTING HOLES

134

150

134

150
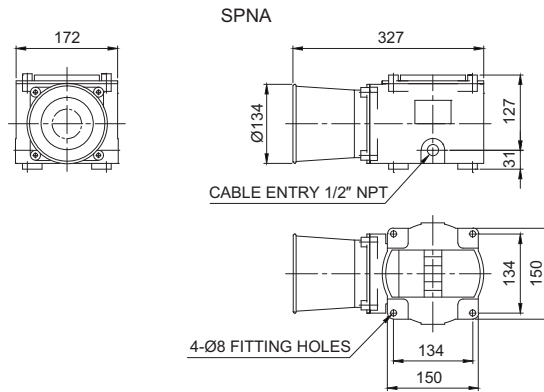
Customization

- Built-in explosion proof cable gland type
- 2 way cable entries
- Customized cable entry (3/4″ NPT, M20×1.5, M25×1.5) available
- ATEX compliant products
- IECEx compliant products

Ordering Specification

SPNA	-	WM	-	220	-	LC
[Model number]		[Sound]		[Voltage]		[Sound selection]

- SPNA

- WS-Warning sounds
- WP-Special warning sounds
- WM-Melodies
- WA-Alarms
- WV-Customizable sounds

- 12-DC12V
- 24-DC24V
- 110-AC110V
- 220-AC220V

- Standard
  -Built-in switch
- LC
  -External contact

SBE series

Explosion Proof Alarm Bell

IP56 | **-40~+60℃** | **BELL** | **95dB**
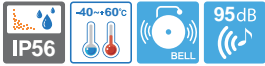
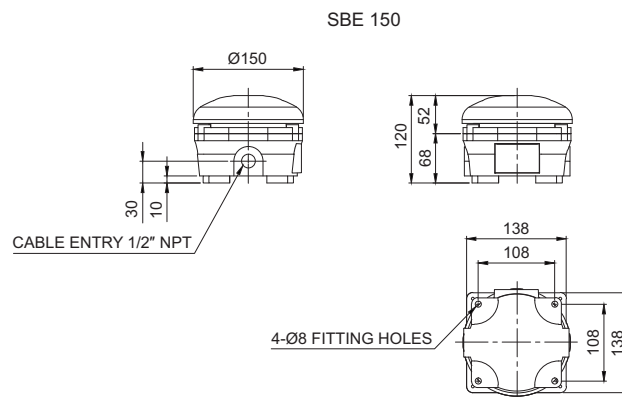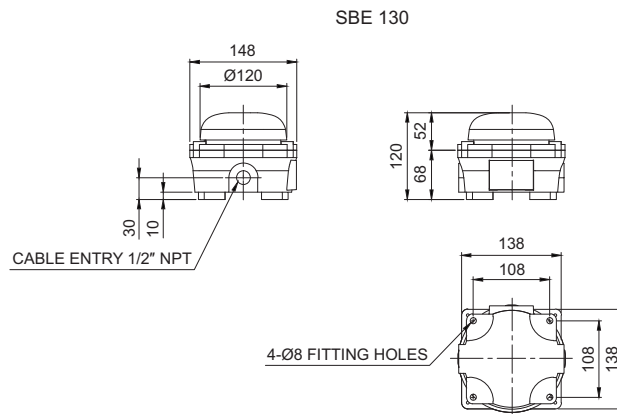## SBE130/ SBE150 Max 95dB Explosion Proof Alarm Bell

- Explosion proof alarm bell for audible signal in dangerous area
- Adopts special solenoid bell structure, suitable in vessels which encounter serious vibration and impact or outdoor plants application
- Fully enclosed structure with protection rating of IP56
- Sound volume : Max 95dB at 1m
- Standard housing color : MUNSELL No. 7.5BG 7/2
- Cable entry : 1/2″ NPT
- Materials : Housing-Al, Bell-Al
- Certificates : KIMM
- Protection rating: Ex d ⅡC T6, IP56
- Ambient operating temperature : -40°C ≤ T_{amb} ≤ +60°C

SBE130

SBE150

Specifications

Model number	Frequency	Volume	Bell diameter	Voltage	Current	Certificate	Weight
SBE130	400Hz	95dB	120mm	DC24V	0.044A	KIMM	2.27kg
SBE150	600Hz		150mm	AC110V	0.044A		2.52kg
				AC220V	0.022A		

Technical Diagram (Units : mm)

