SIGHT AND SOUND

For process, mining and industrial audible and visual signalling applications

SIGNALLING DEVICES

klaxon

MOFLASH SIGNALLING

NHP Electrical Engineering Products Pty Ltd

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NHP ELECTRICAL ENGINEERING PRODUCTS PTY LTD

NHP Electrical Engineering Products Pty Ltd specialises in industrial switchgear and automation, bringing together leading products, systems and solutions from key application categories - motor control, power distribution, hazardous location, sensing and detection, safety and protection, monitoring and display, enclosures and termination, control and switching and power quality.

NHP are also specialists in the Automation and Communication area and are now authorised distributors for Rockwell Automation and their Allen-Bradley® products in our designated areas of Australia and all of New Zealand. This means NHP is now partnered with the leading global provider of industrial automation solutions and switchgear components.

An Australian owned company, NHP is committed to serving the Australasian industry with quality products and customer support. This is achieved through a 820+ strong team which is distributed across 23 branches and 28 regional locations throughout Australia and New Zealand.

NHP is far more than a component supplier, offering systems and solutions, which 'Value Add' to products in a way which makes them 'Fit for Purpose'. NHP incorporates the world's best and most extensive range of low voltage products, into customer focused application solutions.

At NHP we have a strong customer focus and we look to provide the right product and product solutions for our customers' requirements and applications, all at a competitive price. We value and care for our customers and support them by offering personalised service and assistance to meet their every need and demand. Our customers can have 100 % confidence in our ability to support them when and where it is needed.

Put simply, NHP is 'easy to do business with'.

klaxon

Klaxon Signals, located in the United Kingdom, have manufactured Sound Signalling and Air Movement equipment for over 80 years. What was once a number of small traditional businesses is now part of a fast-growing multi-national group, selling to an established market both in the UK and worldwide.

Working to ISO 9001, Klaxon's manufacturing team has the latest production, testing and demonstration facilities, to ensure the highest possible standards of manufacture and product quality. Their continued product development programme gives customers the most up to date products available.

MOFLASH SIGNALLING

Moflash Signalling Ltd. was formed in 1958 as part of the Silvaflame group. In the early years, the company was predominantly involved in the manufacture of Traffic Safety Beacons, however, they soon expanded their product range to include industrial beacons and led the way by becoming the first UK company to produce an AC Rotating Beacon.

Moflash was purchased by the Kentermark Group in October 1997 and moved to Birmingham. It now boasts one of the largest Visual Signalling ranges available in the marketplace, offering Xenon, Rotating, Flashing Filament, Static Filament, LED and EXD Beacons. It continues to develop new products to meet the demands of a constantly evolving safety market.

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Evacuation Sirens

Electronic Sounders

Bells

The groups of products selected in this catalogue have been available in the market for over 20 years. With many years experience in the area of sounder selection your local NHP representative is always available to offer advice in helping to choose the correct product. When selecting a sound device a careful study of your requirements should be made.

The following points should be considered:

1. The nature of the proposed signals, including sequences, duration of blasts, intervals and length of signal. Each type of hazard should be given its own code to ensure the correct response. On-site signals must not be confused with off-site warnings.

2. The nature of other signals in the locality. Hazard signals must not conflict with emergency services or civil defence signals.

3. Area and range of audibility to be covered by the system. The signal must be clearly audible to all persons, inside and outside the plant likely to be affected

4. Test facilities. Siren motors, shutter and signal sequences should be regularly tested to ensure that they are still functioning properly. It should be possible to carry out testing without actually sounding the sirens..

5. The nature of the terrain and construction and heights of the buildings on the site. Undulating ground and enclosed or noisy areas must be taken into account.

6. Availability of adequate power supply.

7. The type of system to be installed. Plants with high levels of machine noise - or covering large sites - may be better covered by a series of smaller sirens than by one large one.

8. Local meteorological conditions. For example, valley sites are likely to be affected by fog, mist and wind currents.

9. The positioning of sirens. The ideal height above ground level for a siren depends on the individual type and power of the instrument. Sirens should not be mounted too high above ground level: 4.5 m to 6 m is usually recommended. Putting sirens on top of high buildings often has the effect of deflecting the sound waves upwards because of negative temperature gradients. Sirens should not be located close to tall buildings. Ideally there should be at least a clear 50 m radius around each instrument.

International Protection Code

Sound (duration) rating
C= continuous

Robust construction for industrial use

Units with more than one note selectable on same unit

Ambient noise level guide
*(see this page for details)

Dome material stabilised for ultra violet radiation

SOUND SELECTION GUIDE

Distances quoted are approximate based on still air conditions. Current consumptions quoted are running currents. The momentary starting current is 2 - 3 times the running current.

When there is any doubt, please specify: application (giving operating conditions), distance over which sound must be heard, and electrical supply available.

***Ambient (background) noise level guide**

Symbol	Description		Ambient dB/range
	Low Noise	Close-up use only Quiet background	up to 65 dB
	Medium	Commercial premises, hotels, factories	65 - 100 dB
	High	Noisy factories, general outdoor use, marine	105 - 115 dB
	Very High	Very noisy factories, outdoor use - marine	115 -135 dB

WHAT HAPPENS TO SOUND OVER DISTANCE

In selecting a sounder for a particular application, the table below can be used as a guide as to the sound level expected at a certain distance away. Local conditions such as wind speed and direction or objects masking the sound path will change the end result. In difficult conditions, the distances a sound can be heard may be significantly less.

m	Decibel level (dB)																									
1	90	92	94	96	98	100	102	104	106	108	110	112	114	116	118	120	122	124	126	128	130	132	134	136	138	140
2	84	86	88	90	92	94	96	98	100	102	104	106	108	110	112	114	116	118	120	122	124	126	128	130	132	134
3	80	82	84	86	88	90	92	94	96	98	100	102	104	106	108	110	112	114	116	118	120	122	124	126	128	130
5	76	78	80	82	84	86	88	90	92	94	96	98	100	102	104	106	108	110	112	114	116	118	120	122	124	126
10	70	72	74	76	78	80	82	84	86	88	90	92	94	96	98	100	102	104	106	108	110	112	114	116	118	120
20	64	66	68	70	72	74	76	78	80	82	84	86	88	90	92	94	96	98	100	102	104	106	108	110	112	14
30	50	62	64	66	68	70	72	74	76	78	80	82	84	86	88	90	92	94	96	98	100	102	104	106	108	110
50	56	58	60	62	64	66	68	70	72	74	76	78	80	82	84	86	88	90	92	94	96	98	100	102	104	106
100	50	52	54	56	58	60	62	64	66	68	70	72	74	76	78	80	82	84	86	88	90	92	94	96	98	100
200	44	46	48	50	52	54	56	58	60	62	64	66	68	70	72	74	76	78	80	82	84	86	88	90	92	94
400	40	42	44	46	48	50	52	54	56	58	60	62	64	66	68	70	72	74	76	78	80	82	84	86	88	90
500	=	38	40	42	44	46	48	50	52	54	56	58	60	62	64	66	68	70	72	74	76	78	80	82	84	86
1000		=	=	=	38	40	42	44	46	48	50	52	54	56	58	60	62	64	66	68	70	72	74	76	78	80
2000					=	=	=	38	40	42	44	46	48	50	52	54	56	58	60	62	64	66	68	70	72	74
3000								=	=	38	40	42	44	46	48	50	52	54	56	58	60	62	64	66	68	70
5000										=	=	38	40	42	44	46	48	50	52	54	56	58	60	62	64	68

Sounders or sirens for alert and alarm purposes are too often chosen from the wide range of models available on the market without sufficient attention being given to the particular application for which they will be used.

Factors determining choice

The selection of the sounder for a particular application is usually determined by several factors.

These are:-

- Ambient noise in the environment
- The quality and type of sound in the environment
- The duration of signal required
- The noise level required
- The type of electricity supply available
- Is visual indication also required?

Environmental factors

The type and intensity of sounder chosen for any application will be determined by the environment in which they are used. Thus, sounders for certain applications in hotels might be unsuitable for similar applications in a factory; a sounder for use in a dockyard may be quite inappropriate for use in a school.

There are four broadly different types of environments.

These can be categorised as follows:-

- **Industrial, manufacturing.** This category includes not only factory premises but also equipment and facilities used in factories, such as cranes, mechanical handling vehicles, diesel generating sets and control panels. This category also includes industrial hazardous locations such as coal mines and the petro-chemical industry (including the North Sea oil industry).
- **Buildings; commercial and public.** Schools, hospitals, residential homes, office complexes, airports and military sites are covered. Building sites, too.
- **Priority and public service vehicles.** This category includes ambulances, fire and police authority vehicles.
- **Maritime.** Ships and dock installations. Hazardous sites such as oil terminals are included.

Frequency: Pitch of note. The frequency is the identification of a note and is usually defined by the number of vibrations per second. Frequency can be measured by a frequency meter, which in its simplest form is the tuning fork. It is not expected that the electrical contractor will have such a meter amongst his equipment, but it is usually sufficient for the frequency of noise in an environment for our purposes to be identified generally. For instance, the noise in a machine shop in which a grinder is installed would be of a high frequency, while that in a forge with a drop hammer in operation would be low frequency.

Time rating. Account must be taken of the time cycle over which the alarm is required to operate and a signal has to be selected which has an adequate time rate. It should be noted that sounders used as fire alarms are required to be continuously rated. Hooters are available on the market which have time rating of either one minute or two minutes. Such hooters will not be accepted by the Fire Authorities. When modifying or inspecting existing installations, contractors should bear this in mind as many existing fire alarm installations have hooters with non-acceptable time ratings.

Noise level required. Having established the ambient or background noise and frequency level, the signal strength required is the sound which can be heard at the point of listening. Tests show that the ear can distinguish a warning signal which is ten decibels below that of the existing noise level, provided there is adequate frequency differential.

Noise attenuation. In selecting the signal strength required to cover an application, it is necessary to appreciate that as a "rule of thumb" sound is absorbed or reduces at the rate of six decibels as the distance from the signal is double. This factor is known as attenuation. Where the operating conditions are difficult, for instance where there is a likelihood of high winds, or where there are solid objects in the noise path, attenuation of eight or ten decibels should be allowed to avoid "blind spots" or inadequate coverage.

Before finally choosing the signal to be used, ensure that the same or similar sound is not used in an adjacent system for other applications. If the sounder is outdoors then a weatherproof version must be selected. It should be remembered that there are also indoor situations that require waterproof enclosures too. Explosion protected or flameproof signal devices are essential if the sounder is required to be sited in a location where there are explosive or fire hazard conditions.

SIRENS

Sirens are high frequency devices usually continuously rated and are electric motor driven. Air is pulled in through a multi-bladed impeller and pushed out through radial vents. The combination of motor speed and the number of impeller blades and the number and spacing of the radial outlets, determines the frequency.

The siren is used extensively for disaster warnings but has many other applications. These include fire alarms, anti-theft/security alarms, process control, time signalling, fault indicating, machinery start-stop alarms. Most individual requirements are covered by sirens rated from 15 W to 746 W (1hp), which have sound outputs from 95 dB to 125 dB at 2 m distance, giving an audible signal over a range of 100 to 1000 m.

Sirens

BUZZERS AND HOOTERS

Buzzers are electro-mechanical devices where the diaphragm is deflected by a moving magnet, which is triggered by a make and break contactor. In general, buzzers are low cost and robust. Their applications include fire and security alarms in industrial and marine situations, industrial truck horns, process control, time signalling, telephone signalling, boat horns and as public vehicle attack alarms. Buzzers can be made available with projectors to give more directional sound.

The Hooter is an electric motor driven device, based on the principle of driving a notched disc against a stud which in turn operates a diaphragm. Hooters are low frequency devices and are available as either motor driven or hand operated. Because of the amount of heat generated by the method of operation, in general terms, the motor driven hooter is short time rated. Hand operated devices do not, of course, have a rating problem.

Hooters are used as general industrial alarms, crane warning alarms, industrial truck hooters and boat horns.

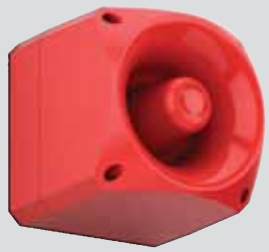
Buzzers

ELECTRONIC SOUNDERS

The electronic sounder is by far the most versatile device available and has many distinct advantages as far as the contractor is concerned. Not least of these is the low current consumption and relatively high output, which makes the electronic sounder ideal for use in conjunction with battery powered systems. Consequently, this type of sounder is used extensively for fire and intruder alarm systems.

A particular feature of solid state sounders is that it is possible to vary the type of sound emitted. Fast and slow warble, fast and slow pip, and continuous note are available.

Of particular interest to the contractor is that models have been designed to make installation very easy. Fixing holes match the electrical accessory box and the in-coming supply cable is connected to a terminal block in the base of the unit.



Electronic sounders

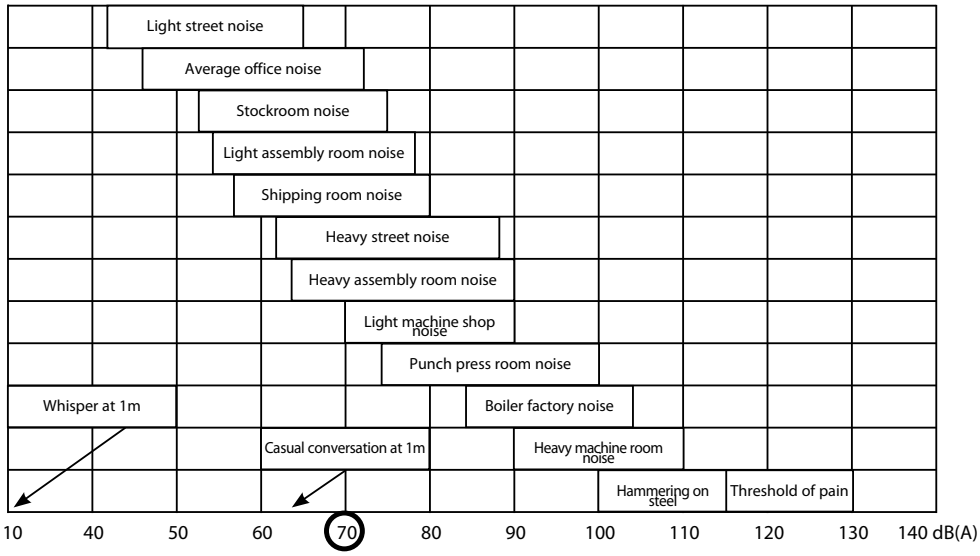
BELLS

The bells contained in this catalogue deliver a clear loud ring free from mechanical clatter. Available in either 4", 6" or 8" diameter there is a bell to suit every application.

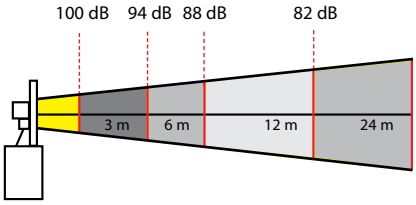
Standard units are powder coated Grey (Red also available) and all have facility of fitting optional back box to ensure IP 65 rating. NHP bells are ideal for school class and process control alarms.

