



# Lightweight Signalling Handbook

Zero Maintenance Signalling



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## CLS LITE Signal Range

73	3 Aspect CLS LITE Signals
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Since the beginning of the lightweight signalling revolution on the UK network, Unipart Dorman has worked in close collaboration with Network Rail and their primary contractors to deliver the latest generation of LED railway signals. From the introduction of the Integrated Lightweight Signal (iLS) range with either standard Trunnion or the Modular/Enclosure Base Signal and from that the CLS LITE range, which was developed and delivered in a matter of weeks in response to a customer's urgent operational requirement; through to the introduction of the Assisted Lift Trunnion which eliminates the use of a separate post lifting device by employing a specifically designed internal spring that augments the manual lifting and lowering of the signal head and post.

Unipart Dorman pioneered the introduction of LED signals on the UK infrastructure and continues to build on the skills and expertise developed since the early 1990s developing, and introducing new LED signals to the market using the latest in innovative design techniques and Lean manufacturing processes.

Specifying Unipart Dorman Lightweight Signals guarantees significant savings can be delivered on any project by removing the costs associated with providing and installing signal support structures. Further savings are made through the use of plug coupled connections and simple installation procedures which do not require any heavy plant.

Safety is deeply embedded in the Unipart Dorman philosophy and this is reflected in the large portfolio of safety critical products across the Rail and Traffic business areas and also in how the company operates day to day, which has resulted in back to back wins in the Unipart Group Health and Safety Award; and a Distinction grade International Safety Award from the British Safety Council.

Choosing Unipart Dorman guarantees a complete end to end service: from the analysis of Signal Sighting Forms, production of mandatory structural documentation and delivering bespoke training packages, through to meeting stringent deadlines for manufacture and delivery. The journey doesn't stop there though; the ever evolving challenges of the UK rail sector and Unipart Dorman's constant effort to remain the supplier of choice mean new and exciting developments are never far away.



## Over 130 years of Engineering Heritage as a Foundation for Excellence

Since its formation in the late 1800s, Unipart Dorman has always listened closely to customers to deliver superior products at the right time and the right price. Use of the Unipart Way 5 Systems, Customer Engagement, Operational Excellence, Innovation, Employee Engagement and Organisational Capability throughout all levels of our internal and external business relationships, is the solid foundation to achieving this and the driving force behind our success.

Sharing knowledge and ideas with our customers builds on our core skills to develop innovative solutions. Seeing the world through our customer's eyes allows better understanding of their needs and the ability to deliver them better than anyone else. Our pace to develop solutions using our expertise and knowledge gives customers insight and access to new services and products. We innovate to ensure seamless product and service introduction, competitively priced with measurable whole life cost benefits.

Unipart Dorman offers world class leadership in innovation, setting the standard for others to follow. The company continues to invest heavily in the 5500m<sup>2</sup> facility in Southport which already boasts a state of the art environmental test chamber, fully calibrated optical testing laboratories and a rapid prototyping facility. Product Innovation is led by the Engineering team to fully support design and development, production and test and customer technical support.

Compliance is a major part of any company's commitment to supplying goods into any industry, but given the critical role railway signals play in ensuring not just passenger safety, but safeguarding workers on the network, Unipart Dorman works tirelessly on both the current compliance regime and future requirements whilst fully embracing emerging requirements such as the UK government objectives surrounding BIM etc to ensure all products achieve (and mostly exceed) legislative requirements. Unipart Dorman is proud to have a company representative on a number of national trade and regulatory bodies, where our broad experience of technical matters has been invaluable in formulating standards and specifications.

Unipart Dorman is absolutely committed to robustly supporting the local and wider national economy, by designing and manufacturing all of its Rail Products at Southport and wherever possible using local suppliers which minimises our carbon footprint and secures hundreds of jobs.

## Lightweight Signalling Solutions

### Approval Certificate Number PA05/04240

Unipart Dorman's range of Lightweight Signals provides a new generation of signalling by delivering increased safety through the reduction of staff exposure to risk both on track & working at height and by significantly reducing both installation and lifetime ownership costs.

All Unipart Dorman Lightweight signals are fully compliant with Network Rail Line Specifications.

### Lightweight Signal Options

#### Integrated Lightweight Signal (iLS)

Corrosion free GRP post and signal head fitted in the ALT, Trunnion or enclosure base type.

The 3 Aspect iLS head is the lightest unit on the market and is less than half the weight of the Classic Unipart Dorman, 3 Aspect, Short Housing, Colour Light Signal.

Signal	Weight (Head/Module)
Unipart Dorman Classic	26 kg/10 kg
Unipart Dorman iLS (No post)	10.9 kg /6.2 kg
Unipart Dorman CLS LITE	22 kg /5.5 kg

#### CLS LITE

The latest variant in the world beating range of Colour Light Signals from Unipart Dorman is the CLS LITE, which combines the cutting edge lightweight optics of the Integrated Lightweight Signal system with the Classic Signal Housing first introduced in 2003.

This allows Customers to capitalise on the advantages and economic benefits of the latest signal technology whilst retaining existing mounting structures.



## Key aspects of Unipart Dorman's Lightweight Signalling range:

- Unique optical arrangement that greatly reduces the possibility of signal phantoms
- Rapid installation onto a pre-installed structure (typically less than 30 minutes)
- Increased infrastructure reliability leading to less network delay costs
- Staff safety improved by reduced exposure to railway hazards
- LED light sources give a long and predictable service life of at least 10 years
- Reduced maintenance costs through the use of self-cleaning lenses and improved reliability
- Nominal supply voltage of 110Vac or 120Vdc
- Low wattage (5W nominal) version with single and double volt free proving contacts
- LED modules sealed to IP65
- MIL 5015 Plug coupler connections compliant with Network Rail Standard T00036
- Current proved version for backwards compatibility with SSI & RRI installations
- Overall signal footprint is reduced allowing installation into restricted areas removing the need for costly or complicated support structures
- Available in Long Range ( $800\text{m} \pm 3^\circ$ ) and Medium Range ( $400\text{m} \pm 10^\circ$  Wide beam and  $400\text{m} \pm 3^\circ$  Narrow beam) variants with elevated ( $>2750\text{mm}$  above the running rail) or ground ( $<2750\text{mm}$  above the running rail) close up viewing arrays



## Integrated Lightweight Signal (iLS)

Unipart Dorman's Integrated Lightweight Signal (iLS) is a Second generation LED Signal design. Delivering increased safety by the reduction of staff exposure to risk both on track & working at height, it also significantly reduces the installation and lifetime ownership costs.

The signal is designed to interface with all standard relay systems, geographical and solid state interlocking systems used in the UK. It is quickly installed onto standard foundations and the use of modular based construction with plug coupled electrical components reduces overall test and commissioning time.

Customers can specify most combinations of signal aspects into one signal head, the complete unit is delivered to site for mounting in a new stand alone structure or onto an existing structure.

This new signalling system is suitable for both Mainline and Modular Signalling projects.

The key to the simplicity of the system is the small number of user defined elements:

Simple hinged construction for the Trunnion base which has either one or two lockable electrical connection boxes

Post and signal head constructed from lightweight Glass Reinforced Plastic (GRP)

Customer defined signal aspect configurations

Lens/hood arrangement gives excellent protection against phantom aspects and is designed to be self-cleaning

Voltage Free Contact Proving is available and signals can be specified with either single or double cut contacts

Many iLS signals are suitable for use with the Unipart Dorman Assisted Lift Trunnion (ALT) to increase worker safety and reduce installation time.



## Benefits of the iLS

### Cost Reduction

Because it is an extremely light, fully integrated signal including post and fixing mechanism with the capability to be raised and lowered from ground level, the iLS helps to reduce costs in a number of ways, including:

- Reduces size and complexity of foundations
- Cuts installation times from hours to minutes, due to its weight and ease of handling
- Removes working at height risks and makes the rail environment a safer place
- Reduces on site testing, as it is factory tested and plug coupled
- Maintenance free, with its self-cleaning lens technology and long life LED modules
- Removes the need for heavy plant and handling equipment
- Operating costs can also be reduced through the development of low power modules that require only 5 watts, compared to over 35 watts in the existing versions

### Increased Safety

Worker safety is another key feature of the iLS, with all installation work carried out at ground level - meaning that the installer and maintainer never has to work at height and will always face oncoming trains. The signal comes complete with lightweight post and connects to the infrastructure by 'quick action' integral plug-couplers.

The signal can be erected and installed without lifting equipment or extensive installation teams. This shortens track possessions down to minutes, vastly improves network availability which minimises service disruption to TOCs and significantly reduces the workers exposure to trackside hazards.

### Improved Technology

Not only will the iLS save contractors significant sums of money on installation and procurement costs, but it also takes the innovation of the original Colour Light Signal and improves on its optical performance, reducing the risk of SPADS for train drivers.

Unipart Dorman's LED technology has already drastically reduced the risk of phantom aspects when compared to filament signals, and the iLS is twice as effective.





## iLS Performance characteristics in line with UK Network Rail specifications & Railway Group Standards

### Compliances

Railway Group Standards	GK/RT0057
Approval Certificate Number	PA05/04240

### Key Specifications

Ambient Operating Temperature Range	-25°C to +40°C
Nominal Operating Voltage (ac)	110Vac
Operating Voltage Range (ac)	88Vac to 121Vac
Nominal Operating Voltage (dc)	120Vdc
Operating Voltage Range (dc)	88Vdc to 145Vdc
LED Modules rated at IP65	

### Lamp Proving Options

Current Proved Version	
Nominal Operating Current	300mA @ 110Vac
5W (nominal) Voltage Free Contact Proved version	
Nominal Operating Current	45mA @ 110Vac

### Colour Specifications (as specified in GKRT0057)

Red BS1376 Class C (Restricted)
Yellow BS1376 Class B
Green BS1376 Class C
Lunar White BS1376 Class C (Restricted)
Signal White BS1376 Class C

### Colour Light Signal (Compliant with Network Rail Standard NR/SP/SIG/10062)

Red/Yellow/Green/Double Yellow Aspects in any combination
Long Range 800m at $\pm 3^\circ$
Medium Range:     Wide Angle (400m at $\pm 10^\circ$ )
Narrow Angle (400m at $\pm 3^\circ$ )

### Position Light Junction Indicator

Long Range (800m at $\pm 3^\circ$ )
Light Output - Lunar White

### Variants

Available Arm Positions:
1, 2, 4 and 5 in any combination

### Position Light Signal (Compliant with Network Rail NR/SP/SIG/10110)

Short Range (100m)
Light Output - Lunar White



### Banner Repeater Signal (Compliant with Network Rail GK/RT 0057)

Readability (250m)

Light Output - Signal White/Green

#### Variants

2 State Banner (On and Off Aspects)

3 State Banner (On, Off and Green Off Aspects)

### Standard Alpha-Numeric Route Indicator (Compliant with Network Rail GK/RT 0057)

Readability (250m)

Light Output - Signal White

#### Variants

Up to 6 individual single character indications

Up to 3 individual double character indications (only permissible where one of the characters is a figure 1)

### Miniature Alpha-Numeric Route Indicator (Compliant with Network Rail GK/RT 0057)

Readability (65m)

Light Output - Signal White

#### Variants

Up to four individual single character indications, three 2 character indications or two 3 character indications

### Preliminary Route Indicator (Compliant with Network Rail GK/RT 0057)

Readability (250m)

Light Output - Signal White

Available Arrow Positions: 0, 1, 2, 3, 4, 5 and 6 in any combination

### Modular Signal Head Configuration

- 3 Aspect Colour Light Signal

### Electrical Interface

- Double Cut voltage free contact proving
- Where a flashing aspect is required, the pulsing is delivered by the infrastructure

## CLS LITE

The Unipart Dorman CLS LITE Signal combines the traditional Classic Dorman LED Colour Light Signal Housing with lightweight signal modules.

This makes it ideally suited to maintenance replacement/enhancements, as it is a direct replacement for existing filament or Classic LED heads and fits with existing signals, structures and structure furniture.

The CLS LITE offers flexibility in design that complements existing signals, it can also be supplied in Voltage Free Contacts (VFC)/low power versions and 2 beam angles for medium range.

Key aspects to the innovation of the CLS LITE include:

- Compliant with Network Rail Line Specification NR/SP/SIG/10062 issue 1
- Direct replacement for existing filament & LED Signals
- Modules hinge backwards to enable easy access from a place of safety
- Unique optical arrangement that reduces the possibility of a signal phantom
- iLS light sources designed to give a longer service life
- LED modules sealed to IP65
- Fully Plug Coupled - simple plug & play connectivity
- Compatible with existing SSI & RRI installations
- Long and medium range availability across the range

## CLS LITE Signal Head Configuration

3 Aspect single aperture signal

- Tall Housing
- Short Housing
- Tunnel Head

4 Aspect two aperture signal

- Standard Head
- Tunnel Head



## Benefits of the CLS LITE

The CLS LITE signal delivers all the cost-down benefits of the iLS signal including faster installation, 'plug & play', and the reduction in maintenance, delivered by an innovative self-cleaning lens arrangement. This greatly reduces the exposure risk of installers and maintenance teams by reducing their time trackside.

### Cost Reduction

Due to the nature of the technology and the flexibility offered, the CLS LITE can reduce costs in a variety of ways, including:

- Reduces maintenance costs as a result of the self-cleaning lens technology
- Reduces testing regimes as it is factory tested
- Retrofittable onto existing gantries and posts, therefore reducing additional costs

### Additional Benefits

In addition to cost reduction, the CLS LITE Signal offers a variety of benefits to customers by combining the advanced optics and other benefits of the iLS with a standard signal head housing, providing far greater choice in the selection of the right signal for the job.

- iLS technology provides better optics and a longer and more predictable service life
- Lightweight - 5 to 10kg less than the Classic Signal
- Tiltable Module provides ease of access
- Anti-phantom technology
- Self-Cleaning Lens arrangement
- The CLS LITE can be easily integrated with Classic Unipart Dorman signals
- Standard mounting arrangement
- 'Plug & Play' coupling
- Proven Unipart Dorman LEDs and optics
- Multiple signal head configurations
- Factory tested before delivery



## CLS LITE Performance characteristics in line with UK Network Rail specifications & Railway Group Standards

### Compliances

Railway Group Standards	GK/RT0057
Approval Certificate Number	PA05/04240

### Key Specifications

Ambient Operating Temperature Range	-25°C to +40°C
Nominal Operating Voltage (ac)	110Vac
Operating Voltage Range (ac)	88Vac to 121Vac
Nominal Operating Voltage (dc)	120Vdc
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LED Modules rated at IP65	

### Lamp Proving Options

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5W (nominal) Voltage Free Contact Proved version	
Nominal Operating Current	45mA @ 110Vac

### Colour Specifications (as specified in GKRT0057)

Red BS1376 Class C (Restricted)  
Yellow BS1376 Class B  
Green BS1376 Class C

### Variants

Red/Yellow/Green/Double Yellow Aspects in any combination and available in Top Half or Bottom Half close up viewing sectors.