SBE 130

148
Ø120
120
52
68
30
10
CABLE ENTRY 1/2″ NPT
138
108
108
138
4-Ø8 FITTING HOLES

SBE 150

Ø150
120
52
68
30
10
CABLE ENTRY 1/2″ NPT
138
108
108
138
4-Ø8 FITTING HOLES

Customization

- Built-in explosion proof cable gland type
- 2 way cable entries
- Customized cable entry (3/4″ NPT, M20×1.5, M25×1.5) available

Ordering Specification

SBE130	-	220
[Model number]		[Voltage]

- SBE130
- SBE150

- 24-DC24V
- 110-AC110V
- 220-AC220V

QMFL-300-Ex-24

Non Sparking LED work light

Qlight

IP67 IP69K -40~+60°C

QMFL-300-Ex-24 Non Sparking LED work light

- Water, vibration and oil resistant LED work lights with non sparking ex-proof feature
- Special epoxy sealed structure provides excellent oil resistance
- Aluminum housing and tempered glass improves durability and stability in hazardous areas(Explosive zone)
- Can be used for Zone 2 application with explosion proof rating of nR
- Materials : Housing-Al, Side cover-Al, Lens-Tempered glass, Bracket-SPC1
- Certificates : KC(KGS)
- Protection rating: Ex nR Ⅱ T6, IP67/ IP69K
- Ambient operating temperature : -40°C ≤ T_{amb} ≤ +60°C

Specifications

Optics Specifications

Model	QMFL-300-Ex-24
Lens color	Translucent
Light color	Cool daylight
Color temperature	6,000-7,000K
Luminous flux	DC	510lm
Efficacy (lm/W)	DC	260Lux

Specifications

Voltage	DC24V
Rage of operation voltage	DC21.5V-26.5V
Current	0.410A
Power consumption	10W
Insulation resistance	Min. 100MΩ(500V DC mega ohm meter)
Withstanding voltage	DC : 500V AC, 60Hz, 1 minute
Operating temperature	-40°C - +60°C
Waterproof	IP67/ IP69K
Materials	Housing : Al, Side cover: Al, Lens: Tempered glass, Bracket: SPC-1
Certificates	[Ⓒs]
Weight(approx.)	0.79kg

Technical Diagram

(Units : mm)

QMFL300-Ex-24

4-Ø7 HOLES
310
38 20 62

10
7
FITTING HOLES

EXPLOSION PROOF
CABLE ENTRY M12
290
236
28
41

53.5

120°
SIDE VIEW

※ POWER CABLE : Dura & Flex−F VU(0.5sq×2C) 450mm
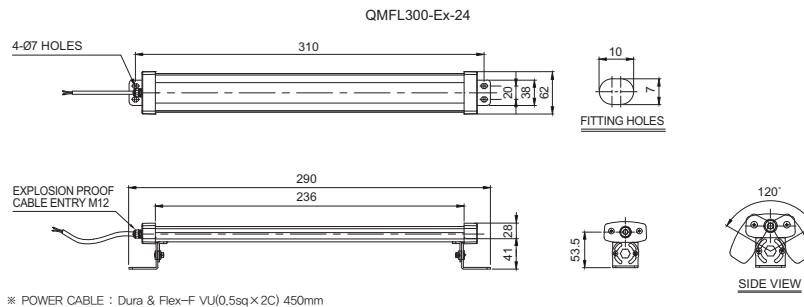
Ordering Specification

QMFL	–	300	–	Ex	–	24
[Model number]		[Length]		[Ex-proof]		[Voltage]
• QMFL : Anti glare type		• 300 : 290mm		• Ex : Non sparking ex-proof type		• 24-DC24V

⚠ Cautions in use of explosion proof LED work lights
- Contact structure of an explosion proof product must be a qualified part we provide. Please do not disassemble, assemble, modify or repair arbitrarily.