Bells

DECIBEL VS METRES



dB @ Y METRES = (X-6)dB @ 2Y METRES
Double the distance, subtract 6 dB

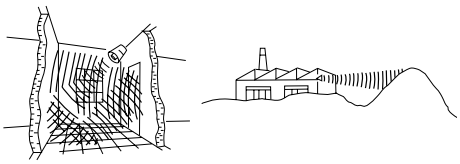


FREQUENCY HZ / ATTENUATION -dB (A)

0 - 500 Hz – 0 dB(A)
500 - 1000 Hz– 3 dB(A)
1000 - 2000 Hz– 5 dB(A)
2000 - 4000 Hz– 9 dB(A)

Deduct these dB from the above data depending on audio/frequency of the sounder

300 Hz - 500 Hz



1000 Hz - 3000 Hz

SELECTION & APPLICATION

The environment in which the beacon is to be installed will determine the product type and light intensity. Thus a beacon designed for industrial use incorporating a very high light output would not be suitable for local signalling at a control panel. Alternatively a low light output beacon would be ineffective for large factory equipment.

Generally Moflash can supply beacons for all types of applications. Listed below are some of the main market areas.

Automotive
Warning beacons for use on automobiles (commercial and private), agriculture/off road vehicles and forklift trucks.

Industrial
Warning beacons for heavy duty, high light output applications such as foundries, factory shopfloors, large warehouses.

Commercial
Warning beacons for light duty, low to medium light output to give local indication such as offices, hospitals and schools. Also suitable for fire and security applications.

Explosion protected
Warning beacons for use in potentially explosive environments such as oil rigs, refineries and mines.

Environmental factors determining selection
- Safe atmosphere or potentially explosive atmosphere
- The ambient level of existing light
- The light output required from the beacon
- The duration the beacon has to operate
- The IP rating of the beacon
- The electrical supply available

Types of visual warning beacons available
Moflash manufactures five different types of visual warning beacons.

Rotating beacons
A parabolic reflector, driven by an electric motor, revolves around a continuously illuminated lamp on the vertical axis of the beacon creating a powerful beam of light travelling through 360 degrees. These units are available with either a filament or a tungsten halogen lamp.

In general this type of beacon has a greater degree of light output than other models but this is reduced as the parabolic reflector only illuminates one given point at a time.

Flashing filament beacons
Operating through an internal circuit, which simply cycles the lamp on, and off. These types of beacons generally give a much lower light output as it takes longer for the lamp to fully illuminate itself. These units are available with either a filament or tungsten halogen lamp. The light output can be improved by the use of a Dioptric (Fresnal) lens which is placed over the lamp capturing the light emitted, magnifying and directing it to increase the brightness of the visual signal. In terms of light coverage this type of beacon is more efficient as it illuminates the whole surface of the beacon constantly through 360 degrees.

Static filament (Continuous) beacons
These units are identical to flashing filament beacons with the exception that they do not operate through an on, and off cycle. When the unit is energised the light source stays permanently 'on', until turned off. The main advantage of this type of beacon is that the light can be controlled by a separate source i.e. a control panel, giving the unit more flexibility. These units are available with either a filament of tungsten halogen lamp.

Xenon (Strobe) beacons
A discharge capacitor operating through a converter circuit ignites xenon gas inside a tube creating a brilliant flash of light. Xenon gas ignites virtually instantaneously so maximum brightness is obtained immediately. In some Moflash models a 'Double Flash' option is also available which extends the signal duration making it more noticeable to the human eye.

Xenons have the added advantage of low current consumption combined with long life. The tube life of a xenon beacon is approximately 5 million flashes. These units are the most efficient available, incorporating a 360 degree light output with the brightest and most effective visual gear.

LED beacons
LED 'light emitting diode' beacons are ideally suited for long life applications typically achieving 100,000 hours of service. The 125 series LED beacon incorporates 48 LEDs in one enclosure and has two modes of operation, static and flashing (switch selectable on the pcb). The 201/200 and 401/400 series LED beacons incorporate 144 LEDs in one enclosure and has three modes of operation, static, flashing and rotating (switch selectable on the pcb).

Visual warning beacons communicate their message through two (sometimes three) variables:

- Level of brightness
- The colour of the beacon dome
- Audibility if fitted with the audible signal

Level of brightness

Brightness depends on the type of beacon chosen and the rated output of the unit i.e. Watts and Joules, the distance that the signal is observed from and the dome colour of the beacon used. In general, if the viewing distance is doubled the light intensity observed is reduced to a quarter and if the distance is quadrupled, the light intensity is reduced to a sixteenth.

Beacon dome colours

The intensity of the light can be greatly reduced as it passes through the dome of the beacon. The extent of this reduction is dependant upon:

- The type of light source used i.e. conventional filament (incandescent) lamp, tungsten halogen lamp or a xenon tube
- The colour of the beacon dome that is used

The table below gives an indiction of the percentage of light that will pass through the beacon dome for different light sources and dome colours.

Colour	Filament	Halogen	Xenon
Clear	100 %	100 %	100 %
Amber	70 %	70 %	70 %
Red	30 %	27 %	23 %
Green	12 %	15 %	25 %
Blue	8 %	10 %	13 %

Different dome colours are used to convey different messages to the observer.

- RED = Serious danger act now
- AMBER = Warning proceed with care
- GREEN = OK, proceed as normal
- BLUE = Specific process notice/warning

Generally, Green colour beacons are used by Doctors and Veterinarians and Blue beacons for the Police and Fire departments.

Audibility

Simply producing an audible sound when the beacon is illuminated. This is of particular use in low level noisy environments if the warning light is obstructed from direct viewing, or as a back up warning should the lamp fail.

Siting and maintenance of visual warning beacons

- The siting and maintenance of visual warning beacons is as important as their selection and application. When installing a light, care should be taken to position it in the most effective place, if possible, to allow for all round light dispersion.
- Always ensure that there is air movement around the beacon enclosures as in normal operation, this will warm up due to heat emitted from the light source. High power models can be quite hot over an extended period of time, therefore, avoid sitting the light under gantries, overhangs or in tight enclosed spaces with restricted air movement.
- Regularly clean the dome of the beacon, as this will maintain optimum light output and reduce heat build up. All domes produced by Moflash are manufactured from 'UV' stable polycarbonate plastic. Therefore do not clean with petroleum based cleaners.
- Areas of vibration should be avoided. If this is not possible then our anti-vibration mount 50080 should be used.
- In general it is not recommended that beacons be mounted directly onto conduit tubing without the use of a conduit junction box or bracket.
- To maintain the IP rating of the units the beacon must be mounted with the dome upwards and fully locked onto the base assembly. The beacon should also be suitably sealed at the point of connection using the correct cable glands.
- Xenon tube failures, unlike filament lamps, which fail immediately, deteriorate very slowly. Irregular or erratic flashing will indicate the pending failure of the tube. Once this is recognised the tube should be replaced as soon as possible. Failure to do so will result in electronic damage to the printed circuit board.

Electronic Sounders

SONOS

The SONOS is a general purpose electronic sounder for fire, security and industrial applications. Twist and click operation of the dome allows easy access to base for cable entry.

TECHNICAL SPECIFICATION

SUPPLY VOLTAGE:	9-60 V DC and 110/240 V AC
PEAK SOUND LEVEL:	93-106 dB @ 1 metre (tone dependant)
IP RATING:	IP 65
NUMBER OF TONES:	32
FREQUENCY RANGE:	400-2580 Hz
OPERATING TEMPERATURE:	-25 ºC to + 70 ºC (DC) -25 ºC to + 55 ºC (AC)
CURRENT	(AC) refer to tones table on page 53 (DC) refer to tones table on page 54
RATING:	Continuous
CASING:	Hi Impact Polycarbonate
CABLE ENTRIES:	2 x M20
WEIGHT:	250 grams

VOLTAGE	ORDER CODES
9-60 V DC	**KL2494**
110/240 V AC	**KL2492**

NOTES:

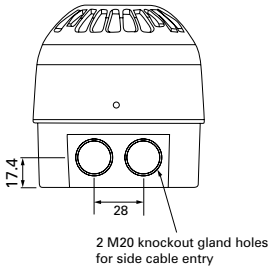
dB range can vary between 94 - 106 depending on tone and voltage selected.

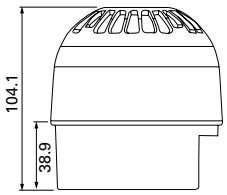
KL2494 has a two (2) stage alarm function. To activate the 2nd tone connect the positive supply to terminal 3 (in +) and the negative supply to terminal (-) and terminal (*). Install switch between terminal 1 + 2, note NPN switching only for PLC control.

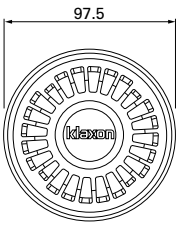
Overall height 100 mm

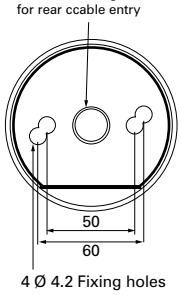
Base height 40 mm

Base diameter Ø 90 mm









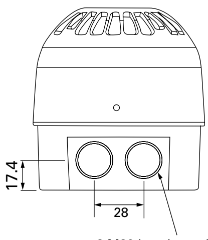
Deep Base

klaxon

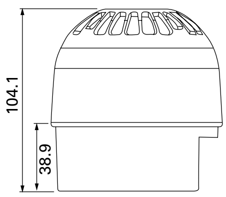
Overall height 100 mm

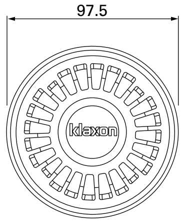
Base height 40 mm

Base diameter Ø 90 mm

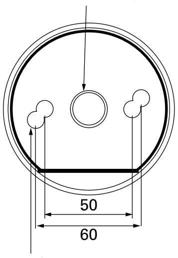


2 M20 knockout gland holes
for side cable entry





M20 Knockout gland hole
for rear ccable entry



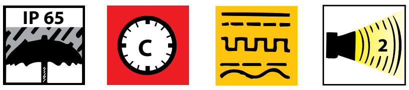
4 Ø 4.2 Fixing holes

Deep Base

Electronic Sounders

SONOS with LED beacon

The SONOS Strobe with combined LED beacon provides both a visual and audible alarm, with adjustable sound output. Available with either Red or Amber domes.



TECHNICAL SPECIFICATION

SUPPLY VOLTAGE:	17-60 V DC
PEAK SOUND LEVEL:	93-106 dB @ 1 metre (tone dependant)
IP RATING	IP 65
NUMBER OF TONES:	32
FREQUENCY RANGE:	400-2580 Hz
OPERATING TEMPERATURE:	-25 ºC to + 70 ºC
CURRENT:	refer to tones table on page 55-56
RATING:	Continuous
CASING:	Hi Impact Polycarbonate
CABLE ENTRIES:	2 x M20
WEIGHT:	250 grams

VOLTAGE	ORDER CODES
RED	**KL2496R**
AMBER	**KL2496A**

NOTES:

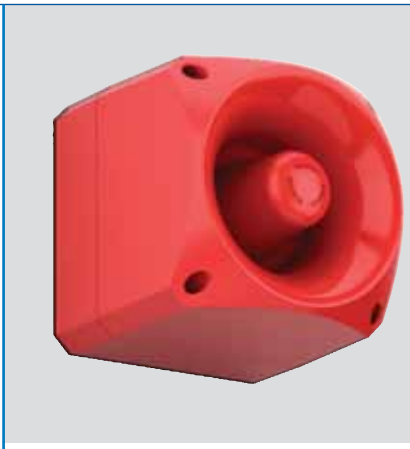
dB range can vary between 94 - 106 depending on tone and voltage selected.

No second stage alarm of this model, however ability to operate beacon separately is possible. For separate beacon control, connect positive supply to terminal 3 (in +) and negative supply to terminal 2 (-) and terminal (*). Install switch between terminal 1 + 2, to switch between sound and beacon. Switching only for PLC control.

Electronic Sounders

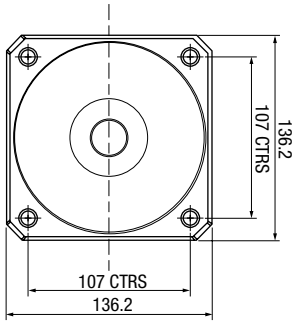
NEXUS 105

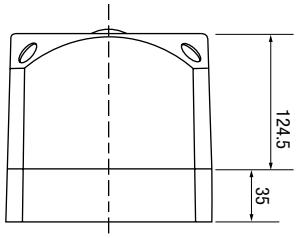
The Nexus 105 is a high output multiple tone sounder designed for fire alarm and industrial applications. Wire to base for quick installation and fix sounder head by stainless steel 1/4 turn fasteners. Includes volume control for greater flexibility and precise dB output.



TECHNICAL SPECIFICATION

SUPPLY VOLTAGE:	10-60 V DC and 110/240 V AC
PEAK SOUND LEVEL:	105 dB @ 1 metre (tone dependant)
IP RATING	IP 66
NUMBER OF TONES:	64
FREQUENCY RANGE:	refer to tones table on page 57
OPERATING TEMPERATURE:	-25 ºC to + 70 ºC (DC) -25 ºC to + 55 ºC (AC)
CURRENT:	18-40 mA (DC) / 11-23 mA (AC)
RATING:	Continuous
CASING:	Hi Impact ABS / polycarbonate
CABLE ENTRIES:	Drilling guides in side and base
WEIGHT:	(DC) 700 grams & (AC) 800 grams





VOLTAGE	ORDER CODES
10-60 V DC	**KL980542**
110/240 V AC	**KL980548**

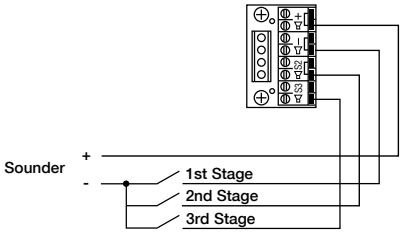
PRODUCT TIP:

Choose the sounder output (dB) 5-10 dB above your ambient noise level. If used outdoors do not mount vertically with cone facing upwards, as water or foreign matter may collect and impede sound output.

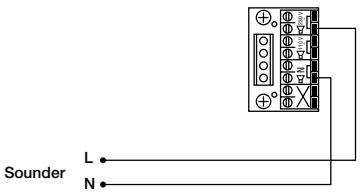
NOTES:

The AC version has only a one (1) stage alarm.
Refer to NEXUS 110 if (3) stage alarms are required.

DC model can achieve three (3) stage alarms by remote switching, either by PLC or interposing relay.

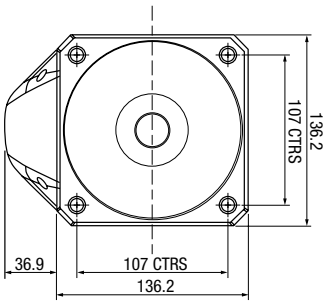


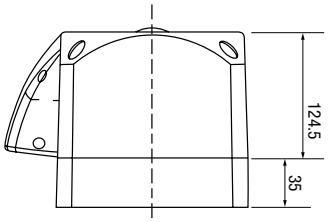
10-60 V DC
(Part No. KL980542)

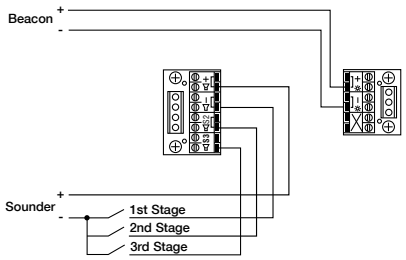


110/240 V AC
(Part No. KL980548)

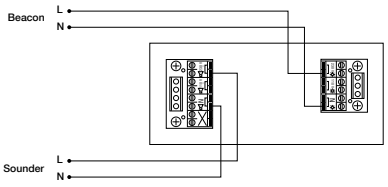
klaxon







10-60 V DC
(Part No. KL980543/554)



110/240 V AC
(Part No. KL980549/550)

Electronic Sounders

Nexus 105 with Xenon strobe

Same features as the Nexus 105, however this unit incorporates a powerful 5 J Xenon beacon. DC models have the ability to use 3 stage alarms.

