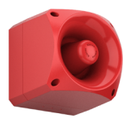
Signalling – selection chart

	SIGHT								SOUND									
																		
Series	**MOLED80** Beacon	**MOLED195** Beacon	**MOLED100** Beacon	**MOLEDA100** Beacon Sounder	**MOLED125** Beacon	**MOLEDA125** Beacon Sounder	**MOLED400** Beacon	**MOLEDTL** Traffic Lights	**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	**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	–	**LEDs** Static Flashing	–	**LEDs** Static Flashing (60FPM)	–	**LEDs** Static Flashing (60FPM)	–	**LEDs** Static Flashing (60FPM)	–	**LEDs** Static Flashing (60FPM)
Step 1b – Select sound output (use decibel charts below)																		
Sound @ 1m	–	–	–	**80dB** Piezo buzzer	–	**90dB** Piezo buzzer	–	–	**100dB** (32 tones)		**105dB** (64 tones)		**110dB** (64 tones)		**120dB** (64 tones)		**90dB** (4 voice messages) **116dB** (64 tones)	
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** (RAG) (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)	**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 – 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	RAGB	RAGBC	RAG		RAGBC		RAGBC	RAG	–	RA	–	RAGBC	–	RA	–	RA	–	RA
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	**IP65** Air-tight Rain/spray/splash		**IP65 / IP66** Air-tight Powerful rain/spray/splash/sea conditions							
Temp (°C)	-20 to +55	-25 to +55	-25 to +55		-20 to +45		-25 to +55	-25 to +55	-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	104mm x 97mm		136mm x 124mm		166mm x 149mm					
Catalogue Number Guide ❶	**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	**KL249 4** ❶❷	**KL249 6 R** ❶❷❸	**KL98054 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	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)	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)	Step3 (Red)	Step3 (Red)	Step3 (Red)	Step3 (Red)	Step3 (Red)	Step3 (Red)	Step3 (Red)		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%

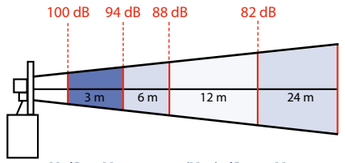
Sounder – selection

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.



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								
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	180	Loudest possible sound
	170	Rocket launch
	160	Ear drum bursts
	150	Threshold of pain
	140	Rock concert
	130	Air raid siren
100 - 120dB **High noise** Noisy factories, General outdoor use	120	Jack hammer
	110	Riveting machine
	100	Chain saw
65 - 100dB **Medium noise** Commercial premises, hotels, factories	90	Welder
	80	Vaccum cleaner
	70	Noisy restaurant
	60	Normal conversation
0 - 65dB **Low noise** Close up use only Quiet background	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

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