IP66 · -40~+60℃

QEAL1 Explosion Proof Low Intensity LED Aviation Obstruction Light

- Low Intensity B type explosion proof aviation obstruction light
- Features high visibility from a distance with the direct LED light distribution system
- Cost savings enabled by using a long lasting LED light source which eliminates the need for maintenance
- Aluminum housing provides excellent durability
- Terminals located inside the housing for wiring
- Protection rating : Ex d ⅡC T4, IP66

QEAL1

ICAO standard	Low intensity B type		
Light source	High intensity light emitting diodes(LED)		
Light color	Red		
Light function	Steady		
Voltage	DC12V, DC24V, AC110V, AC220V		
Power consumption	30W		
Standard housing color	Red	Cable entry	1/2″ NPT
Materials	Lens-Tempered glass, Housing-Al, Lens ring- SUS316L, Protection cage-SUS316L, Heat sink-Al		
Protection rating	IP66	Ambient operating temperature	-40°C ≤ T$_{amb}$ ≤ +60°C
Certificate	KC(KOSHA)	Luminous intensity	50cd ±25%

Technical Diagram
（Units : mm）

QEAL1

182.5 · 238 · 100 · 37 · 71 · CABLE ENTRY 1/2″ NPT · Ø152 · Ø79

106.5 · 114 · 78 · 4-Ø8 FITTING HOLES · 114

Customization

- Built-in explosion proof cable gland available(Standard type does not provide explosion proof cable gland)
- Customized 2 cable entries available
- Customized cable entry(M20×1.5) available
- Built-in darkness detecting sensor available

Ordering Specification

QEAL1	-	220	-	R
[Model number]		[Voltage]		[Color]
• QEAL1		• 12-DC12V • 24-DC24V • 110-AC110V • 220-AC220V		● R-Red

Explosion proof aviation obstruction lights are installed within hazardous areas on a surface that is more than 60m from the water surface or land such as towers and smokestacks.

QEAL2

Explosion Proof Medium Intensity LED Aviation Obstruction Light

Qlight

IP66 **-40→+60℃**
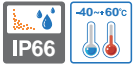
QEAL2 Explosion Proof Medium Intensity LED Aviation Obstruction Light

- Explosion proof medium intensity A and B type aviation obstruction light
- LED light distribution structure that directly radiates light to the user for excellent visibility
- Using semi-permanent lifetime of the LED light source decreases the light source replacement cost
- Excellent durability by adopting aluminum housing
- Built-in terminal for power line inside of housing
- Protection rating : Ex d ⅡC T4, IP66

ICAO standard	Medium intensity A and B type		
Light source	High intensity light emitting diodes(LED)		
Light color	Red, White		
Light function	Flashing		
Flashing rate	20-60 flashes/min		
Voltage	DC12V, DC24V, AC110V, AC220V		
Power consumption	130W		
Standard housing color	Red	Cable entry	1/2″ NPT
Materials	Lens-Tempered glass, Housing-Al, Protection cage-SUS316L, Heat sink-Al		
Protection rating	IP66	Ambient operating temperature	-40°C ≤ T_{amb} ≤ +60°C
Certificates	KC(KOSHA) compliant	Luminous intensity	2,000cd ± 25%

QEAL2

Technical Diagram   (Units : mm)

QEAL2

Ø167
287
141
85
10
172
32
CABLE ENTRY 1/2″ NPT
154
134
4-Ø8.5 FITTING HOLES
134
154

Customization

- Explosion proof cable gland attached type available (Standard type does not come with explosion proof cable gland)
- Customized 2 way cable entries
- Customized cable entry (3/4″ NPT, M20×1.5, M25×1.5) available
- Built-in darkness detecting sensor available

Ordering Specification

QEAL2	-	A	-	24
[Model number]		[Type]		[Voltage]

- QEAL2

- A-Medium intensity A Type : White, Flashing
- B-Medium intensity B Type : Red, Flashing

- 12-DC12V
- 24-DC24V
- 110-AC110V
- 220-AC220V

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.
(Chinese Standard-GB3836/GB12476)

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.

CCC China Compulsory Certificate

Qlight has obtained CCC which guarantees safety, protection against fraud, environment, etc.

ICAO International Civil Aviation Organization

Qlight guarantees our products satisfy the criteria regulated by the International Civil Aviation Organization(ICAO, FAA).

E-mark Commission Directive Regarding Vehicle Industry

Qlight has obtained EU mark for approved vehicles and vehicle components sold into the EU(EEA : European Economic Area)

RoHS Restriction of Hazardous Substances Directive

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

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

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
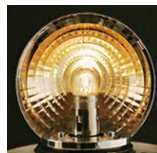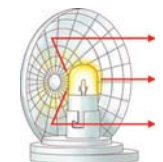
Bulb Revolving Type

• 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
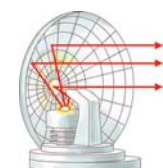
LED Revolving Type

• 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
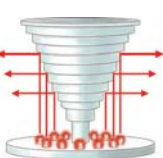
LED Steady/ Flashing Type

