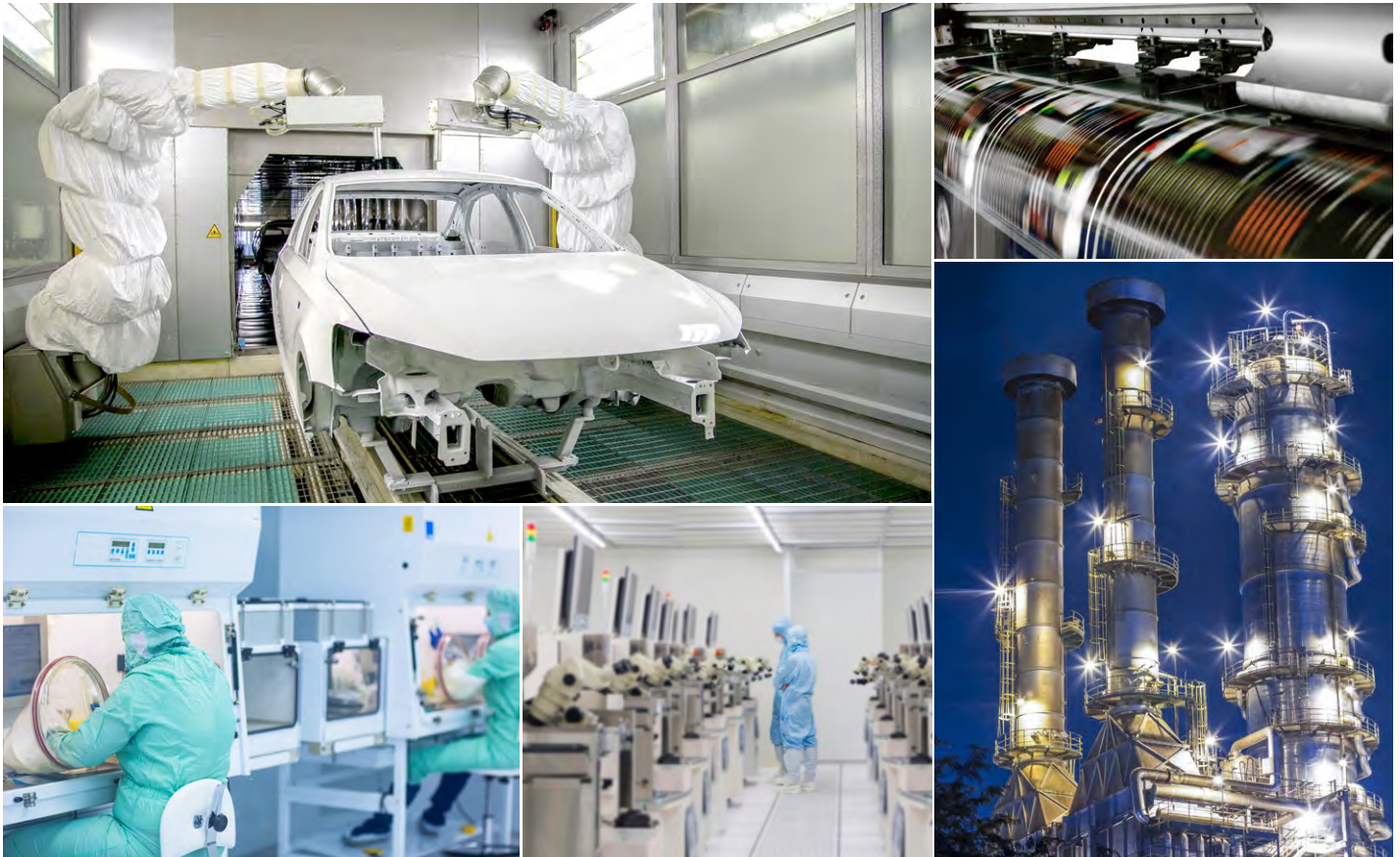


Explosion Proof products



Various Applications for Explosion Proof and Harsh Environments



Branch	Explosion Hazard
Power Generation Companies	● Lump Coal Dust
Woodworking Industry	● Saw Dust ● Fine Wood Chips
Metal-work Operations	● Explosive Metal Dust ● Spark-ignitable Metal Dust
Food/Beverage Industry	● Ignitable Grain Dust ● Explosive Sugar Dust
Refinery Industry	● Hydrocarbons close to their flash-points ● Oil Processing Plants
Waste Disposal Companies	● Waste-water Treatment Gases
Landfills/Civil Engineering	● Flammable Landfill Gases ● Uncontrolled Gas Emissions ● Flammable Gas from poor ventilation sources
Pharmaceutical Industry	● Alcohol Solvents ● Materials explosive when mixed
Gas Suppliers	● Natural Gas Leakage ● Natural Gas Emissions
Paint-spraying Operations	● Overspray in Spray-paint Bays ● Solvent Vapor Emissions
Recycling Operations	● Unemptied flammable gas/liquid containers ● Biodegradable Material Emitting Explosive Gases
Chemical Industry	● Flammable Gases ● Flammable Liquids ● Flammable Solids
Agriculture	● Bio-gas Production Plants ● Bio-gas Located on Farms



Wall Mount



Horizontal Mount

■ Descriptions

The ST-PA Explosion Proof Signal Tower Series features 5 ultra-bright, maintenance-free LED units and contained in a flame and dust proof housing.

