MOFLASH SIGNALLING

Signalling selection chart

C&S Clifford & Snell

VISUAL | SOUNDER & COMBINATION

Series	LED80 Beacon	LED195 Beacon	LED100 ECO Beacon	LEDA100 ECO Beacon Sounder	LEDD125 Beacon	LEDA125 Sounder Beacon	LED400/401 Beacon	LED-TL Traffic Lights	Yodalarm YA40 Sounder	Yodalight YL40 Sounder Beacon	Yodalarm YA50 Sounder	Yodalight YL50 Sounder Beacon	Yodalarm YA80 Sounder	Yodalight YL80 Sounder Beacon	Yodalarm YA80S Sounder	Yodalight YL80S Sounder Beacon

Step 1a – Select light output

| Light source | 12 LEDs Static Flashing (60FPM) 120° Light axis | 36 LEDs Static Flashing (60/120FPM) 120° Light axis | 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 | – | Xenon Flashing (60FPM) | – | Xenon Flashing (60FPM) | – | Xenon Flashing (60FPM) | – | Xenon Flashing (60FPM) |

Step 1b – Select sound output (use decibel charts below)

| Sound @1m | – | – | – | 80dB Piezo buzzer | – | 90dB Piezo buzzer | – | – | 108dB (32 tones) | | 112dB (32 tones) | | 116dB (32 tones) | | 120dB (32 tones) | |

Step 2 – Select the voltage required

| Voltage | 10-100 VDC (02) 115-230 VAC (04) | 8-20 VAC/DC (01) 20-30 VAC/DC (02) 30-85 VAC/DC (03) 85-280VAC & (05) 85-380VDC | 10-17 VAC/DC (01) 20-30 VAC/DC (02) 35-85 VAC/DC (03) 85-280 VAC & (05) 85-380 VDC | | 24VDC R A G LED-Tricolor (01) 24 VDC (02) 115 VAC (03) 230 VAC (04) | | 24 VDC (401) 90-370 VDC (400) 70-265 VAC (400) | 8-20 VAC/DC (01) 20-30 VAC/DC (02) 35-85 VAC/DC (03) 85-280 VAC & (05) 85-380VDC | 24 VDC (D) 48 VDC (F) 24 VAC (I) 115 VAC (L) 230 VAC (N) | 24 VDC (D50) 48 VDC (F50) 24 VAC (I) 115 VAC (L50) 230 VAC (N50) | 24 VDC (D) 48 VDC (F) 24 VAC (I) 115 VAC (L) 230 VAC (N) | 24 VDC (D50) 48 VDC (F50) 24 VAC (I) 115 VAC (L50) 230 VAC (N50) | 24 VDC (D) 48 VDC (F) 24 VAC (I) 115 VAC (L) 230 VAC (N) | 24 VDC (D50) 48 VDC (F50) 24 VAC (I) 115 VAC (L50) 230 VAC (N50) | 24 VDC (D) 48 VDC (F) 115 VAC (L) 230 VAC (N) | 24 VDC (D50) 48 VDC (F50) 115 VAC (L50) 230 VAC (N50) |

Step 3 - Select lens colour: AMBER (01) Warning, proceed with care / RED (02) - Serious danger! / BLUE (03) - Process notice, such as toxic gas alarms / GREEN (04) - OK, proceed as normal / CLEAR (05) - No specific meaning / OPAL - No specific meaning.

| Colour | 01 02 03 04 | 01 02 03 04 05 | 01 02 04 | | 01 02 03 04 05 | | 01 02 03 04 05 | 01 02 04 | – | A R B G C O | – | A R B G C O | – | A R B G C O | A R B G C O | A R B G C O |

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 | | | IP66 Air-tight Powerful rain/spray/splash/sea conditions | | | | |

| Temp (°C) | -20 to +55 | -25 to +55 | -25 to +55 | | -20 to +55 | | -25 to +55 | -25 to +55 | -35 to +70 | | | -35 to +70 | | | | |

| HxW | 50mm x 76mm | 73mm x 104mm | 107mm x 72mm | 119mm x 90mm | 162mm x 98mm | | 205mm x 150mm | 104mm x 108mm | 91.5mm x 91.5mm | 183mm x 91.5mm | 136mm x 136mm | 194mm x 136mm | 219mm x 219mm | 276mm x 219mm | 219mm x 219mm | 276mm x 219mm |

| Catalogue Order Number Guide Example | LED80-02-01 1 2 3 Step1 Step2 (10-100 VDC) Step3 (Amber) | LED195-02-02 1 2 3 Step1 Step2 (20-30 VAC/DC) Step3 (Red) | LED100-02-03 1 2 3 Step1 Step2 (20-30 VAC/DC) Step3 (Blue) | LEDA100-02-04 1 2 3 Step1 Step2 (20-30 VAC/DC) Step3 (Green) | LEDD125-02-05 1 2 3 Step1 Step2 (24 VDC) Step3 (Clear) | LEDA125-02-02 1 2 3 Step1 Step2 (24 VDC) Step3 (Red) | LED401-02-01 1 2 3 Step1 Step2 (24 VDC) Step3 (Amber) | LED-TL-02-02 1 2 3 Step1 Step2 (20-30 VAC/DC) Step3 (Red) | YA40/D/RN/WR 1 2 Step1 Step2 (24 VDC) | YL40/F50/A/RN/WR 1 2 3 Step1 Step2 (48 VDC) Step3 (Amber Xenon) | YA50/I/RF/WR 1 2 Step1 Step2 (24 VAC) | YL50/N50/G/RF/WR 1 2 3 Step1 Step2 (230 VAC) Step3 (Green Xenon) | YA80/L/RF/WR 1 2 Step1 Step2 (115 VAC) | YL80/N50/C/RF/WR 1 2 3 Step1 Step2 (10-60 VDC) Step3 (Clear Xenon) | YA80/D/RF/SU/WR 1 2 Step1 Step2 (24 VDC) | YL80/N50/R/RF/SU/WR 1 2 3 Step1 Step2 (10-60 VDC) Step3 (Red Xenon) |

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

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.

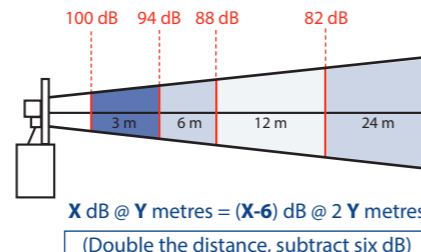| Colour	Filament	Halogen	Xenon	LED
Clear (05)	100%	100%	100%	100%
Amber (01)	70%	70%	70%	100%
Red (02)	30%	27%	23%	100%
Green (04)	12%	15%	25%	100%
Blue (03)	8%	10%	13%	100%

Sounder - selection

Factors determining sounder selection

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

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, 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

dB	
180	Loudest possible
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