• 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
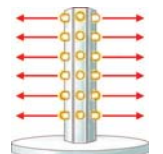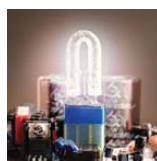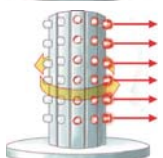
LED Strobe-Type

• By shortening the LED flashing period and supplying the maximum current to the LED, It produces a flash effect just like the xenon lamp
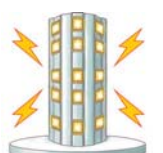
LED Simulated Revolving Type

• 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

Pre-recorded Sound Tone and Sound Combination Chart

Qlight

■ 20 pre-recorded sound tones for standard type products

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

• Standard sound combination for WS/ WP type products

ON = 1 / OFF = 0

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

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

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

• Standard sound combination for WM/ WA type products

ON = 1 / OFF = 0

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

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

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

# Pre-recorded Sound Tone and Sound Combination Chart

■ Sound tone combinations for standard type products

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

	Sound Category	Channel	Sound Tone	Sound Combination #
WS	5 warning sounds	Ch1 Ch2 Ch3 Ch4 Ch5	Fire.A-ANG Emergency WA-U(Yelp) Ambulance PI-PO(Hi-low) Machinery Fault High Expansion	WS/ WP No.1
WP	5 special warning sounds	Ch1 Ch2 Ch3 Ch4 Ch5	Fire.A-ANG Abandon Alarm Machinery Fault High Expansion 7 Short PI. / 1 Long	WS/ WP No.2
WM	5 melodies	Ch1 Ch2 Ch3 Ch4 Ch5	Sweet Home For Elise Cuckoo's Waltz Piano Sonata Turkish March	WM/ WA No.1
WA	5 alarms	Ch1 Ch2 Ch3 Ch4 Ch5	Beep Intermittent Door Chime Phone Ring PI.PI.PI Short Tripping Beat	WM/ WA No.2
WV	5 customizable sound	Ch1 Ch2 Ch3 Ch4 Ch5	1. Voice messages are pre-recorded and provided from factory upon user's request 2. Each channel has recording space for 16 sec 3. 5 channels available 4. When only one channel is used, maximum recordable space is 80 sec	-

※ Please refer to page 90 for detailed information about selectable sound patterns.

■ **Sound Selection of Signal Sounds**

Ch1 Ch2 Ch3 Ch4 Ch5   VOLUME
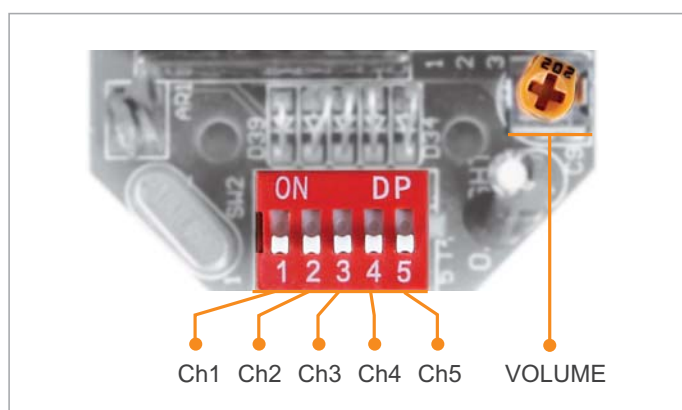
Standard specification : Use internal switches
Turn on dip switches of each channel, designated sound will be played.

Special Alarm Type Feature

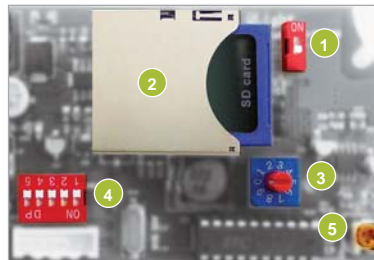## ■ How to set-up the special alarm type products

- A special alarm type products are classified into two models; basic model with special alarm and SDcard (MP3) model.
- The 2 models have 31 built-in sounds, which can be chosen and played by binary input method.
- When storing MP3 files on the SDcard (MP3) type models, you can select and play up to 31 sounds by using the binary input method. The bit input method can play 5 sound from #1 to #5, depending on the specifications given in the file name(For file specifications refer to Page 96.)
- Includes eight play mode settings. For example, when the continuous playback setting/ function is selected the warning message is played continuously for conditions that require frequent playback.

