

# New Products

## Warning Light Bars

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

P228-230



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

**SAMP-100**

P231



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

**SM-100ND**

P231



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

## Aviation Obstruction Lights

**QAOL1**

P241



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

**SAOL2**

P242



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

**SAOL3**

P243



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

**SAOL4**

P244



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

**QEAL1**

P245



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

**QEAL2**

P246

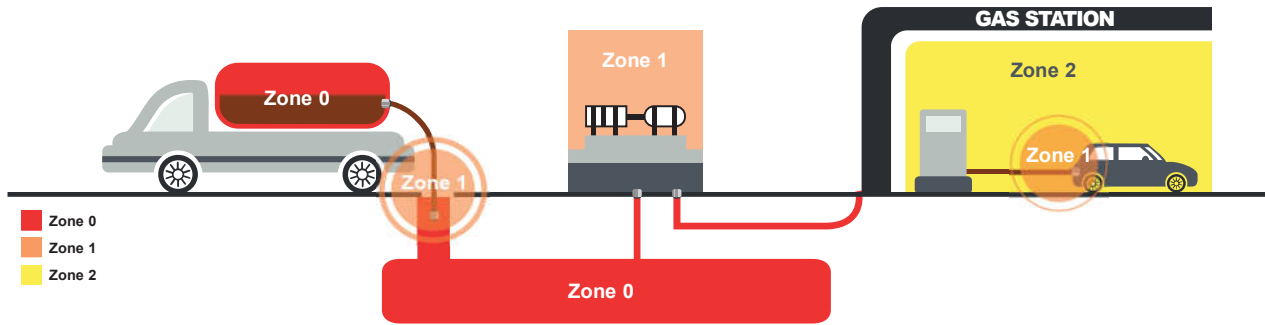


- Explosion proof medium intensity LED aviation obstruction light
- Aluminum housing structure
- Light color : Red, White
- Light function : Flashing
- Luminous intensity : 2,000cd  $\pm$  25%
- Protection rating : Ex d IIC T4, IP66

# 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, QTEX, QTEXB, ST45ML2-Ex, STB45ML2-Ex, ST45ML3-Ex, STB45ML3-Ex, QLEX-350, QMFL-300-Ex-24
Zone 2	SNE, SEA, SE, SSEL, SESA, SEBA, SNES, SPNA, QEB, SBE130, SBE150, QEAL1, QTEX, QTEXB, ST45ML-Ex, STB45ML-Ex

# Explosion Proof Type Specification List



Model number(series)	ST45ML-Ex	QTEX	SSEL	QEAL1	
Voltage	AC/DC12V AC/DC24V	AC/DC12V, AC/DC24V, AC110V-220V	DC12V, DC24V AC110V, AC220V	DC12V, DC24V AC110V-220V	
Diameter	Ø45	Ø144	154×154	Ø152(Cage)	
Dimension (mm)	Height	114-278	472(Self stand) 457(Wall mount)	100	238
	Depth	-	155(Wall mount)	172(Length)	183(Length)
Materials	Lens-PC Housing-PC	Lens-Tempered glass Housing-Al	Lens-Tempered glass Housing-Al	Lens-Tempered glass Housing-Al	
Light source & Operation	Bulb Steady/Flashing				
	Bulb Revolving				
	LED Steady/Flashing	●(Steady)	●	●(Steady)	●(Steady)
	LED Strobe				
	LED Simulated revolving xenon Strobe				
Mounting structure	Self stand	Self stand, Wall mount	Self stand	Self stand	
Cable entry	-	3/4" NPT	1/2" NPT	1/2" NPT	
Protection rating	IP54	IP66	IP66	IP66	
Usage area	ZONE 1, ZONE 2	ZONE 1, ZONE 2	ZONE 1, ZONE 2	ZONE 2	
Certificates	NEPSI, KCs	IECEX, ATEX, KCs	KIMM, ABS	-	
Explosion proof rating	Ex nRII T4, Ex nRII T6 (T6 Layer 2, 3 Only)	Ex db 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 : 3/4" NPT, M20x1.5, M25x1.5	Explosion proof cable gland, 2 ways cable entry, M20x1.5	
Transistors	NPN/ PNP Type	PNP Type	-	P254	
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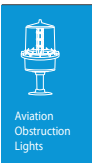


Model number(series)	STB45ML-Ex	QTEXB	SPNA	SBE130	SBE150
Voltage	AC/DC12V AC/DC24V	AC/DC12V, AC/DC24V, AC110V- 220V	DC12V, DC24V AC110V, AC220V	DC24V AC110V, AC220V	DC24V AC110V, AC220V
Diameter	Ø45	Ø144	Ø134(Horn)	Ø120(Bell)	Ø150(Bell)
Dimension (mm)	Height	153-317	472(Self stand) 457(Wall mount)	158	120
	Depth	-	155(Wall mount)	327(Length)	138(Length)
Materials	Lens-PC Housing-PC	Lens-Tempered glass Housing-Al	Horn-SUS316L Housing-Al	Bell-Al Housing-Al	Bell-Al Housing-Al
Light source & Operation	Bulb Steady/Flashing				
	Bulb Revolving				
	LED Steady/Flashing	●(Steady)	●		
	LED Strobe				
	LED Simulated revolving xenon Strobe				
Sound Pattern / dB	1 tone Buzzer	Max 80dB at 1m			
	15 signal sounds		Max 118dB at 1m		
	Bell			Max. 95dB at 1m	Max. 95dB at 1m
	Voice signal		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
Cable entry	-	3/4" NPT	1/2" NPT	1/2" NPT	1/2" NPT
Protection rating	IP54	IP66	IP66	IP66	IP66
Usage area	ZONE 1, ZONE 2	ZONE 1, ZONE 2	ZONE 1, ZONE 2	ZONE 1, ZONE 2	ZONE 1, ZONE 2
Certificate	KCs	IECEX, ATEX, KCs, TIIS	IECEX, ATEX, NEPSI, KIMM, KCs, ABS, CCS, KR	KIMM	KIMM
Explosion proof rating	Ex nRII T4, Ex nRII T6 (T6 Layer 2, 3 Only)	Ex db IIC T6 Gb (IECEX)	Ex d IIC T6 Gb (IECEX)	Ex d IIC T6 (KIMM)	Ex d IIC T6 (KIMM)
Customization	-	Explosion proof cable gland, 2 ways cable entry, Cable entry	Explosion proof cable gland, 2 ways cable entry, Cable entry : 3/4" NPT, M20x1.5, M25x1.5	Explosion proof cable gland, 2 ways cable entry, Cable entry : 3/4" NPT, M20x1.5, M25x1.5	Explosion proof cable gland, 2 ways cable entry, Cable entry : 3/4" NPT, M20x1.5, M25x1.5
Transistors	NPN/ PNP Type	PNP Type	NPN Type	P234	P234
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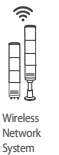
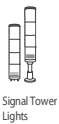
# Specification List for Aviation Obstruction Lights



