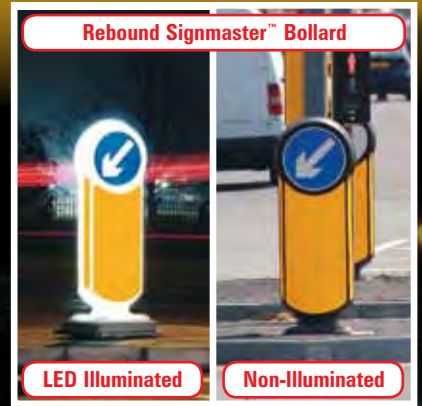


Energy Efficient LED Illuminated Road Safety Products



Cuts Costs, Cuts Carbon, Passively Safe
www.safety4highways.com

Rebound Signmaster™

Bollard Range

Rebound Signmaster is the result of years of research and development by the Glasdon Group's dedicated team of product design specialists. The Glasdon Group has over fifty years' experience in the manufacture of high quality street furniture, and has been producing impact-absorbing road side safety products since the 1960's.

Rebound Signmaster bollard is available either illuminated or non-illuminated to meet any scheme requirement.

Non illuminated

Exceptional reflectorisation whilst eliminating electricity costs.

Ideal for locations where no illumination is required (see page 4-5).

- 1) **Surface mounted** - minimise installation costs - 4 fixing options available.
- 2) **Socketed** - ideal for quick bollard replacement.

Illuminated

A range of LED illuminated options available.

1) For new installations

- i. **Signmaster Sublite™ LED** - light box installation, includes light box chamber to house a cut out and offers flexible ducting options. Will significantly reduce energy costs (see page 6-7).
- ii. **Signmaster LED 24v Flush Installation Kit** - designed without a light box for quick installation (see page 8).

2) For existing installations/light boxes

- i. **Signmaster Conversion Kits** - utilise your existing light box, whilst upgrading to state of the art LED illumination and a high performance rebound bollard (see page 9).
- ii. **Gear Tray only** - the most cost effective option. Upgrade to LED illumination, whilst utilising your existing light box and bollard (see page 9).

Compared to traditional lamps, an average of 80% saving on electricity costs can be made by switching to Rebound Signmaster LED Lighting.

Advantages

- ✓ **Passively Safe**
- ✓ **Cuts Energy / Cuts Cost**
- ✓ **Cuts Maintenance**
- ✓ **Fully Reflectorised**
- ✓ **Compatible with Telemetry Equipment**



White Rebound Signmaster Sublite Bollard.



White Rebound Signmaster, Non-Illuminated, Socketed Bollard.



White Rebound Signmaster Bollard with LED Gear Tray and Conversion Kit.

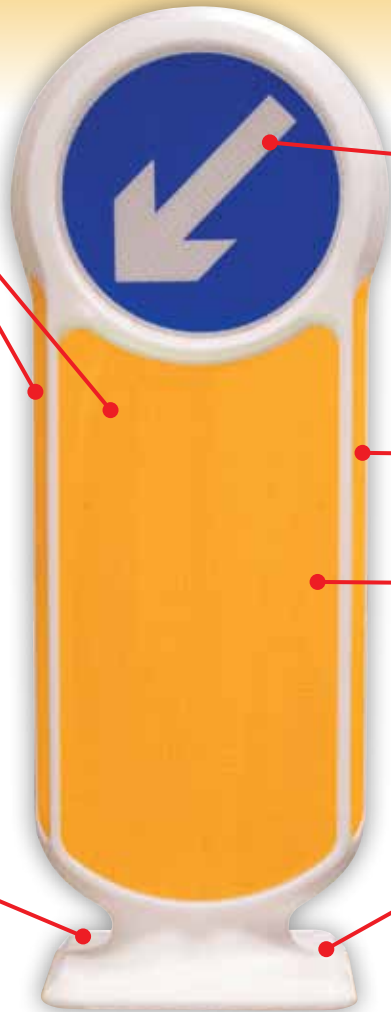
Design Features

360 Degree Reflectivity – Provides excellent all-round visibility making it ideal for use at junctions.

Made from Impactapol® – Double-skinned to ensure exceptional strength and durability.

Drive Through Performance Proven at TRL – (Bollard meets BS EN 12767 NE4) Rebound Signmaster, Rebound Signmaster Sublite and 24V Flush Installation Kit have proven drive through performance at 100Km/h (62mph).

Versatile Fixing Options – An extensive range of fixing options.



300mm Sign Face – Large retroreflective sign face helps increase safety.

Retroreflective – Highly visible by day and by night. Reflectors have a warranted life of 10 years.