■ Features

- Housing: Aluminum alloy
- Glass: Borosilicate glass
- Terminals: Easy wiring access from bottom door
- Mounting: Upright, Wall Mount, Vertical-mount, and Horizontal Mount.
- Voltage: 24V DC, 100-240V AC are available.
- Wire core size: 0.5mm²~2.5mm², AWG20~AWG14

ST-PA-LR6 is covered by the specifications shown in the **shaded** areas below

Country	Area Classification	Classification of hazardous areas			Patlite Model ST-PA-LR6		
		Constant Exposure	Occasional Exposure	Rare and Temporary	Conformity hazardous areas	Explosive atmosphere	Certification authority
Europe	ATEX Directive 94/9/EC	Zone 0 Zone 20	Zone 1 Zone 21	Zone 2 Zone 22	Zone 1,2 Zone 21,22	Gas Dust	EPS

*The ATEX directive is a CENELEC standard.

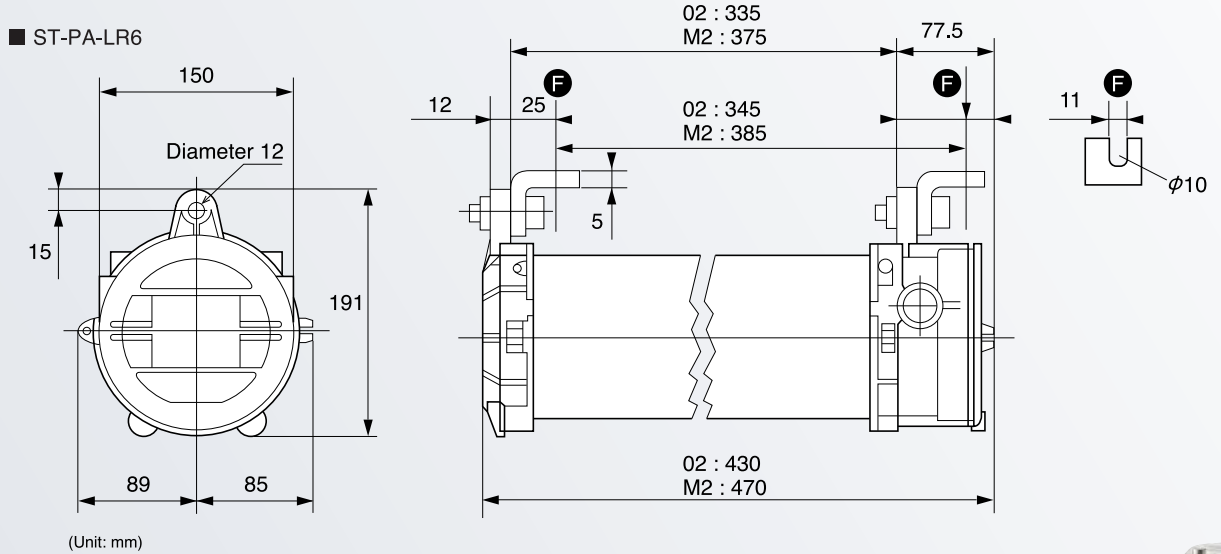
Specifications

Type	ST-PA-LR6502WJBWRYGBC	ST-PA-LR65M2WJBWRYGBC
Rated voltage	24V DC (PNP/NPN No Polarity)	100-240V AC
Operating temp.	ATEX Directive:-20°C~+50°C (no ice)	
Lighting pattern	Flashing (60±12 flashes per minute) / Continuous lighting	
Protection Rating	IP66	
Mounting type	Outdoor & Indoor	Upright & Sideways
Mass (Main body)	5.7kg	6.7kg
Cable	10m Cable 10×0.75mm ²	10m Cable 12×0.75mm ²
Material	Upper & Lower case : Aluminum alloy Glass case : Borosilicate glass Bracket : Stainless steel	

■ Certifications

Certifications	<p>EPS 16 ATEX 1099 IECEX EPS 16.0046 TC-RU C-DE.ME92.B.00342</p>
Marking	<p>Ex II 2G Ex db IIC T6/T5 Gb Ex II 2G Ex tb IIIC T120°C Db</p>
Standards	EN 60079-0, EN 60079-1, EN 60079-31
Guideline	2014/34/EU
Production Certification	EPS 13 ATEX Q 594
CE	2004

Dimensions (mm)

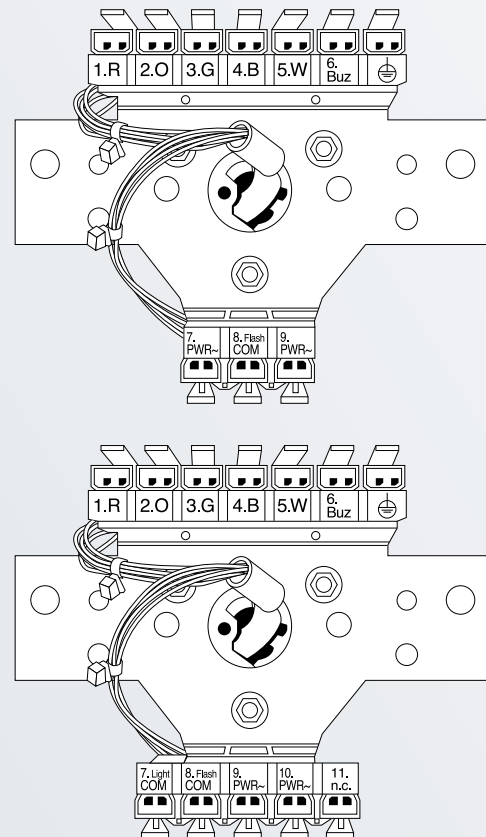


Wiring Diagram

■ The colors are wired to table

Color of wire of signal tower	Wire no. of linebushing ST-PA-LR6-02	Wire no. of linebushing ST-PA-LR6-M2
Red (Light)	R : 1	R : 1
Orange (Light)	O : 2	O : 2
Green (Light)	G : 3	G : 3
Blue (Light)	B : 4	B : 4
White (Light)	W : 5	W : 5
Violet	Buz : 6	Buz : 6
Green/yellow	PE	PE
Yellow	PWR+ : 7	Light COM : 7
Brown	Flash COM : 8	Flash COM : 8
Grey	PWR- : 9	PWR~ : 9
Black		PWR~ : 10
		n.c. : 11