4 Aspect Mainline Signal (signal with 2 modules)  
3 Aspect Mainline Tall Signal (signal with 1 module)  
3 Aspect Mainline Short Signal (signal with 1 module)  
4 Aspect Tunnel Signal (signal with 2 modules)  
3 Aspect Tunnel Short Signal (signal with 1 module)  
Long Range (800m at  $\pm 3^\circ$ )  
Medium Range      Wide Angle (400m at  $\pm 10^\circ$ )  
                            Narrow Angle (400m at  $\pm 3^\circ$ )

### Weights

4 Aspect Signal 32kg  
3 Aspect Tall Signal 28kg  
3 Aspect Short Signal 22kg  
4 Aspect Tunnel Signal 30kg  
3 Aspect Tunnel Short Signal 20kg  
Module 5.5kg

### Electrical Interface

- Where a flashing aspect is required, the pulsing is delivered by the infrastructure
- Compatible with Relay based, Solid State or Voltage Free Contact Interlocking Systems

# Plug Coupler Contact Allocation Matrix for iLS ans CLS LITE Signals

Equipment Type	Cable Size (2.5sqmm max)	Insert Arrangement	Contact Size	No of Contacts	Plug Coupler Contact Number Function												
					1/A	2/B	3/C	4/D	5/E	6/F	7/G	8	9	10	11	12	13
					ECR/EKR												
<b>Signal - LED</b>																	
1 Aspect R	12c	32-013	12	13	SPARE	SPARE	SPARE	SPARE	SPARE	SPARE	SPARE	RGE NX	(IN 1)	(IN 2)	(OUT 1)	(OUT 2)	BLANK
2 Aspect R/G	12c	32-013	12	13	SPARE	SPARE	DGE NX	DGE NX	DGE NX	SPARE	SPARE	RGE NX	(IN 1)	(IN 2)	(OUT 1)	(OUT 2)	BLANK
2 Aspect Y/G	12c	32-013	12	13	SPARE	SPARE	DGE NX	DGE NX	HGE NX	HGE NX	SPARE	SPARE	(IN 1)	(IN 2)	(OUT 1)	(OUT 2)	BLANK
2 Aspect R/Y	12c	32-013	12	13	SPARE	SPARE	SPARE	SPARE	HGE NX	HGE NX	SPARE	RGE NX	(IN 1)	(IN 2)	(OUT 1)	(OUT 2)	BLANK
3 Aspect R/Y/G	12c	32-013	12	13	SPARE	SPARE	DGE NX	DGE NX	HGE NX	HGE NX	RGE NX	RGE NX	(IN 1)	(IN 2)	(OUT 1)	(OUT 2)	BLANK
3 Aspect Y/Y/G	12c	32-013	12	13	HHGE	HHGE NX	DGE NX	DGE NX	HGE NX	HGE NX	SPARE	SPARE	(IN 1)	(IN 2)	(OUT 1)	(OUT 2)	BLANK
3 Aspect R/Y/Y	12c	32-013	12	13	HHGE	HHGE NX	SPARE	SPARE	HGE NX	HGE NX	RGE NX	RGE NX	(IN 1)	(IN 2)	(OUT 1)	(OUT 2)	BLANK
4 Aspect R/Y/Y/G	12c	32-013	12	13	HHGE	HHGE NX	DGE NX	DGE NX	HGE NX	HGE NX	RGE NX	RGE NX	(IN 1)	(IN 2)	(OUT 1)	(OUT 2)	BLANK
Standard/Preliminary Route Indicator	12c	32-013	12	13	1st UGE	2nd UGE	3rd UGE	4th UGE*	5th UGE*	6th UGE*	7th UGE	8th UGE	9th UGE	10th UGE	SPARE	UGE NX	BLANK
Position Light Junction Indicator	10c	32-013	12	13	1st UGE	2nd UGE	3rd UGE	4th UGE	5th UGE	6th UGE (PW)	UGE NX	UGE NX	SPARE	SPARE	BLANK	BLANK	BLANK
Miniature Indicator	7c	24-2	12	7	1st UGE	2nd UGE	3rd UGE*	4th UGE*	5th UGE	6th UGE	7th UGE	8th UGE	9th UGE	10th UGE	SPARE	SPARE	BLANK
Banner Repeater (2 or 3 State)	7c	24-2	12	7	(ON) GE	(ON) NX	(OFF) GE	(OFF) NX	(OFF) DGE*	(OFF) DGE* NX*	SPARE	SPARE	SPARE	SPARE	BLANK	BLANK	BLANK
Position Light Subsidiary Signal	2c	20-4	12	4	(P) GE	(P) GE NX	BLANK	BLANK	BLANK	BLANK	BLANK	BLANK	BLANK	BLANK	BLANK	BLANK	BLANK

Note 1

All these signal variants made from R/Y/G

Note 2

All these signal variants made from R/Y/Y/G

\*

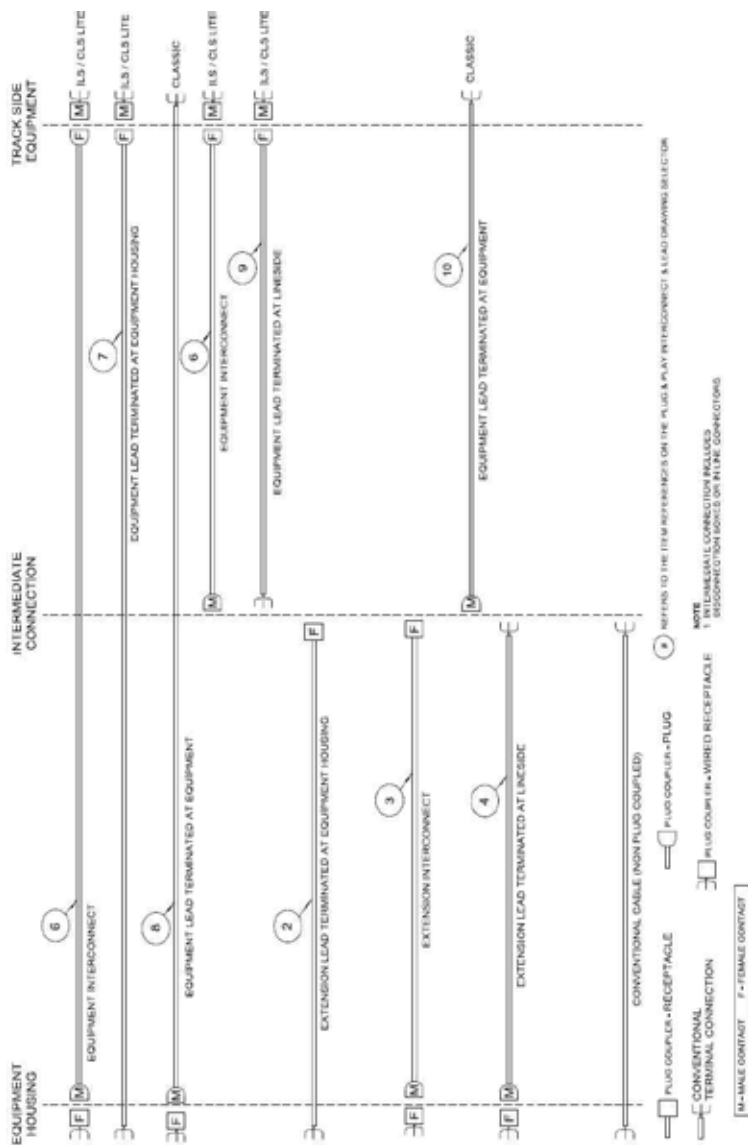
Subject to indicator configuration



Not Available

Taken from Network Rail Standard Drawing T00036 for information only

## Plug & Play Interconnect Lead Selector



Plug and Play Interconnect and Lead Drawing Selector for use with Unipart Dorman Signals									
IB/CLS LITE/Classic Cable Guidance Unipart Dorman drawing	2	3	4	6	7	8	9	10	
Trackside Equipment	Extension lead terminated at cable/equipment corner housing	Extension Interconnect	Extension lead terminated at B-side	Equipment Interconnect	Equipment lead terminated at equipment housing	Equipment lead terminated at equipment	Equipment lead terminated at B-side	Equipment lead terminated at equipment	
	No. of cable/equipment corners								
Colour Light Signal (LS)	12	SE-SK 0843	SE-SK 0846	SE-SK 0661/2SE-SK0909	SE-SK 0905	MA	SE-SK 0665	NA	
Colour Light Signal (CLS LITE)	12	SE-SK 0848	SE-SK 0848	SE-SK 0661/2SE-SK0909	SE-SK 0905	MA	SE-SK 0665	NA	
Colour Light Signal (Classic)	12	SE-SK 0848	SE-SK 0846	NA	NA	SE-SK 0666	NA	SE-SK 0846	
Position Light Junction Repeater Indicator (RLS)	10	SE-SK 0830	SE-SK 0838	SE-SK 0663	SE-SK 0957	MA	SE-SK 0957	NA	
Position Light Junction Repeater Indicator (Classic)	10	SE-SK 0840	SE-SK 0838	NA	NA	SE-SK 0858	NA	SE-SK 0958	
Pre-Intruder Repeater Indicator (RLS)	12	SE-SK 0848	SE-SK 0846	SE-SK 0661/2SE-SK0909	SE-SK 0905	MA	SE-SK 0665	NA	
Pre-Intruder Repeater Indicator (Classic)	12	SE-SK 0848	SE-SK 0846	NA	NA	SE-SK 0666	NA	SE-SK 0846	
Miniature Alpha Numeric Route Indicator (RLS)	7	SE-SK 0832	SE-SK 0830	SE-SK 0661/2SE-SK0917	SE-SK 0849	MA	SE-SK 0849	NA	
Miniature Alpha Numeric Route Indicator (Classic)	7	SE-SK 0832	SE-SK 0830	NA	NA	SE-SK 0850	NA	SE-SK 0850	
Standard Alpha Numeric Route Indicator (RLS)	12	SE-SK 0848	SE-SK 0846	SE-SK 0661/2SE-SK0909	SE-SK 0905	MA	SE-SK 0665	NA	
Standard Alpha Numeric Route Indicator (Classic)	12	SE-SK 0848	SE-SK 0846	NA	NA	SE-SK 0666	NA	SE-SK 0846	
Banner Repeating Signal (RLS)	7	SE-SK 0832	SE-SK 0830	SE-SK 0661/2SE-SK0917	SE-SK 0849	MA	SE-SK 0849	NA	
Banner Repeating Signal (Classic)	7	SE-SK 0832	SE-SK 0830	NA	NA	SE-SK 0850	NA	SE-SK 0850	
Line of Sight (Classic)	4	SE-SK 0834	SE-SK 0822	NA	NA	SE-SK 0642	NA	SE-SK 0642	
Position Light Short Signal (Classic)	7	SE-SK 0832	SE-SK 0830	NA	NA	SE-SK 0850	NA	SE-SK 0850	
Position Light Sidelight Signal (RLS)	2	SE-SK 0808	SE-SK 0806	SE-SK 0629	SE-SK 0833	MA	SE-SK 0833	NA	
Position Light Sidelight Signal (Classic)	2	SE-SK 0808	SE-SK 0806	NA	NA	SE-SK 0834	NA	SE-SK 0834	



# Plug&Play

by Unipart Rail

## Innovation through Plug & Play - An integrated approach to trackside systems

The Unipart Plug & Play system is an end-to-end solution from signal box through to track-side components.

### The problem

The whole process of managing a possession is a huge undertaking. There are immediate effects on the running of trains, as well as time-consuming installation tasks. The risk of having workers at the track sites is also considerable.

Problems faced by contractors on a daily basis include:

- Complicated designs
- Ensuring the correct skills are available
- Wiring diagrams to be studied and interpreted
- Theft & vandalism
- Testing and re-working
- Large amount of equipment to be identified, transported and installed

### The solution

The Plug & Play range includes pre-installed tails with plug couplers on the equipment, pre-cut, terminated and coupled cable lengths, and location/equipment housing manufactured and pre-wired with interface racks.

It all fits together with no hard-wiring and limited trackside testing as all the equipment is pre-tested in the factory.



## Benefits of the Plug & Play range

### Reduced Costs

Everything about our Plug & Play range delivers lower costs for customers.

- Overall project costs are reduced through standardisation of component parts
- Replacements are available off-the-shelf
- Reduced manpower costs
- Reduced risk of project over-run and fines
- Fewer REBs making installation of enclosures faster



### Easier Installation

Removing hard-wiring and testing requirements reduces installation time leading to less equipment on-site, fewer control enclosures, less train down-time and off-the-shelf component availability.

### Worker Safety & Skills

Fewer staff on-site, for less time and with less equipment means that the risk of injury is reduced and the reduced complexity of installations - including limited hard-wiring - means that less skilled labour is required trackside.

### Flexibility

Another benefit of the Plug & Play range is that we can provide a bespoke, flexible solution for each project.

Please contact a member of the team to discuss your individual requirements on 01270 847708 or email [engineeringssupport@unipartrail.com](mailto:engineeringssupport@unipartrail.com)

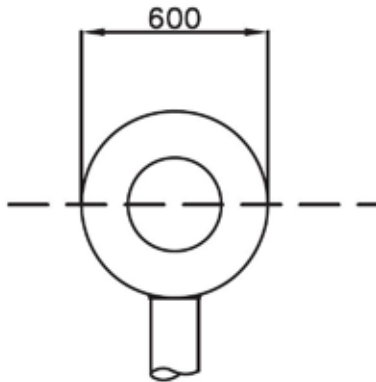
You can also download a copy of the Plug & Play brochure online at [www.unipartrail.com/Plug&Play](http://www.unipartrail.com/Plug&Play)



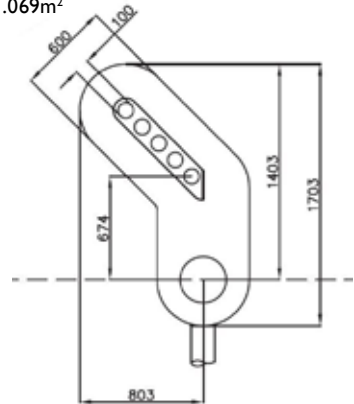
## Integrated Lightweight Signals (iLS)

### Lightweight 3 Aspect Colour Light Signals

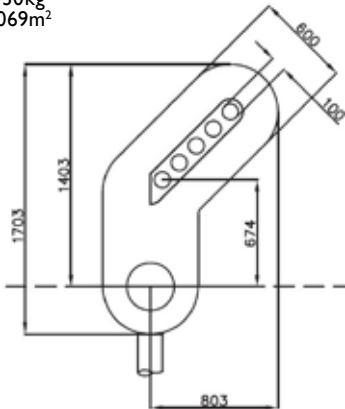
Type 1. 0086/009397  
3 Aspect Colour Light Signal  
Weight - 11kg  
Area - 0.283m<sup>2</sup>



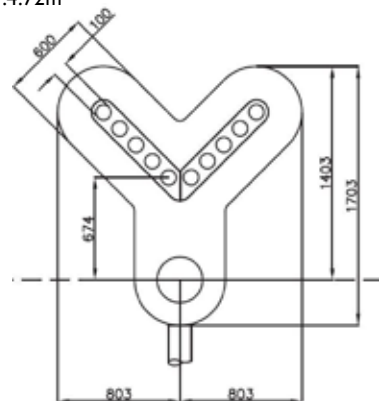
Type 2. 0086/009398  
3 Aspect Colour Light Signal with Position 1  
Junction Indicator  
Weight - 30kg  
Area - 1.069m<sup>2</sup>



Type 3. 0086/009399  
3 Aspect Colour Light Signal with Position 4  
Junction Indicator  
Weight - 30kg  
Area - 1.069m<sup>2</sup>



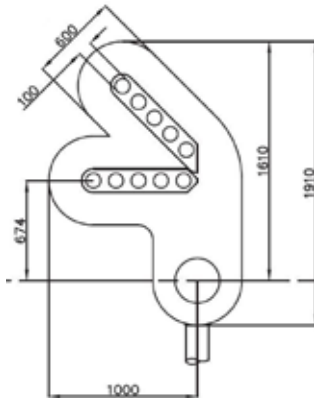
Type 4. 0086/009400  
3 Aspect Colour Light Signal with Position 1+4  
Junction Indicator  
Weight - 43kg  
Area - 1.472m<sup>2</sup>



All dimensions are in mm

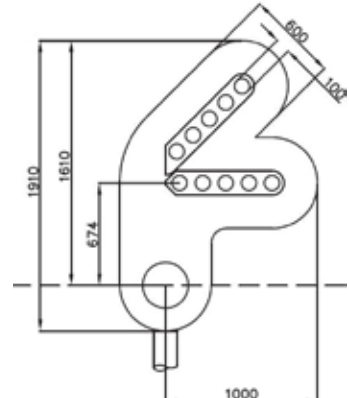
## Type 5. 0086/009401

3 Aspect Colour Light Signal with Position 1+2  
Junction Indicator  
Weight - 43kg  
Area - 1.527m<sup>2</sup>



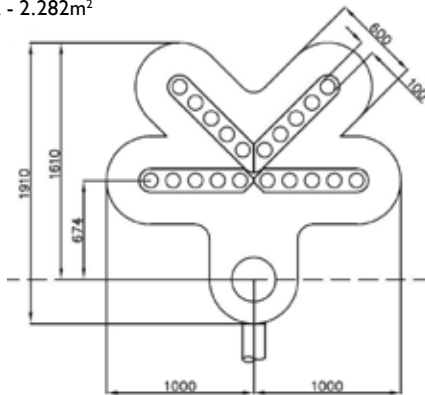
## Type 6. 0086/009402

3 Aspect Colour Light Signal with Position 4+5  
Junction Indicator  
Weight - 43kg  
Area - 1.527m<sup>2</sup>



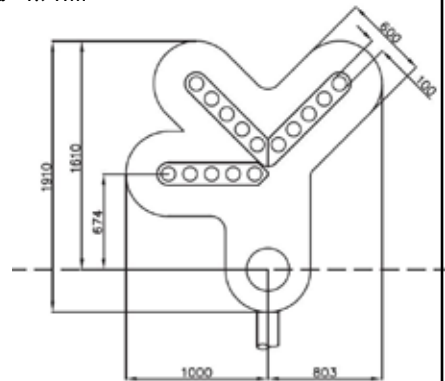
## Type 7. 0086/009403

3 Aspect Colour Light Signal with Position 1+2+4+5  
Junction Indicator  
Weight - 69kg  
Area - 2.282m<sup>2</sup>



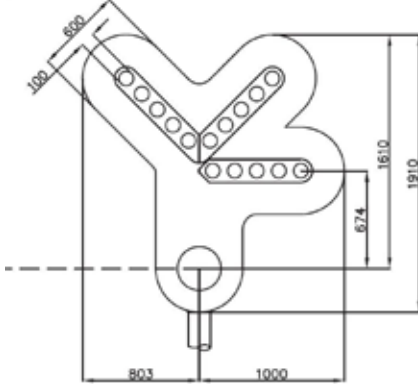
## Type 8. 0086/009404

3 Aspect Colour Light Signal with Position 1+2+4  
Junction Indicator  
Weight - 56kg  
Area - 1.941m<sup>2</sup>

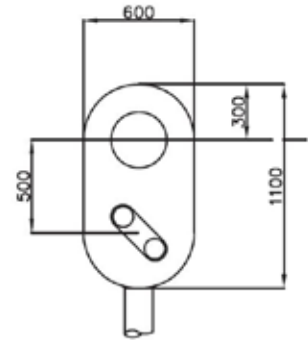


For signals that will be mounted in the Unipart Dorman Assisted Lift Trunnion please see page 39-45