IP 66 · UV

TECHNICAL SPECIFICATION

SUPPLY VOLTAGE:	10-60 V DC and 110/240 V AC
PEAK SOUND LEVEL:	105 dB @ 1 metre (tone dependant)
IP RATING:	IP 66
NUMBER OF TONES:	64
FREQUENCY RANGE:	refer to tones table on page 57
OPERATING TEMPERATURE:	-25 ºC to + 70 ºC (DC) -25 ºC to + 55 ºC (AC)
CURRENT:	718-740 mA (DC) / 81-93 mA (AC)
RATING:	Continuous
CASING:	Hi Impact ABS / polycarbonate
CABLE ENTRIES:	Drilling guides in side and base
WEIGHT:	(DC) 800 grams & (AC) 900 grams

VOLTAGE	DOME COLOUR	ORDER CODES
10-60 V DC	Red	**KL980543**
10-60 V DC	Amber	**KL980544**
10-60 V DC	Clear	**KL980588**
110/240 V AC	Red	**KL980549**
110/240 V AC	Amber	**KL980550**
110/240 V AC	Clear	**KL980573**

PRODUCT TIP:

Xenon strobe can be independently wired to operate after sounder has finished.

NOTES:

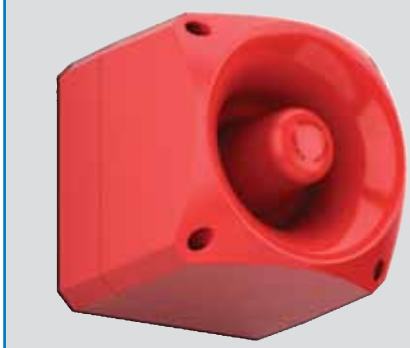
NEXUS sounders have turn-down volume potentiometer for precise dB output.

Indent item

Electronic Sounders

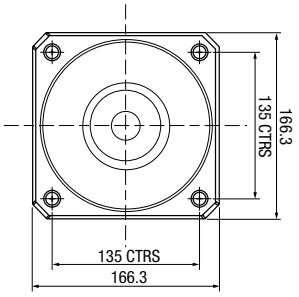
NEXUS 110

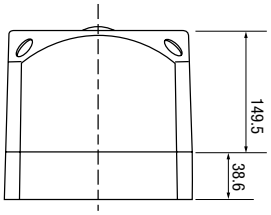
The Nexus 110 is an electronic sounder capable of emitting up to 110 db.
Three stage alarm option available with both AC and DC models and easy wire to base installation. The volume is also adjustable by 20 db.



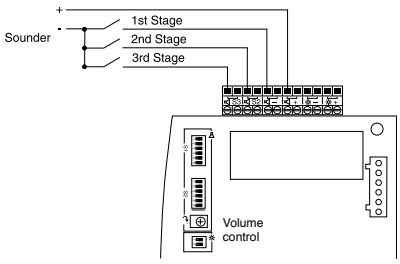
TECHNICAL SPECIFICATION

SUPPLY VOLTAGE:	10-60 V DC 24-48 AC and 110/240 V AC
PEAK SOUND LEVEL:	110 dB @ 1 metre (tone dependant)
IP RATING:	IP 66
NUMBER OF TONES:	64
FREQUENCY RANGE:	refer to tones table on page 57
OPERATING TEMPERATURE:	-25 ºC to + 70 ºC (DC) -25 ºC to + 55 ºC (AC)
CURRENT:	710-740 mA (DC) 81-93 mA (AC)
RATING:	Continuous
CASING:	Hi Impact ABS / polycarbonate
CABLE ENTRIES:	Drilling guides in side and base
WEIGHT:	(DC) 1.2 kg (AC) 1.3 kg

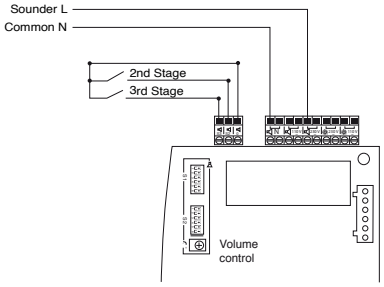




VOLTAGE	ORDER CODES
10-60 V DC	**KL980554**
24-48 V AC	**KL980605**
110/240 V AC	**KL980557**



10-60 V DC
(Part No. KL980554)

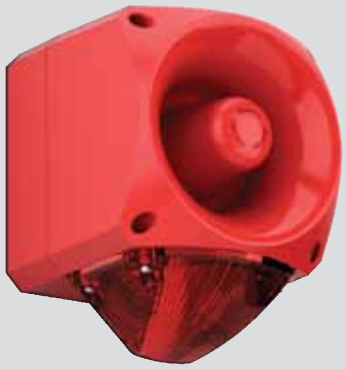


110/240 V AC
(Part No. KL980557)

PRODUCT TIP:

NEXUS sounders can be synchronised for “daisy chain” applications. If used outdoors do not mount vertically with cone facing upwards, as water or foreign matter may collect and impede sound output.

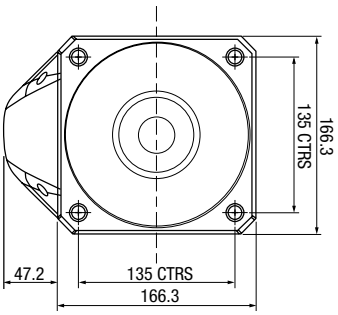
klaxon

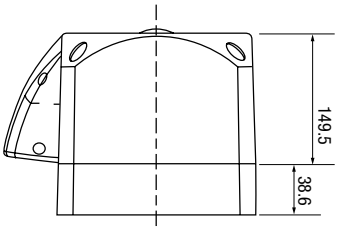


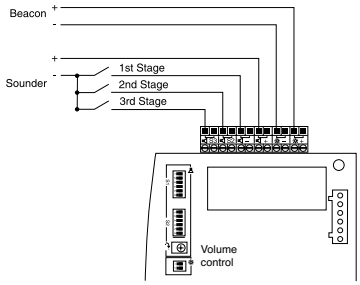
Electronic Sounders

NEXUS 110 with Xenon strobe

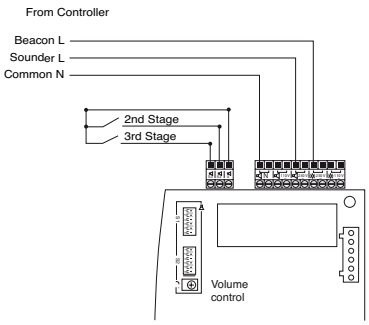
Same features as the Nexus 110, however this unit incorporates a powerful 5 J Xenon beacon. Three stage alarm option available with both AC and DC models.







10-60 V DC
(Part No. KL980555/556)



110/240 V AC
(Part No. KL980558/559)

TECHNICAL SPECIFICATION

SUPPLY VOLTAGE:	10-60 V DC and 110/240 V AC
PEAK SOUND LEVEL:	110 dB @ 1 metre (tone dependant)
IP RATING	IP 66
NUMBER OF TONES:	64
FREQUENCY RANGE:	refer to tones table on page 57
OPERATING TEMPERATURE:	-25 ºC to + 70 ºC (DC) -25 ºC to + 55 ºC (AC)
CURRENT:	710-740 mA (DC) 81-93 mA (AC)
RATING:	Continuous
CASING:	Hi Impact ABS / polycarbonate
CABLE ENTRIES:	Drilling guides in side and base
WEIGHT:	(DC) 1.2 kg (AC) 1.3 kg

VOLTAGE	DOME COLOUR	ORDER CODES
10-60 V DC	Red	**KL980555**
10-60 V DC	Amber	**KL980556**
110/240 V AC	Red	**KL980558**
110/240 V AC	Amber	**KL980559**

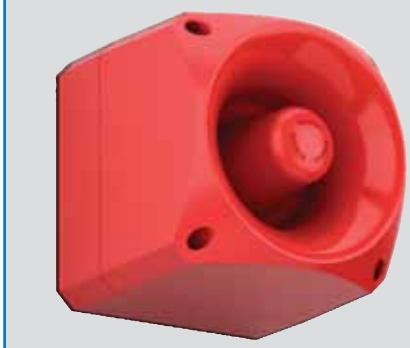
PRODUCT TIP:

NEXUS sounders can be synchronised for “daisy chain” applications.
If used outdoors do not mount vertically with cone facing upwards, as water or foreign matter may collect and impede sound output.

Electronic Sounders

NEXUS 120

The Nexus 120 is a very high output 64 multiple tone sounder. Ideal for areas of extreme ambient noise, such as mining sites and quarries.



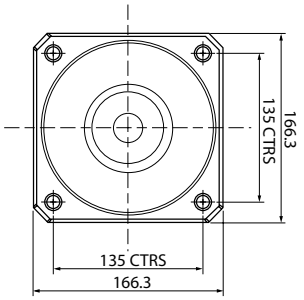
TECHNICAL SPECIFICATION

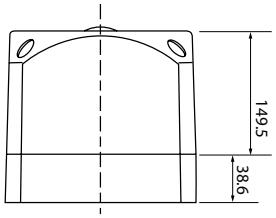
SUPPLY VOLTAGE:	10-60 V DC and 110/240 V AC
PEAK SOUND LEVEL:	120 dB @ 1 metre (tone dependant)
IP RATING:	IP 66
NUMBER OF TONES:	64
FREQUENCY RANGE:	refer to tones table on page 57
OPERATING TEMPERATURE:	- 25 ºC to + 70 ºC (DC) - 25 ºC to + 55 ºC (AC)
CURRENT	190-500 mA (DC) 88-180 mA (AC)
RATING:	Continuous
CASING:	Hi impact ABS
CABLE ENTRIES:	Drilling guides in side and base
WEIGHT:	(DC) 1.8 Kg (AC) 2.2 Kg

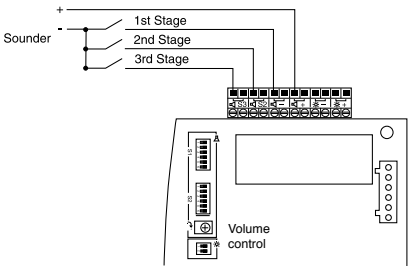
VOLTAGE	ORDER CODES
10-60 V DC	**KL980545**
110/240 V AC	**KL980551**

PRODUCT TIP:

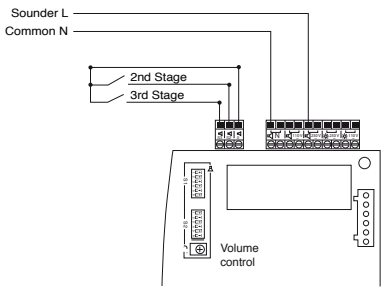
NEXUS sounders can be synchronised for “daisy chain” applications. If used outdoors do not mount vertically with cone facing upwards, as water or foreign matter may collect and impede sound output.







10-60 V DC
(Part No. KL980545)



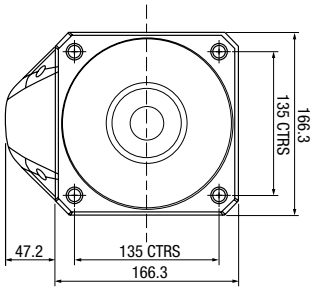
110/240 V AC
(Part No. KL980551)

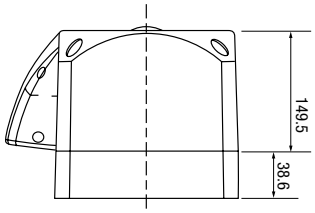
klaxon

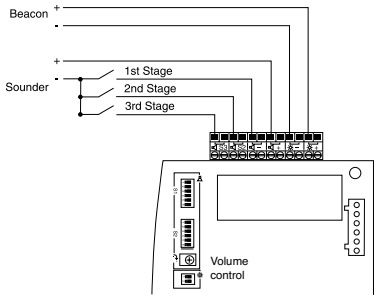
Electronic Sounders

NEXUS 120 with Xenon strobe

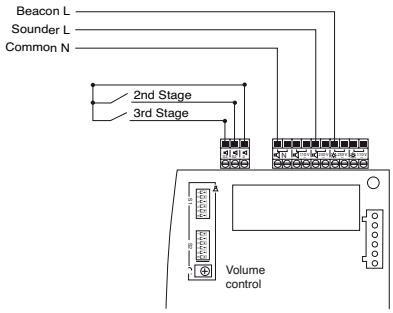
The NEXUS 120 is a very high output 64 multiple tone sounder, combined with 5 Joule Xenon strobe. Ideal for areas of extreme ambient noise, such as mining sites and quarries.







10-60 V DC
(Part No. KL980546/547)



110/240 V AC
(Part No. KL980552/553)

TECHNICAL SPECIFICATION

SUPPLY VOLTAGE:	10-60 V DC and 110/240 V AC
PEAK SOUND LEVEL:	120 dB @ 1 metre (tone dependant)
IP RATING:	IP 66
NUMBER OF TONES:	64
FREQUENCY RANGE:	refer to tones table on page 57
OPERATING TEMPERATURE:	- 25 ºC to + 70 ºC (DC) - 25 ºC to + 55 ºC (AC)
CURRENT:	890-1200 mA (DC) 158-250 mA (AC)
RATING:	Continuous
CASING:	Hi impact ABS
CABLE ENTRIES:	Drilling guides in side and base
WEIGHT:	(DC) 2.0 Kg (AC) 2.3 Kg

VOLTAGE	DOME COLOUR	ORDER CODES
10-60 V DC	Red	**KL980546**
10-60 V DC	Amber	**KL980547**
110/240 V AC	Red	**KL980552**
110/240 V AC	Amber	**KL980553**

PRODUCT TIP:

Xenon strobe can be independently wired to operate after sounder has finished.

NOTES:

Indent item

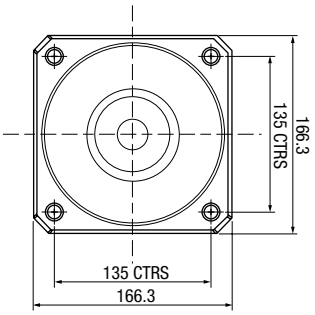
Electronic Voice Sounders

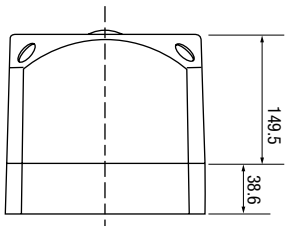
NEXUS VOICE

The Nexus Voice sounder is a high output low current consumption sounder that includes voice message capability. Ideal for process control applications due to its high IP 66 rating. Both AC and DC models have the ability to use multiple messages in conjunction with alarm tones.