■ Built-in sound type model
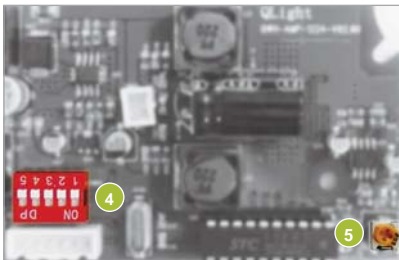
1 - 2 N/A
4 Sound select switch
5 Volume

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

■ SDcard type model

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

■ SDcard(MP3) type product feature

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

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

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

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

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

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

Sound Pattern and Combination for Special Alarm Type

■ Sound pattern for special alarm type

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

• Composition of binary input mode

ON = 1 / OFF = 0 Ch1	Ch2	Ch3	Ch4	Ch5	Left channel switch allows for choosing 31 sound tones. Channel switch will be substituted for an 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	Rel rel rel	730Hz-920Hz
2	0	0	0	1	0	Slow Ambulance PI-PO	820Hz-1.05kHz
3	0	0	0	1	1	Oit Oit warning sound	360Hz-1.56kHz
4	0	0	1	0	0	Emergency WA-U(Yelp)	770Hz-1.2kHz
5	0	0	1	0	1	Pi- buzzer	770Hz
6	0	0	1	1	0	7 Short PI. / 1 Long	715Hz
7	0	0	1	1	1	Pi o Pi o	940Hz-2.19kHz
8	0	1	0	0	0	Phone Ring	740Hz-910Hz
9	0	1	0	0	1	Pi- buzzer	600Hz
10	0	1	0	1	0	Pi pi pi short	420Hz
11	0	1	0	1	1	Di o Di o 2 tones buzzer	600Hz-1.14kHz
12	0	1	1	0	0	Oit Oit warning sound	500Hz-1.11kHz
13	0	1	1	0	1	Slow Ambulance PI-PO	380Hz-470Hz
14	0	1	1	1	0	Slow Di o Di o	680Hz-840Hz
15	0	1	1	1	1	Fast Li o li o	380Hz-470Hz
16	1	0	0	0	0	Fire.A-ANG	770Hz-1.11kHz
17	1	0	0	0	1	Fast Ambulance PI-PO	680Hz-840Hz
18	1	0	0	1	0	Slow Ambulance PI-PO	650Hz-840Hz
19	1	0	0	1	1	Ri ro ri ro warning sound	420Hz-470Hz
20	1	0	1	0	0	Repeat Di-o 3 times	680Hz-840Hz
21	1	0	1	0	1	Fire.A-ANG	500Hz-1kHz
22	1	0	1	1	0	Ambulance PI-PO	680Hz-840Hz
23	1	0	1	1	1	Slow Fire.A-ANG	480Hz-1.14kHz
24	1	1	0	0	0	Pi-pi- buzzer low frequency	690Hz
25	1	1	0	0	1	Pi-pi- buzzer high frequency	950Hz
26	1	1	0	1	0	Di-di- buzzer high frequency	800Hz
27	1	1	0	1	1	Di-di- buzzer low frequency	500Hz
28	1	1	1	0	0	Rising Po-ong	500Hz-1.2kHz
29	1	1	1	0	1	Fast Ambulance PI-PO	825Hz-1.07kHz
30	1	1	1	1	0	Rising frequency	150Hz-1kHz
31	1	1	1	1	1	Repeat A-ANG	1.4kHz-1.56kHz

# Multifunctional Type Feature

Qlight

■ 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

1 Sound
setting switch

2 MP3 playable
SDcard

3 Play mode
setting switch

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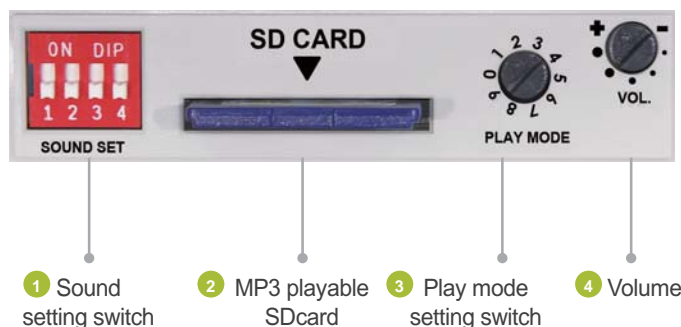
1 Sound setting switch
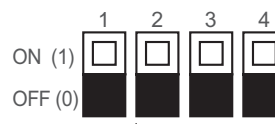
Group Choice in Bit Input Mode
001 : WS (5 Warning sounds)
010 : WP (5 special warning sounds 1st Group)
011 : WM (5 Melodies)
100 : WA (5 Alarms)
101 : WO (5 special warning sounds 2nd Group)
110 : WN (5 special warning sounds 3rd Group)

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

Ch1 Ch2 Ch3 Ch4 Ch5
ON
OFF

Left channel switch allows to select 5 tons individually within designated group.
(For group selection, please refer to page 94 "How to set-up the multifunctional products")
Channel switch will be substituted for external wiring in case of LC type products.