Visibility – Side patches have class leading size and are angled for a wider side view.

Recessed Panels – Tamper, vandal and weather resistant.

Uniformity – Helps to create a co-ordinated street scene. Non-illuminated and illuminated options.

Anti-Twist Design – One piece bollard with integral fixing points.

Rebound Signmaster Surface Mounting

Passively Safe To help save a life

Out performs traditional illuminated bollards.



Passively Safe to BS EN 12767 **100 NE4**

Rebound Signmaster Bollard, Rebound Signmaster Sublite and 24V Flush Installation Kit have been tested by TRL Ltd and passed to Performance Standard NE4/100Km/h under BS EN 12767:2007. (Passive safety of support structures for road equipment).

Manufactured in passively safe Impactapol® material, to help prevent or reduce the severity of personal injury, in the event of vehicle impact. If impacted or run-through, Rebound Signmaster will self-return to an upright position, ensuring the hazard remains clearly marked, thereby saving on replacement and reinstatement cost.



Rebound Signmaster™ - Non Illu

Non illuminated Rebound Signmaster is ideal for locations where no illumination is required. This illuminated and non illuminated bollards are required. The retroreflective patches and signface

Surface Mounting

PASSED
at 100 Km/h
(62mph)



Rebound Signmaster
Surface Mounting

Choice of fixings



Bolt-down fixing.



Bolt down fixing with adjustable depth
concrete-in anchors.



Bolt down fixing with concrete-in
anchors.



Adapter plate for redundant light boxes.

Wide Range of Fixings

**Outstanding Rebound
Performance**



Black Rebound Signmaster, Non-Illuminated, Surface Mounted Bollard.



Black Rebound Signmaster, Non-Illuminated,
Surface Mounted Bollard.

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minated Bollard

Passively Safe to BS EN 12767
100
NE4

allows for a consistent bollard installation throughout your traffic schemes, where give excellent visibility and increase safety.

NEW Socketed

PASSED
at 100 Km/h
(62mph)

Design Features

Quick and Easy Bollard Replacement

Outstanding Rebound Performance

Moulded Round Stem – Gives excellent drive-through performance from all angles.

Small Footprint – Ideal for smaller traffic islands.

Socket Manufactured From Durapol® Polymer – A proven corrosion-resistant and impact-resistant material.

Keyed Quick Release Mechanism – Allows replacement bollard to be installed in seconds.

Durapol® Material Socket Plug – Allows for easy replacement if a bollard is damaged, secures the bollard into the socket and prevents debris entering the socket.

Anchor Peg – Secures bollard inside the socket, and creates an anti-twist design.

Concrete Shelves – Allows concrete to flow over the shelves on the socket offering anchorage.

Flat Based Socket – For ease of installation.



Rebound Signmaster Socketed



White Rebound Signmaster, Non-Illuminated, Socketed Bollard.



White Rebound Signmaster, Non-Illuminated, Socketed Bollard.

Rebound Signmaster Sublite™

Sublite LED light box is ideal for locations where illumination is required. As it uses low power infra-red phototransistor to allow for illumination only during the hours of darkness energy costs reduced, compared to traditional alternatives.



Rebound Signmaster Sublite with optional Ducting Chamber

Design Features

Re-settable Fuse – Protects the circuit from over current and can be reset easily by disconnecting the power for 1 minute.

Phototransistor – Ensures the unit is only illuminated during the hours of darkness.

Sealed LED Housing – IP67 rated. Offers excellent water and dust protection.

Four Fixing Points – Ensures secure bollard installation.

Sealing Gasket – Prevents water/dirt ingress.

Concrete Shelves – Allows concrete to flow over the shelves offering anchorage.

Compared to traditional lamps, an average of 80% saving on electricity costs can be made by switching to Rebound Signmaster LED Lighting.



Optional Extras

Ducting Chamber

The ducting chamber extension box allows 230V ac cable to be laid at the legal requirement depth. Offers full protection to the cables, and multiple boxes can be stacked on top of each other to add more depth if required.

Ducting Splitter

For applications where two ducts are required the Splitter enables both ducts to be connected to the underground box.

230V ac to 24V ac Transformer



Phototransistor Cover Cap

For 24 hour illumination (regardless of external light levels).



Installation Lid

Prevents concrete getting inside the box and damaging the internal components or bollard fixing points.



- LED Lighting Unit & Underground Box

consumption, and utilises an
will be significantly



Telemetry - Compatible with some makes of monitoring equipment.

50/100mm Ducting Connector - To prevent exposed wires ducting can be connected up to the unit.