TECHNICAL SPECIFICATION

SUPPLY VOLTAGE:	24 V DC and 110/240 V AC
PEAK SOUND LEVEL:	110 dB @ 1 metre (tone dependant)
IP RATING:	IP 66
NUMBER OF TONES:	64
FREQUENCY RANGE:	refer to tones table on page 57
OPERATING TEMPERATURE:	- 25 ºC to + 70 ºC (DC) - 25 ºC to + 55 ºC (AC)
CURRENT:	30 mA (DC) 40 mA (240 V AC)
RATING:	Continuous
CASING:	Hi impact ABS / polycarbonate
CABLE ENTRIES:	Drilling guides in sides and base
WEIGHT:	(DC) 1.1 Kg (AC) 1.1 Kg





VOLTAGE	ORDER CODES
24 V DC	**KL980726**
110/240 V AC	**KL980784**

PRODUCT TIP:

NEXUS sounders can be synchronised for “daisy chain” applications. If used outdoors do not mount vertically with cone facing upwards, as water or foreign matter may collect and impede sound output.

NOTES:

Voltage selection is achieved by wiring to premarked terminals in base.
No selector switch used.

Sound output can be decreased by internal potentiometre located inside sounder head.

Seven message options on DC version!

Ability to record 1 minute per message

Four message option on AC version

Sounders include free download software and wav. file library

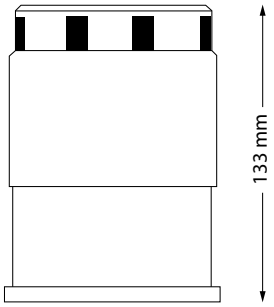
Free USB cable for downloading

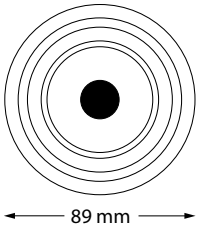
Sirens

MINI MONO P

This small motor driven siren is designed for ease of mounting, it has a separate mounting plate which connects to the main body with a bayonet locking action. A locking screw is also provided for additional security. Ideal applications are time signalling and general process alarms for indoor use.

MAINS VOLTAGE MODEL





TECHNICAL SPECIFICATION

SUPPLY VOLTAGE:	110 V and 240 V AC
PEAK SOUND LEVEL:	Up to 103 dB @ 1 metre
IP RATING	IP 44
FREQUENCY RANGE:	1000 Hz
NUMBER OF TONES:	1
OPERATING TEMPERATURE:	-30 ºC to +80 ºC
CURRENT	(240 V AC) 130 mA (110 V AC) 85 mA
RATING:	Continuous
CASING:	Hi Impact ABS
COLOUR:	Light grey
CABLE ENTRIES:	1
WEIGHT:	500 grams

VOLTAGE	ORDER CODES
110/240 V AC	**KL2303**

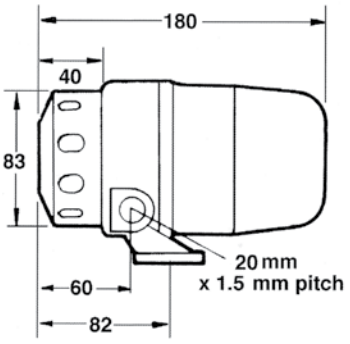
Sirens

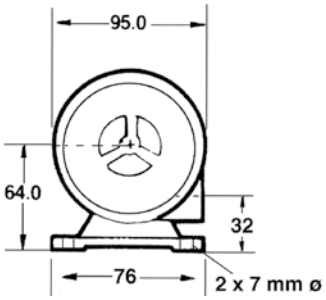
MONO 72

The Mono 72 is a powerful motor driven siren producing clear sound output.
It is ideal for mining applications.

TECHNICAL SPECIFICATION

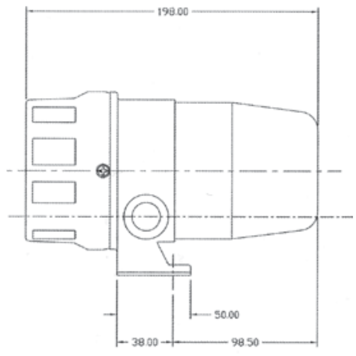
SUPPLY VOLTAGE:	24 V DC, 110 V and 240 V AC/DC
PEAK SOUND LEVEL:	120 dB @ 1 metre
IP RATING:	IP 65
FREQUENCY RANGE:	1800 Hz
NUMBER OF TONES:	1
OPERATING TEMPERATURE:	-30 ºC to + 45 ºC
CURRENT:	(240 V AC) 0.46 A (24 V DC) 4.6 A (110 V AC) 1.00 A
RATING:	Continuous
CASING:	Cast aluminium body / ABS cover
COLOUR:	Red/Black
CABLE ENTRIES:	1
WEIGHT:	1.7 Kg



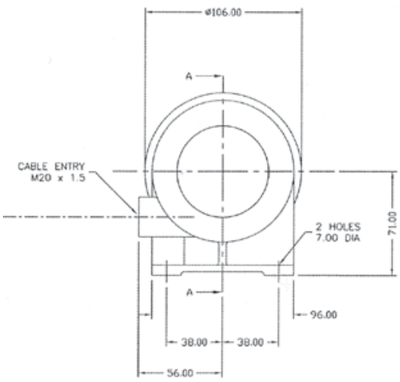


VOLTAGE	ORDER CODES
110 V AC/DC	**KL2105**
240 V AC/DC	**KL2108**

klaxon



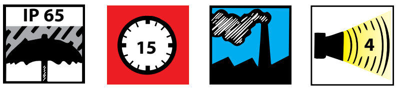
SECTION A-A



Sirens

DUPLO

The Duplo is a powerful motor driven siren producing a high sound output size from a small physical size.



TECHNICAL SPECIFICATION

SUPPLY VOLTAGE:	240 V AC/DC
PEAK SOUND LEVEL:	126 dB @ 1 metre
IP RATING:	IP 65
FREQUENCY RANGE:	1800 Hz
NUMBER OF TONES:	1
OPERATING TEMPERATURE:	-30 ºC to + 45 ºC
CURRENT:	(240 V AC) 1.00 A
RATING:	On 15 minutes, Off 10 minutes
CASING:	Cast aluminium body / ABS cover
COLOUR:	Grey/Black
CABLE ENTRIES:	1
WEIGHT:	2 Kg

VOLTAGE	ORDER CODES
240 V AC/DC	**KL2214**

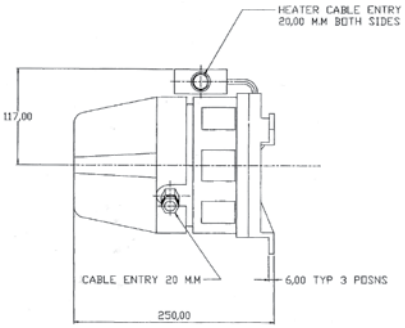
Evacuation Sirens

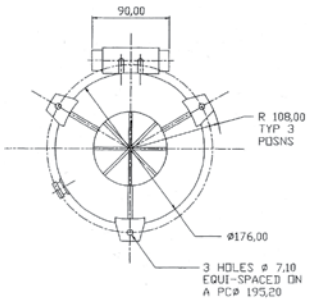
SO4

The SO4 is a powerful weatherproof evacuation siren designed for vertical mounting in outdoor applications. Manufactured from die cast aluminium.

TECHNICAL SPECIFICATION

SUPPLY VOLTAGE:	110 V and 240 V AC/DC
PEAK SOUND LEVEL:	125 dB @ 1 metre
FREQUENCY RANGE:	900 Hz
NUMBER OF TONES:	1
OPERATING TEMPERATURE:	-30 ºC to + 45 ºC
CURRENT:	(240 V AC) 2.1 A (110 V AC) 3.7 A
RATING:	Continuous
CASING:	Cast aluminium body
COLOUR:	Grey
CABLE ENTRIES:	1
WEIGHT:	4.5 Kg





VOLTAGE	ORDER CODES
110 V AC/DC	**KLSO4110** [i]
240 V AC/DC	**KLSO4240**

NOTES:

[i] Indent item

klaxon

Evacuation Sirens

GP 6

The GP 6 is a single ended disaster warning siren designed to give effective warning over large areas. The very low frequency maximises sound coverage and emits a traditional "AIR RAID" sound. The GP 6 is manufactured in the UK from cast aluminium and is powered by a 3 phase motor.

TECHNICAL SPECIFICATION

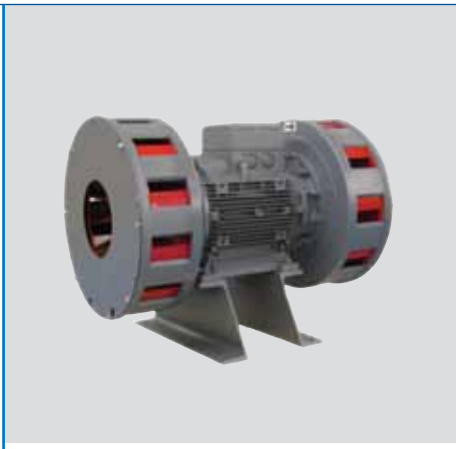
SUPPLY VOLTAGE:	415 V
PEAK SOUND LEVEL:	135 dB @ 1 metre
IP RATING:	IP 55
FREQUENCY (SOUND):	475 Hz
NUMBER OF TONES:	1
OPERATING TEMPERATURE:	-20 ºC to + 40 ºC
CURRENT:	FLC (5.5 Amps) LRC (31.85 Amps)
MOTOR POWER:	2.2 kW
RATING:	Continuous
CASING:	Cast aluminium body
COLOUR:	Grey/Red
WEIGHT:	68 Kg
R.P.M:	3000

VOLTAGE	ORDER CODES
415 V/50 Hz	**GP6**

PRODUCT TIP:

D.O.L. motor starting is possible for the GP 6 siren by using Cat. No. CAT7N5.5P415VAC. For further advise on motor starting please contact your nearest NHP sales representative or office.

Evacuation Sirens



GP 12

The GP 12 is a double ended warning siren designed for warning over large areas. Each stator produces a different tone which when combined with the sirens low efficiency provides excellent sound coverage and emits a traditional “AIR RAID” sound.

TECHNICAL SPECIFICATION

SUPPLY VOLTAGE:	415 V
PEAK SOUND LEVEL:	145 dB @ 1 metre
IP RATING:	IP 55
FREQUENCY (SOUND):	470 Hz
NUMBER OF TONES:	1
OPERATING TEMPERATURE:	-20 ºC to + 55 ºC
CURRENT:	FLC (18.10 Amps) LRC (145.10 Amps)
MOTOR POWER:	11 kW
RATING:	Continuous
CASING:	Cast aluminium body
COLOUR:	Grey/Red
WEIGHT:	145 Kg
R.P.M:	2490

VOLTAGE	ORDER CODES
415 V	**GP12**

PRODUCT TIP:

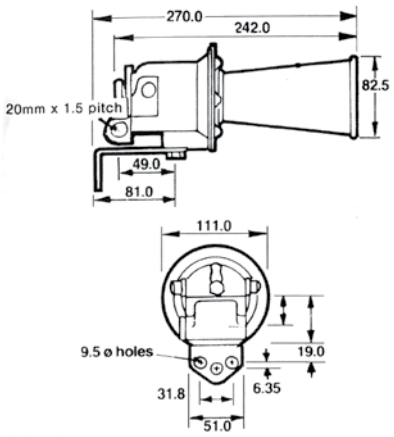
D.O.L. motor starting is possible for the GP 12 siren by using Cat. No. CAT7N11P415VAC. For further advise on motor starting please contact your nearest NHP sales representative or office.

klaxon

Hooters

KLAXET

The Klaxet is a motor drive hooter which emits the unique "Klaxon" sound. The high output, changing frequency tone provides a warning tone that can be heard above most background noisses. This hooter is ideal for marine environments and extreme weather conditions, such as fog.



TECHNICAL SPECIFICATION

SUPPLY VOLTAGE:	24 V DC, 110 V AC and 240 V AC
PEAK SOUND LEVEL:	111 dB @ 1 metre
IP RATING:	IP 54
FREQUENCY RANGE:	470 Hz
OPERATING TEMPERATURE:	-20 ºC to +40 ºC
RATING:	On 1 minute, off 5 minutes
CASING:	Cast iron/brass
COLOUR:	Grey
WEIGHT:	1.6 Kg

VOLTAGE	CURRENT	ORDER CODES
24 V DC	1.0 A	**KL1001** i
110 V AC	500 mA	**KL1008** i
240 V AC	330 mA	**KL1010**

NOTES:

i Indent item

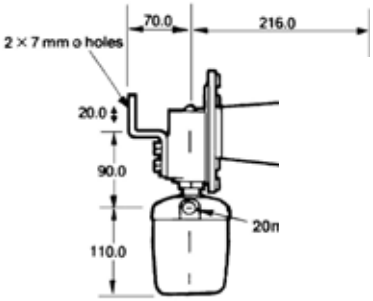
Hooters

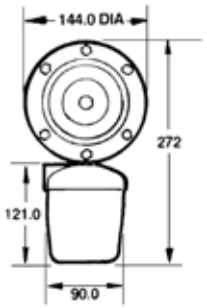
A1

The A1 is a powerful motor driven hooter which provides a unique "Klaxon" sound at 120 dB. This hooter can cut through background noise in almost any environment and is ideal for safety warning and time signalling. The A1 has a special finish to provide excellent chemical resistance for corrosive environments.

TECHNICAL SPECIFICATION

SUPPLY VOLTAGE:	24 V DC, 110 V AC and 240 V AC
PEAK SOUND LEVEL:	120 dB @ 1 metre
IP RATING:	IP 65
FREQUENCY RANGE:	420 Hz
OPERATING TEMPERATURE:	-35 ºC to +66 ºC
RATING:	On 2 minute, off 5 minutes
CASING:	Die cast aluminium/brass & ABS cover
COLOUR:	Grey
WEIGHT:	2 Kg



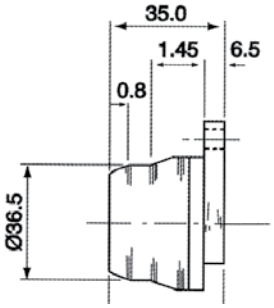


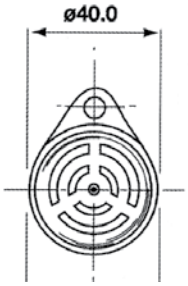
VOLTAGE	CURRENT	ORDER CODES
24 V DC	2.3 A	**KL2001** [i]
110 V AC	840 mA	**KL2004**
240 V AC	760 mA	**KL2006**

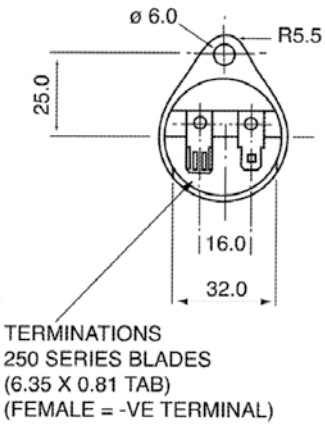
NOTES:

[i] Indent item

klaxon







Buzzers

KKTB

The KKTB miniature buzzer produces a rich low frequency sound, which is ideal for fire, marine and security applications.