■ Internal Connection



CE II 3 G Ex nA IIC T4 Gc, II 3 D Ex tc IIIC T80°C Dc IP65 2014/34/CATEX: EN 60079-0:2012 / A11:2013, EN 60079-15:2010, EN 60079-31:2014

Ø40mm Signal Towers

The LR-EX Signal Tower Series features up to five LED segments tightly secured together with screws to ensure compliance with certifications and to prevent tampering or loosening from continuous vibration. Each ultra-bright, maintenance free, LED unit is designed with intricately cut lenses with a double-reflection system to produce even, brilliant, light output, visible from further distances. The lenses and body structure is dust and water tight and constructed from durable polycarbonate to withstand harsh environments.

FEATURES

- Suitable for Zone 2 and Zone 22 applications
- CE compliance in accordance with ATEX
- Fully-enclosed sound module with 4 built-in sounds
- IP65 protection rating

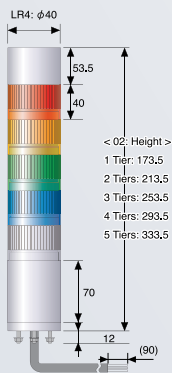
OPTIONS

- 1/2" NPT pole mount or direct mount adapter
- Wall mount brackets

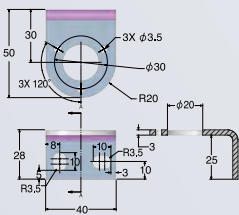


Dimensions (mm)

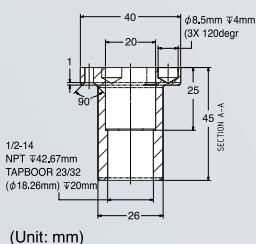
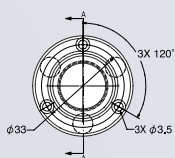
Signal Tower



WALL MOUNT BRACKET



1/2" NPT ADAPTER TYPE



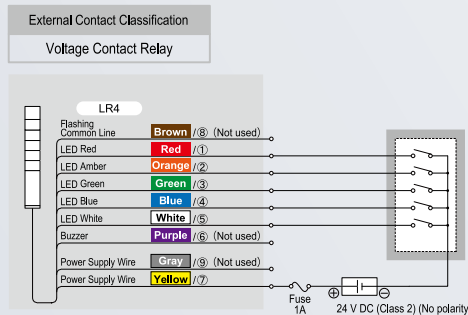
Specifications

Explosion-safety	CE II 3 G Ex nA IIC T4 Gc, II 3 D Ex tc IIIC T80°C Dc IP65
CE conformities	EN 60079-0:2012 / A11:2013, EN 60079-15:2010, EN 60079-31:2014
Certification	EC-Declaration of conformity
Ambient Temperature	-20 °C to +50 °C
Ingress Protection	IP65 to EN 60529
Material	Polycarbonate
Lighting Source	A Uniform 360° Light-Emitting Design
Acoustical Source	85 dB (at 1m) with 4 sound options
Rated Voltage	24V DC (PNP/NPN No Polarity)
Module Colors Available	Red, Amber, Green, Blue, Clear/white
Cable	Jacketed cable, Ø8mm, 3m length

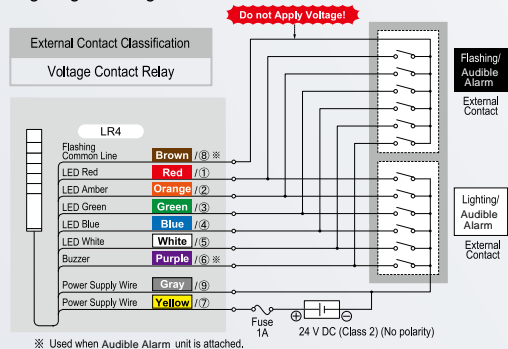
CURRENT RATINGS

LED		BUZZER	
Signal	Line Current	Signal	Inrush Current
Red, Amber	Green, Blue, Clear	Signal	Inrush
approx. 40 mA		approx. 40 mA	approx. 250 mA

Lighting 24V DC



Lighting/Flashing/Alarm 24V DC



Model Code

LR4-502WJBU-RYGB-C-EX

Tiers	1 - 5	Buzzer	N Continuous Lighting B Audible	LED Module Color	R Red Y Amber G Green B Blue C Clear / White (Top to bottom)
Rated Voltage	02 24V DC	Bracket Code	WJ Wall Mount NJ NPT Adaptor		

CE II 3 G Ex nA IIC T4 Gc, II 3 D Ex tc IIIC T80°C Dc IP65 2014/34(ATEX): EN 60079-0:2012 / A11:2013, EN 60079-15:2010, EN 60079-31:2014

Ø60mm Signal Towers

The LR-EX Explosion Proof Signal Tower Series features up to five LED segments tightly secured together with screws to ensure compliance with certifications and to prevent tampering or loosening from continuous vibration. Each ultra-bright, maintenance free, LED unit is designed with intricately cut lenses with a double-reflection system to produce even, brilliant, light output, visible from further distances. The lenses and body structure is dust and water tight and constructed from durable polycarbonate to withstand harsh environments.