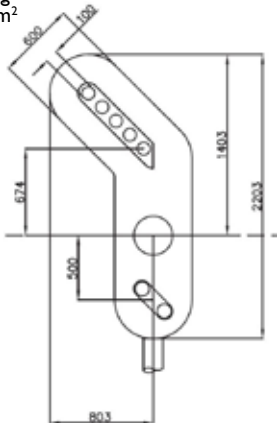
Type 9. 0086/009405  
3 Aspect Colour Light Signal with Position 1+4+5  
Junction Indicator  
Weight - 56kg  
Area - 1.941m<sup>2</sup>



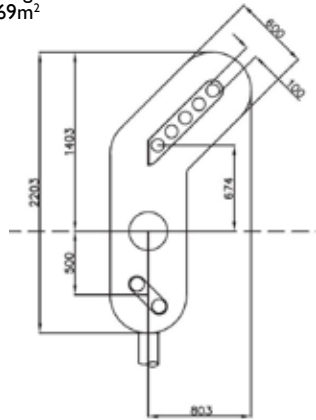
Type 10. 0086/009406  
3 Aspect Colour Light Signal with Position Light  
Signal  
Weight - 19kg  
Area - 0.582m<sup>2</sup>



Type 11. 0086/009407  
3 Aspect Colour Light Signal with Position 1  
Junction Indicator and Position Light Signal  
Weight - 33kg  
Area - 1.369m<sup>2</sup>

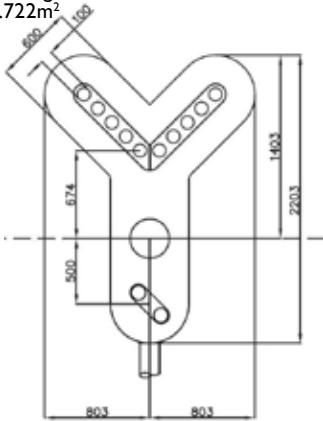


Type 12. 0086/009408  
3 Aspect Colour Light Signal with Position 4  
Junction Indicator and Position Light Signal  
Weight - 33kg  
Area - 1.369m<sup>2</sup>

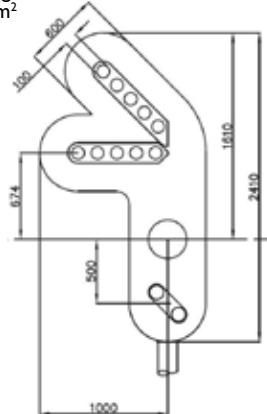


All dimensions are in mm

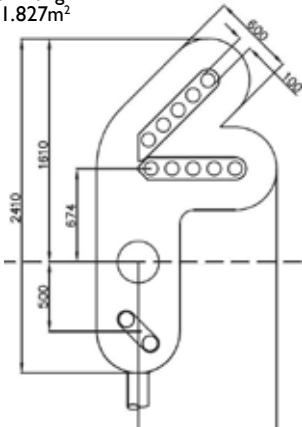
Type 13. 0086/009409  
 3 Aspect Colour Light Signal with Position 1+4  
 Junction Indicator and Position Light Signal  
 Weight - 46kg  
 Area - 1.722m<sup>2</sup>



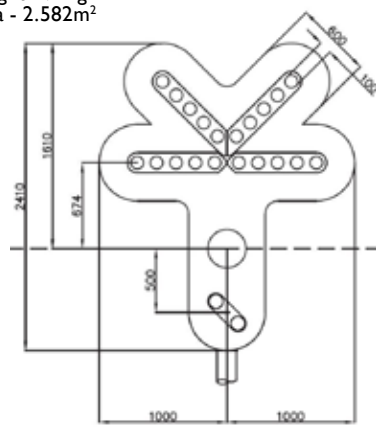
Type 14. 0086/009410  
 3 Aspect Colour Light Signal with Position 1+2  
 Junction Indicator and Position Light Signal  
 Weight - 46kg  
 Area - 1.827m<sup>2</sup>



Type 15. 0086/009411  
 3 Aspect Colour Light Signal with Position 4+5  
 Junction Indicator and Position Light Signal  
 Weight - 46kg  
 Area - 1.827m<sup>2</sup>

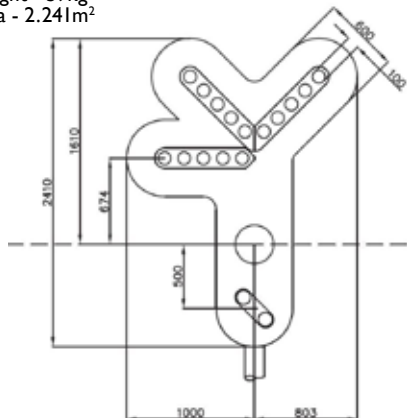


Type 16. 0086/009412  
 3 Aspect Colour Light Signal with Position 1+2+4+5  
 Junction Indicator and Position Light Signal  
 Weight - 72kg  
 Area - 2.582m<sup>2</sup>

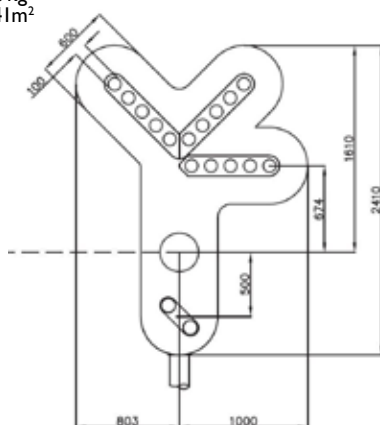


For signals that will be mounted in the Unipart Dorman Assisted Lift Trunnion please see page 39-45

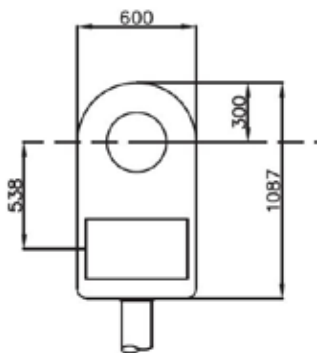
Type 17. 0086/009413  
 3 Aspect Colour Light Signal with Position 1+2+4  
 Junction Indicator and Position Light Signal  
 Weight - 59kg  
 Area - 2.241m<sup>2</sup>



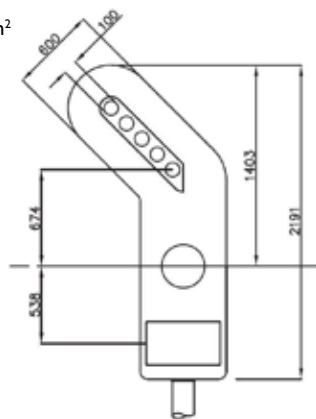
Type 18. 0086/009414  
 3 Aspect Colour Light Signal with Position 1+4+5  
 Junction Indicator and Position Light Signal  
 Weight - 59kg  
 Area - 2.241m<sup>2</sup>



Type 19. 0086/009415  
 3 Aspect Colour Light Signal with Miniature  
 Alphanumeric Route Indicator (Stencil)  
 Weight - 24kg  
 Area - 0.601m<sup>2</sup>



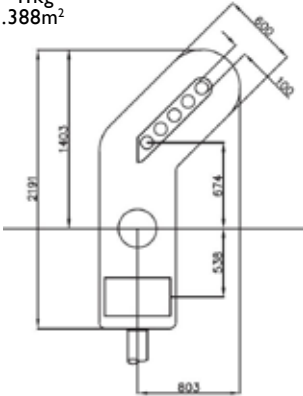
Type 20. 0086/009416  
 3 Aspect Colour Light Signal with Position 1  
 Junction Indicator and Miniature Alphanumeric  
 Route Indicator (Stencil)  
 Weight - 41kg  
 Area - 1.388m<sup>2</sup>



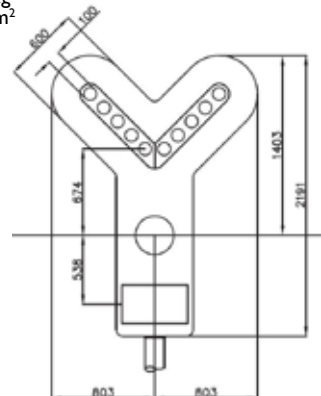
All dimensions are in mm



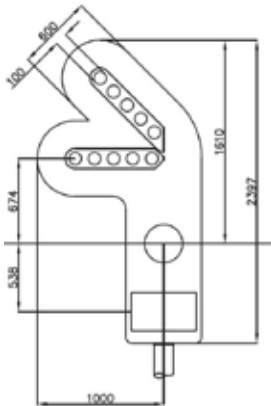
Type 21. 0086/009417  
 3 Aspect Colour Light Signal with Position 4  
 Junction Indicator and Miniature Alphanumeric  
 Route Indicator (Stencil)  
 Weight - 41kg  
 Area - 1.388m<sup>2</sup>



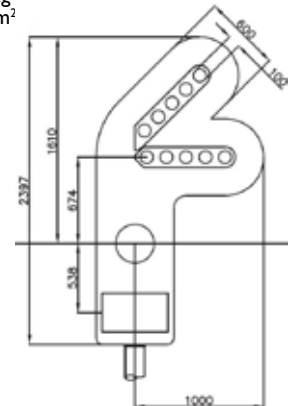
Type 22. 0086/009418  
 3 Aspect Colour Light Signal with Position 1+4  
 Junction Indicator and Miniature Alphanumeric  
 Route Indicator (Stencil)  
 Weight - 54kg  
 Area - 1.791m<sup>2</sup>



Type 23. 0086/009419  
 3 Aspect Colour Light Signal with Position 1+2  
 Junction Indicator and Miniature Alphanumeric  
 Route Indicator (Stencil)  
 Weight - 54kg  
 Area - 1.857m<sup>2</sup>

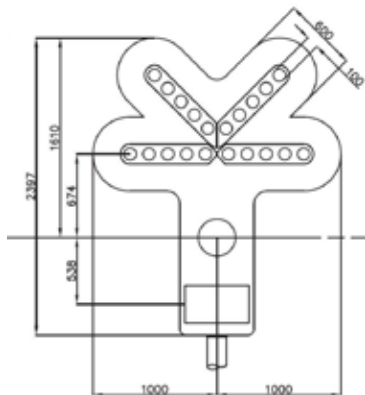


Type 24. 0086/009420  
 3 Aspect Colour Light Signal with Position 4+5  
 Junction Indicator and Miniature Alphanumeric  
 Route Indicator (Stencil)  
 Weight - 54kg  
 Area - 1.857m<sup>2</sup>

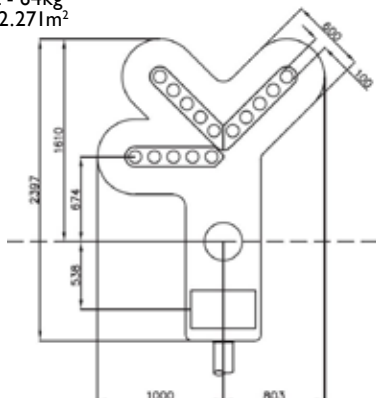


For signals that will be mounted in the Unipart Dorman Assisted Lift Trunnion please see page 39-45

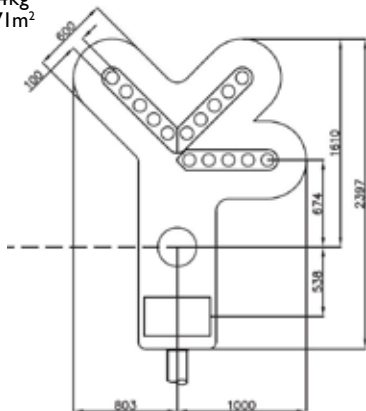
Type 25. 0086/009421  
3 Aspect Colour Light Signal with Position 1+2+4+5  
Junction Indicator and Mi  
Weight - 77kg  
Area - 2.612m<sup>2</sup>



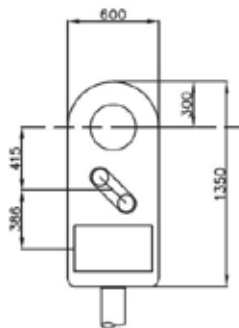
Type 26. 0086/009422  
3 Aspect Colour Light Signal with Position 1+2+4  
Junction Indicator and Miniature Alphanumeric  
Route Indicator (Stencil)  
Weight - 64kg  
Area - 2.271m<sup>2</sup>



Type 27. 0086/009423  
3 Aspect Colour Light Signal with Position 1+4+5  
Junction Indicator and Miniature Alphanumeric  
Route Indicator (Stencil)  
Weight - 64kg  
Area - 2.271m<sup>2</sup>

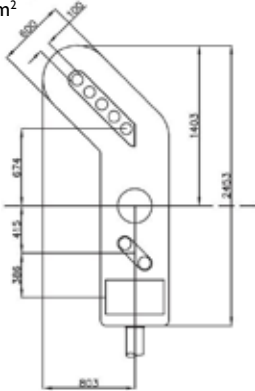


Type 28. 0086/0094024  
3 Aspect Colour Light Signal with Position Light  
Signal and Miniature Alphanumeric Route Indicator  
(Stencil)  
Weight - 30kg  
Area - 0.770m<sup>2</sup>

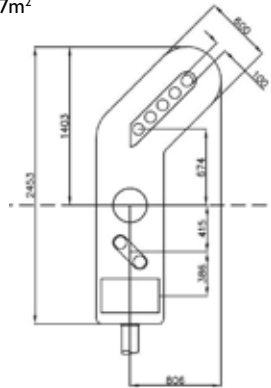


All dimensions are in mm

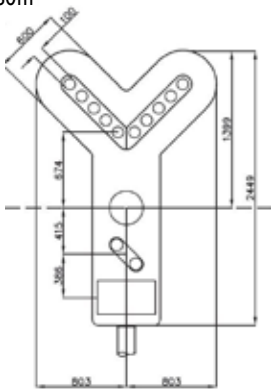
Type 29. 0086/009425  
 3 Aspect Colour Light Signal with Position 1  
 Junction Indicator and Position Light Signal and  
 Miniature Alphanumeric Route Indicator (Stencil)  
 Weight - 46kg  
 Area - 1.557m<sup>2</sup>



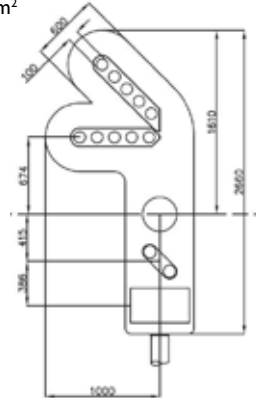
Type 30. 0086/009426  
 3 Aspect Colour Light Signal with Position 4  
 Junction Indicator and Position Light Signal and  
 Miniature Alphanumeric Route Indicator (Stencil)  
 Weight - 46kg  
 Area - 1.557m<sup>2</sup>



Type 31. 0086/009427  
 3 Aspect Colour Light Signal with Position 1+4  
 Junction Indicator and Position Light Signal and  
 Miniature Alphanumeric Route Indicator (Stencil)  
 Weight - 59kg  
 Area - 1.960m<sup>2</sup>



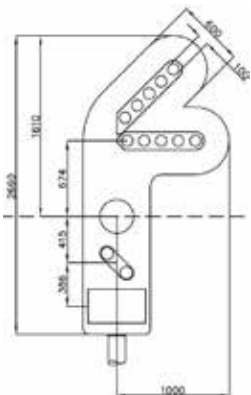
Type 32. 0086/009428  
 3 Aspect Colour Light Signal with Position 1+2  
 Junction Indicator and Position Light Signal and  
 Miniature Alphanumeric Route Indicator (Stencil)  
 Weight - 59kg  
 Area - 2.015m<sup>2</sup>



For signals that will be mounted in the Unipart Dorman Assisted Lift Trunnion please see page 39-45