Sound		Ch	Sound Tone
WS	5 Warning Sounds	Ch1	Fire.A-ANG(560Hz-1.5kHz)
		Ch2	Emergency WA-U(Yelp)(600Hz-1.5kHz)
		Ch3	Ambulance PI-PO(Hi-low)(450Hz-900Hz)
		Ch4	Machinery Fault(820Hz)
		Ch5	High Expansion(1kHz)
WP	5 Special Warning Sounds (1st Group)	Ch1	Fire.A-ANG(560Hz-1.5kHz)
		Ch2	Abandon Alarm(820Hz)
		Ch3	Machinery Fault(820Hz)
		Ch4	High Expansion(1kHz)
		Ch5	7 Short PI. / 1 Long(1kHz)
WM	5 Melodies	Ch1	Sweet Home
		Ch2	For Elise
		Ch3	Cuckoo's Waltz
		Ch4	Piano Sonata
		Ch5	Turkish March

Sound		Ch	Sound Tone
WA	5 Alarms	Ch1	Beep Intermittent
		Ch2	Door Chime
		Ch3	Phone Ring
		Ch4	PI.PI.PI Short
		Ch5	Tripping Beat
WO	5 Special Warning Sounds (2nd Group)	Ch1	Rel rel rel(730Hz-920Hz)
		Ch2	Slow Ambulance PI-PO(820Hz-1.05kHz)
		Ch3	Wye yong Wye yong(770Hz-1.2kHz)
		Ch4	Phone ring 2(740Hz-910Hz)
		Ch5	Fire.A-ANG(770Hz-1.11kHz)
WN	5 Special Warning Sounds (3rd Group)	Ch1	Oit Oit(500Hz-1.11kHz)
		Ch2	Pi o Pi o(940Hz-2.19kHz)
		Ch3	Slow Di o Di o(680Hz-840Hz)
		Ch4	Li long Li ling(420Hz-470Hz)
		Ch5	911 Siren(500Hz-1kHz)

• Binary input mode's sound tone combinations

ON = 1 / OFF = 0

Ch1 Ch2 Ch3 Ch4 Ch5
ON
OFF

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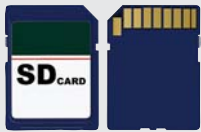
SD memory card is a compact flash memory card for storing various data such as MP3s or document files, Models with MP3 features can save voice messages or alarm messages in the SDcard.

※ 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(31)
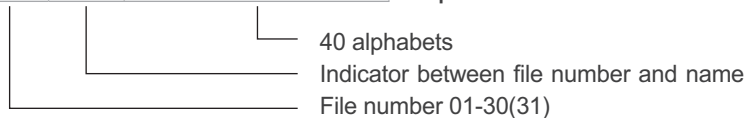
[Example]
♪ 01_Fire alarm.mp3
♪ 02_Emergency alarm.mp3
♪ 03_For Elise.mp3
⋮
♪ 30_Cuckoo Waltz.mp3

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.
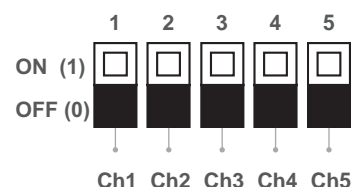
■ Binary input

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.
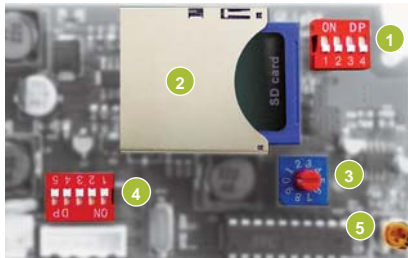
■ Bit input