FEATURES

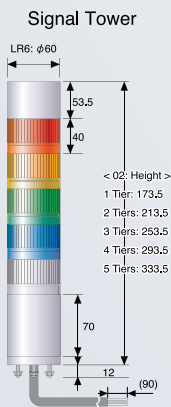
- Suitable for Zone 2 and Zone 22 applications
- CE compliance in accordance with ATEX
- Fully-enclosed sound module with 4 built-in sounds
- IP65 protection rating

OPTIONS

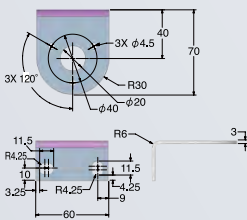
- 3/4" NPT pole mount or direct mount adapter
- Wall mount brackets



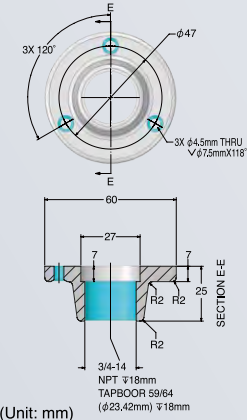
Dimensions (mm)



WALL MOUNT BRACKET



3/4" NPT ADAPTER TYPE



(Unit: mm)

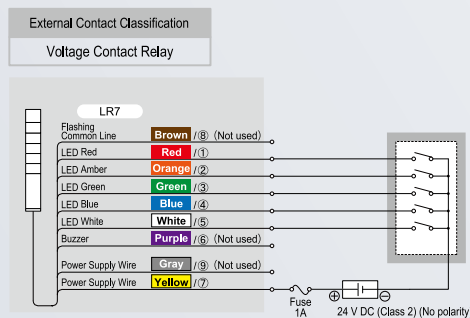
Specifications

Explosion-safety	CE II 3 G Ex nA IIC T4 Gc, II 3 D Ex tc IIIC T80°C IP65
CE conformities	EN 60079-0, EN 60079-15, EN 61241-0, EN 61241-1
Certification	EC-Declaration of conformity
Ambient Temperature	-20 °C to +50 °C
Ingress Protection	IP65 to EN 60529
Material	Polycarbonate
Lighting Source	A Uniform 360° Light-Emitting Design
Acoustical Source	85 dB (at 1m) with 4 sound options
Rated Voltage	24V DC (PNP/NPN No Polarity)
Module Colors Available	Red, Amber, Green, Blue, Clear/white
Cable	Jacketed cable, Ø8mm, 3m length

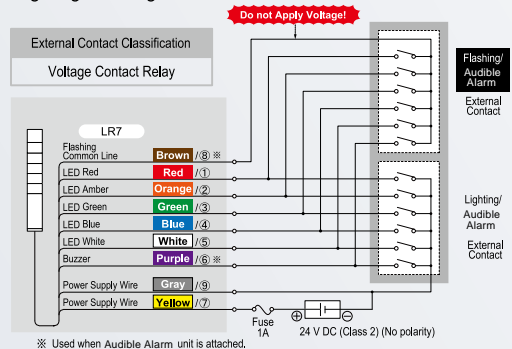
CURRENT RATINGS

LED		BUZZER	
Signal	Line Current	Signal	Inrush Current
Red, Amber	Green, Blue, Clear	approx. 40 mA	approx. 250 mA

Lighting 24V DC

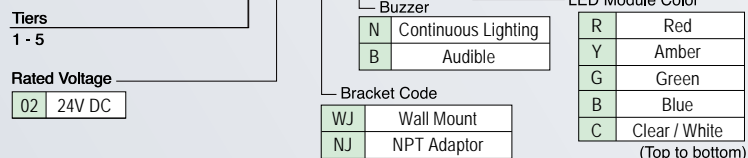


Lighting/Flashing/Alarm 24V DC



Model Code

LR6-502WJBU-RYRGB-EX



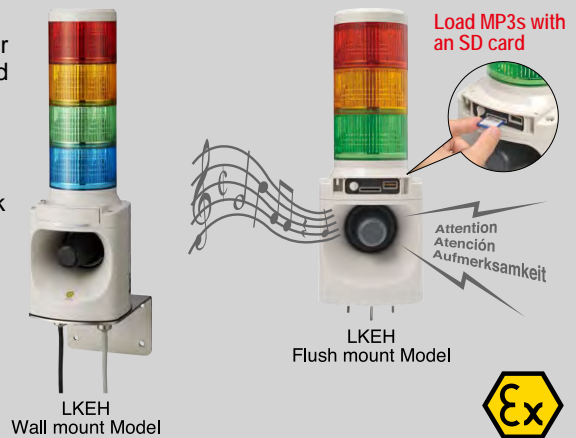
CE II 3GD Ex nA IIC T4 Gc, Ex tc IIIB T85°C Dc IP54 94/9/Ex(ATEX)CENELEC:EN 60079-0, EN 60079-15, EN 60079-31