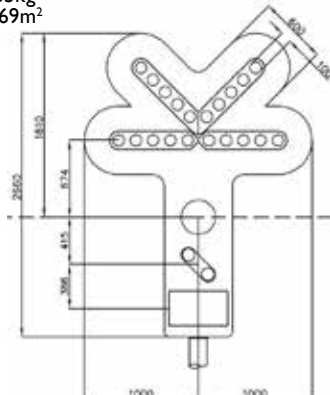
## Type 33. 0086/009429

3 Aspect Colour Light Signal with Position 4+5  
Junction Indicator and Position Light Signal and  
Miniature Alphanumeric Route Indicator (Stencil)  
Weight - 59kg  
Area - 2.015m<sup>2</sup>



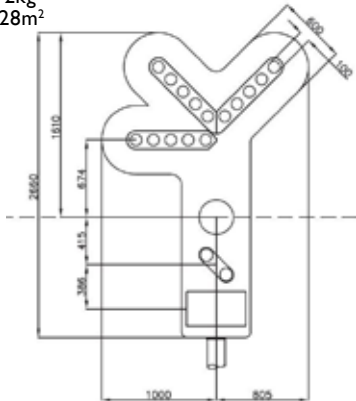
## Type 34. 0086/009430

3 Aspect Colour Light Signal with Position 1+2+4+5  
Junction Indicator and Position Light Signal and  
Miniature Alphanumeric Route Indicator (Stencil)  
Weight - 85kg  
Area - 2.769m<sup>2</sup>



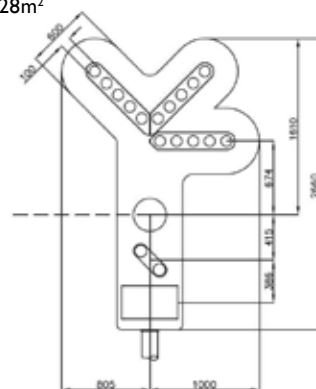
## Type 35. 0086/009431

3 Aspect Colour Light Signal with Position 1+2+4  
Junction Indicator and Position Light Signal and  
Miniature Alphanumeric Route Indicator (Stencil)  
Weight - 72kg  
Area - 2.428m<sup>2</sup>



## Type 36. 0086/009432

3 Aspect Colour Light Signal with Position 1+4+5  
Junction Indicator and Position Light Signal and  
Miniature Alphanumeric Route Indicator (Stencil)  
Weight - 72kg  
Area - 2.428m<sup>2</sup>

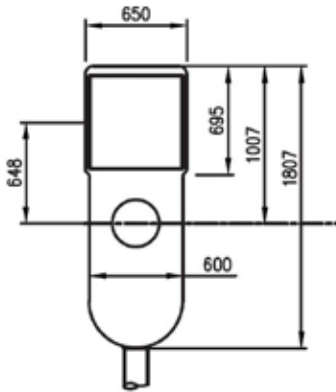


All dimensions are in mm

## Type 37. 0086/009433

3 Aspect Colour Light Signal with Standard  
Alphanumeric Route Indicator (Theatre)

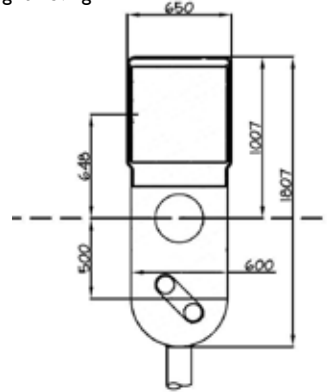
Weight - 34kg  
Area - 2.015m<sup>2</sup>



## Type 38. 0086/009434

3 Aspect Colour Light Signal with Standard  
Alphanumeric Route Indicator (Theatre) and  
Position Light Signal

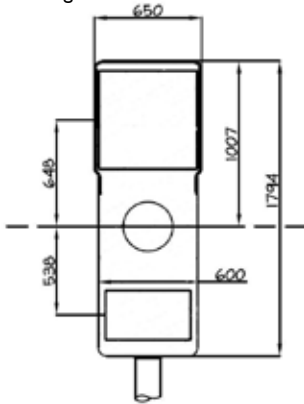
Weight - 37kg



## Type 39. 0086/009435

3 Aspect Colour Light Signal with Standard  
Alphanumeric Route Indicator (Theatre) and  
Miniature Alphanumeric Route Indicator (Stencil)

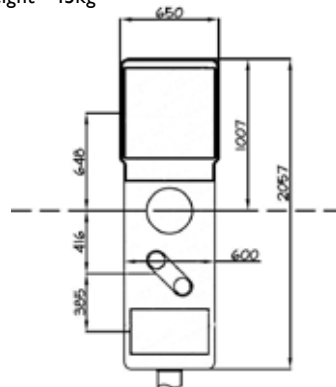
Weight - 42kg



## Type 40. 0086/009436

3 Aspect Colour Light Signal with Standard  
Alphanumeric Route Indicator (Theatre) and  
Position Light Signal and Miniature Alphanumeric  
Route Indicator (Stencil)

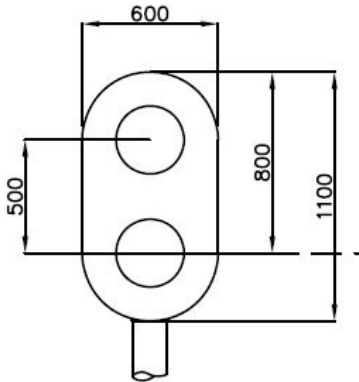
Weight - 45kg



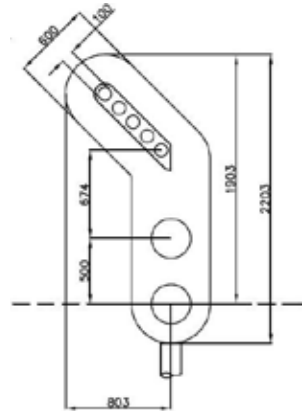
For signals that will be mounted in the Unipart Dorman Assisted Lift Trunnion please see page 39-45

## Lightweight 4 Aspect Colour Light Signals

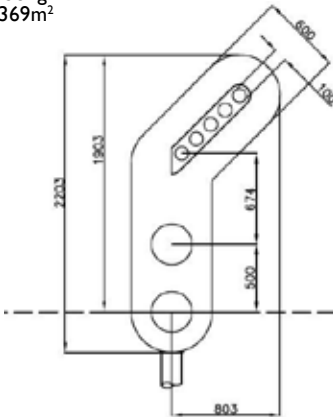
Type 50. 0086/009437  
4 Aspect Colour Light Signal  
Weight - 20kg  
Area - 0.583m<sup>2</sup>



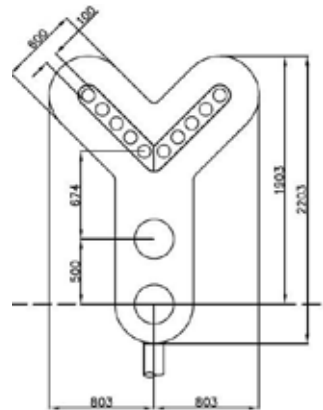
Type 51. 0086/009438  
4 Aspect Colour Light Signal with Position 1  
Junction Indicator  
Weight - 38kg  
Area - 1.369m<sup>2</sup>



Type 52. 0086/009439  
4 Aspect Colour Light Signal with Position 4  
Junction Indicator  
Weight - 38kg  
Area - 1.369m<sup>2</sup>

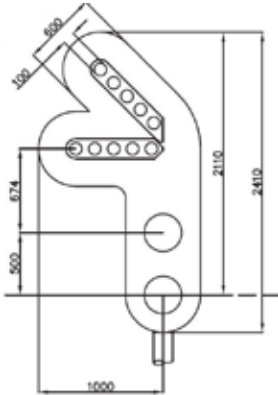


Type 53. 0086/009440  
4 Aspect Colour Light Signal with Position 1+4  
Junction Indicator  
Weight - 51kg  
Area - 1.772m<sup>2</sup>

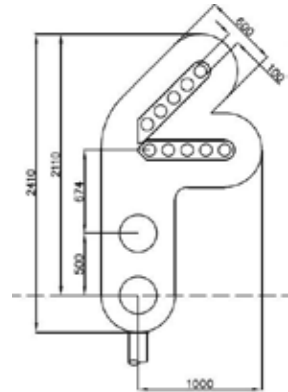


All dimensions are in mm

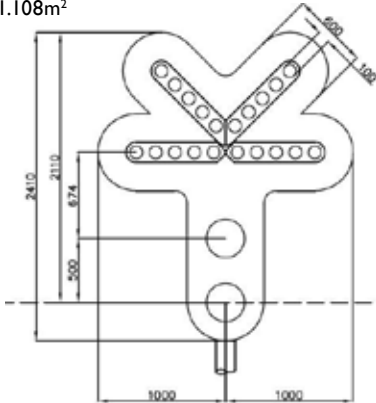
Type 54. 0086/009441  
4 Aspect Colour Light Signal with Position 1+2  
Junction Indicator  
Weight - 51kg  
Area - 1.827m<sup>2</sup>



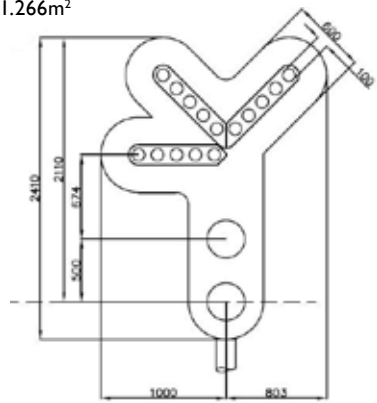
Type 55. 0086/009442  
4 Aspect Colour Light Signal with Position 4+5  
Junction Indicator  
Weight - 51kg  
Area - 1.827m<sup>2</sup>



Type 56. 0086/009443  
4 Aspect Colour Light Signal with Position 1+2+4+5  
Junction Indicator  
Weight - 77kg  
Area - 1.108m<sup>2</sup>



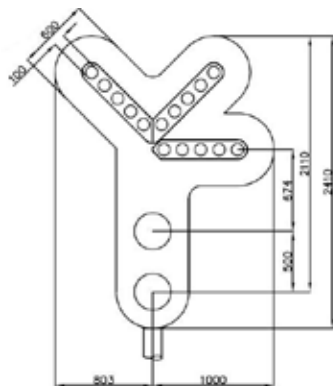
Type 57. 0086/009444  
4 Aspect Colour Light Signal with Position 1+2+4  
Junction Indicator  
Weight - 64kg  
Area - 1.266m<sup>2</sup>



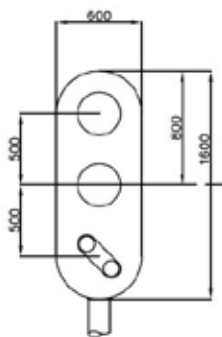
For signals that will be mounted in the Unipart Dorman Assisted Lift Trunnion please see page 39-45



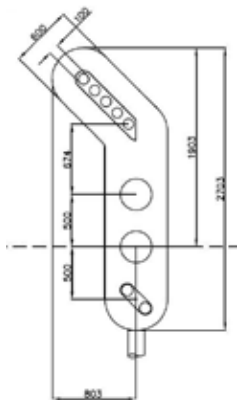
Type 58. 0086/009445  
4 Aspect Colour Light Signal with Position I+4+5  
Junction Indicator  
Weight - 64kg  
Area - 2.241m<sup>2</sup>



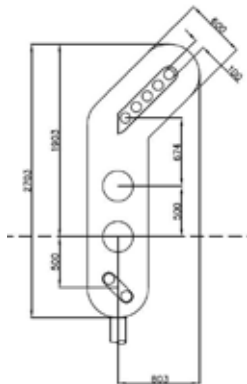
Type 59. 0086/009446  
4 Aspect Colour Light Signal with Position Light  
Signal  
Weight - 27kg  
Area - 0.882m<sup>2</sup>



Type 60. 0086/009447  
4 Aspect Colour Light Signal with Position I  
Junction Indicator and Position Light Signal  
Weight - 45kg  
Area - 1.080m<sup>2</sup>

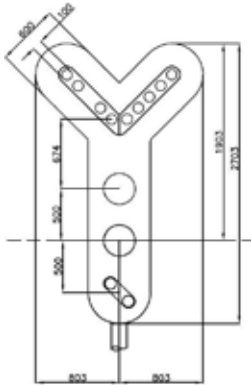


Type 61. 0086/009448  
4 Aspect Colour Light Signal with Position 4  
Junction Indicator and Position Light Signal  
Weight - 45kg  
Area - 1.080m<sup>2</sup>

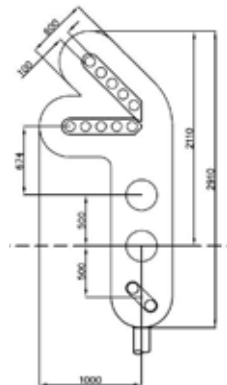


All dimensions are in mm

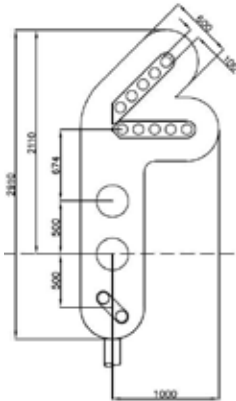
Type 62. 0086/009449  
 4 Aspect Colour Light Signal with Position 1+4  
 Junction Indicator and Position Light Signal  
 Weight - 56kg  
 Area - 2.072m<sup>2</sup>



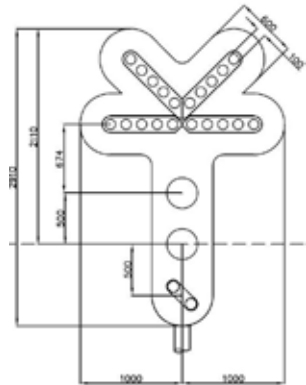
Type 63. 0086/009450  
 4 Aspect Colour Light Signal with Position 1+2  
 Junction Indicator and Position Light Signal  
 Weight - 56kg  
 Area - 2.127m<sup>2</sup>



Type 64. 0086/009451  
 4 Aspect Colour Light Signal with Position 4+5  
 Junction Indicator and Position Light Signal  
 Weight - 56kg  
 Area - 2.127m<sup>2</sup>



Type 65. 0086/009452  
 4 Aspect Colour Light Signal with Position 1+2+4+5  
 Junction Indicator and Position Light Signal  
 Weight - 84kg  
 Area - 2.882m<sup>2</sup>

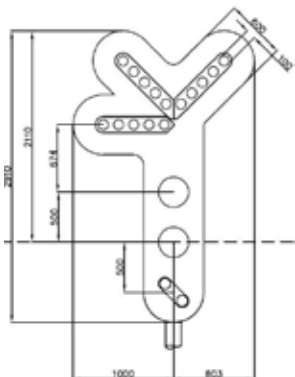


For signals that will be mounted in the Unipart Dorman Assisted Lift Trunnion please see page 39-45

Type 66. 0086/009453

4 Aspect Colour Light Signal with Position 1+2+4  
Junction Indicator and Position Light Signal

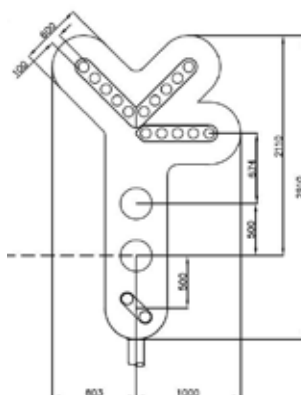
Weight - 71kg  
Area - 2.541m<sup>2</sup>



Type 67. 0086/009454

4 Aspect Colour Light Signal with Position 1+4+5  
Junction Indicator and Position Light Signal

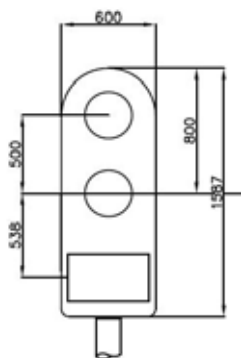
Weight - 71kg  
Area - 2.541m<sup>2</sup>



Type 68. 0086/009455

4 Aspect Colour Light Signal with Miniature  
Alphanumeric Route Indicator (Stencil)

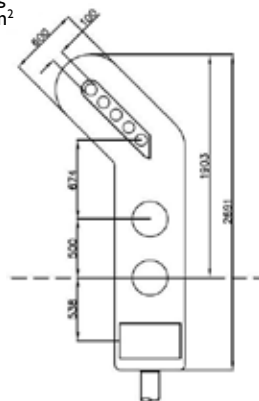
Weight - 32kg  
Area - 0.901m<sup>2</sup>



Type 69. 0086/009456

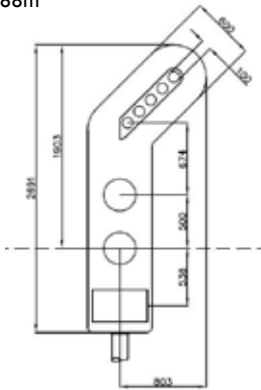
4 Aspect Colour Light Signal with Position 1  
Junction Indicator and Miniature Alphanumeric  
Route Indicator (Stencil)