Sealing Gasket - Prevents water ingress.

IP68 Rated Glands - Prevents water entering the unit and damaging the internal components. Can be sited at the rear or underneath the light box (please specify at point of order).

Spacious Internal Area - Able to house almost any brand of cut-out and a transformer if required.

Mounting Boards - Can be specified in two positions.

Zinc Coated Mild Steel Concrete-in Bars - Provides anchorage into the ground offering excellent drive through performance.

Compatible with Telemetry Equipment

Can be used with a variety of remote monitoring systems. Please contact our Sales Office for more information.



LED Lighting

230V ac
Total ON current is 6 Watts.
STANDBY current is 0.59 Watts.
UMSUG Code ON is 40 0006 0007 100
UMSUG Code STANDBY is 96 0001 0002 100

24V ac Extra Low Voltage
(24V ac Transformer is IP68 rated and will run up to 3 Bollards)
Total ON current is 6.5 Watts.
STANDBY current is 1.5 Watts.
UMSUG Code ON is 40 0005 0000 100
UMSUG Code STANDBY is 96 0002 0000 100

Power Factor 0.91 Model Also Available - Please contact our sales office for details.

Rebound Signmaster™ Bollard

LED 24V Flush Installation Kit

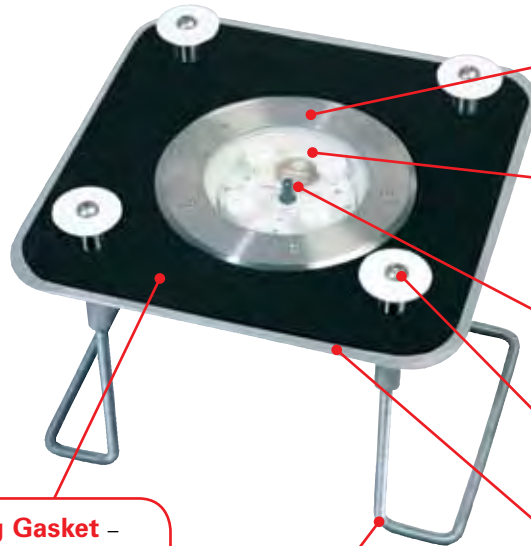
Passively
Safe to
BS EN 12767
100
NE4

The LED 24V installation kit is designed without a light box for quick installation, it can accommodate 50mm or 100mm ducting to suit your requirements. Low running costs because of the 6.5W power consumption can add up to large savings.

Design Features



Rebound Signmaster 24V
Installation Kit with optional
100mm Bend



Stainless Steel –
Will not rust or corrode.

IP67 Rated LED Housing –
Offers excellent water and dust
protection.

Phototransistor –
Ensures the unit is only illuminated
during the hours of darkness.

Four Fixing Points –
Ensures secure bollard installation.

Aluminium Plate –
Helps reduce corrosion.

Sealing Gasket –
Prevents water and dirt
gathering on the lens.

**Zinc Coated Mild Steel
Concrete-in Bars** –
Provides anchorage into the
ground offering excellent
drive through performance.

*Compared to traditional lamps, an
average of 80% saving on
electricity costs can be made by
switching to Rebound Signmaster
LED Lighting.*

PASSED
at 100 Km/h
(62mph) ✓



50mm or 100mm Ducting

Optional Extras

Phototransistor Cover Cap

For 24 hour illumination (regardless of external light levels).

100mm Bend

Installation Lid

Protects the unit and fixing points during installation.

230V ac to 24V ac Transformer

LED Lighting

24V ac Extra Low Voltage

(24V ac Transformer is IP68 rated and will run up to 3 Bollards)

Total ON current is 6.5 Watts.

STANDBY current is 1.5 Watts.

UMSUG Code ON is 40 0005 0000 100

UMSUG Code STANDBY is 96 0002 0000 100

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Fax: (01253) 792558

Rebound Signmaster™ Bollard

LED Gear Tray & Conversion Kit

Upgrade to LED illumination and a Rebound Signmaster Bollard, utilising your existing light boxes, using an LED Gear Tray and Conversion Kit.

Alternatively, for the most cost effective option, simply upgrade your existing light box and bollard to LED's, using an LED Gear Tray.



Rebound Signmaster LED Gear Tray and Conversion Kit

Design Features



IP67 Rated – To offer an additional level of protection against water or dirt ingress.

Resettable Fuse –

To protect the circuit from over current and can be reset easily by disconnecting the power for 1 minute.

