Signalling – selection chart

SIGHT

Series	MOLED80 Beacon	MOLED195 Beacon	MOLED100 Beacon	MOLEDA100 Beacon Sounder	MOLED125 Beacon	MOLEDA125 Beacon Sounder	MOLED400 Beacon	MOLEDTL Traffic Lights
Step 1a – Select light output								
Light	12 LEDs Static Flashing (60FPM) 120° Light axis low-profile	36 LEDs Static Flashing (60/120FPM) 120° Light axis low-profile	8 LEDs Static Flashing (160FPM) 360° Light axis		48 LEDs Static Flashing (60/120FPM) 360° Light axis		144 LEDs Static Flashing (60FPM) Rotating (140RPM) 360° Light axis	36 LEDs Static 120° Light axis
Step 1b – Select sound output (use decibel charts below)								
Sound @ 1m	–	–	–	80dB Piezo buzzer	–	90dB Piezo buzzer	–	–
Step 2 – Select the voltage required								
Voltage	10-100 VDC (02) 115-230 VAC (04)	20-30 VAC/DC (02) 85-280 VAC/DC (05)	10-17 VAC/DC (01) 20-30 VAC/DC (02) 85-280 VAC/DC (05)		24 VDC (R A G) (01) 24 VDC (02) 115 VAC (03) 230 VAC (04)		24 VDC (102) 90-265 VAC/DC (004)	20-30 VAC/DC (02) 85-280 VAC/DC (05)
Step 3 – Select lens colour: RED (R) - Serious danger! **AMBER (A)** - Warning, proceed with care **GREEN (G)** - OK, proceed as normal **BLUE (B)** - Process notice, such as toxic gas alarms **CLEAR (C)** - No specific meaning. Ideal for night time, maximum light output								
Colour	R A G B	R A G B C	R A G		R A G B C		R A G B C	R A G
Additional information								
IP rating	IP67 Air-tight Submersion in water	IP65 Air-tight Rain/spray/splash	IP65 Air-tight Rain/spray/splash		IP65 Air-tight Rain/spray/splash		IP65 Air-tight Rain/spray/splash	IP65 Air-tight Rain/spray/splash
Temp (°C)	-20 to +55	-25 to +55	-25 to +55		-20 to +45		-25 to +55	-25 to +55
HxW	50mm x 76mm	73mm x 104mm	107mm x 72mm	119mm x 90mm	162mm x 98mm		205mm x 150mm	104mm x 108mm
Catalogue Number Guide	MOLED80 02 R ❶❷❸	MOLED195 02 R ❶❷❸	MOLED100 02 R ❶❷❸	MOLEDA100 02 R ❶❷❸	MOLED125 02 R ❶❷❸	MOLEDA125 02 R ❶❷❸	MOLED40 102 R ❶❷❸	MOLEDTL 02 R ❶❷❸
❶	Step1	Step1	Step1	Step1	Step1	Step1	Step1	Step1
❷	Step2 (10-100 VDC)	Step2 (20-30 VAC/DC)	Step2 (20-30 VAC/DC)	Step2 (20-30 VAC/DC)	Step2 (24 VDC)	Step2 (24 VDC)	Step2 (24 VDC)	Step2 (20-30 VAC/DC)
❸	Step3 (Red)	Step3 (Red)	Step3 (Red)	Step3 (Red)	Step3 (Red)	Step3 (Red)	Step3 (Red)	Step3 (Red)

SOUND

Series	Sonos Sounder	Sonos Sounder Beacon	Nexus 105 Sounder	Nexus 105 Sounder Beacon	Nexus 110 Sounder	Nexus 110 Sounder Beacon	Nexus 120 Sounder	Nexus 120 Sounder Beacon	Nexus Voice Sounder	Nexus Voice Sounder Beacon
Step 1a – Select light output										
Light	–	LEDs Static Flashing	–	LEDs Static Flashing (60FPM)	–	LEDs Static Flashing (60FPM)	–	LEDs Static Flashing (60FPM)	–	LEDs Static Flashing (60FPM)
Step 1b										
Sound @ 1m	100dB (32 tones)		105dB (64 tones)		110dB (64 tones)		120dB (64 tones)		90dB (4 voice messages) 116dB (64 tones)	
Step 2										
Voltage	9-60 VDC (4) 110-230 VAC (2)	17-60 VDC (6) 110-230 VAC (7)	10-60 VDC (2) 110-230 VAC (8)	10-60 VDC (620) 110-230 V AC (549)	10-60 VDC (554) 24-48 VAC (605) 110-230 VAC (557)	10-60 VDC (622) 24-48 VAC (674) 110-230 VAC (622)	10-60 VDC (545) 110-230 VAC (551)	10-60 VDC (635) 110-230 VAC (552)	10-60 VDC (26) 110-230 VAC (84)	10-60 VDC (74) 110-230 VAC (85)
Step 3										
Colour	–	R A	–	R A G B C	–	R A	–	R A	–	R A
Additional information										
IP rating							IP65 / IP66 Air-tight Powerful rain/spray/splash/sea conditions			
Temp (°C)	-25 to +55		-25 to +55				-25 to +55			
HxW	104mm x 97mm		136mm x 124mm				166mm x 149mm			
Catalogue Number Guide	KL249 4 ❶	KL249 6 R ❶❷❸	KL980 54 2 ❶❷	KL980 620 ❶❷	KL980 554 ❶❷	KL980 622 ❶❷	KL980 545 ❶❷	KL980 635 ❶❷	KL9807 26 ❶❷	KL9807 74 ❶❷
❶	Step1	Step1	Step1	Step1	Step1	Step1	Step1	Step1	Step1	Step1
❷	Step2 (17-60 VDC)	Step2 (17-60 VDC)	Step2 (10-60 VDC)	Step2 (10-60 VDC)	Step2 (10-60 VDC)	Step2 (10-60 VDC)	Step2 (10-60 VDC)	Step2 (10-60 VDC)	Step2 (10-60 VDC)	Step2 (10-60 VDC)
❸		Step3 (Red)		Red LED Lens		Red LED Lens		Red LED Lens		Red LED Lens