Weight - 60kg  
Area - 1.688m<sup>2</sup>

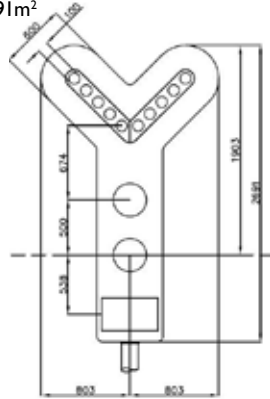


All dimensions are in mm

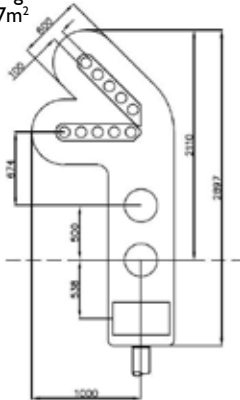
Type 70. 0086/009457  
 4 Aspect Colour Light Signal with Position 4  
 Junction Indicator and Miniature Alphanumeric  
 Route Indicator (Stencil)  
 Weight - 60kg  
 Area - 1.688m<sup>2</sup>



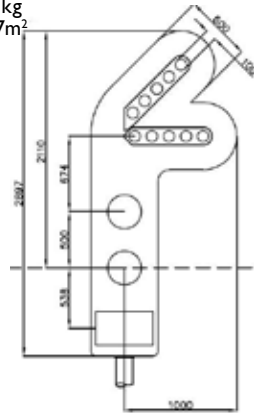
Type 71. 0086/009458  
 4 Aspect Colour Light Signal with Position 1+4  
 Junction Indicator and Miniature Alphanumeric  
 Route Indicator (Stencil)  
 Weight - 63kg  
 Area - 2.091m<sup>2</sup>



Type 72. 0086/009459  
 4 Aspect Colour Light Signal with Position 1+2  
 Junction Indicator and Miniature Alphanumeric  
 Route Indicator (Stencil)  
 Weight - 63kg  
 Area - 2.157m<sup>2</sup>

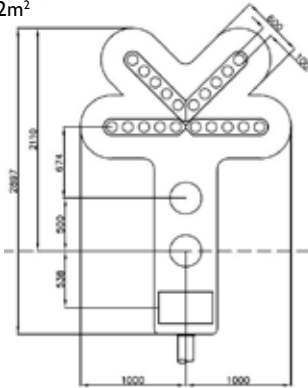


Type 73. 0086/009460  
 4 Aspect Colour Light Signal with Position 4+5  
 Junction Indicator and Miniature Alphanumeric  
 Route Indicator (Stencil)  
 Weight - 63kg  
 Area - 2.157m<sup>2</sup>

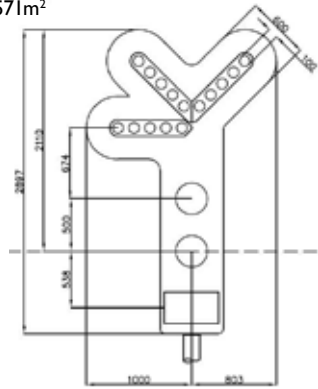


For signals that will be mounted in the Unipart Dorman Assisted Lift Trunnion please see page 39-45

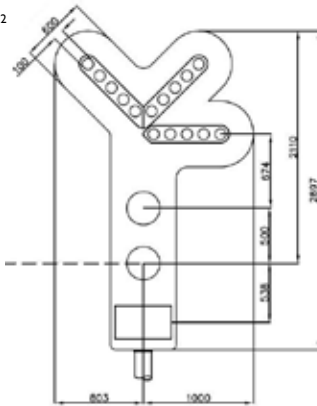
Type 74. 0086/009461  
 4 Aspect Colour Light Signal with Position 1+2+4+5  
 Junction Indicator and Miniature Alphanumeric  
 Route Indicator (Stencil)  
 Weight - 89kg  
 Area - 2.912m<sup>2</sup>



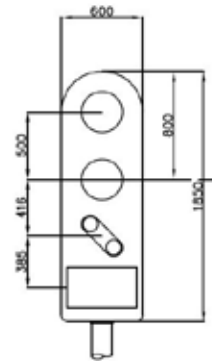
Type 75. 0086/009462  
 4 Aspect Colour Light Signal with Position 1+2+4  
 Junction Indicator and Miniature Alphanumeric  
 Route Indicator (Stencil)  
 Weight - 76kg  
 Area - 2.571m<sup>2</sup>



Type 76. 0086/009463  
 4 Aspect Colour Light Signal with Position 1+4+5  
 Junction Indicator and Miniature Alphanumeric  
 Route Indicator (Stencil)  
 Weight - 76kg  
 Area - 2.571m<sup>2</sup>

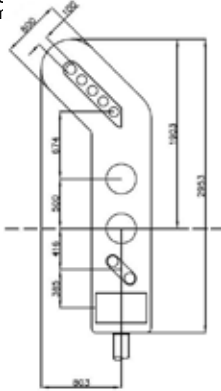


Type 77. 0086/009464  
 4 Aspect Colour Light Signal with Position Light  
 Signal and Miniature Alphanumeric Route Indicator  
 (Stencil)  
 Weight - 39kg  
 Area - 1.070m<sup>2</sup>

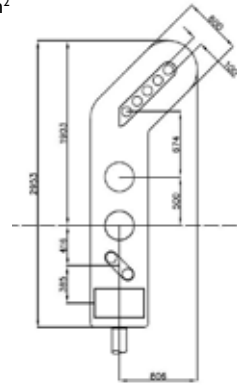


All dimensions are in mm

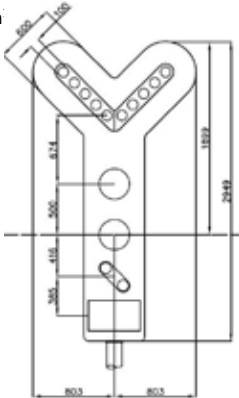
Type 78. 0086/009465  
 4 Aspect Colour Light Signal with Position 1  
 Junction Indicator, Position Light Signal and  
 Miniature Alphanumeric Route Indicator (Stencil)  
 Weight - 67kg  
 Area - 1.857m<sup>2</sup>



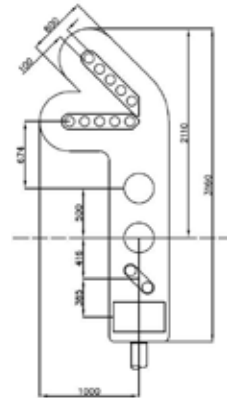
Type 79. 0086/009466  
 4 Aspect Colour Light Signal with Position 4  
 Junction Indicator, Position Light Signal and  
 Miniature Alphanumeric Route Indicator (Stencil)  
 Weight - 67kg  
 Area - 1.857m<sup>2</sup>



Type 80. 0086/009467  
 4 Aspect Colour Light Signal with Position 1+4  
 Junction Indicator, Position Light Signal and  
 Miniature Alphanumeric Route Indicator (Stencil)  
 Weight - 70kg  
 Area - 2.260m<sup>2</sup>



Type 81. 0086/009468  
 4 Aspect Colour Light Signal with Position 1+2  
 Junction Indicator, Position Light Signal and  
 Miniature Alphanumeric Route Indicator (Stencil)  
 Weight - 70kg  
 Area - 2.315m<sup>2</sup>

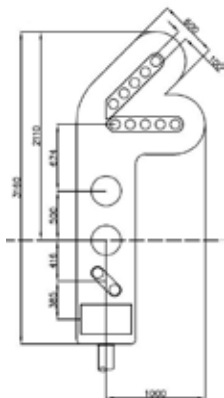


For signals that will be mounted in the Unipart Dorman Assisted Lift Trunnion please see page 39-45

## Type 82. 0086/009469

4 Aspect Colour Light Signal with Position 4+5  
Junction Indicator, Position Light Signal and  
Miniature Alphanumeric Route Indicator (Stencil)

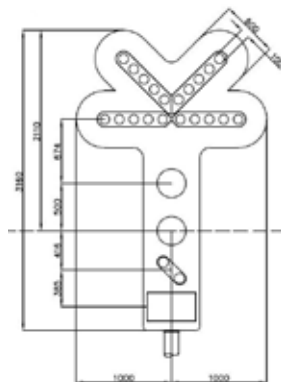
Weight - 70kg  
Area - 2.315m<sup>2</sup>



## Type 83. 0086/009470

4 Aspect Colour Light Signal with Position 1+2+4+5  
Junction Indicator, Position Light Signal and  
Miniature Alphanumeric Route Indicator (Stencil)

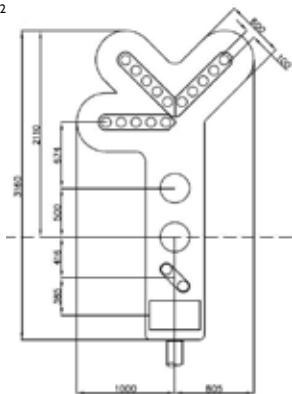
Weight - 96kg  
Area - 3.069m<sup>2</sup>



## Type 84. 0086/009471

4 Aspect Colour Light Signal with Position 1+2+4  
Junction Indicator, Position Light Signal and  
Miniature Alphanumeric Route Indicator (Stencil)

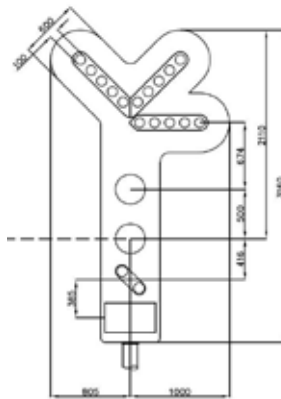
Weight - 83kg  
Area - 2.729m<sup>2</sup>



## Type 85. 0086/009472

4 Aspect Colour Light Signal with Position 1+4+5  
Junction Indicator, Position Light Signal and  
Miniature Alphanumeric Route Indicator (Stencil)

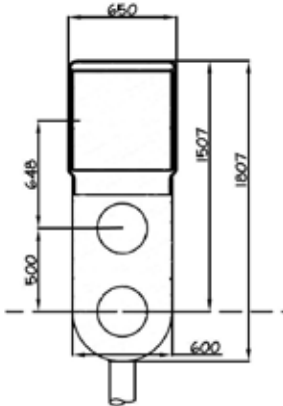
Weight - 83kg  
Area - 2.729m<sup>2</sup>



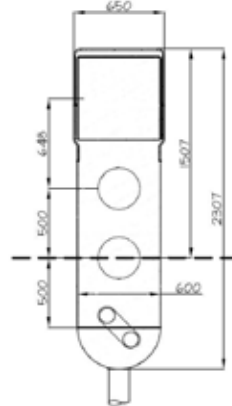
All dimensions are in mm



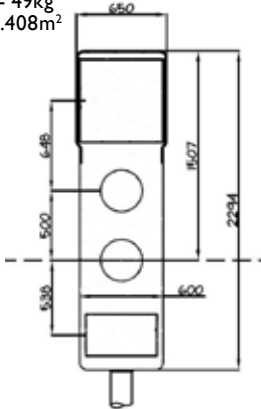
Type 86. 0086/009473  
 4 Aspect Colour Light Signal with Standard  
 Alphanumeric Route Indicator (Theatre)  
 Weight - 37kg  
 Area - 1.080m<sup>2</sup>



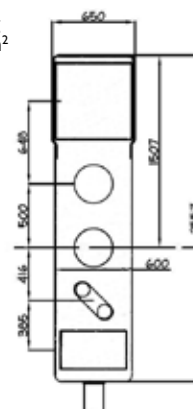
Type 87. 0086/009474  
 4 Aspect Colour Light Signal with Standard  
 Alphanumeric Route Indicator (Theatre) and PLS  
 Weight - 41kg  
 Area - 1.380m<sup>2</sup>



Type 88. 0086/009475  
 4 Aspect Colour Light Signal with Standard  
 Alphanumeric Route Indicator (Theatre) and  
 Miniature Alphanumeric Route Indicator (Stencil)  
 Weight - 49kg  
 Area - 1.408m<sup>2</sup>

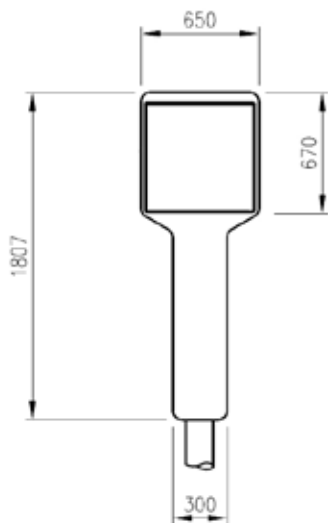


Type 89. 0086/009476  
 4 Aspect Colour Light Signal with Standard  
 Alphanumeric Route Indicator (Theatre) and  
 PLS and Miniature Alphanumeric Route Indicator  
 (Stencil)  
 Weight - 56kg  
 Area - 1.566m<sup>2</sup>



For signals that will be mounted in the Unipart Dorman Assisted Lift Trunion please see page 39-45

Type 100. 0086/007471  
Banner Repeater Signal or Preliminary Route  
Indicator or Theatre  
Weight - 31kg  
Area - 0.792



For signals that will be mounted in the Unipart Dorman Assisted Lift Trunnion please see page 39-45

## iLS Base Options

Unipart Dorman has developed three different solutions for the iLS, one for modular signalling and two for next generation lightweight mainline signalling.

- Trunnion Unit
- Equipment Enclosure for modular Lightweight Signal (MLS)
- Assisted Lift Trunnion

All base types fit the standard Network Rail BRS-SC 45 foundation footprint.

The concept of Modular Signalling involves developing low-cost, efficient and easy-to-install technology that can be used to re-signal low density, rural routes.



### MLS Equipment Enclosure

Some locations do not require separate Location Cases as there is very little control equipment. Here the Equipment Enclosure can be used to house the componentry required for the signal, as well as control for TPWS, AWS and Axle counters etc.

Standard mounting and plug-coupled connections also make the installation quick and risk free.



### Trunnion Unit

Where a signalling scheme has Location Cases, REBs or Signal Box control, the signal is supported in a simple 'Trunnion' unit.

Mounted on a standard concrete foundation (for existing locations) or on a more cost-effective alternate (for new locations), the Trunnion is simply lifted into position and bolted down. The integrated Plug Coupler point enables speedy and risk-free connection.

## Assisted Lift Trunnion (ALT)

Certificate of Acceptance PA05/06503

As part of our continual drive to deliver safer solutions to our rail customers we identified that the majority of signals being ordered were 3 and 4 aspect head types and strong customer feedback indicated a need to reduce the amount of support equipment required to install and maintain signals.

The ALT increases worker safety and reduces installation time, this new development from Unipart Dorman uses progressive rate spring technology to reduce the lifting force required as the post is moved from horizontal to the vertical plane.