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.
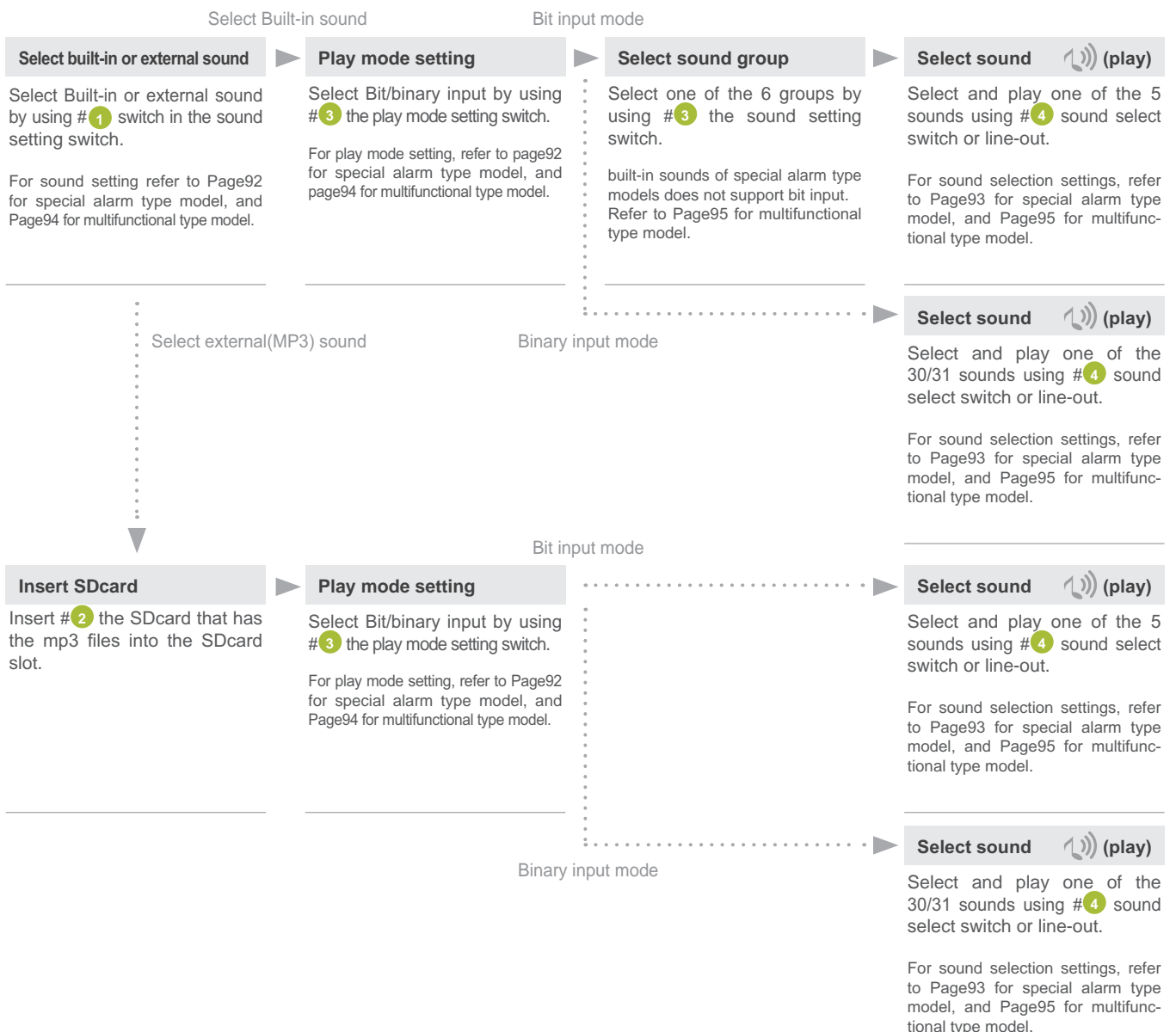- Can choose and play 5 sounds from #1 to #5.

<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

Select Built-in or external sound by using #**1** switch in the sound setting switch.

For sound setting refer to Page92 for special alarm type model, and Page94 for multifunctional type model.

Play mode setting

Select Bit/binary input by using #**3** the play mode setting switch.

For play mode setting, refer to page92 for special alarm type model, and page94 for multifunctional type model.

Select sound group

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 Page95 for multifunctional type model.

Select sound (play)

Select and play one of the 5 sounds using #**4** sound select switch or line-out.

For sound selection settings, refer to Page93 for special alarm type model, and Page95 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.

For sound selection settings, refer to Page93 for special alarm type model, and Page95 for multifunctional type model.