Ø100mm Signal Tower and MP3 Annunciator / Alarm Horn Hybrid

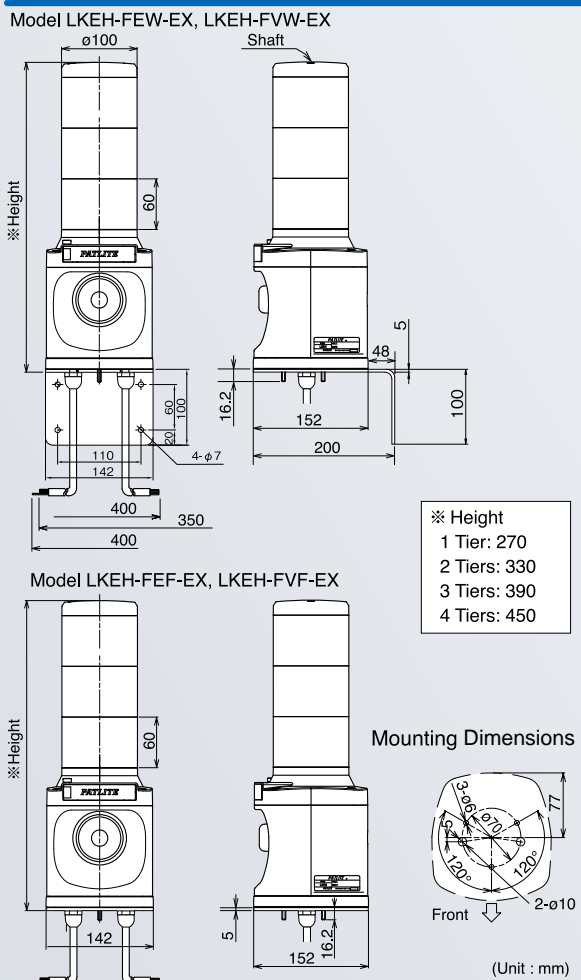


The LKEH-EX Hybrid Series features a combination of up to four ultra-bright LED segments, MP3 voice annunciation, and pre-loaded alarm sounds for highly-effective signaling and notification.

- Suitable for Zone 2 and Zone 22 applications
- CE compliance in accordance with ATEX
- Supports MP3 alerts up to 63 sec. (64kbit/s) with 5 selectable playback channels
- Comes pre-loaded with 32 tones and melodies
- Adjust playback volume from 0 to 105dB
- Field programmable with front loading SD card port
- Designed to withstand 2G vibrations
- NPN or PNP types available



Dimensions (mm)



Sound Selection Charts

- Pre-recorded on model LKEH-FE-EX.
- 8 sounds can be played back by a bit input, and 32 sounds by binary input.

Beep	Stutter + Bell	Inverted Revelle	Annie Laurie
Stutter	Synthesized Melody	Galactic Motor	London Bridge
Bell	Chime	Ringing Phone	Mary's Lamb
Yelp	Call Sign	Two Tone	Camptown Races
Rapid Hi Lo	Train Ride	Alarm Clock	Amaryllis
Melody Chime	Galloping Hi Lo	Ringing Hi Lo	Symphony #40
Synthesized Piano	Alien Chatter	Fur Elise	Ave Maria
Synthesized Bell	Falling Crystals	Minuet	Grandfather's Clock

Model Code

LKEH-302FVF-RYG-EX

Model	Tiers	Type	Mounting	Color
LKEH-302FVF-RYG-EX	1~4	FV MP3 Annunciator FE 32 sounds	F Flush mount W Wall mount	R Red Y Amber G Green B Blue C Clear / White (Top to bottom)

Specifications

Model	Rated Voltage	Voltage Range	MP3, Melody	Operating Temperature Range	Recordable Duration	Sound Pressure (at 1m)	Messages	Mass
LKEH-FEF-EX	24V DC	24VDC±10%	Type-E	-10°C to +50°C, Humidity 85% or less	Prerecorded	105dB	8ch bit input, 32ch binary input	2.8Kg
LKEH-FEW-EX			Type-E		Prerecorded		8ch bit input, 32ch binary input	3.2Kg
LKEH-FVF-EX			MPEG1-Audio layer III, 64kbit/s		63 sec.		5ch bit input, 31ch binary input	2.8Kg
LKEH-FVW-EX			MPEG1-Audio layer III, 64kbit/s		63 sec.		5ch bit input, 31ch binary input	3.2Kg

The mass indicated is based on a 3 tiered LED Model LKEH. The mass will change in conjunction with the number of tiers. Add or remove 0.2 Kg per module.

EHS-EX, EHV-EX

Explosion Proof

CE II 3GD Ex nA IIC T4 Gc, Ex tc IIIC T85°C Dc IP65 94/9/EC(ATEX)CENELEC:EN 60079-0, EN 60079-15, EN 60079-31



105dB MP3 Annunciator / Alarm Horns

The EH-EX Series features a large memory storage for

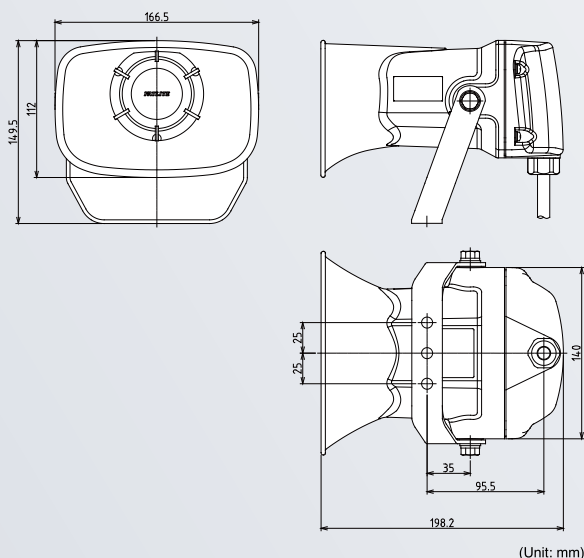
- Suitable for Zone 2 and Zone 22 applications
- CE compliance in accordance with ATEX
- Supports MP3 alerts up to 220 sec. (64kbit/s) with up to 63 selectable playback channels
- Comes pre-loaded with 32 (EHS) or 63 (EHV) tones and melodies
- Adjust playback volume from 0 to 105dB
- Field programmable with rear loading SD card port
- Designed for indoor and outdoor use, resistant to 4.5G vibrations
- Ideal for plant-wide notifications, public announcements, and process controls
- UL464, CSA-C22.2 NO.205-M1983, FCC Part 15 Subpart B Class 4
- Non-voltage (NPN) or PNP types available