Beacon – selection

Environmental factors determining selection

- The light output required for the beacon and distance the signal is required to travel
- The ambient level of existing light
- The IP rating of the beacon
- Safe atmosphere or potentially explosive atmosphere (for HAE product selection, please contact your local NHP Account Representative).

The intensity of the light can be reduced as it passes through the dome of the beacon. The extent of this reduction is dependent on the type of lamp used and the colour of the lens. The table below gives an indication of the percentage of light that will pass through the lens for different light sources and lens colours.

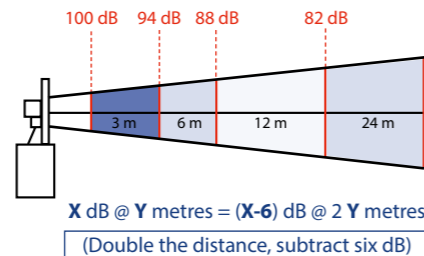| Colour	Filament	Halogen	Xenon	LED
Clear	100%	100%	100%	100%
Amber	70%	70%	70%	100%
Red	30%	27%	23%	100%
Green	12%	15%	25%	100%
Blue	8%	10%	13%	100%

Sounder – selection

Factors determining sounder selection

- Ambient noise in the environment
- The duration of signal required
- The noise level required and distance of signal travel

What happens to sound over distance?

In selecting a sounder for a particular application, the table to the right 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 from may be significantly less.

100 dB   94 dB   88 dB   82 dB

3 m   6 m   12 m   24 m

X dB @ **Y** metres = (**X-6**) dB @ 2 **Y** metres
(Double the distance, subtract six dB)

Decibel level at distance from source

Distance from source (m)	Decibel level (Db) at source								
	80	85	90	95	100	105	110	115	120
1m	80	85	90	95	100	105	110	115	120
2m	74	79	84	89	94	99	104	109	114
3m	70	75	80	85	90	95	100	105	110
5m	66	71	76	81	86	91	96	101	106
10m	60	65	70	75	80	85	92	95	100
20m	54	59	64	69	74	79	86	89	94
30m	50	55	50	65	70	75	80	85	90
50m	46	51	56	61	66	71	76	81	86
100m	40	45	50	55	60	65	72	75	80
200m	-	39	44	49	54	59	66	69	74
400m	-	-	40	43	50	53	60	63	70
500m	-	-	-	41	46	51	56	61	66
1000m	-	-	-	-	40	45	50	55	60
2000m	-	-	-	-	-	39	44	49	54
3000m	-	-	-	-	-	-	40	45	50
5000m	-	-	-	-	-	-	-	41	46

Decibel values at a distance of 1 meter from source

120 - 180db
Very high noise
Very noisy factories, Outdoor use/marine

100 - 120dB
High noise
Noisy factories, General outdoor use

65 - 100dB
Medium noise
Commercial premises, hotels, factories

0 - 65dB
Low noise
Close up use only Quiet background

180	Loudest possible sound
170	Rocket launch
160	Ear drum bursts
150	Threshold of pain
140	Rock concert
130	Air raid siren
120	Jack hammer
110	Riveting machine
100	Chain saw
90	Welder
80	Vaccum cleaner
70	Noisy restaurant
60	Normal conversation
50	Quiet office
40	Library
30	Whisper
20	Leaves rustling
10	Breathing

IP rating guide

Note* IP67 products are not automatically rated at IP65/6 unless stated

1st digit refers to protection from solids (6 = completely dust tight)

IP	6	5	Protection from water jets (6mm nozzle)
IP	6	6	Protection from powerful water jets (12mm nozzle)
IP	6	7	Protection from imersion in water (1m for 30mins)

2nd digit refers to protection from liquids

Partners:

klaxon

MOFLASH SIGNALLING

SCAN ME FOR MORE INFORMATION