Bit input mode

Insert SDcard

Insert #**2** the SDcard that has the mp3 files into the SDcard slot.

Play mode setting

Select Bit/binary input by using #**3** the play mode setting switch.

For play mode setting, refer to Page92 for special alarm type model, and Page94 for multifunctional type model.

Select sound (play)

Select and play one of the 5 sounds using #**4** sound select switch or line-out.

For sound selection settings, refer to Page93 for special alarm type model, and Page95 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.

For sound selection settings, refer to Page93 for special alarm type model, and Page95 for multifunctional type model.

Icon Description

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

Light Source and Operating Mode Icons

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

Acoustic Signal Icons

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

Specifications Icons

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

Detail Icons

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

Qlight Catalogue Introduction

Qlight produces a wide variety of product categories which offers the customer the ability to select the suitable device for their application needs and environments.
There are warning/signal lights, electric signal horns, signal tower lights, warning light bars, PC control tower lights, industrial LED lights, aviation obstruction lights, and limit switches.
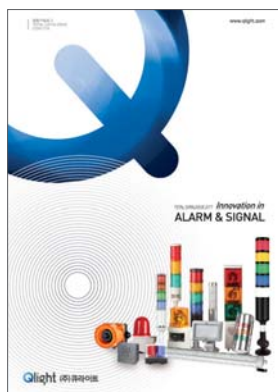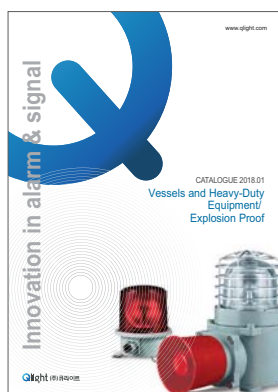

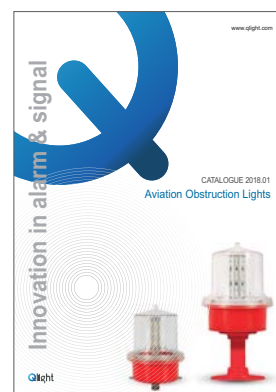Total Catalogue
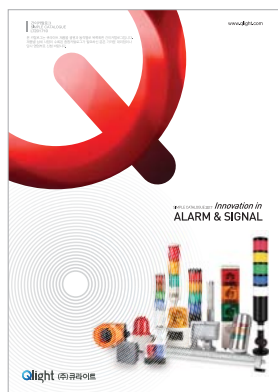
Simple Catalogue
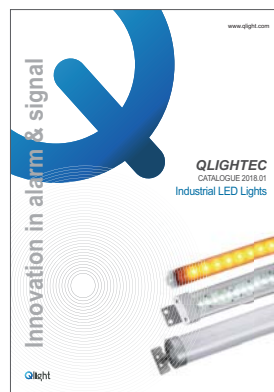
Industrial LED Lights

Signal Tower Lights

Warning/ Signal/ Signal & Electric Horn

Vessels and Heavy-Duty Equipment/ Explosion Proof

Warning Light Bar

Aviation Obstruction Lights

Wireless Network System
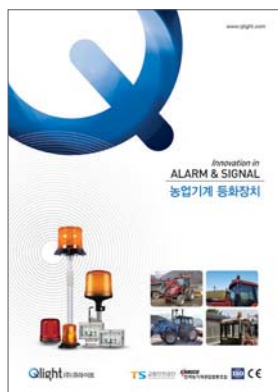
Agriculture Machine Warning Light
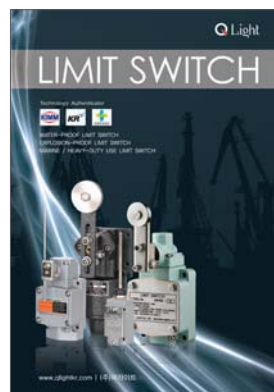
Limit Switch

For Steel Manufacturing Facilities

Qlight Catalogue Introduction

Signal Tower Lights

Warning/ Signal & Electric Horn

Vessels and Heavy-Duty & Equipment/ Explosion Proof

Warning Light Bar

Aviation Obstruction Lights

Industrial LED Lights

Qlight

IECEx ATEX Ex NEPSI KIMM KGS KOSHA ABS ® CCS ⚹ KR CE UL

WARNING LIGHT | ELECTRONIC HORN | SIGNAL TOWER LIGHT | EMERGENCY LIGHT BAR | LED OBSTRUCTION LIGHT | LED WORK LIGHT