EHS-EX
EHV-EX

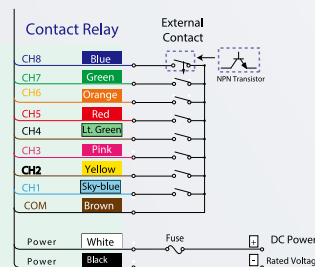


Dimensions (mm)

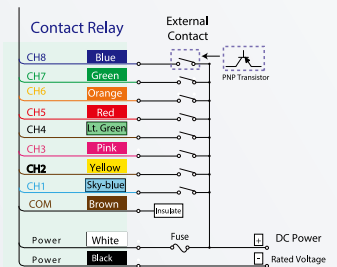


Wiring Diagram

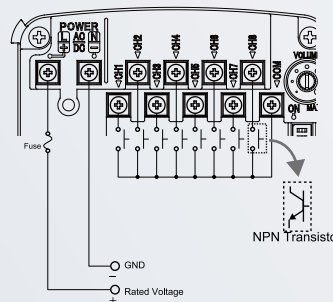
Non-voltage (NPN) Wiring



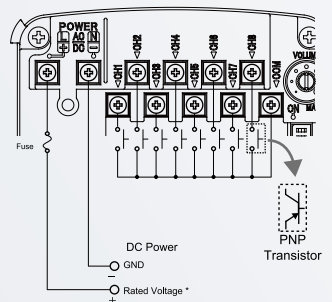
PNP Wiring



Terminal (NPN)



Terminal (PNP)



Model Code

EHV- G-EX

Model	Melody/Alarm Type
EHS Alarm Horn	G Type G (EHV Only)
EHV MP3 Annunciator	E Type E (EHS Only)
Rated Voltage	Wiring Type
M1 12-24V DC	H Cable
	T Terminal*

Specifications

Model	Rated Voltage	Voltage Range	Power Consumption	Rated Current Consumption	Sound Pressure (max)	Operating Temperature Range	No. of Playback Messages	Protection Rating	Wiring Type	Mass
EHS-M1HE-EX	12 - 24V DC	10.8V to 26.4V DC	4W (at 24V DC)	450mA (max)	Alarm: 110dB (at 1m)	-20°C to +50°C (Less than 85% RH)	Bit Input: 8 Binary Input: 32	IP65	Cable	1.25kg
EHS-M1TE-EX									Terminal	
EHV-M1HG-EX	12 - 24V DC	10.8V to 26.4V DC	4W (at 24V DC)	400mA (max)	Alarm: 110dB (at 1m) MP3: 105dB (at 1m)	-20°C to +50°C (Less than 85% RH)	Bit Input: 8 Binary Input: 63	IP65	Cable	1.25kg
EHV-M1TG-EX									Terminal	

Note 1: The sound pressure level is based on measurements under controlled conditions (voice-synthesized 1 kHz sine wave played back from a distance of 1 meter), therefore the surrounding environmental conditions and message content will result in different values for the sound pressure level.

Note 2: Even when starting two or more units simultaneously, a lag will occur during message playback.
MPEG Layer-3 audio coding technology licensed from Fraunhofer IIS and Thompson Licensing.(Model EHV)

CE II 3GD Ex nA IIC T4 Gc, Ex tc IIIC T135°C Dc IP65 94/9/Ex(ATEX)CENELEC:EN 60079-0, EN 60079-15, EN 60079-31

Water and Oil Resistant LED Spot Light



The CLN-EX Series LED Spot Lights features a compact, rugged design, high intensity LEDs, and protection ratings to withstand the harshest conditions. With a 22.2mm thickness, a 820 lux output, and a 180-degree adjustable angle bracket, the CLN-EX maximizes visibility in just about any environment.

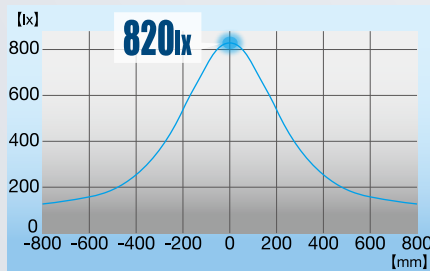
- Suitable for Zone 2 and Zone 22 applications
- CE compliance in accordance with ATEX
- 60,000 hours or about 7 years of service life
- Protection ratings: IP66G, IP67G, IP69K
- IEC62471 Compliance (Photobiological Safety Standard)
- Daylight color temperature (8,500K) suitable for detailed work
- Included angle bracket with 180-degree range of motion
- 22.2mm Thickness x 85mm Width x 126mm Height



CLN-24-CD-PT-EX



Light Distribution Characteristics



Stainless steel, 180-degree angle bracket provides versatile installation options to illuminate your work area