TECHNICAL SPECIFICATION

SUPPLY VOLTAGE:	6-14 V DC and 10-28 V DC
PEAK SOUND LEVEL:	80 dB @ 1 metre
IP RATING:	IP 34
FREQUENCY RANGE:	450 Hz
NUMBER OF TONES:	1
OPERATING TEMPERATURE:	-30 ºC to + 85 ºC
CURRENT:	(6-14 V DC) 30 mA (10-28 V DC) 25 mA
RATING:	Continuous
CASING:	ABS
COLOUR:	Black (6 - 14 V DC) KL1049646 Red (10 - 28 V DC) KL1049650
WEIGHT:	0.28 grams

VOLTAGE	ORDER CODES
6-14 V DC	**KL1049646**
10-28 V DC	**KL1049650**

Buzzers

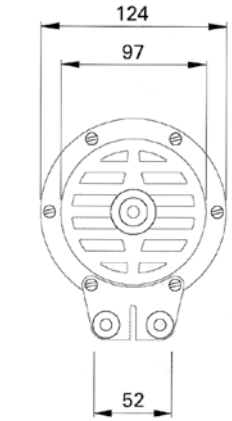
AE95

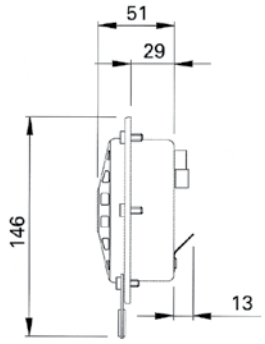
The AE95 weatherproof buzzer produces a penetrating low frequency sound, using a combination of solid state and electromechanical switching technology.

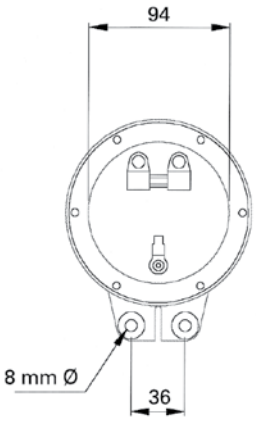
TECHNICAL SPECIFICATION

SUPPLY VOLTAGE:	110/240 V AC or 24/48 V DC
PEAK SOUND LEVEL:	116 dB @ 1 metre
IP RATING:	IP 55
FREQUENCY RANGE:	335 Hz
NUMBER OF TONES:	1
OPERATING TEMPERATURE:	-10 ºC to + 40 ºC
CURRENT:	24 /48 V AC/DC (0.8 A) 110 V AC (0.4 A) 240 V AC (0.2 A)
RATING:	10 minutes on / 10 minutes off
CASING:	ABS
COLOUR:	Black
WEIGHT:	1.25 Kg

VOLTAGE	ORDER CODES
110/240 V AC/DC	**AE95-05**
24/48 V AC/DC	**AE95-06**



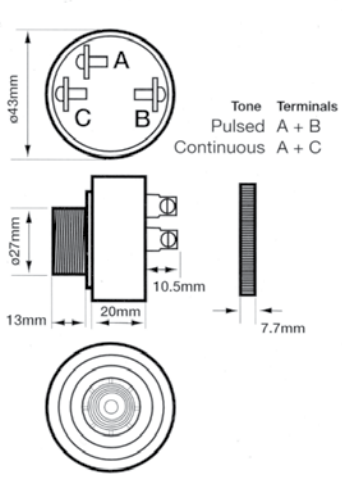




Buzzers

AE20M

The AE20M is a small panel mount electronic piezo buzzer, high pulsed output device.



TECHNICAL SPECIFICATION

SUPPLY VOLTAGE:	12 V AC/DC 110 or 240 V AC
PEAK SOUND LEVEL:	90 dB @ 1 metre
IP RATING:	IP 55
FREQUENCY RANGE:	2900 Hz
NUMBER OF TONES:	1
OPERATING TEMPERATURE:	-20 ºC to + 60 ºC
CURRENT:	(12 V AC/DC) 10 mA (24 V AC/DC 10 mA (240 V AC) 20 mA (110 V AC) 20 mA
RATING:	Continuous + Pulsed
CASING:	ABS
COLOUR:	Black
WEIGHT:	0.08 grams

VOLTAGE	ORDER CODES
12 V AC/DC	**AE20M -12 [1])**
24 V AC/DC	**AE20M -24**
240 V AC	**AE20M -230**
110 V AC	**AE20M -115**

NOTES:

Note: [1]) Pulsed tone only.

Bells

ADAPTABEL

The Adaptabel range is a high quality solenoid bell designed for heavy use in commercial and industrial applications .

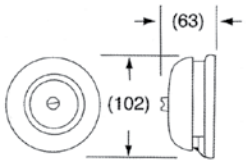
fitted with back box

TECHNICAL SPECIFICATION

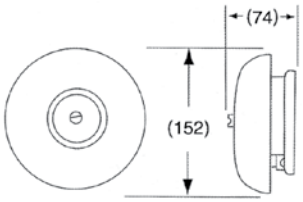
SUPPLY VOLTAGE:	12 V DC, 24 V DC / 110 and 240 V AC
PEAK SOUND LEVEL:	98 - 104 dB @ 1 metre
IP RATING:	IP 54 (IP 65 with back box)
OPERATING TEMPERATURE:	-35 ºC to + 66 ºC
CURRENT:	(24 V DC) 62 mA (110 V AC) 40 mA (240 V AC) 22 mA
CASING:	Steel / Die cast aluminium
COLOUR:	Grey + Red (W624DR)
WEIGHT:	4" (1.0 kg) 6" (1.4 kg) 8" (2.3 kg)

ORDER CODES

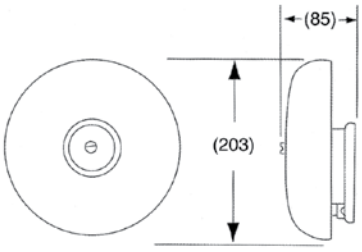
VOLTAGE	COLOUR	4"	6"	8"
12 V DC	**GREY**	**W412D**	-	-
24 V DC	**GREY**	**W424D**	**W624D**	**W824D**
24 V DC	**RED**	-	**W624DR**	-
110 V AC	**GREY**	**W4125A**	**W6125A**	-
240 V AC	**GREY**	**W4240A**	**W6240A**	**W8240A**
IP 65 GREY BACK BOX:				**A68WPBB**



Outline 4"



Outline 6"

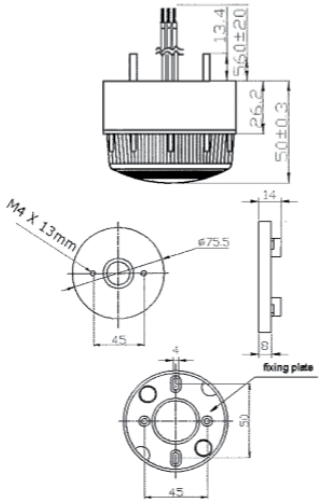


Outline 8"

Xenon Strobes

MOX80

This strobe light is specifically designed for high IP 67 applications.
The MOX80 range has a low current consumption and sits only 50 mm high with a 76 mm Ø base and 500 mm flying leads.



TECHNICAL SPECIFICATION

SUPPLY VOLTAGE:	10-100 V DC/20-72 V AC or 85-265 V AC
IP RATING:	IP 67
FLASH RATE:	60 flashes per minute
CASING:	Polycarbonate lens and base
OPERATING TEMPERATURE:	-20 ºC to + 55 ºC
WEIGHT:	130 grams

VOLTAGE	LENS COLOUR	CURRENT	ORDER CODES
10-100 V DC 20-72 V AC	Amber	110 mA @ 24 V DC	**MOX80-02A**
10-100 V DC 20-72 V AC	Blue	110 mA @ 24 V DC	**MOX80-02B**
10-100 V DC 20-72 V AC	Green	110 mA @ 24 V DC	**MOX80-02G**
10-100 V DC 20-72 V AC	Red	110 mA @ 24 V DC	**MOX80-02R**
10-100 V DC 20-72 V AC	Clear	110 mA @ 24 V DC	**MOX80-02C** i
80-265 V AC	Amber	50 mA	**MOX80-04A**
80-265 V AC	Blue	50 mA	**MOX80-04B**
80-265 V AC	Green	50 mA	**MOX80-04G**
80-265 V AC	Red	50 mA	**MOX80-04R**
80-265 V AC	Clear	50 mA	**MOX80-04C** i

NOTES:

i Indent item

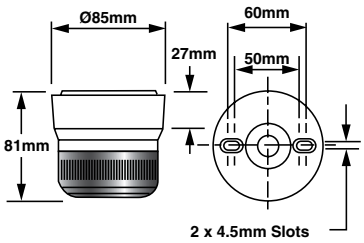
Xenon Strobes

FLASHGUARD

This ultra modern, sleek Xenon strobe light, is lightweight and easy to install. Sitting only 81 mm high and made from high quality polycarbonate. Incorporates a vandal-resistant locking mechanism on an 85 mm diameter base.

TECHNICAL SPECIFICATION

SUPPLY VOLTAGE:	12/24 V DC, 110 V AC or 240 V AC
IP RATING:	IP 65
FLASH RATE:	60 flashes per minute
OPERATING TEMPERATURE:	-20 ºC to + 70 ºC
CASING:	Polycarbonate lens / ABS body
WEIGHT:	138 grams



VOLTAGE	LENS COLOUR	CURRENT	ORDER CODES
12/24 V DC [1])	Amber	(12 V DC) 140 mA (24 V DC) 85 mA	**KL3061A**
12/24 V DC [1])	Blue	(12 V DC) 140 mA (24 V DC) 85 mA	**KL3061B**
12/24 V DC [1])	Green	(12 V DC) 140 m (24 V DC) 85 mA	**KL3061G**
12/24 V DC [1])	Red	(12 V DC) 140 mA (24 V DC) 85 mA	**KL3061R**
12/24 V DC [1])	Clear	(12 V DC) 140 mA (24 V DC) 85 mA	**KL3061C**
110 V AC	Amber	24 mA	**KL3063A**
110 V AC	Red	24 mA	**KL3063R**
110 V AC	Green	24 mA	**KL3063G**
240 V AC	Amber	15 mA	**KL3066A**
240 V AC	Red	15 mA	**KL3066R**
240 V AC	Blue	15 mA	**KL3066B**
240 V AC	Green	15 mA	**KL3066G**

NOTES:

[1]) user configurable.

Xenon Strobes

MOX 195

This MOX 195 is a shallow base optically enhanced 5 joule Xenon strobe for use in difficult, smoky conditions or poorly lit areas. This strobe is ideal for greater distances than standard fire beacons.

Overall height 65 mm

Base diameter Ø 104 mm

TECHNICAL SPECIFICATION

SUPPLY VOLTAGE:	15-28 V AC/DC or 180-250 V AC
IP RATING:	IP 65
FLASH RATE:	60 flashes per minute
CASING:	Polycarbonate lens / ABS base
OPERATING TEMPERATURE:	-25 ºC to + 45 ºC
WEIGHT:	125 grams

VOLTAGE	LENS COLOUR	CURRENT	ORDER CODES
15-28 V AC/DC	Amber	310 mA	**MOX195-02WHA**
15-28 V AC/DC	Blue	310 mA	**MOX195-02WHB**
15-28 V AC/DC	Green	310 mA	**MOX195-02WHG**
15-28 V AC/DC	Red	310 mA	**MOX195-02WHR**
15-28 V AC/DC	Clear	310 mA	**MOX195-02WHC** i

180-250 V AC	Amber	110 mA	**MOX195-05WHA**
180-250 V AC	Blue	110 mA	**MOX195-05WHB**
180-250 V AC	Green	110 mA	**MOX195-05WHG**
180-250 V AC	Red	110 mA	**MOX195-05WHR**
180-250 V AC	Clear	110 mA	**MOX195-05WHC** i

NOTES:

i Indent item

Rotating Beacons

MOR 200/201

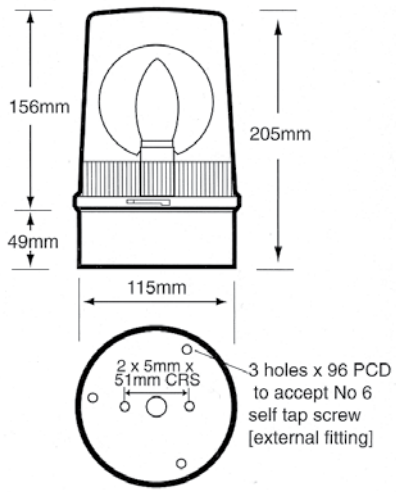
A parabolic reflector driven by an electric motor revolves a continuously illuminated lamp which creates a beam of light that travels 360 degrees through it's own vertical axis. Beacon includes dome, base and lamp.

TECHNICAL SPECIFICATION

IP RATING:	IP 65
BEAM ROTATION:	120 rpm
CASING:	Polycarbonate dome / ABS base
OPERATING TEMPERATURE:	-10 ºC to + 66 ºC
WEIGHT:	980 grams

VOLTAGE	LIGHT SOURCE	CURRENT	ORDER CODES
12 V DC	Halogen 55 W	4.70 A	**MOR201-13_[1])**
24 V DC	Halogen 70 W	3.00 A	**MOR201-14_[1])**
110 V AC	Incandescent 60 W	0.55 A	**MOR200-04_[1])**
240 V AC	Incandescent 60 W	0.29 A	**MOR200-05_[1])**

Spare halogen 12 V DC / 55 W lamp	**1691255**
Spare halogen 24 V DC / 70 W lamp	**1692470**
Spare Incandescent 110 V AC lamp	**4611540W**
Spare Incandescent 240 V AC lamp	**18325030**
Steel guard - plastic coated	**MO50010**
Spare Amber dome	**MO50064**
Spare Red dome	**MO50065**
Spare Blue dome	**MO50066**
Spare Green dome	**MO50067**
Wall mount bracket - right angle	**MO50001**
Anti vibration mount	**MO50080**



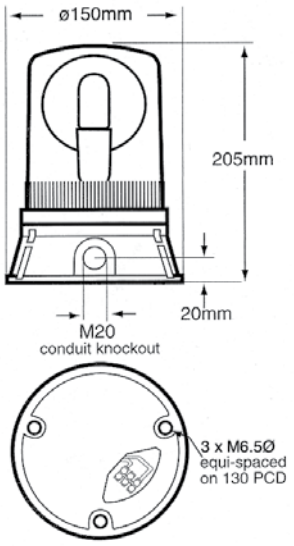
NOTES:

[1]) Add letter R, A, G or B at end of order code to denote dome colour.

Rotating Beacons

MOR 400/401

A parabolic reflector driven by an electric motor revolves a continuously illuminated lamp which creates a beam of light that travels 360 degrees through it's own vertical axis. Beacon includes dome, base and lamp.



TECHNICAL SPECIFICATION

IP RATING:	IP 65
BEAM ROTATION:	120 rpm
CASING:	Polycarbonate dome / ABS base
OPERATING TEMPERATURE:	-10 ºC to + 66 ºC
WEIGHT:	1.1 Kg

VOLTAGE	LIGHT SOURCE	CURRENT	ORDER CODES
12 V DC	Halogen 55 W	4.70 A	**MOR401-13_[1])**
24 V DC	Halogen 70 W	3.00 A	**MOR401-14_[1])**
110 V AC	Incandescent 60 W	0.55 A	**MOR400-04_[1])**
240 V AC	Incandescent 60 W	0.29 A	**MOR400-05_[1])**

Spare halogen 12 V DC 55 W lamp	**1691255**
Spare halogen 24 V DC 70 W lamp	**1692470**
Spare Incandescent 110 V AC lamp	**4611540W**
Spare Incandescent 240 V AC lamp	**4625040W**
Steel guard	**MO50010**
Spare Amber dome	**MO50064**
Spare Red dome	**MO50065**
Spare Blue dome	**MO50066**
Spare Green dome	**MO50067**
Wall mount bracket - right angle	**MO50004**
Single point mount bracket	**MO50006**

PRODUCT TIP:

To increase life of beacon never invert when mounting or hang off wall horizontally. Always mount as shown in picture above.

NOTES:

[1]) Add letter R, A, G or B at end of order code to denote dome colour.