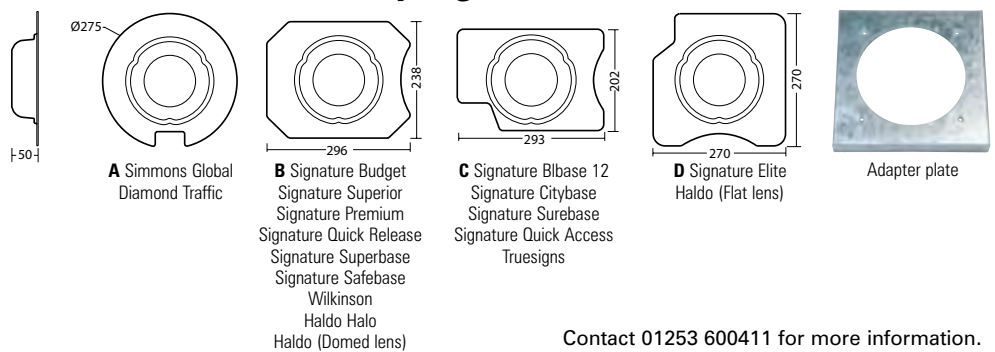
Dual Layer Aluminium Heatsink –

To maintain low LED junction and board temperature.



Four Standard Gear Tray Conversion Kits Available – Most leading industry light boxes can be converted to Signmaster LED.

Four Standard Gear Tray Light Box Conversions Available



Compatible with Telemetry Equipment

Can be used with a variety of remote monitoring systems. Please contact our Sales Office for more information.



LED Lighting

230V ac

Total ON current is 6 Watts.

STANDBY current is 0.59 Watts.

UMSUG Code ON is 40 0006 0007 100

UMSUG Code STANDBY is 96 0001 0002 100

24V ac Extra Low Voltage

(24V ac Transformer is IP68 rated and will run up to 3 Bollards)

Total ON current is 6.5 Watts.

STANDBY current is 1.5 Watts.

UMSUG Code ON is 40 0005 0000 100

UMSUG Code STANDBY is 96 0002 0000 100

Power Factor 0.91 Model Also Available – Please contact our sales office for details.

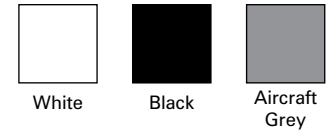
Rebound Signmaster™ Bollard

Specifications

Dimensions

	Bolt-down	Socketed
Overall Height	1046mm	1074mm
Max. Bollard Width	398mm	398mm
Max. Bollard Depth	200mm	152mm
Bolt-down Foot Detail	328 x 328mm	-
Fixing Centres	228 x 228mm	-
Socket Width	-	209mm
Socket Length	-	237mm
Socket Depth	-	306mm
Sign Face	300mm diameter	300mm diameter
Front/Rear Patch True Visibility Area	165,183mm ²	151,475mm ²
Side Patch Area	26,820mm ² per patch	20,784mm ² per patch
Total Side Patch Area	53,640mm ²	41,568mm ²
Weight of Bollard	6kg	6.9kg

Colours



(LED Illuminated Rebound Signmaster available in white only.)

(Socketed Rebound Signmaster available in White and Black only.)

Retroreflective Patch Options



1 x Fluorescent Yellow retroreflective front panel.
2 x Fluorescent Yellow retroreflective side panels.
1 x 300mm Signface.



1 x Fluorescent Yellow retroreflective front panel.
4 x Fluorescent Yellow retroreflective side panels.
1 x 300mm Signface.



1 x Fluorescent Yellow retroreflective front panel.
1 x Fluorescent Yellow retroreflective back panel.
4 x Fluorescent Yellow retroreflective side panels.
1 x 300mm Signface.

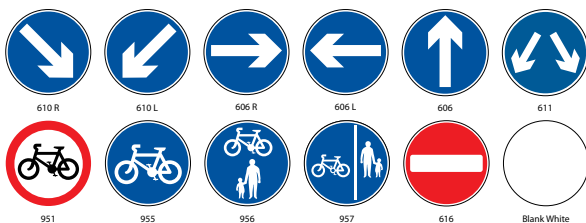


1 x Fluorescent Yellow retroreflective front panel.
1 x Fluorescent Yellow retroreflective back panel.
4 x Fluorescent Yellow retroreflective side panels.
2 x 300mm Signfaces.

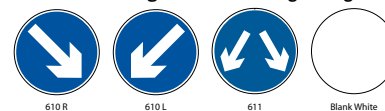
Sign Options

Rebound Signmaster has the option to carry one or two signs.