Floor Mount



Wall Mount



Ceiling Mount

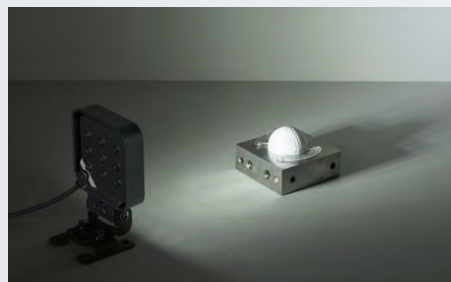


Angle bracket can be removed for direct mounting

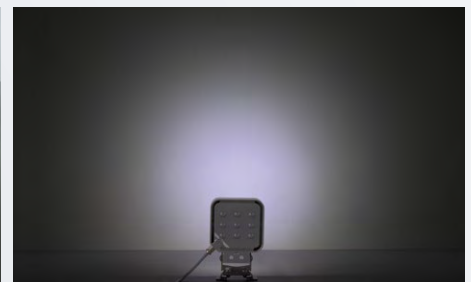
High intensity LEDs with 820 lx provides optimal illumination with only a 174mA current draw



Color temperature of 6,500K is ideal for detailed work areas



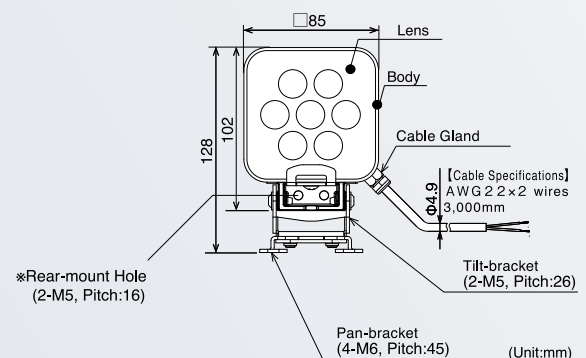
Natural, wide light distribution at 550 lumens; 40W bulb equivalent



Specifications

Model	CLN-24-CD-PT-EX
Color Code (Color)	CD (Daylight)
Color Temperature (typ.)	6500K
Illumination (typ.) (Centered at 24VDC) 1m	820 lx
Total Luminous Flux (typ.)	550 lm
Rated Voltage	24V DC (Polarized)
Operating Voltage Range	24V DC $\pm 10\%$
Rated Current/Power Consumption	174mA $\pm 10\%$ / 4.2W
Operating Ambient Temperature	-40°C to +60°C (90% RH, No Condensation)
Main Unit Material	Body: Aluminum Alloy, Lens: Tempered Glass
Protection Rating	IP66G/67G (JIS C 0920)/69K (DIN 40050 part 9) (excluding cable end)
Mounting Location/Direction	Indoor / Any Direction
Insulation Resistance	DC 500V 5M Ω or more
Withstand Voltage	500VAC for 1 minute (Between terminals and chassis)
Vibration Resistance	30Hz total amplitude 0.3mm ^{pp} Back and forth, up and down, right and left for 2 hours each Total amplitude 0.3mm ^{pp} (10-57Hz), Acceleration 19.6m/s ²
Mass (Tolerance $\pm 10\%$)	430g

Dimensions (mm)



*1 : The typical value of LED brightness is 70% of the original specification, but may vary depending on actual applications.
 *2 : IP66G and IP67G are Japanese Industrial Standards (JIS C0920-2003), and IP69K is the German DIN 40050 PART9 Standard.
 *3 : CLN-24-CD-PT-EX Spot Light can only be installed where risk of mechanical danger is limited to 2 Joules of impact energy

CE II 3GD Ex nA IIC T4 Gc, Ex tc IIIC T135°C Dc IP65 94/9/Ex(ATEx)CENELEC:EN 60079-0, EN 60079-15, EN 60079-31



Water and Oil Resistant LED Light Bar

The CLK-EX LED Light Bar Series features a rugged design, high intensity LEDs, and protection ratings to withstand the harshest conditions. The CLK Series is an ideal choice for major illumination projects.



CLK3S-24AG-CD-EX

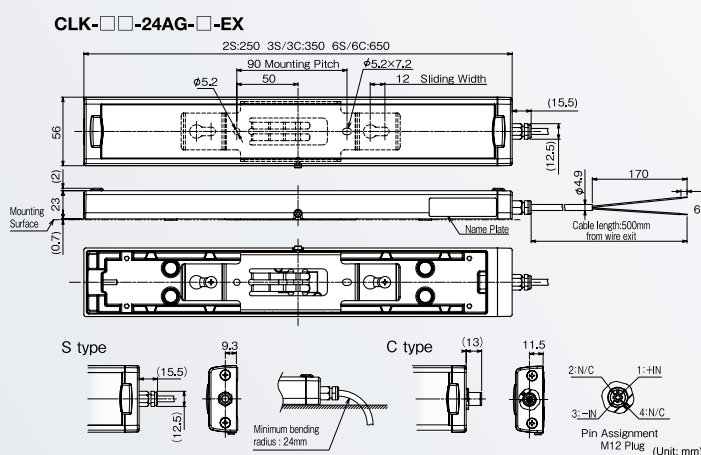
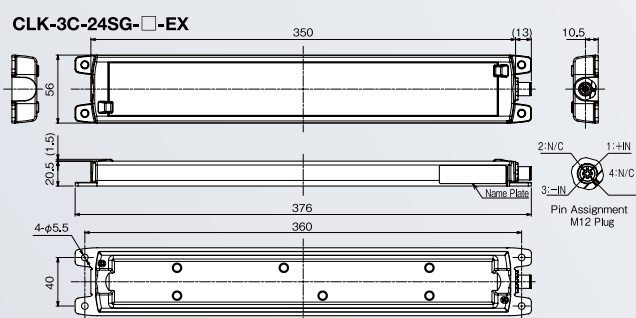