- Suitable for use with a wide range of signals including the Unipart Dorman Classic signal range, iLS, CLS LITE, Banner Repeaters, Route Indicators and Level Crossing Wig Wags
- Simplified installation using basic handtools
- Permanent lifting eye provided allows the use of a variety of readily available mechanical handling devices
- Complies with PAN/E/CE/ 0017 (Project Advice Note - Signal Structures - 'Form A Guidance for Loading Performance') and is subject to its own generic F001, F002, and F003 submission
- Signal sighting is done from ground level, allowing the trunnion to be installed and sighted in advance of signal post and head delivery to site
- After sighting the trunnion can be secured in the horizontal position for extended periods using the hold down pin secured with a standard padlock



## CLS LITE Heads for use with Assisted Lift Trunnion

Catalogue No.	Description	Part No.
0094/019338	3 Aspect CLS LITE Long Range Short UHQ and interface bracket. To be used only with the Assisted Lift Trunnion and associated post	CALH/SRYG/AAE
0094/019339	3 Aspect CLS LITE Medium Range Narrow Angle Short UHQ and interface bracket. To be used only with the Assisted Lift Trunnion and associated post	CANH/SRYG/AAE
0094/019340	3 Aspect CLS LITE Medium Range Narrow Angle Short BHQ and interface bracket. To be used only with the Assisted Lift Trunnion and associated post	CANF/SRYG/AAG
0094/019341	3 Aspect CLS LITE Medium Range Wide Angle Short UHQ and interface bracket. To be used only with the Assisted Lift Trunnion and associated post	CAWH/SRYG/AAE
0094/019342	3 Aspect CLS LITE Medium Range Wide Angle Short BHQ and interface bracket. To be used only with the Assisted Lift Trunnion and associated post	CAWF/SRYG/AAG
0094/019343	3 Aspect CLS LITE Long Range UHQ and interface bracket. To be used only with the Assisted Lift Trunnion and associated post	CALH/3RYG/AAE
0094/019344	3 Aspect CLS LITE Medium Range Wide Angle UHQ and interface bracket. To be used only with the Assisted Lift Trunnion and associated post	CAWH/3RYG/AAE
0094/019345	3 Aspect CLS LITE Medium Range Narrow Angle UHQ and interface bracket. To be used only with the Assisted Lift Trunnion and associated post	CANH/3RYG/AAE
0094/019346	3 Aspect CLS LITE Long Range Short BHQ and interface bracket. To be used only with the Assisted Lift Trunnion and associated post	CALF/3RYG/AAG
0094/019347	3 Aspect CLS LITE Tunnel Long range Short BHQ and interface bracket. To be used only with the Assisted Lift Trunnion and associated post	CALT/3RYG/AAG

For signals that will be mounted in the Unipart Dorman Standard Trunnion please see page 16-38

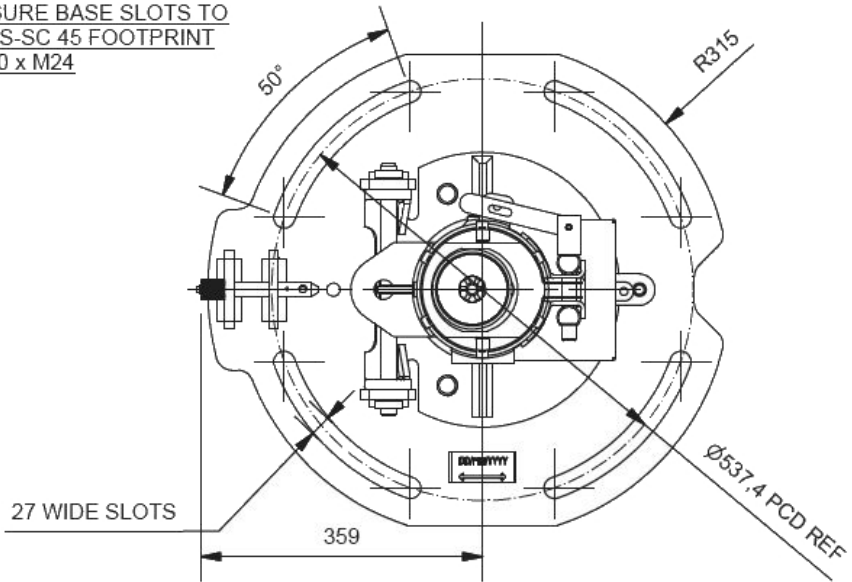
<b>Catalogue No.</b>	<b>Description</b>	<b>Part No.</b>
0094/019348	4 Aspect CLS LITE Long Range BHQ, and interface bracket. To be used only with the Assisted Lift Trunnion and associated post	CALF/RYG/AAAG
0094/019349	4 Aspect CLS LITE Tunnel Long Range BHQ and interface bracket. To be used only with the Assisted Lift Trunnion and associated post	CALT/RYG/AAAG
0094/019350	4 Aspect CLS LITE Long Range UHQ and interface bracket. To be used only with the Assisted Lift Trunnion and associated post	CALF/RYG/AAE
0094/019351	4 Aspect CLS LITE Medium Range Wide Angle BHQ and interface bracket. To be used only with the Assisted Lift Trunnion and associated post	CAWF/RYG/AAAG
0094/019352	4 Aspect CLS LITE Medium Range Narrow Angle BHQ and interface bracket. To be used only with the Assisted Lift Trunnion and associated post	CANF/RYG/AAAG
0094/019353	4 Aspect CLS LITE Medium Range Wide Angle UHQ and interface bracket. To be used only with the Assisted Lift Trunnion and associated post	CAWH/RYG/AAE
0094/019354	4 Aspect CLS LITE Medium Range Narrow Angle UHQ and interface bracket. To be used only with the Assisted Lift Trunnion and associated post	CANH/RYG/AAE
0094/019355	3 Aspect CLS LITE Long Range Short UHQ (Double Cut VOLT FREE CONTACT PROVING) and interface bracket. To be used only with the Assisted Lift Trunnion and associated post	CALH/SRYG/ACE
0094/019356	3 Aspect CLS LITE Medium Range Narrow Angle Short UHQ (Double Cut VOLT FREE CONTACT PROVING) and interface bracket. To be used only with the Assisted Lift Trunnion and associated post	CANH/SRYG/ACE
0094/019357	3 Aspect CLS LITE Medium Range Narrow Angle Short BHQ (Double Cut VOLT FREE CONTACT PROVING) and interface bracket. To be used only with the Assisted Lift Trunnion and associated post	CANF/SRYG/ACG

<b>Catalogue No.</b>	<b>Description</b>	<b>Part No.</b>
0094/019358	3 Aspect CLS LITE Medium Range Wide Angle Short UHQ (Double Cut VOLT FREE CONTACT PROVING) and interface bracket. To be used only with the Assisted Lift Trunnion and associated post	CAWH/SRYG/ACE
0094/019359	3 Aspect CLS LITE Medium Range Wide Angle Short BHQ (Double Cut VOLT FREE CONTACT PROVING) and interface bracket. To be used only with the Assisted Lift Trunnion and associated post	CAWF/SRYG/ACG
0094/019360	3 Aspect CLS LITE Long Range UHQ (Double Cut VOLT FREE CONTACT PROVING) and interface bracket. To be used only with the Assisted Lift Trunnion and associated post	CALH/3RYG/ACE
0094/019361	3 Aspect CLS LITE Medium Range Wide Angle UHQ (Double Cut VOLT FREE CONTACT PROVING) and interface bracket. To be used only with the Assisted Lift Trunnion and associated post	CAWH/3RYG/ACE
0094/019362	3 Aspect CLS LITE Medium Range Narrow Angle UHQ (Double Cut VOLT FREE CONTACT PROVING) and interface bracket. To be used only with the Assisted Lift Trunnion and associated post	CANH/3RYG/ACE
0094/019363	3 Aspect CLS LITE Long Range Short BHQ (Double Cut VOLT FREE CONTACT PROVING) and interface bracket. To be used only with the Assisted Lift Trunnion and associated post	CALF/3RYG/ACG
0094/019364	3 Aspect CLS LIT Long range Short BHQ (Double Cut VOLT FREE CONTACT PROVING) and interface bracket. To be used only with the Assisted Lift Trunnion and associated post	CALT/3RYG/ACG
0094/019365	4 Aspect CLS LITE Long Range BHQ, (Double Cut VOLT FREE CONTACT PROVING) and interface bracket. To be used only with the Assisted Lift Trunnion and associated post	CALF/RGYG/ACG
0094/019366	4 Aspect CLS LITE Tunnel Long Range BHQ (Double Cut VOLT FREE CONTACT PROVING) and interface bracket. To be used only with the Assisted Lift Trunnion and associated post	CALT/RGYG/ACG

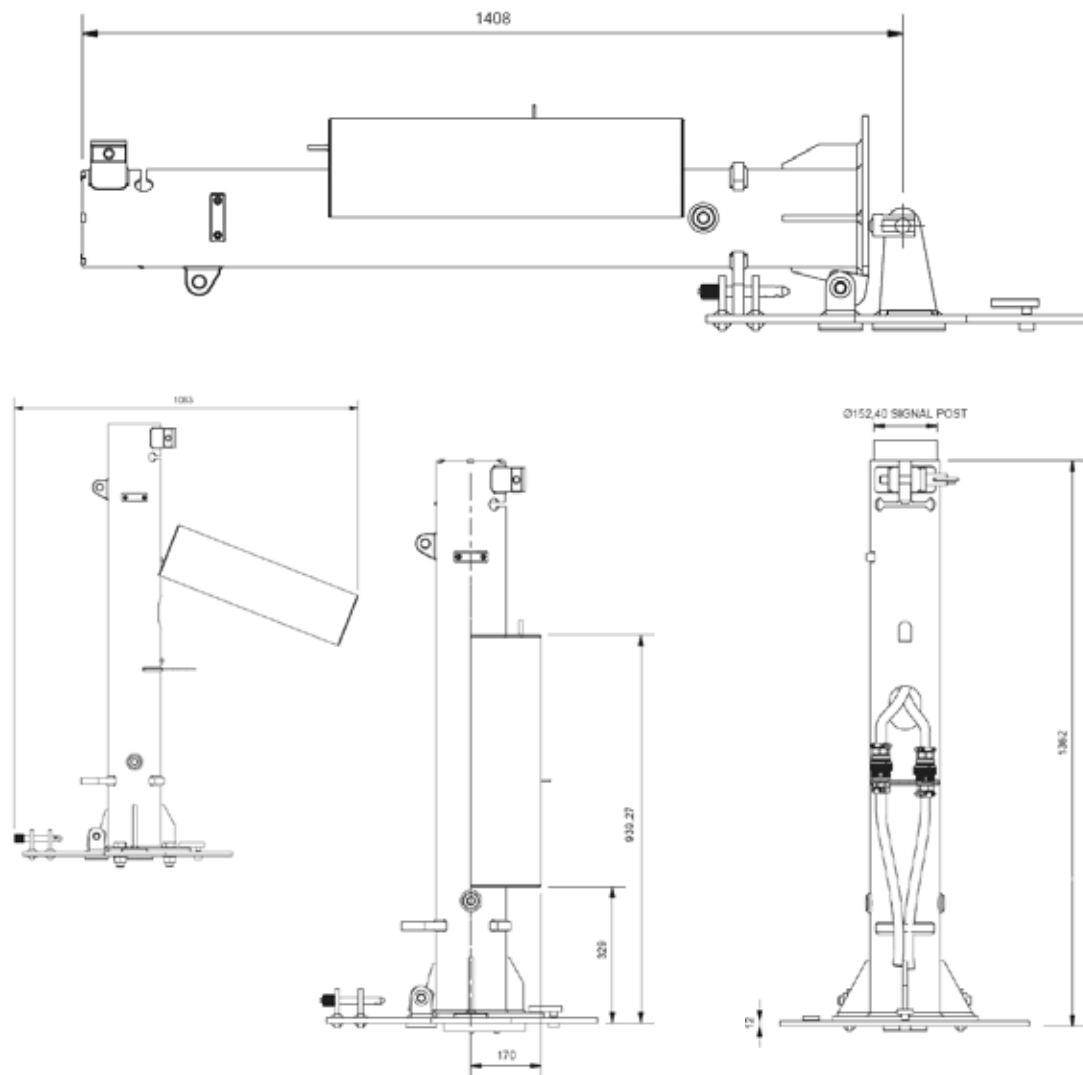
For signals that will be mounted in the Unipart Dorman Standard Trunnion please see page 16-38

Catalogue No.	Description	Part No.
0094/019367	4 Aspect CLS LITE Long Range UHQ (Double Cut VOLT FREE CONTACT PROVING) and interface bracket. To be used only with the Assisted Lift Trunnion and associated post	CALF/RGY/ACE
0094/019368	4 Aspect CLS LITE Medium Range Wide Angle BHQ (Double Cut VOLT FREE CONTACT PROVING) and interface bracket. To be used only with the Assisted Lift Trunnion and associated post	CAWF/RGY/ACG
0094/019369	4 Aspect CLS LITE Medium Range Narrow Angle BHQ (Double Cut VOLT FREE CONTACT PROVING) and interface bracket. To be used only with the Assisted Lift Trunnion and associated post	CANF/RGY/ACG

ENCLOSURE BASE SLOTS TO  
SUIT BRS-SC 45 FOOTPRINT  
380 x 380 x M24







For signals that will be mounted in the Unipart Dorman Standard Trunnion please see page 16-38

## iLS LITE Head types for use with Assisted Lift Trunnion

Please see pages 16 - 36 for head type configuration drawings

Catalogue No.	Description	Head Type
0094/019372	3 asp CLS housing & GRP post only. To be used for the Assisted Lift Trunnion only. User to specify post height (height from top of foundation to top of rail and top of rail to centre of red).	TYPE 01 AL
0094/019373	3 asp CLS and position 1 junction indicator housing & GRP post only. To be used for the Assisted Lift Trunnion only. User to specify post height (height from top of foundation to top of rail and top of rail to centre of red).	TYPE 02 AL
0094/019374	3 asp CLS and position 4 junction indicator housing & GRP post only. To be used for the Assisted Lift Trunnion only. User to specify post height (height from top of foundation to top of rail and top of rail to centre of red).	TYPE 03 AL
0094/019375	3 asp CLS with PLS housing & GRP post only. To be used for the Assisted Lift Trunnion only. User to specify post height (height from top of foundation to top of rail and top of rail to centre of red).	TYPE 10 AL
0094/019376	3 asp CLS with PLS and position 1 junction indicator housing & GRP post only. To be used for the Assisted Lift Trunnion only. User to specify post height (height from top of foundation to top of rail and top of rail to centre of red).	TYPE 11 AL
0094/019377	3 asp CLS with Stencil housing & GRP post only. To be used for the Assisted Lift Trunnion only. User to specify post height (height from top of foundation to top of rail and top of rail to centre of red)	TYPE 12 AL
0094/019378	3 asp CLS with Stencil housing & GRP post only. To be used for the Assisted Lift Trunnion only. User to specify post height (height from top of foundation to top of rail and top of rail to centre of red)	TYPE 19 AL
0094/019379	3 asp CLS with Stencil and position 1 junction indicator housing & GRP post only. To be used for the Assisted Lift Trunnion only. User to specify post height (height from top of foundation to top of rail and top of rail to centre of red)	TYPE 20 AL

0094/019380	3 asp CLS with Stencil and position 4 junction indicator housing & GRP post only. To be used for the Assisted Lift Trunnion only. User to specify post height (height from top of foundation to top of rail and top of rail to centre of red)	TYPE 21 AL
0094/019381	3 asp CLS with PLS & Stencil housing & GRP post only. To be used for the Assisted Lift Trunnion only. User to specify post height (height from top of foundation to top of rail and top of rail to centre of red)	TYPE 28 AL
0094/019382	4 asp CLS housing & GRP post only. To be used for the Assisted Lift Trunnion only. User to specify post height (height from top of foundation to top of rail and top of rail to centre of red)	TYPE 50 AL
0094/019383	4 asp CLS and position 1 junction indicator housing & GRP post only. To be used for the Assisted Lift Trunnion only. User to specify post height (height from top of foundation to top of rail and top of rail to centre of red)	TYPE 51 AL
0094/019384	4 asp CLS and position 4 junction indicator housing & GRP post only. To be used for the Assisted Lift Trunnion only. User to specify post height (height from top of foundation to top of rail and top of rail to centre of red)	TYPE 52 AL
0094/019385	4 asp CLS with PLS housing & GRP post only. To be used for the Assisted Lift Trunnion only. User to specify post height (height from top of foundation to top of rail and top of rail to centre of red).	TYPE 59 AL

For signals that will be mounted in the Unipart Dorman Standard Trunnion please see page 16-38

## Trunnion Units

Our patented iLS alignment unit may be used for aligning the signal relative to the base.

The alignment unit permits a single point of control of the orientation of the signal.