Rebound Signmaster LED Legal Sign Options (for use on highways)



Rebound Signmaster Legal Sign Options (for use on highways)



Other Sign Options are available on request.
Please contact our sales office for further information.

Materials

Bollard: Impactapol® material
Socket: Durapol® material
Fixings: Stainless Steel
Sublite: Underground Box, Ducting Chamber and Splitter: 100% Recycled Durapol material.

LED Lighting Unit: Durapol
Concrete-in Bars: Mild Steel BZP
Installation Lid: 100% Recycled ABS
Retroreflective Sign/Patches: Avery Dennison Fluorescent Yellow and Translucent White

Tel: (01253) 600411

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Other Illuminated Products

Sublite Lumino™

LED Uplighter



Design Features

- Flush ground uplighter removes the potential impact hazard created by a traditional post-mounted downlighter.
- Low energy and low maintenance – only 12w power consumption.
- Highly resilient: 100% recycled Durapol® material IP67 rated.
- Low maintenance, high reliability – Unit carries a 10-year warranty on LED's, which have a 50,000 hour minimum expected life, which should be comfortably exceeded.
- Using minimal standby power, a phototransistor ensures the unit is only active during the hours of darkness.
- Versatile: Hinged LED plate allows adjustment after installation.
- Designed to withstand accidental drive-over.

Versatile Configuration

Multiple ducting options and optional extension chambers can be used to adapt the Sublite Lumino to meet your requirements.



Optional Extras

Installation Lid



Ducting Splitter



Ducting Chamber



Phototransistor Cover Cap



Overgrowth Restricting Surround



Sublite Lumino can be used with a variety of remote monitoring systems.

LED Lighting

Total ON current is 12W
 Total STANDBY current/photocell is 1.73W
 UMSUG Code ON is 40 0012 0004 100
 UMSUG Code STANDBY is 96 0002 0001 100

Specifications

Sublite Underground Box:
 Length: 335mm
 Width: 300mm
 Depth below ground: 224mm

Lumino Uplighter:
 Length: 445mm
 Width: 445mm
 Max. height above ground: 90mm

Materials

Underground Box, Ducting Chamber, Splitter: 100% Recycled Durapol
 Installation Lid, Surround: 100% Recycled ABS
 LED Lighting Unit: Durapol
 Concrete-in Bars: Mild Steel BZP

* Impactapol® material is a polymer specially developed with enhanced flexibility and extensibility properties offering good recovery performance after vehicular impact. Impactapol has good abrasion resistance and the material will not chip or rust and never needs painting.
 ** Durapol® material is a polymer formulated to withstand extremes of temperature and is impact-tested in our Quality Assurance Laboratory as part of our BS EN ISO 9001:2008 test procedure. Durapol will not chip or rust, is easy to clean and never needs painting.

Other Illuminated Products

Ecolumino™

Downlighter Gear Tray

RETROFIT LED GEAR TRAY FOR THE CONVERSION OF EXISTING SIGN LIGHTS

Design Features

Full Power



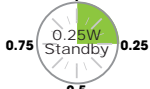
Low wattage, energy efficient LED's – 3w power consumption in use. Complies with BS EN 12899-1 on Luminance Levels.



State of the art optics distribute light evenly over the sign, to fully comply with Class UE3.



Low maintenance, high reliability – Unit carries a 10-year warranty on LED's, which have a 50,000 hour minimum expected life, which should be comfortably exceeded.



Using minimal standby power, an optional Zodion Photocell ensures the unit is only active during the hours of darkness.



Contains none of the harmful chemicals found in fluorescent lamps.



Three Standard Downlighter Gear Trays Available

Type 1

To fit Signature Exlite LA/Forest City
3 Watts (+0.25W Zodion Photocell)
0.5 Power Factor
UMSUG Code 40 0003 0005 100

Type 2

To fit Signature Delta
3 Watts (+0.25W Zodion Photocell)

Type 3

To fit Simmonsigns LUA
3 Watts (+0.25W Zodion Photocell)

Complies with BS EN 12899-1

Ecolumino will externally illuminate a sign to a mean luminance level between 100-400 LUX, as described in Table 22, Class E2. The uniformity of illuminance will meet Class UE3 of Table 23.

Standard Downlighter Gear Tray



Glasdon Downlighter Gear Tray



www.safety4highways.com

Visit our new website to see our full range of Passively Safe products, including bollards, hazard & verge markers and our Chevreflex Ultra™ Flexible Sign System. Downloadable product literature, case studies and video clips are also available.



Individual model specification sheets are available on most Glasdon Bollards and Traffic Safety Products. Please phone 01253 600411 for details.



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Highways and Safety Division
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