CLK6C-24AG-CD-EX

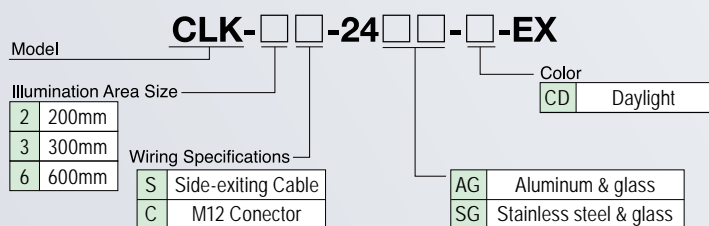
- Suitable for Zone 2 and Zone 22 applications
- CE compliance in accordance with ATEX
- Tempered glass lens to withstand flying scrap metal
- Stainless steel and aluminum body options available
- Available in 250mm, 350mm, 650mm lengths
- 1200 lx (3S/3C); 2100 lx (6S/6C)
- Color Temperature: CD 6,500K, CN 5,000K
- Protection Ratings: IP66G, IP67G, IP69K



Dimensions (mm)



Model Code



Specifications

Model	CLK-□□-24□□-□-EX
LED Color	Day light(CD) / Natural White(CN)
Rated Voltage	24V DC
Operating Voltage Range	Rated Voltage ± 10%
Current Consumption	522mA ± 40mA (3S/3C type)
Light Source	High intensity LED × 18 elements (3S/3C type)
Luminous Intensity at Optical Center (lx at 1m)	1200 lx (3S/3C); 2100 lx (6S/6C)
Main Body	Housing: Aluminum, Cover: Tempered glass
Operating Temperature Range	-40°C~+60°C (No condensation 90%RH or less)
Mounting Direction	Any Direction (for indoor use only)
Protection Rating	add IP69K
Vibration Resistance	19.6m/s ²
Mass	1490g (3C type)

The CLK-EX Series may only be installed in places where risk of mechanical danger is limited to an impact energy of 2 Joules (1 Kg mass dropped at 20cm height).

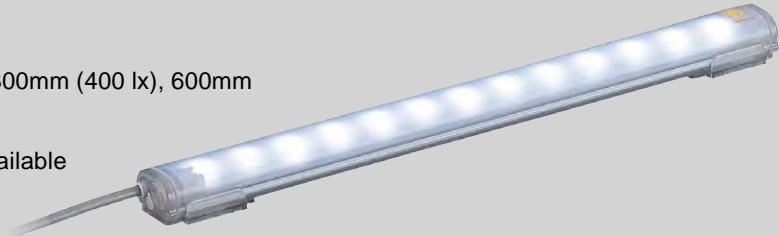
CE II 3GD Ex nA IIC T4 Gc, Ex tc IIIC T135°C Dc IP65 94/9/Ex(ATEX)CENELEC:EN 60079-0, EN 60079-15, EN 60079-31



Water Resistant LED Light Bar

The CLA-EX LED Light Bar Series features a light weight design, high intensity LEDs, and a IP69K rating to withstand wet environments. The CLA Series is an ideal choice for high temperature, high pressure washdown applications

- Suitable for Zone 2 and Zone 22 applications
- CE compliance in accordance with ATEX
- Available in 100mm (140 lx), 200mm (270 lx), 300mm (400 lx), 600mm (650 lx), 900mm (810 lx) lengths
- Protection Ratings: IP66, IP67, IP69K
- Variety of polycarbonate mounting brackets available

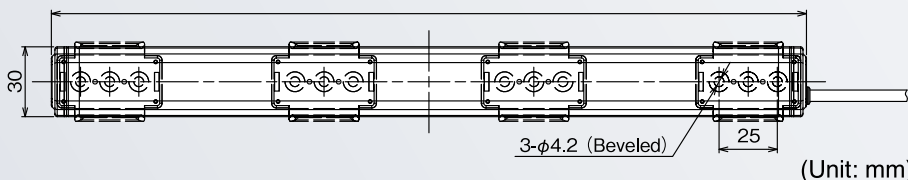


CLA3S-24-CD-30-EX



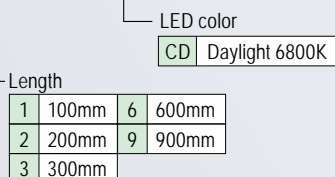
Dimensions (mm)

CLA1S:124, CLA2S:224, CLA3S:324, CLA6S:624, CLA9S:924



Model Code

CLA S-24- -30-EX



Optional Parts



Rear Attachment (Magnetic Mount)
Model SZ-310ARM

Side Attachment (Screw Mount)
Model SZ-310AS

Side Attachment Model SZ-310ASB

*Stainless steel brackets are also available.

Specifications

Models	Luminous Color	Length	Rated Voltage	Operating Voltage Range	Rated Current Consumption	Center Radiation (lx/50cm)	Mounting Direction	Vibration Resistance	Mass
CLA1S-24-CD-30-EX	Daylight	100mm	24V DC (Polarized)	24V DC±10%	104mA	140	Any Direction (Indoor Use)	19.6m/s ²	80 g
CLA2S-24-CD-30-EX	Daylight	200mm			208mA	270			130 g
CLA3S-24-CD-30-EX	Daylight	300mm			240mA	400			180 g
CLA6S-24-CD-30-EX	Daylight	600mm			480mA	650			340 g
CLA9S-24-CD-30-EX	Daylight	900mm			720mA	810			500 g