Rotating Beacons

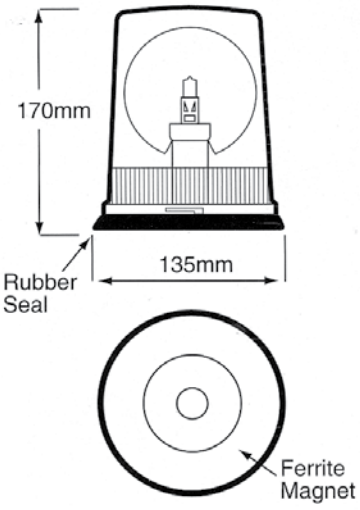
MOR 88

The MOR 88 is specifically designed for fast attachment via magnetic base.
This unit is supplied with 1 metre flex cord and a car lighter attachment.
Beacon includes dome, base and lamp.

TECHNICAL SPECIFICATION

IP RATING:	IP 65
BEAM ROTATION:	160 rpm
CASING:	Polycarbonate dome / ABS base
OPERATING TEMPERATURE:	-20 ºC to + 40 ºC
WEIGHT:	1.1 Kg

VOLTAGE	LIGHT SOURCE	CURRENT	ORDER CODES
12 V DC	Halogen 55 W	4.70 A	**MOR88-34A**
12 V DC	Halogen 55 W	4.70 A	**MOR88-34B**
12 V DC	Halogen 55 W	4.70 A	**MOR88-34G**
12 V DC	Halogen 55 W	4.70 A	**MOR88-34R**
24 V DC	Halogen 70 W	3.00 A	**MOR88-38A** i
24 V DC	Halogen 70 W	3.00 A	**MOR88-38B** i
24 V DC	Halogen 70 W	3.00 A	**MOR88-38G** i
24 V DC	Halogen 70 W	3.00 A	**MOR88-38R** i



Spare halogen 12 V DC 55 W lamp	**1691255**
Spare halogen 24 V DC 70 W lamp	**1692470**
Steel guard - plastic coated	**MO50010**
Spare Amber dome	**MO50064**
Spare Red dome	**MO50065**
Spare Blue dome	**MO50066**
Spare Green dome	**MO50067**

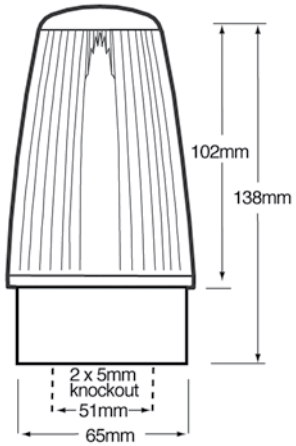
NOTES

i Indent item

Static (Continuous) Filament Beacons

MOSF 125

The MOSF 125 is a continuous illuminated beacon within a small 65 mm Ø base size. Ideal for machine status indication. Beacon includes dome, base and lamp.



TECHNICAL SPECIFICATION

IP RATING:	IP 65
CASING:	Polycarbonate dome / ABS base
OPERATING TEMPERATURE:	-35 ºC to + 66 ºC
WEIGHT:	220 grams

VOLTAGE	LIGHT SOURCE	CURRENT	ORDER CODES
12 V AC/DC	BA15D21W	1.75 A	**MOSF125-80_[1])**
24 V AC/DC	BA15D21W	880 mA	**MOSF125-81_[1])**
110 V AC	BA15D15W	130 mA	**MOSF125-82_[1])**
240 V AC	BA15D15W	7 mA	**MOSF125-83_[1])**

Spare Incandescent 12 V DC lamp	**1791221**
Spare Incandescent 24 V DC lamp	**1792421**
Spare Incandescent 110 V AC lamp	**37115125**
Spare Incandescent 240 V AC lamp	**3725060**
Steel guard - plastic coated	**MO50003**
Spare Amber dome	**MO50019**
Spare Red dome	**MO50018**
Spare Blue dome	**MO50020**
Spare Green dome	**MO50021**
Wall mount bracket - right angle	**MO50001**
Anti vibration mount	**MO50080**

NOTES

[1]) Add letter R, A, G or B at end of order code to denote dome colour.

Static (Continuous) Filament Beacons

MOSF 200/201

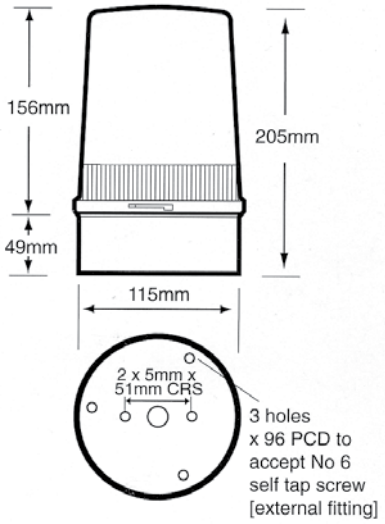
The MOSF 200/201 is a continuous illuminated beacon within a 115 mm Ø base size. Ideal for phase loss indication on switchboards. Beacon includes dome, base and lamp.

TECHNICAL SPECIFICATION

IP RATING:	IP 65
CASING:	Polycarbonate dome / ABS base
OPERATING TEMPERATURE:	-35 °C to + 66 °C
WEIGHT:	700 grams

VOLTAGE	LIGHT SOURCE	CURRENT	ORDER CODES
12 V AC/DC	Halogen 55 W	4.60 A	**MOSF201-62_[1])**
24 V AC/DC	Halogen 70 W	2.90 A	**MOSF201-63_[1])**
110 V AC	Incandescent 60 W	0.55 A	**MOSF200-08_[1])**
240 V AC	Incandescent 60 W	0.29 A	**MOSF200-09_[1])**

Spare Halogen 12 V DC lamp	**1691255**
Spare Halogen 24 V DC lamp	**1692470**
Spare Incandescent 110 V AC lamp	**18311540**
Spare Incandescent 240 V AC lamp	**18325030**
Steel guard - plastic coated	**MO50010**
Spare Amber dome	**MO50064**
Spare Red dome	**MO50065**
Spare Blue dome	**MO50066**
Spare Green dome	**MO50067**
Wall mount bracket - right angle	**MO50001**
Anti vibration mount	**MO50080**



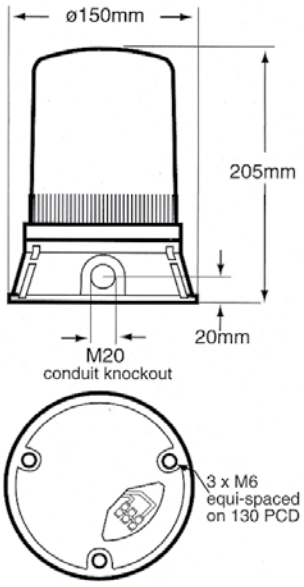
NOTES:

[1]) Add letter R, A, G or B at end of order code to denote dome colour.

Static (Continuous) Filament Beacons

MOSF 400/401

The MOSF 400/401 is a continuous illuminated beacon within a larger 150 mm Ø base size. Ideal for fork lift applications and general warning devices. Beacon includes dome, base and lamp.



TECHNICAL SPECIFICATION

IP RATING:	IP 65
CASING:	Polycarbonate dome / ABS base
OPERATING TEMPERATURE:	-35 ºC to + 66 ºC
WEIGHT	700 grams

VOLTAGE	LIGHT SOURCE	CURRENT	ORDER CODES
12 V AC/DC	Halogen 55 W	4.60 A	**MOSF401-62_[1])**
24 V AC/DC	Halogen 70 W	2.90 A	**MOSF401-63_[1])**
110 V AC	Incandescent 60 W	0.55 A	**MOSF400-08_[1])**
240 V AC	Incandescent 60 W	0.29 A	**MOSF400-09_[1])**

Spare Halogen 12 V DC lamp	**1691255**
Spare Halogen 24 V DC lamp	**1692470**
Spare Incandescent 110 V AC lamp	**4611540W**
Spare Incandescent 240 V AC lamp	**4625040W**
Steel guard - plastic coated	**MO50010**
Spare Amber dome	**MO50064**
Spare Red dome	**MO50065**
Spare Blue dome	**MO50066**
Spare Green dome	**MO50067**
Wall mount bracket - right angle	**MO50004**
Single point mount bracket	**MO50006**

NOTES:

[1]) Add letter R, A, G or B at end of order code to denote dome colour.

Flashing Filament Beacons

MOFF 125

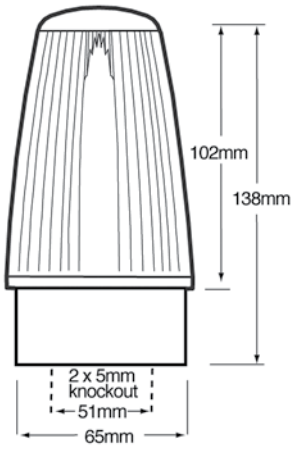
The MOFF 125 beacon flashes at 60 flashes per minute. This beacon has a small 65 mm Ø base size, which is ideal for machine status indication. Beacon includes dome, base and lamp.

TECHNICAL SPECIFICATION

IP RATING:	IP 65
CASING:	Polycarbonate dome / ABS base
OPERATING TEMPERATURE:	-25 ºC to + 66 ºC
WEIGHT:	200 Grams

VOLTAGE	LIGHT SOURCE	CURRENT	ORDER CODES
12 V DC	Incandescent 21 W	1.75 A	**MOFF125-80_[1])**
24 V DC	Incandescent 21 W	880 mA	**MOFF125-81_[1])**
110 V AC	Incandescent 15 W	130 mA	**MOFF125-82_[1])**
240 V AC	Incandescent 15 W	7 mA	**MOFF125-83_[1])**

Spare Incandescent 12 V DC lamp	**1791221**
Spare Incandescent 24 V DC lamp	**1792421**
Spare Incandescent 110 V AC lamp	**37115125**
Spare Incandescent 240 V AC lamp	**3725060**
Steel guard - plastic coated	**MO50003**
Spare Amber dome	**MO50019**
Spare Red dome	**MO50018**
Spare Blue dome	**MO50020**
Spare Green dome	**MO50021**
Wall mount bracket - right angle	**MO50001**
Anti vibration mount	**MO50080**



NOTES:

[1]) Add letter R, A, G or B at end of order code to denote dome colour.

Flashing Filament Beacons

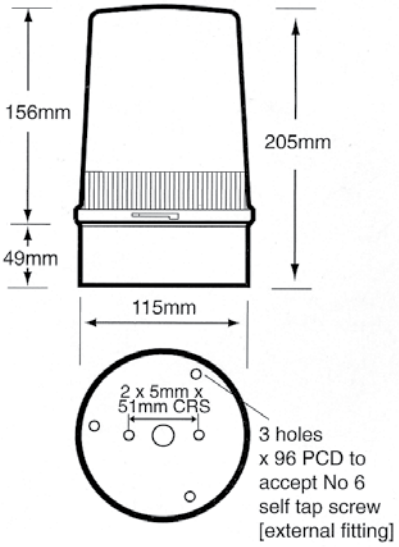
MOFF 200/201

The MOFF 200/201 beacon flashes at 60 flashes per minute. This beacon has a small base size of 115 mm Ø for constricted areas. Beacon includes dome, base and lamp.

TECHNICAL SPECIFICATION

IP RATING:	IP 65
CASING:	Polycarbonate dome / ABS base
OPERATING TEMPERATURE:	-25 ºC to + 66 ºC
WEIGHT:	700 grams

VOLTAGE	LIGHT SOURCE	CURRENT	ORDER CODES
12 V DC	Halogen 55 W	4.70 A	**MOFF201-88_[1])**
24 V DC	Halogen 70 W	3.00 A	**MOFF201-89_[1])**
110 V AC	Incandescent 15 W	130 mA	**MOFF200-86_[1])**
240 V AC	Incandescent 15 W	7 mA	**MOFF200-87_[1])**



Spare Halogen 12 V DC lamp	**1691255**
Spare Halogen 24 V DC lamp	**1692470**
Spare Incandescent 110 V AC lamp	**37115125**
Spare Incandescent 240 V AC lamp	**3725060**
Steel guard - plastic coated	**MO50010**
Spare Amber dome	**MO50064**
Spare Red dome	**MO50065**
Spare Blue dome	**MO50066**
Spare Green dome	**MO50067**
Wall mount bracket - right angle	**MO50001**
Anti vibration mount	**MO50080**

NOTES:

[1]) Add letter R, A, G or B at end of order code to denote dome colour.

Flashing Filament Beacons

MOFF 400/401

The MOFF 400 or 401 beacon has a larger 150 mm Ø base for attachment to machinery, construction or earth moving equipment. Beacon includes dome, base and lamp.

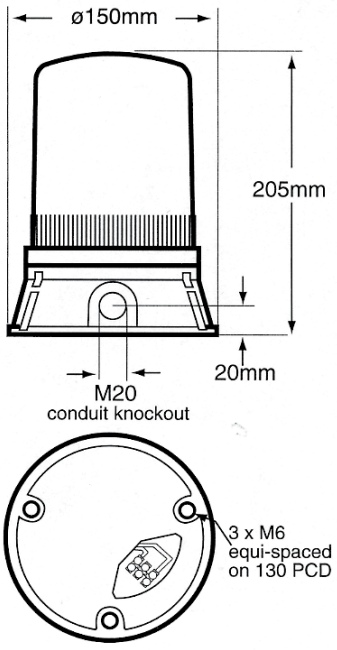
IP 65 UV

TECHNICAL SPECIFICATION

IP RATING:	IP 65
CASING:	Polycarbonate dome / ABS base
OPERATING TEMPERATURE:	-25 ºC to + 66 ºC
WEIGHT:	800 grams

VOLTAGE	LIGHT SOURCE	CURRENT	ORDER CODES
12 V DC	Halogen 55 W	4.70 A	**MOFF401-88_[1])**
24 V DC	Halogen 70 W	3.00 A	**MOFF401-89_[1])**
110 V AC	Incandescent 60 W	0.55 A	**MOFF400-86_[1])**
240 V AC	Incandescent 60 W	0.29 A	**MOFF400-87_[1])**

Spare Halogen 12 V DC lamp	**1691255**
Spare Halogen 24 V DC lamp	**1692470**
Spare Incandescent 110 V AC lamp	**4611540W**
Spare Incandescent 240 V AC lamp	**4625040W**
Steel guard - plastic coated	**MO50010**
Spare Amber dome	**MO50064**
Spare Red dome	**MO50065**
Spare Blue dome	**MO50066**
Spare Green dome	**MO50067**
Wall mount bracket - right angle	**MO50004**
Single point mount bracket	**MO50006**



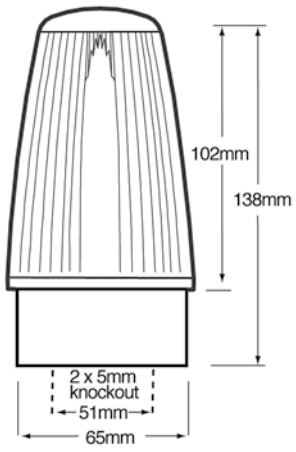
NOTES:

[1]) Add letter R, A, G or B at end of order code to denote dome colour.

Xenon Beacons

MOX 125

The MOX 125 beacon flashes at 60 flashes per minute. This beacon has a very small 65 mm Ø base size. Beacon includes dome, base and lamp.