Model number(series)	SAOL1	QAOL1	SAOL2	SAOL3
Voltage	DC12V, DC24V AC110V, AC220V	DC12V, DC24V AC110V, AC220V	DC12V, DC24V AC110V, AC220V	DC12V, DC24V AC110V, AC220V
Diameter	Ø115	Ø117	Ø139	Ø157
Dimension (mm)	Height	275	185(SAOL2) 273(SAOL2P)	215(SAOL3) 303(SAOL3P)
	Depth	-	-	-
Materials	Lens, Housing-PC Bracket-Al	Lens, Housing-PC Bracket-Al	Lens-PC, Housing-Al Bracket-Al	Lens-PC, Housing-Al Bracket-Al
Light source & Operation	Bulb Steady/Flashing Bulb Revolving LED Revolving LED Steady/Flashing LED Strobe	•(Steady)	•(Flashing)	•(Steady)
	LED Simulated revolving xenon Strobe			
Mount type	Self stand	Self stand	Self stand	Self stand
Cable entry	-	-	-	-
Protection rating	IP56	IP56	IP66	IP66
Certificate	ICAO, CE	CE	ICAO, CE	ICAO, CE
Customization	-	-	Cable entry - 1/2"PF, Built-in SUN switch	Cable entry - 1/2"PF, Built-in SUN switch
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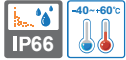


Model number(series)	QEAL1	
Voltage	DC12V, DC24V AC110V, AC220V	
Diameter	Ø152(Cage)	
Dimension (mm)	Height	238
	Depth	183(Length)
Materials	Lens-Tempered glass Housing-Al	
Light source & Operation	Bulb Steady/Flashing Bulb Revolving LED Revolving LED Steady/Flashing LED Strobe	•(Steady)
	LED Simulated revolving xenon Strobe	
Mount type	Self stand	
Cable entry	1/2" NPT	
Protection rating	IP66	
Certificate		
Explosion proof rating		
Customization	Explosion proof cable gland, 2 ways cable entry, Cable entry : M20x1.5, Built-in SUN switch	
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# QEAL1

## Explosion Proof Low Intensity LED Aviation Obstruction Light



QEAL1



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.

### QEAL1 Explosion Proof Low Intensity LED Aviation Obstruction Light

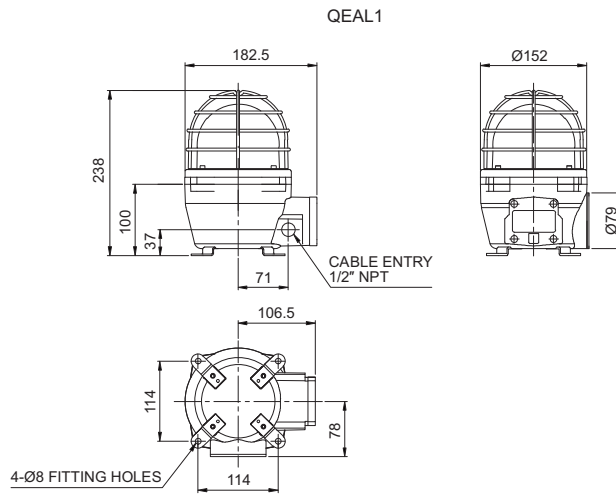
- Low Intensity B type explosion proof aviation obstruction light
- Features high visibility from a distance with the direct LED light distribution system
- Cost savings enabled by using a long lasting LED light source which eliminates the need for maintenance
- Aluminum housing provides excellent durability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

ICAO standard	Low intensity B type		
Light source	High intensity light emitting diodes(LED)		
Light color	Red		
Light function	Steady		
Voltage	DC12V, DC24V, AC110V~220V		
Power consumption	30W		
Standard housing color	Red	Cable entry	1/2" NPT
Materials	Lens-Tempered glass, Housing-Al, Lens ring- SUS316L, Protection cage-ST316L, Heat sink-Al		
Protection rating	IP66	Ambient operating temperature	-40°C ≤ T <sub>amb</sub> ≤ +60°C
Certificate	-	Luminous intensity	50cd ±25%



### Technical Diagram

(Units : mm)



### 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
- Amber housing, mounting basket is available upon request



### Ordering Specification

<b>QEAL1</b>	-	<b>220</b>	-	<b>R</b>
[Model number]		[Voltage]		[Color]
• QEAL1		• 12-DC12V • 24-DC24V • 110/220 -AC110V~C220V		• R-Red