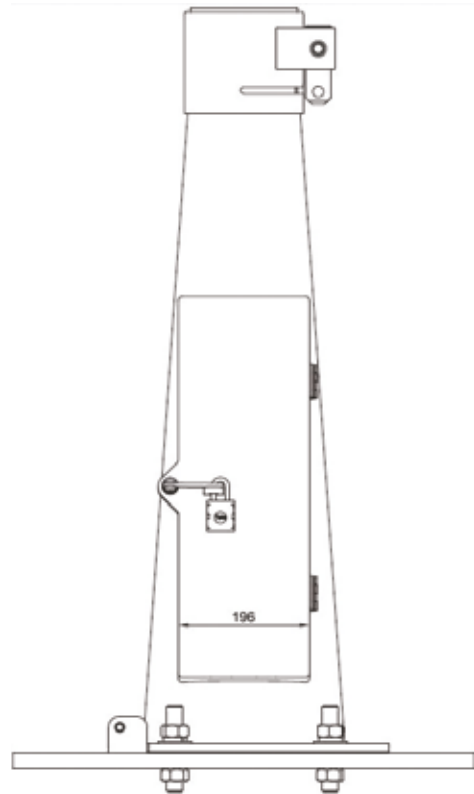
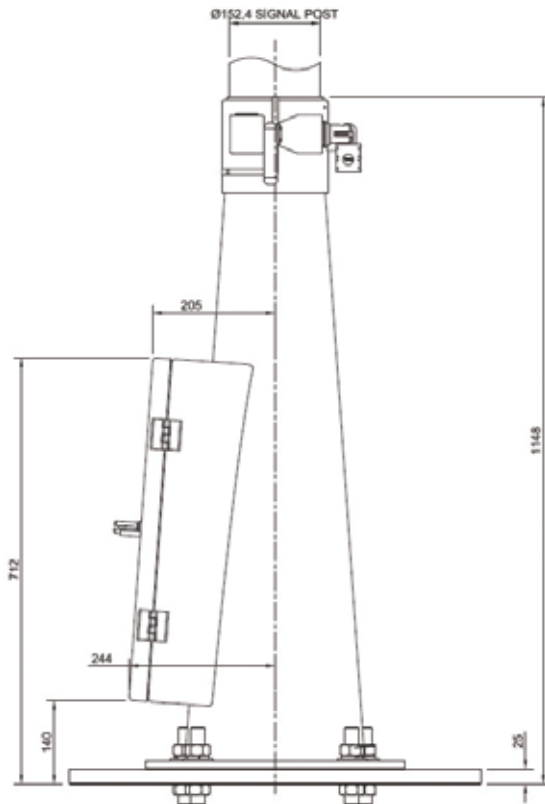
- Designed to meet the requirements of the BRS - SC 45 Footprint Drawing
- All plug coupled connections are made inside a lockable box which is an integral part of the Trunnion
- Single Connection Box variant available with the box fitted on either the left (TRUN001) or right (TRUN005) of the hinge to suit site specific conditions
- Doesn't require the use of mechanical lifting devices to install
- There is no requirement for any additional disconnection boxes as the infrastructure cable is plug coupled in the signal base
- Can be installed onto a pre-prepared foundation in less than 20 minutes

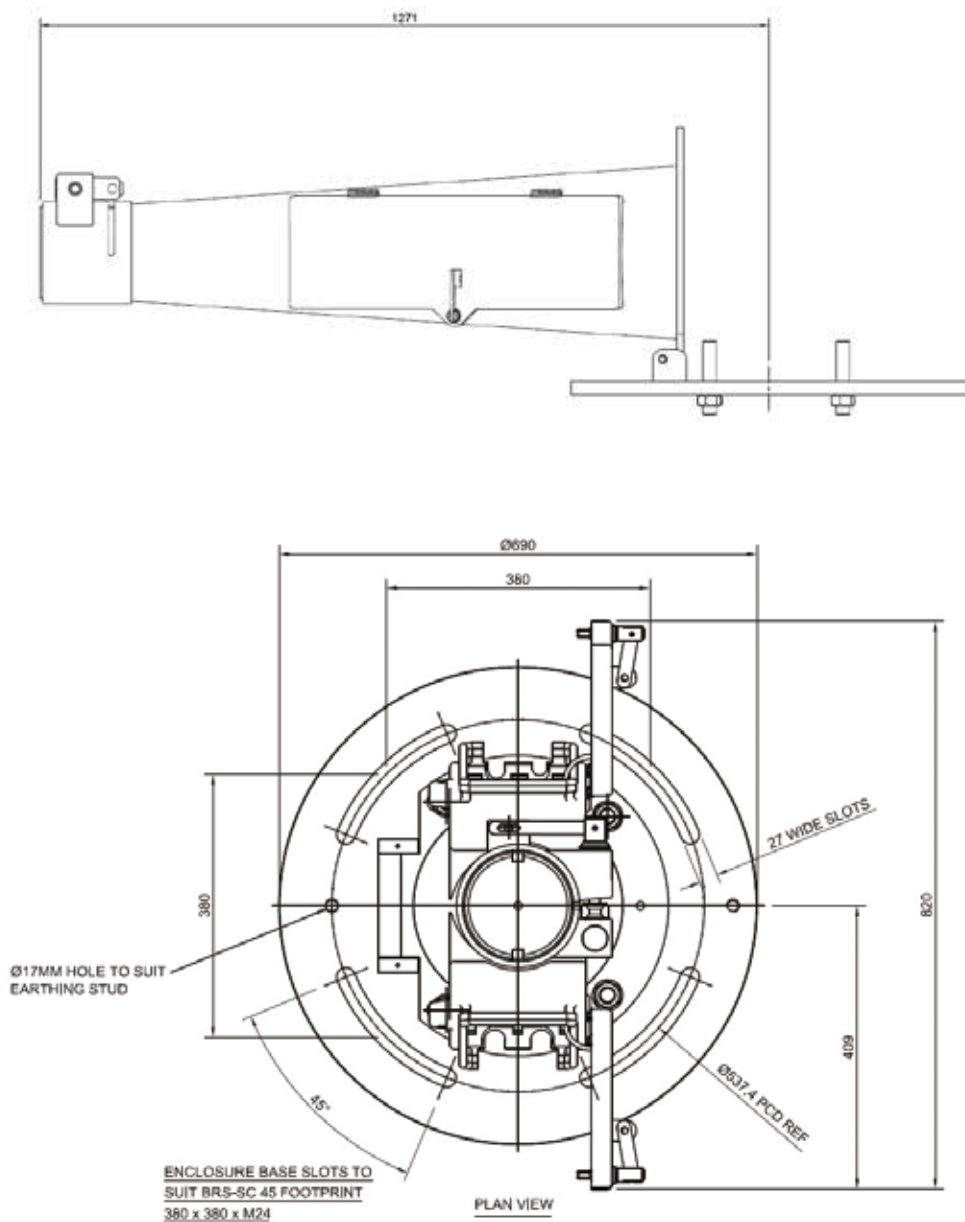


## Trunnion Units

### Single Connection Enclosure

Catalogue No.	Description	Part No.
0086/008534	iLS Trunnion, single connection box for up to 2 Signal Elements. For left-hand mounting	TRUN001
0086/003990	iLS Trunnion, single connection box for up to 2 Signal Elements. For right-hand mounting	TRUN005

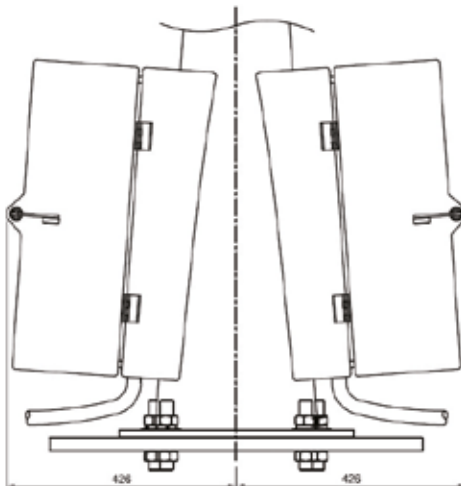
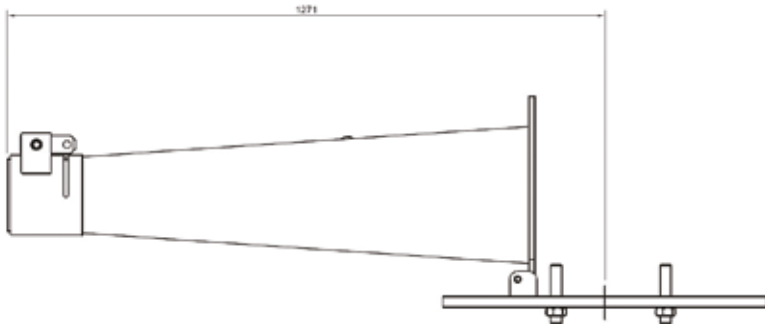


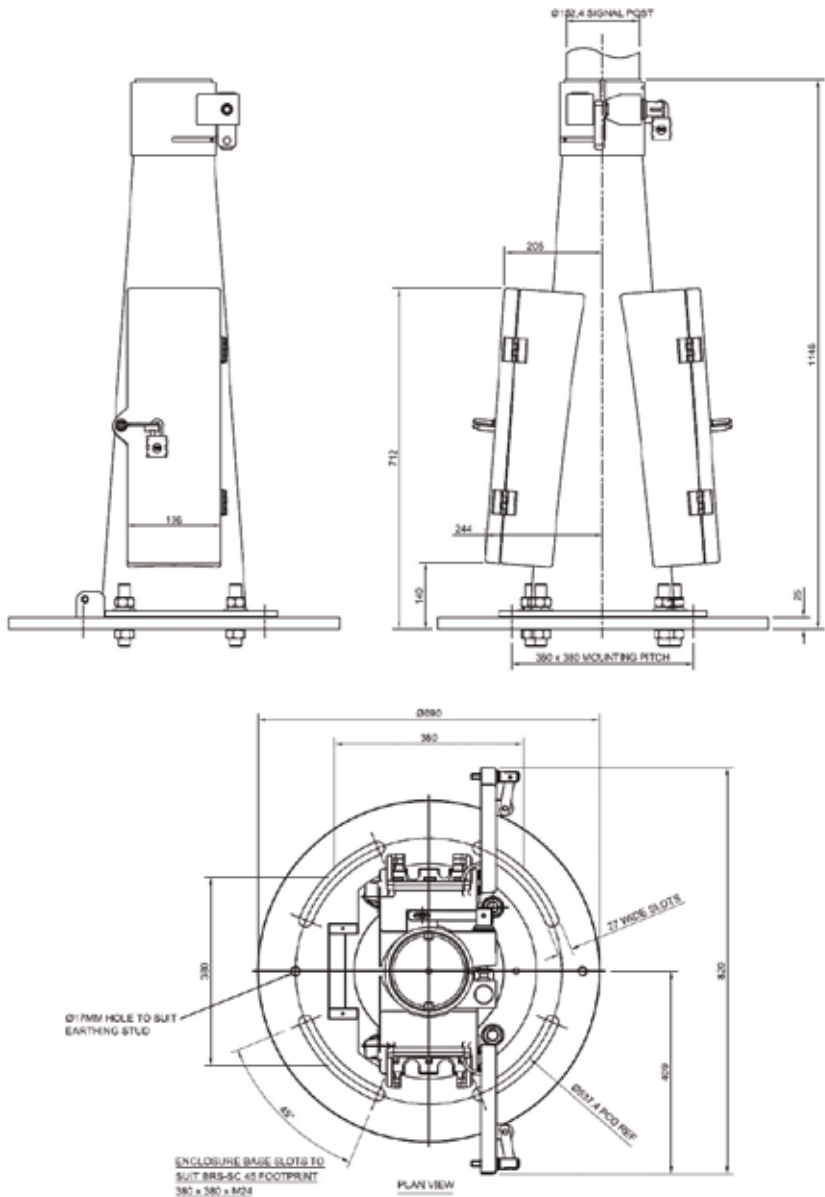


## Trunnion Units

### 2 Connection Enclosure

Catalogue No.	Description	Part No.
0086/008535	iLS Trunnion, 2 connection enclosures for up to 4 Signal Elements. For either side of the track	TRUN002







## MLS Equipment Enclosures

As part of the drive to reduce cost throughout the network during re-signalling works, a number of areas were identified where there was no need for a separate Location Case and associated infrastructure as there is very little control equipment.

Unipart Dorman collaborated with Signalling Solutions Limited to design and develop an Equipment Enclosure signal base which can be used to house the small amount of components required for the operation and control of the signal, as well as any additional TPWS, AWS, and Axle Counter Equipment.

### Benefits of Equipment Enclosures:

- Reduces costs by eliminating the requirement for a separate location case
- Each signal uses the standard mechanical interface used across the network
- All electrical connections are made using plug couplers
- Risk free, quick installation



Initially deployed on the Ely to Norwich re-signalling project in 2012, the use of Unipart Dorman modular signals with Equipment Enclosure bases allowed the scheme to proceed at a much greater pace than other similar projects.

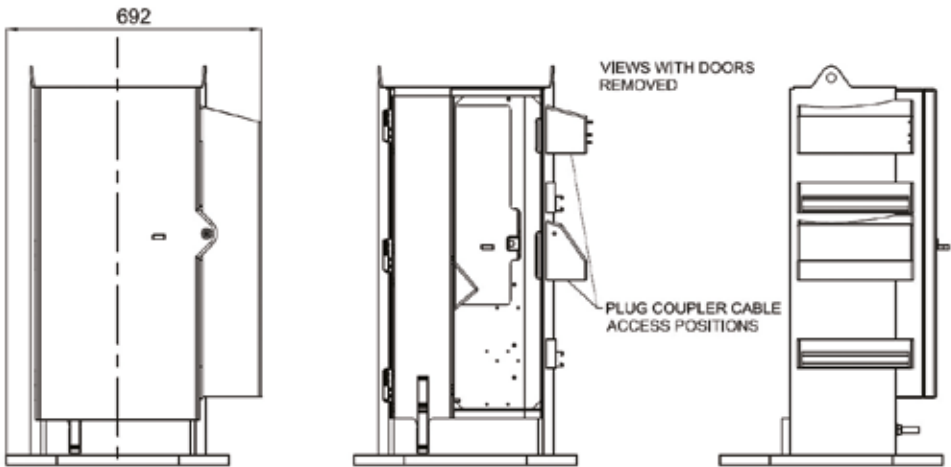
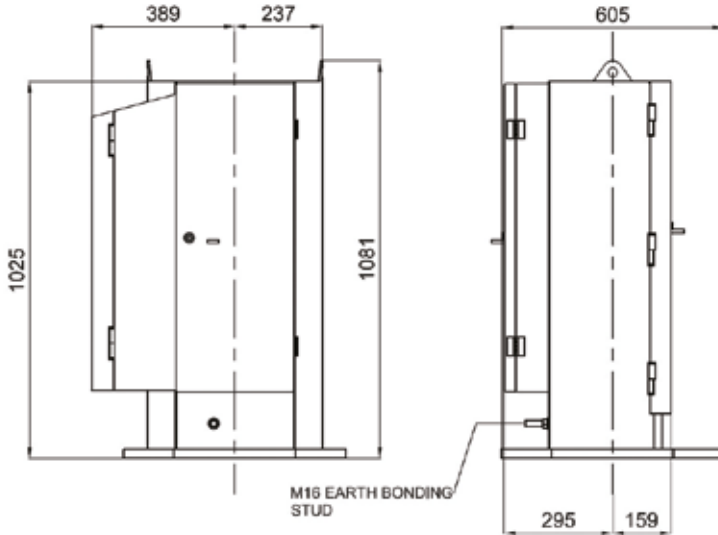
This type of modular signal is becoming increasingly popular and is seen as a quick cost effective way to bring secondary lines up to modern signalling standards.

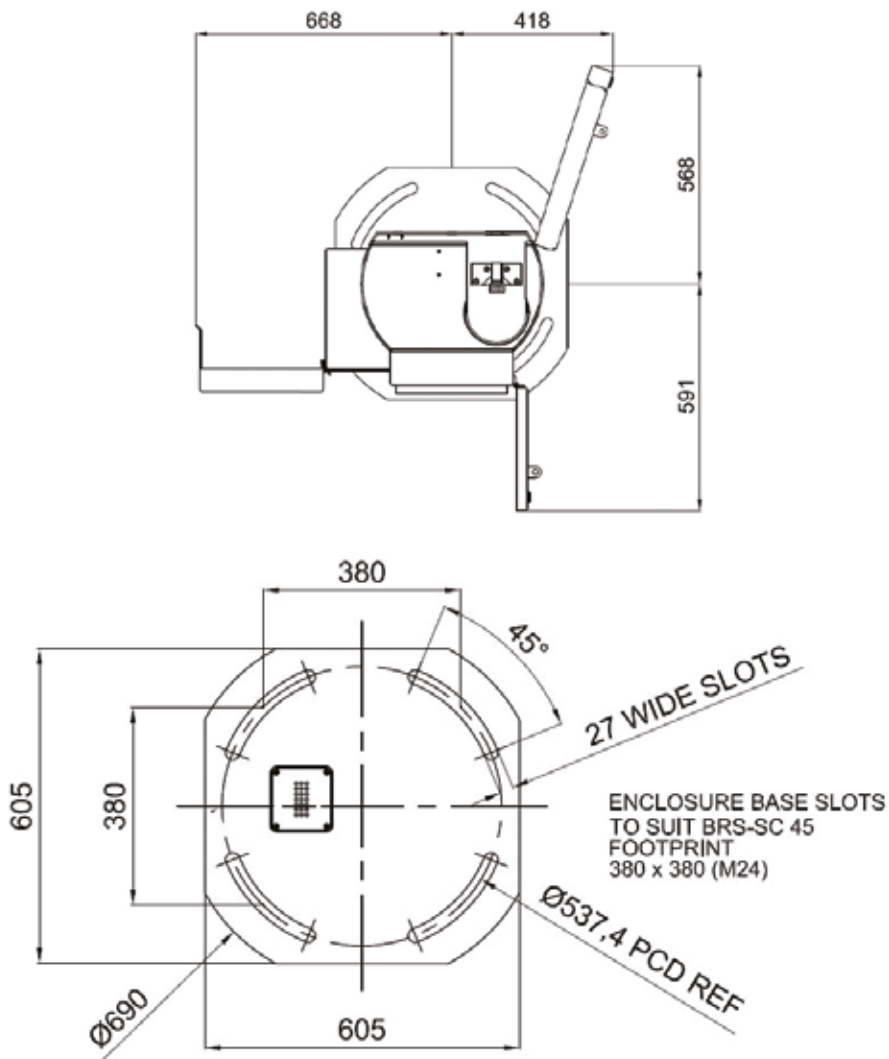
## Enclosure Types

Catalogue No.	Description	Part No.
0086/009477	MLS Enclosure (Customer Specified Equipment Fit)	ENC/000
	MLS Enclosure Type 11 Distant SSL	ENC/SSL/11
	MLS Enclosure Type 12 Stop SSL	ENC/SSL/12
	MLS Enclosure Type 13 Stop EF1 SSL	ENC/SSL/13
	MLS Enclosure Type 14 Stop EF2 SSL	ENC/SSL/14
	MLS Enclosure Type 15 Distant II SSL	ENC/SSL/15
	MLS Enclosure Type 16 Stop II SSL	ENC/SSL/16



## Equipment Enclosure Drawings





## Lightweight Signal Post

The Unipart Dorman Lightweight signal makes extensive use of Glass Reinforced Plastic (GRP) to manufacture the signal head and signal post. Occasionally an aluminium liner is added to the GRP to guarantee its rigidity in areas where a combination of wind loading factors, signal height and the size of the head configuration determine a requirement.