TECHNICAL SPECIFICATION

IP RATING:	IP 65
CASING:	Polycarbonate dome / ABS base
OPERATING TEMP:	-25 ºC to + 55 ºC
WEIGHT:	170 grams

VOLTAGE	LIGHT SOURCE	CURRENT	ORDER CODES
10-100 V DC / 20-72 V AC	Xenon 2.0 joule	130 mA	**MOX125-AC/DC_[1] [2]**
110 V AC	Xenon 2.3 joule	30 mA	**MOX125-55_[1]**
240 V AC	Xenon 2.7 joule	21 mA	**MOX125-56_[1]**

Steel guard - plastic coated	**MO50003**
Spare Amber dome	**MO50019**
Spare Red dome	**MO50018**
Spare Blue dome	**MO50020**
Spare Green dome	**MO50021**
Wall mount bracket - right angle	**MO50001**
Anti vibration mount	**MO50080**

NOTES:

[1]) Add letter R, A, G or B at end of order code to denote dome colour.

[2]) The MOX125-AC/DC is pre-set to 24 V DC.

Xenon Beacons

MOX 200/201

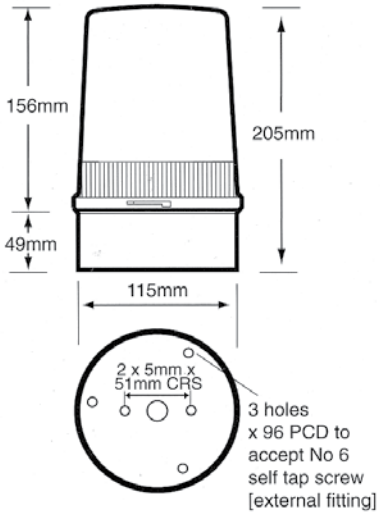
The MOX 200/201 beacon provides a 10 joule flash at 60 flashes per minute and 7.5 joule "double flash" at 90 flashes per minute. This beacon has a 115 mm Ø medium base size. Beacon includes dome, base and lamp.

TECHNICAL SPECIFICATION

IP RATING:	IP 65
CASING:	Polycarbonate dome / ABS base
OPERATING TEMPERATURE:	-25 ºC to + 55 ºC
WEIGHT:	720 grams

VOLTAGE	LIGHT SOURCE	CURRENT	ORDER CODES
12 / 24 V DC	Xenon 10/7.5 joule	1.45 A	**MOX201-18_[1] [2]**
110 V AC	Xenon 10/7.5 joule	100 mA	**MOX200-21_[1]**
240 V AC	Xenon 10/7.5 joule	6 mA	**MOX200-22_[1]**

Steel guard - plastic coated	**MO50010**
Spare Amber dome	**MO50064**
Spare Red dome	**MO50065**
Spare Blue dome	**MO50066**
Spare Green dome	**MO50067**
Wall mount bracket - right angle	**MO50001**
Anti vibration mount	**MO50080**



NOTES:

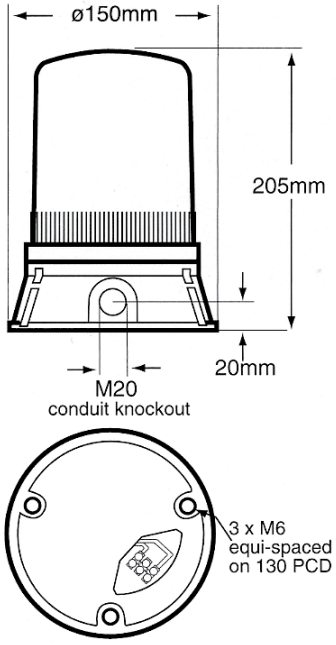
[1]) Add letter R, A, G or B at end of order code to denote dome colour.

[2]) The MOX201-18_ is pre-set to 24 V DC.

Xenon Beacons

MOX 400/401

The MOX 400/401 beacon provides a 10 joule flash at 60 flashes per minute and 7.5 joule "double flash" at 90 flashes per minute. This beacon has a 150 mm Ø base size. This is an ideal beacon for air traffic indicators and airport machinery. Beacon includes dome, base and lamp.



TECHNICAL SPECIFICATION

IP RATING:	IP 65
CASING:	Polycarbonate dome / ABS base
OPERATING TEMPERATURE:	-25 ºC to + 55 ºC
WEIGHT:	820 grams

VOLTAGE	LIGHT SOURCE	CURRENT	ORDER CODES
12 / 24 V DC	Xenon 10/7.5 joule	1.45	**MOX401-18_[1] [2]**
24 V DC	Xenon 10/7.5 joule	700 mA	**MOX401-18_[1]**
110 V AC	Xenon 10/7.5 joule	100 mA	**MOX400-21_[1]**
240 V AC	Xenon 10/7.5 joule	6 mA	**MOX400-22_[1]**

Steel guard - plastic coated	**MO50010**
Spare Amber dome	**MO50064**
Spare Red dome	**MO50065**
Spare Blue dome	**MO50066**
Spare Green dome	**MO50067**
Wall mount bracket - right angle	**MO50004**
Single point mount bracket	**MO50006**

NOTES:

[1]) Add letter R, A, G or B at end of order code to denote dome colour.

[2]) The MOX201-18_ is pre-set to 24 V DC.

Xenon Beacons

MOX 500/501

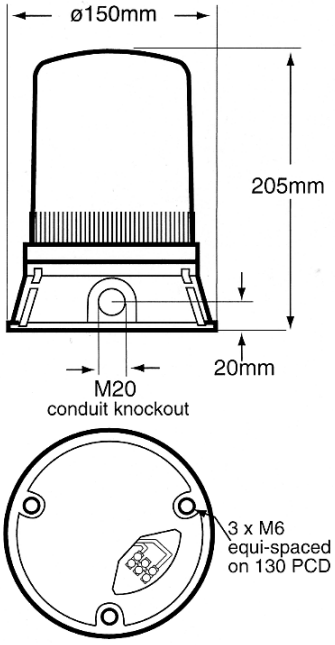
The MOX 500/501 beacon provides a 24 joule flash at 60 flashes per minute and 18 joule "double flash" at 90 flashes per minute. This beacon has a 150 mm Ø base size, like the 400/401 range. Beacon includes dome, base and lamp.

TECHNICAL SPECIFICATION

IP RATING:	IP 65
CASING:	Polycarbonate dome / ABS base
OPERATING TEMPERATURE:	-25 ºC to + 35 ºC
WEIGHT:	1.25 Kg

VOLTAGE	LIGHT SOURCE	CURRENT	ORDER CODES
12 / 24 V DC	Xenon 24/18 joule	2.3 A	**MOX501-18_[1] [2]**
110 V AC	Xenon 24/18 joule	650 mA	**MOX500-21_[1]**
240 V AC	Xenon 24/18 joule	400 mA	**MOX500-22_[1]**

Steel guard - plastic coated	**MO50010**
Spare Amber dome	**MO50064**
Spare Red dome	**MO50065**
Spare Blue dome	**MO50066**
Spare Green dome	**MO50067**
Wall mount bracket - right angle	**MO50004**
Single point mount bracket	**MO50006**



NOTES:

[1]) Add letter R, A, G or B at end of order code to denote dome colour.

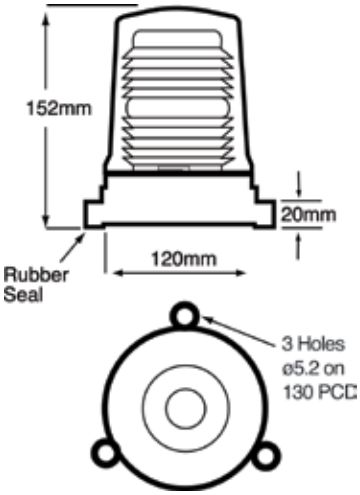
[2]) The MOX501-18_ is pre-set to 24 V DC.

XS0104 (bi lateral current limiter) to be used where power direct from batteries or battery backed power supply.

Xenon Beacons

MOX 250

The MOX 250 beacon flashes at 60 flashes per minute. This unit incorporates a large rubber anti-vibration base to protect beacon from damage. Ideal for moving machinery. Beacon includes dome, base and lamp.



TECHNICAL SPECIFICATION

IP RATING:	IP 67
CASING:	Polycarbonate dome / ABS base
OPERATING TEMPERATURE:	-25 ºC to + 50 ºC
WEIGHT:	450 grams

VOLTAGE	LIGHT SOURCE	CURRENT	ORDER CODES
10-100 V DC	Xenon 10 joule	5 - 160 mA	**MOX250-18_[1])**
20-75 V AC	Xenon 10 joule	100 - 160 mA	**MOX250-18_[1])**
240 V AC	Xenon 10 joule	8 mA	**MOX250-22_[1])**

Steel guard - plastic coated	**MO50010**
Spare Amber dome	**MO50071**
Spare Red dome	**MO50072**
Spare Blue dome	**MO50073**
Spare Green dome	**MO50074**

NOTES:

[1]) Add letter R, A, G or B at end of order code to denote dome colour.

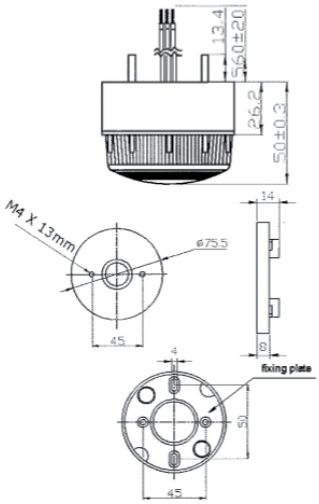
Led Beacons

MOLED 80

The Compact led beacon is specifically designed for IP 67 applications and surface mounting. The dual functionality of this beacon allow flashing or static mode, ideal for a wide range of signalling applications.

TECHNICAL SPECIFICATION

SUPPLY VOLTAGE:	10-100 V DC or 85-265 V AC
IP RATING:	IP 67
FLASH RATE:	60 flashes per minute
CASING:	Polycarbonate lens and base
OPERATING TEMPERATURE:	-20 ºC to + 55 ºC
WEIGHT:	140 grams

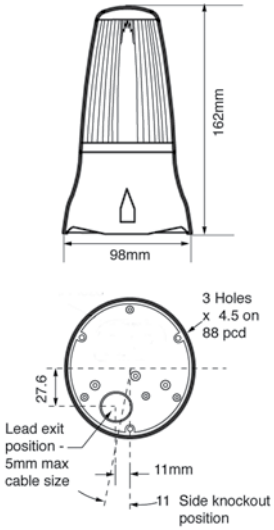


VOLTAGE	LENS COLOUR	CURRENT @ 24 V DC	ORDER CODES
10-100 V DC	Amber	90 mA flashing 200 mA static	**MOLED80-02A**
10-100 V DC	Blue	90 mA flashing 200 mA static	**MOLED80-02B**
10-100 V DC	Green	90 mA flashing 200 mA static	**MOLED80-02G**
10-100 V DC	Red	90 mA flashing 200 mA static	**MOLED80-02R**
85-265 V AC	Amber	20 mA	**MOLED80-04A**
85-265 V AC	Blue	20 mA	**MOLED80-04B**
85-265 V AC	Green	20 mA	**MOLED80-04G**
85-265 V AC	Red	20 mA	**MOLED80-04R**

Led Beacons

MOLED 125

The MOLED 125 incorporates 48 LEDs in one enclosure and has two modes of operation, static and flashing (switch selectable on PCB). Suitable for use in harsh conditions; Beacon includes multiple LED's, base and dome.



TECHNICAL SPECIFICATION

IP RATING:	IP 65
CASING:	Polycarbonate dome / ABS base
OPERATING TEMPERATURE:	-20 ºC to + 45 ºC
WEIGHT:	270 grams

VOLTAGE	LIGHT SOURCE	CURRENT	ORDER CODES
24 V DC	48 LED Array	200 mA	**MOLED125-02_[1])**
110 V AC	48 LED Array	6 mA	**MOLED125-03_[1])**
240 V AC	48 LED Array	3 mA	**MOLED125-04_[1])**

Steel guard - plastic coated	**MO50003**
Spare Amber dome	**MO50019**
Spare Red dome	**MO50018**
Wall mount bracket - right angle	**MO50001**
Anti vibration mount	**MO50080**

NOTES:

[1]) Add letter R or A to end of Cat. No. for colour of dome.

Not recommended for areas of high vibration.
* Internal link on PCB for static (s) or flash (f).
* Hard wired with 200 mm cables (AC models only)

Led Beacons with piezo buzzer

MOLEDA 125

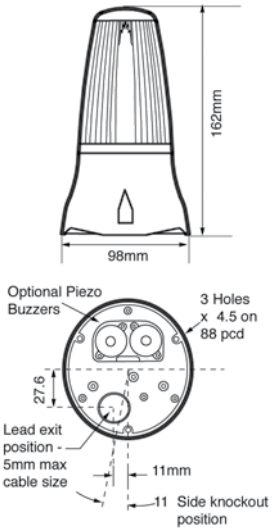
The MOLEDA 125 incorporates 48 LEDs in one enclosure and two (2) piezo 90 dB buzzers and has three modes of operation, static and slow or fast flashing (switch selectable on PCB). Suitable for use in harsh conditions; Beacon includes multiple LED's, buzzers, base and dome and 1 metre flying leads on AC models.

TECHNICAL SPECIFICATION

IP RATING:	IP 65
PEAK SOUND LEVEL:	90 dB
CASING:	Polycarbonate dome / ABS base
OPERATING TEMPERATURE:	-20 ºC to + 45 ºC
WEIGHT:	570 grams (AC) 330 grams (DC)

VOLTAGE	LIGHT SOURCE	CURRENT	ORDER CODES
24 V DC	48 LED Array	250-450 mA	**MOLEDA125-02_[1])**
110 V AC	48 LED Array	250-450 mA	**MOLEDA125-03_[1])**
240 V AC	48 LED Array	250-450 mA	**MOLEDA125-04_[1])**

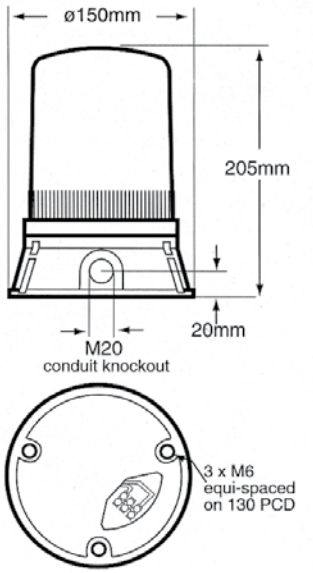
Steel guard - plastic coated	**MO50003**
Spare Amber dome	**MO50019**
Spare Red dome	**MO50018**
Wall mount bracket - right angle	**MO50001**
Anti vibration mount	**MO50080**

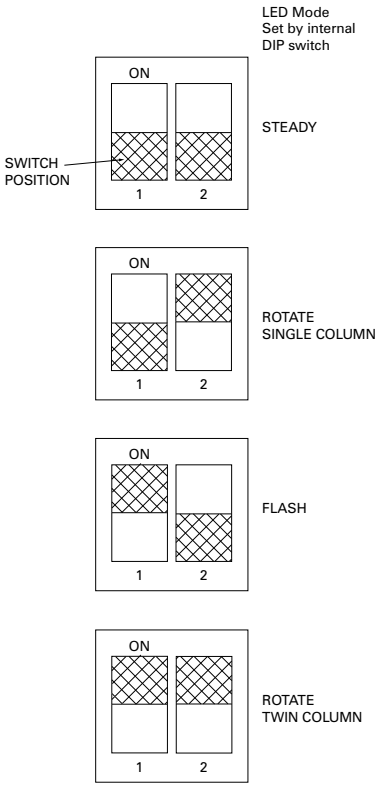


NOTES:

[1]) Add letter R or A to end of Cat. No. for colour of dome.

Slow flash rate is 60 flashes per minute
Fast flash rate is 120 flashes per minute





Led Beacons

MOLED 400/401

The MOLED 400/401 is a multi 144 LED array beacon for harsh conditions. LED's have an extremely long life span. Beacon includes multiple LED's, base and dome.

IP 65 UV

TECHNICAL SPECIFICATION

IP RATING	IP 65
CASING	Polycarbonate dome / ABS base
OPERATING TEMPERATURE:	-20 ºC to + 45 ºC
WEIGHT:	1 kg (AC) / 600 grams (DC)

VOLTAGE	LIGHT SOURCE	CURRENT	ORDER CODES
24 V DC	144 LED Array	5 mA (flashing) 500 mA (static) 100 mA (rotate)	***MOLED401-02_[1])**
110/240 V AC	144 LED Array	7 mA (flashing) 7 mA (static) 3 mA (rotate)	***MOLED400-04_[1])**

Steel guard - plastic coated	**MO50010**
Spare Amber dome	**MO50064**
Spare Red dome	**MO50065**
Wall mount bracket - right angle	**MO50004**

NOTES:

[1]) Add letter R or A to the end of Cat. No. for colour of dome.

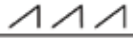
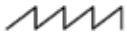
Not recommended for areas of high vibration.

* Internal DIP/Selector switch inside base for 110 V AC supply.

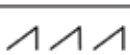
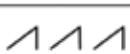
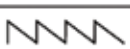
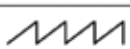
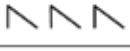
* Terminal connection underneath base only.

SONOS TONE DESCRIPTIONS, FREQUENCIES AND dB OUTPUT

(part No's KL2492)

TONE	TONE TYPE	TONE DESCRIPTION/ APPLICATION	DIP SWITCH 1_2_3_4_5	SOUND LEVEL (dBA @ 1m)
1		970Hz (BS5839-1:2002)	0-0-0-0-0	98
2		800Hz/970Hz @ 2Hz (BS5839-1:2002)	0-0-0-0-I	98
3		800Hz – 970Hz @` 1Hz (BS5839-1:2002)	0-0-0-I-0	97
4		970Hz 1s OFF/1s ON (Apollo Fire Systems Alert Tone, BS5839-1:2002)	0-0-0-I-I	98
5		970Hz, 0.5s/ 630Hz, 0.5s (Apollo Fire Systems Alert Tone, BS5839-1:2002)	0-0-I-0-0	98
6		554Hz, 0.1s/ 440Hz, 0.4s (France - AFNOR NF S 32 001)	0-0-I-0-I	94
7		500 - 1200Hz, 3.5s/ 0.5s OFF (Netherlands – NEN 2575:2000)	0-0-I-I-0	98
8		420Hz 0.625s ON/0.625s OFF (Australia AS2220 Alert tone)	0-0-I-I-I	92
9		500 - 1200Hz, 3.75s/ 0.25s OFF (Australia AS2220 Evacuation tone)	0-I-0-0-0	99
10		550Hz/440Hz @ 0.5Hz	0-I-0-0-I	95
11		970Hz, 0.5s ON/0.5s OFF x 3/ 1.5s OFF (ISO 8201 Low tone)	0-I-0-I-0	98
12		2850Hz, 0.5s ON/0.5s OFF x 3/1.5s OFF (ISO 8201 High tone)	0-I-0-I-I	89
13		1200Hz – 500Hz @ 1Hz (DIN 33 404)	0-I-I-0-0	97
14		400Hz	0-I-I-0-I	92
15		550Hz, 0.7s/1000Hz, 0.33s	0-I-I-I-0	96
16		1500Hz - 2700Hz @ 3Hz (Vandal Alarm)	0-I-I-I-I	101
17		750Hz	I-0-0-0-0	97
18		2400Hz	I-0-0-0-I	102
19		750Hz 0.33s ON/0.51s OFF	I-0-0-I-0	97
20		750Hz 0.51s ON/0.33s OFF	I-0-0-I-I	97
21		800Hz 0.2s ON/0.2s OFF	I-0-I-0-0	99
22		510Hz, 0.5s/ 610Hz, 0.5s	I-0-I-0-I	97
23		550Hz, 0.33s/1000Hz, 0.7s	I-0-I-I-0	96
24		250Hz – 1200Hz @ 12Hz	I-0-I-I-I	92
25		500Hz – 1200Hz @ 0.33Hz.	I-I-0-0-0	98
26		2500Hz – 2850Hz @ 7Hz.	I-I-0-0-I	96
27		600Hz – 900Hz/ 0.9s	I-I-0-I-0	97
28		660Hz – 680Hz/ 0.9s	I-I-0-I-I	93
29		670Hz – 725Hz/ 0.9s	I-I-I-0-0	95
30		920Hz – 750Hz/ 0.9s	I-I-I-0-I	99
31		700Hz - 900Hz, 0.3s/0.6s OFF	I-I-I-I-0	97
32		900Hz - 760Hz, 0.6s/0.3s OFF	I-I-I-I-I	97

(part No's KL2494, KL2496A and KL2496R)

TONE	TONE TYPE	TONE DESCRIPTION/ APPLICATION	2ND STAGE TONE	DIP SWITCH 1_2_3_4_5	SOUND LEVEL (dBA @ 1m)	AVERAGE CURRENT (mA)
1		970Hz (BS5839-1:2002)	4	O-O-O-O-O	97	18
2		800Hz/970Hz @ 2Hz (BS5839-1:2002)	1	O-O-O-O-I	97	17
3		800Hz – 970Hz @ 1Hz (BS5839-1:2002)	1	O-O-O-I-O	98	17
4		970Hz 1s OFF/1s ON (Apollo Fire Systems Alert Tone, BS5839-1:2002)	1	O-O-O-I-I	96	11
5		970Hz, 0.5s/ 630Hz, 0.5s (Apollo Fire Systems Alert Tone, BS5839-1:2002)	4	O-O-I-O-O	97	16
6		554Hz, 0.1s/ 440Hz, 0.4s (France - AFNOR NF S 32 001)	1	O-O-I-O-I	96	10
7		500 - 1200Hz, 3.5s/ 0.5s OFF (Netherlands – NEN 2575:2000)	1	O-O-I-I-O	99	13
8		420Hz 0.625s ON/0.625s OFF (Australia AS2220 Alert tone)	9	O-O-I-I-I	93	8
9		500 - 1200Hz, 3.75s/ 0.25s OFF (Australia AS2220 Evacuation tone)	8	O-I-O-O-O	99	13
10		550Hz/440Hz @ 0.5Hz	1	O-I-O-O-I	99	11
11		970Hz, 0.5s ON/0.5s OFF x 3/ 1.5s OFF (ISO 8201 Low tone)	12	O-I-O-I-O	97	9
12		2850Hz, 0.5s ON/0.5s OFF x 3/1.5s OFF (ISO 8201 High tone)	11	O-I-O-I-I	93	20
13		1200Hz – 500Hz @ 1Hz (DIN 33 404)	1	O-I-I-O-O	97	14
14		400Hz	6	O-I-I-O-I	92	10
15		550Hz, 0.7s/1000Hz, 0.33s	1	O-I-I-I-O	99	14
16		1500Hz - 2700Hz @ 3Hz (Vandal Alarm)	1	O-I-I-I-I	105	32
17		750Hz	27	I-O-O-O-O	98	15
18		2400Hz	26	I-O-O-O-I	106	35
19		750Hz 0.33s ON/0.51s OFF	1	I-O-O-I-O	98	8
20		750Hz 0.51s ON/0.33s OFF	1	I-O-O-I-I	98	10
21		800Hz 0.2s ON/0.2s OFF	1	I-O-I-O-O	97	9
22		510Hz, 0.5s/ 610Hz, 0.5s	4	I-O-I-O-I	95	12
23		550Hz, 0.33s/1000Hz, 0.7s	1	I-O-I-I-O	99	17
24		250Hz – 1200Hz @ 12Hz	18	I-O-I-I-I	94	10
25		500Hz – 1200Hz @ 0.33Hz.	18	I-I-O-O-O	99	14
26		2500Hz – 2850Hz @ 7Hz.	18	I-I-O-O-I	98	45
27		600Hz – 900Hz/ 0.9s	1	I-I-O-I-O	97	15
28		660Hz – 680Hz/ 0.9s	1	I-I-O-I-I	95	14
29		670Hz – 725Hz/ 0.9s	1	I-I-I-O-O	96	15
30		920Hz – 750Hz/ 0.9s	1	I-I-I-O-I	98	16
31		700Hz - 900Hz, 0.3s/0.6s OFF	1	I-I-I-I-O	97	7
32		900Hz - 760Hz, 0.6s/0.3s OFF	1	I-I-I-I-I	98	11

NEXUS TONE DESCRIPTIONS, FREQUENCIES AND dB OUTPUT

TONE	TONE TYPE	TONE DESCRIPTION/ APPLICATION	DIP SWITCH (S1/S2) 1_2_3_4_5_6	3rd STAGE TONE
1.		970Hz (BS5839-1:2002)	O-O-O-O-O-O	18
2.		800Hz/970Hz @ 2Hz (BS5839-1:2002)	O-O-O-O-O-I	1
3.		800Hz – 970Hz @ 1Hz (BS5839-1:2002)	O-O-O-O-I-O	1
4.		970Hz 1s OFF/1s ON (Apollo Fire Systems Alert Tone, BS5839-1:2002)	O-O-O-O-I-I	1
5.		970Hz, 0.5s/ 630Hz, 0.5s (Apollo Fire Systems Evacuate Tone, BS5839-1:2002)	O-O-O-I-O-O	1
6.		554Hz, 0.1s/ 440Hz, 0.4s (France – AFNOR NF S 32 001)	O-O-O-I-O-I	1
7.		500 – 1200Hz, 3.5s/ 0.5s OFF (Netherlands – NEN 2575:2000)	O-O-O-I-I-O	1
8.		420Hz 0.625s ON/0.625s OFF (Australia AS1670 Alert tone)	O-O-O-I-I-I	1
9.		500 – 1200Hz, 0.5s/ 0.5s OFF x 3/1.5s OFF (Australia AS1670 Evacuation tone)	O-O-I-O-O-O	1
10.		550Hz/440Hz @ 0.5Hz	O-O-I-O-O-I	19
11.		970Hz, 0.5s ON/0.5s OFF x 3/ 1.5s OFF (ISO 8201 Low tone)	O-O-I-O-I-O	1
12.		2850Hz, 0.5s ON/0.5s OFF x 3/1.5s OFF (ISO 8201 High tone)	O-O-I-O-I-I	1
13.		1200Hz – 500Hz @ 1Hz (DIN 33 404)	O-O-I-I-O-O	1
14.		400Hz	O-O-I-I-O-I	18
15.		550Hz, 0.7s/1000Hz, 0.33s	O-O-I-I-I-O	1
16.		1500Hz – 2700Hz @ 3Hz (Vandal Alarm)	O-O-I-I-I-I	1
17.		Simulated Bell	O-I-O-O-O-O	1
18.		2400Hz	O-I-O-O-O-I	1
19.		660Hz	O-I-O-O-I-O	10
20.		660Hz 1.8s ON/1.8s OFF	O-I-O-O-I-I	19
21.		660Hz 0.15s ON/0.15s OFF	O-I-O-I-O-O	19
22.		510Hz, 0.25s/ 610Hz, 0.25s	O-I-O-I-O-I	1
23.		800/1000Hz 0.5s each (1Hz)	O-I-O-I-I-O	1
24.		250Hz – 1200Hz @ 12Hz	O-I-O-I-I-I	1
25.		500Hz – 1200Hz @ 0.33Hz.	O-I-I-O-O-O	1
26.		2400Hz – 2900Hz @ 9Hz	O-I-I-O-O-I	1
27.		2400Hz – 2900Hz @ 3Hz	O-I-I-O-I-O	1
28.		800Hz – 970Hz @ 100Hz	O-I-I-O-I-I	1
29.		800Hz – 970Hz @ 9Hz	O-I-I-I-O-O	1
30.		800Hz – 970Hz @ 3Hz	O-I-I-I-O-I	1
31.		800Hz, 0.25s ON/1s OFF	O-I-I-I-I-O	1
32.		500Hz – 1200Hz, 3.75s/0.25s OFF (AS2220)	O-I-I-I-I-I	1
33.		340Hz	I-O-O-O-O-O	1
34.		1000Hz	I-O-O-O-O-I	18
35.		1400Hz – 1600Hz, 1s/1600Hz – 1400Hz, 0.5s (NF 48-265)	I-O-O-O-I-O	1
36.		660Hz 6.5s ON/13s OFF	I-O-O-O-I-I	19
37.		1000Hz/2000Hz, 1s each	I-O-O-I-O-O	1
38.		720Hz, 0.7s ON/0.3s OFF	I-O-O-I-O-I	1
39.		970Hz, 0.25s ON/OFF	I-O-O-I-I-O	1
40.		2800Hz, 1s ON/OFF	I-O-O-I-I-I	1
41.		2800Hz 0.25s ON/OFF	I-O-I-O-O-O	1
42.		2400/2900 @ 2Hz	I-O-I-O-O-I	1
43.		Chime, 554Hz/440Hz Single shot 'ding dong'	I-O-I-O-I-O	1
44.		Chime, 554Hz/440Hz Repeating 'ding dong'	I-O-I-O-I-I	1
45.		Chime, 970Hz/800Hz Single shot 'ding dong'	I-O-I-I-O-O	1
46.		Chime, 970Hz/800Hz Repeating 'ding dong'	I-O-I-I-O-I	1
47.		Hooter, Repeating	I-O-I-I-I-O	1
48.		Gentle alarm - Tone 2, rises slowly to full volume over 30s	I-O-I-I-I-I	1
49.		Time-Out Alarm – As Tone 2, cuts off after 10 mins	I-I-O-O-O-O	1
50.		Time-Out Alarm – As Tone 2, cuts off after 2 mins	I-I-O-O-O-I	1
51.		750Hz 0.33s ON/0.51s OFF	I-I-O-O-I-O	1
52.		750Hz 0.51s ON/0.33s OFF	I-I-O-O-I-I	1
53.		550Hz, 0.33s/1000Hz, 0.7s	I-I-O-I-O-O	1
54.		600Hz – 900Hz/ 0.9s	I-I-O-I-O-I	1
55.		660Hz – 680Hz/ 0.9s	I-I-O-I-I-O	1
56.		670Hz – 725Hz/ 0.9s	I-I-O-I-I-I	1
57.		920Hz – 750Hz/ 0.9s	I-I-I-O-O-O	1
58.		700Hz - 900Hz, 0.3s/0.6s OFF	I-I-I-O-O-I	1
59.		900Hz - 760Hz, 0.6s/0.3s OFF	I-I-I-O-I-O	1
60.		750Hz	I-I-I-O-I-I	18
61.		Power Only – Use with Stage 3 control for manual/intermittent chime triggering	I-I-I-I-O-O	43
62.		Power Only – Use with Stage 3 control for manual/intermittent chime triggering	I-I-I-I-O-I	43
63.		Power Only – Use with Stage 3 control for manual/intermittent horn triggering	I-I-I-I-I-O	47
64.		Reserved for future use	I-I-I-I-I-I	

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