Extensive research and development was undertaken to ensure that the rigidity matched the strict standards laid down, for example in Eurocode 1 (Actions on Structures, Wind Action), NR/SP/CIV/003, and PAN/E/CE/SS/0017.

Unipart Dorman will provide signals pre-fitted with Signal Identification Plates prior to delivery to site where required.

### Post weights per 1000 mm

GRP Post = 3.8kg per/1000mm



GRP Post with 4mm Aluminium Liner = 4.7kg per/1000mm



GRP Post with 9mm Aluminium Liner = 10.5kg per/1000mm



The outside diameter of the post is 152.4mm

## iLS Winch

### Network Rail Approval Number PA05/05571

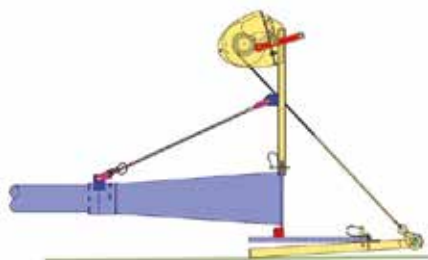
To assist in the installation of Unipart Dorman's iLS, a Network Rail Approved Winch is available.

The mechanical winch splits into three sub-assemblies for portability and comes complete with a robust storage/transportation bag.

Constructed from galvanised and powder coated frames with extensive use of stainless steel fittings wherever possible, the winch unit is suited to the arduous trackside environment and is quickly assembled for use. The winch gearing ensures that even the heaviest signals, with complex signal arrangements, can be raised easily with minimum effort.

The winch is fully compliant with the requirements of the Lifting Operations and Lifting Equipment Regulations 1998.

A full certification service and customer training is available - please contact Unipart Dorman for further details.



## iLS Winch & Spares

Description	Catalogue No.
Unipart Dorman iLS Winch (Complete)	0086/008670
Tie Rod Clevis Pin (Trunnion end of Tie Rod)	0086/008671
Winch Frame Pin	0086/008672
Underframe Pin	0086/008673
Tie Rod Clevis Pin (Winch Frame end of Tie Rod)	0086/008674
'R' Pin (Trunnion end of Tie Rod)	0086/008675
Single Lanyard	0086/008676
Double Lanyard	0086/008677
'R' Pin (Winch Frame end of Tie Rod)	0086/008678

## iLS Ordering

Supporting the customer throughout the procurement process is something that Unipart Dorman takes great pride in, we have detailed the information we require below and have created a form on page 56 to help you.

From the moment that customers provide the Signal details shown below, to delivering the complete signal, Unipart Dorman offers the complete package including, where specified, a suite of Structural Drawings, Signal Identification Plates and a full range of spares.

### What we need from you:

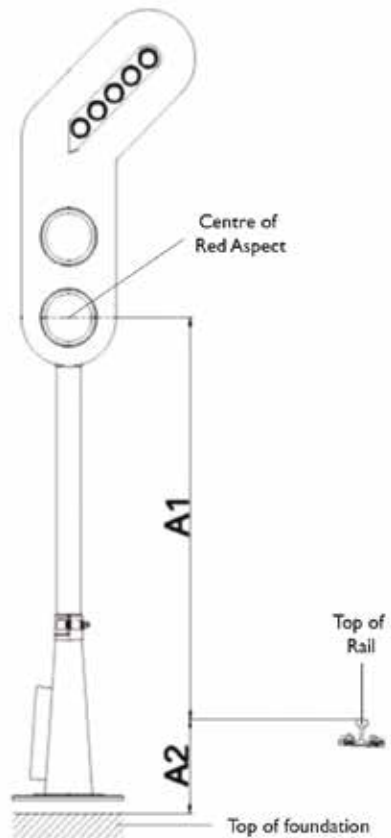
**Dimension A1** - Top of rail to the centre of the most restrictive aspect. This is taken from the Signal Sighting Form.

**Dimension A2** - Top of Foundation to the Top of Rail. This is provided by the customer. A clear indication of whether the Top of Foundation is above or below the Top of Rail is essential for the order process.

Whilst we can give an approximate guide price based on the head configuration, Lamp Proving type and dimension A1, we cannot provide a formal quotation without dimension A2.

Additional information required at the quotation stage:

**National Grid Reference** - Found on the signal sighting form, this tells us how far the signal is from the coast. This provides us with the average wind speed figure required for the structural calculations.



## ILS Post Order Form

<b>Company / Contractor</b>	
<b>Project / Location</b>	
<b>Primary Contact</b>	
<b>Telephone</b>	
<b>E-mail</b>	
<b>Date Completed</b>	

A Positive Symbol (+) in column A2 written in red indicates the top of foundation is BELOW rail top

Signal ID	Dimension A1 (mm)	Dimension A2 (mm)	Voltage	Lamp Proving Type**	Range †	Required Delivery Date

\* Current Based or Volt Free Contact Proving

† Mainline Signals are available in Long Range 800m ±3°, Medium Range Narrow Beam 400m ±3° and Medium Range Wide Beam 400m ±10°

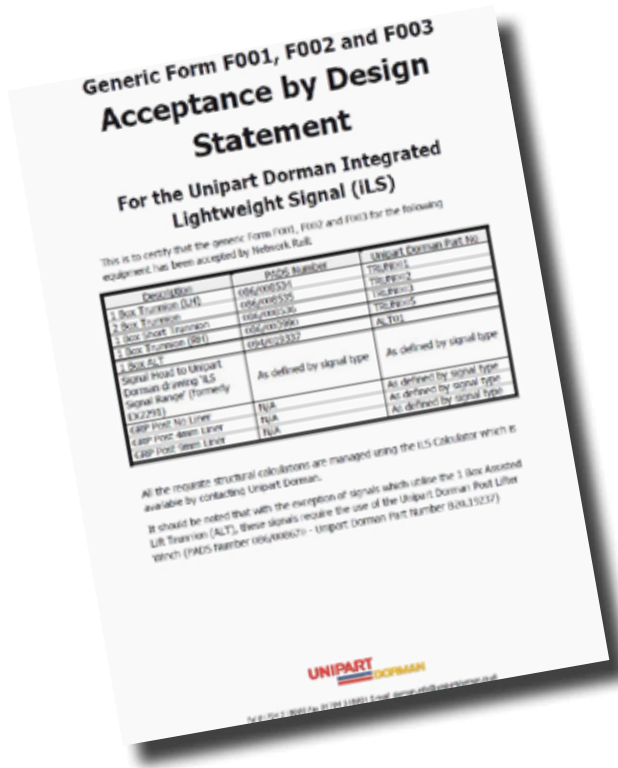


## Structure Specific Documentation

The Unipart Dorman iLS comprises a head, post and support (ALT, Trunnion or Enclosure base) and that designates it as a complete structure. Network Rail has approved a generic version of the Form A - Approval in Principle and Form B - Detailed Design Approval/Form F001, F002, F003, which are then used to deliver structure specific documentation. Information on the signal loading characteristics can be provided to assist in foundation design on request.

Unipart Dorman offers a comprehensive documentation service as part of the signal/project order process, details of which are available on request.

Please note: The generic submission and subsequent bespoke documentation is for the signal base, post and head elements only and does not cover any foundation works.



## iLS Spares & Accessories

Unipart Dorman are pleased to offer a wide range of accessories and spares for the Lightweight Signal Ranges as shown below.

If you require anything which does not appear in this section, please contact us.

## iLS Spare Modules

Catalogue No.	Description	Part No.
iLS Colour Light Signal Modules, Current Proved to T00036		
0086/008501	iLS Module, Colour Light Signal, 3 Aspect, Long Range Narrow Beam, Elevated, 110V, MIL 5015, T00036, Current Proved, Long Tail Cable	LS/CMLRYG-E/AAL
0086/008502	iLS Module, Colour Light Signal, 3 Aspect, Long Range Narrow Beam, Ground, 110V, MIL 5015, T00036, Current Proved, Long Tail Cable	LS/CMLRYG-G/AAL
0086/009380	iLS Module, Colour Light Signal, 3 Aspect, Medium Range Narrow Beam, Elevated, 110V, MIL 5015, T00036, Current Proved, Long Tail Cable	LS/CMNRYG-E/AAL
0086/009381	iLS Module, Colour Light Signal, 3 Aspect, Medium Range Narrow Beam, Ground, 110V, MIL 5015, T00036, Current Proved, Long Tail Cable	LS/CMNRYG-G/AAL
0086/009488	iLS Module, Colour Light Signal, 3 Aspect, Medium Range Wide Beam, Elevated, 110V, MIL 5015, T00036, Current Proved, Long Tail Cable	LS/CMMRYG-E/AAL
0086/009489	iLS Module, Colour Light Signal, 3 Aspect, Medium Range Wide Beam, Ground, 110V, MIL 5015, T00036, Current Proved, Long Tail Cable	LS/CMMRYG-G/AAL
iLS Colour Light Signal Modules, SSL Modular Scheme Terminations with Single Volt-free Contact		
0086/008507	iLS Module, Colour Light Signal, 3 Aspect, Long Range Narrow Beam, Elevated, 110V, MIL 5015, SSL Modular, Volt Free single cut, Long Tail Cable	LS/CMLRYG-E/CDL
0086/008508	iLS Module, Colour Light Signal, 3 Aspect, Long Range Narrow Beam, Ground, 110V, MIL 5015, SSL Modular, Volt Free single cut, Long Tail Cable	LS/CMLRYG-G/CDL

Catalogue No.	Description	Part No.
iLS Colour Light Signal Modules, Double Volt-free Contact Proving, Terminations to T00036		
0086/008511	iLS Module, Colour Light Signal, 3 Aspect, Long Range Narrow Beam, Elevated, 110V, MIL 5015, T00036, Volt Free Double cut, Long Tail Cable	LS/CMLRYG-E/ACL
0086/008512	iLS Module, Colour Light Signal, 3 Aspect, Long Range Narrow Beam, Ground, 110V, MIL 5015, T00036, Volt Free Double cut, Long Tail Cable	LS/CMLRYG-G/ACL
0086/009384	iLS Module, Colour Light Signal, 3 Aspect, Medium Range Narrow Beam, Elevated, 110V, MIL 5015, T00036, Volt Free Double cut, Long Tail Cable	LS/CMNRYG-E/ACL
0086/009385	iLS Module, Colour Light Signal, 3 Aspect, Medium Range Narrow Beam, Ground, 110V, MIL 5015, T00036, Volt Free Double cut, Long Tail Cable	LS/CMNRYG-G/ACL
0086/009492	iLS Module, Colour Light Signal, 3 Aspect, Medium Range Wide Beam, Elevated, 110V, MIL 5015, T00036, Volt Free Double cut, Long Tail Cable	LS/CMMRYG-E/ACL
0086/009493	iLS Module, Colour Light Signal, 3 Aspect, Medium Range Wide Beam, Ground, 110V, MIL 5015, T00036, Volt Free Double cut, Long Tail Cable	LS/CMMRYG-G/ACL
Upper Yellow modules (4th Aspect) for Current proved modules to T00036		
0086/008505	iLS Module, Colour Light Signal, 4th Aspect, Long Range Narrow Beam, Elevated, 110V, MIL 5015, T00036, Current Proved	LS/CML4Y--E/AA-
0086/008506	iLS Module, Colour Light Signal, 4th Aspect, Long Range Narrow Beam, Ground, 110V, MIL 5015, T00036, Current Proved	LS/CML4Y--G/AA-
0086/009386	iLS Module, Colour Light Signal, 4th Aspect, Medium Range Narrow Beam, Elevated, 110V, MIL 5015, T00036, Current Proved.	LS/CMN4Y--E/AA-
0086/009387	iLS Module, Colour Light Signal, 4th Aspect, Medium Range Narrow Beam, Ground, 110V, MIL 5015, T00036, Current Proved.	LS/CMN4Y--G/AA-
0086/009494	iLS Module, Colour Light Signal, 4th Aspect, Medium Range Wide Beam, Elevated, 110V, MIL 5015, T00036, Current Proved.	LS/CMM4Y--E/AA-
0086/009495	iLS Module, Colour Light Signal, 4th Aspect, Medium Range Wide Beam, Ground, 110V, MIL 5015, T00036, Current Proved.	LS/CMM4Y--G/AA-

Upper Yellow modules (4th Aspect) for Volt-free contact proved modules		
0086/008515	iLS Module, Colour Light Signal, 4th Aspect, Long Range Narrow Beam, Elevated, 110V, MIL 5015, T00036, No proving (for use in conjunction with the volt-free contact proved CLS Module)	LS/CML4Y--E/AE-
0086/008516	iLS Module, Colour Light Signal, 4th Aspect, Long Range Narrow Beam, Ground, 110V, MIL 5015, T00036, No Proving (for use in conjunction with the volt-free contact proved CLS Module)	LS/CML4Y--G/AE-
0086/009388	iLS Module, Colour Light Signal, 4th Aspect, Medium Range Narrow Beam, Elevated, 110V, MIL 5015, T00036, No proving (for use in conjunction with the volt-free contact proved CLS Module)	LS/CMN4Y--E/AE-
0086/009389	iLS Module, Colour Light Signal, 4th Aspect, Medium Range Narrow Beam, Ground, 110V, MIL 5015, T00036, No Proving (for use in conjunction with the volt-free contact proved CLS Module)	LS/CMN4Y--G/AE-
0086/008646	iLS Module, Colour Light Signal, 4th Aspect, Medium Range Wide Beam, Elevated, 110V, MIL 5015, T00036, No proving (for use in conjunction with the volt-free contact proved CLS Module)	LS/CMM4Y--E/AE-
0086/008647	iLS Module, Colour Light Signal, 4th Aspect, Medium Range Wide Beam, Ground, 110V, MIL 5015, T00036, No Proving (for use in conjunction with the volt-free contact proved CLS Module)	LS/CMM4Y--G/AE-

## Junction Indicators

Catalogue No.	Description	Part No.
Position Light Junction Indicator Modules, Current Proved, Terminations to T00036		
0086/008517	iLS Module, Junction Indicator, Position 1, 110V, MIL5015, T00036, Current Proved	LS/JM1/AAS
0086/008518	iLS Module, Junction Indicator, Position 2, 110V, MIL5015, T00036, Current Proved	LS/JM2/AAS
0086/008519	iLS Module, Junction Indicator, Position 4, 110V, MIL5015, T00036, Current Proved	LS/JM4/AAS
0086/008520	iLS Module, Junction Indicator, Position 5, 110V, MIL5015, T00036, Current Proved	LS/JM5/AAS

Catalogue No.	Description	Part No.
Position Light Junction Indicator Modules, Single Volt-free Contact Proved, SSL Modular Scheme Terminations		
0086/008521	iLS Module, Junction Indicator, Position 1, 110V, MIL5015, SSL Modular, Volt free single cut	LS/JM1/CDS
0086/008522	iLS Module, Junction Indicator, Position 2, 110V, MIL5015, SSL Modular, Volt free single cut	LS/JM2/CDS
0086/008523	iLS Module, Junction Indicator, Position 4, 110V, MIL5015, SSL Modular, Volt free single cut	LS/JM4/CDS
0086/008524	iLS Module, Junction Indicator, Position 5, 110V, MIL5015, SSL Modular, Volt free single cut	LS/JM5/CDS

## Subsidiary Signal Modules

Catalogue No.	Description	Part No.
Subsidiary Signal Modules, Current Proved, Terminations to T00036		
0086/008525	iLS Module, Subsidiary Signal, White/White, 110V, MIL5015, T00036, Current Proved, Long Tail Cable	LS/SSM/WW/AAL
0086/008526	iLS Module, Subsidiary Signal, White/White, 110V, MIL5015, T00036, Current Proved, Short Tail Cable	LS/SSM/WW/AAS
Subsidiary Signal Modules, Single Volt-free Contact Proved, SSL Modular Scheme Terminations		
0086/008527	iLS Module, Subsidiary Signal, White/White, 110V, MIL5015, SSL Modular, Volt Free Single Cut, Short Tail Cable	LS/SSM/WW/CDS
Miniature Alphanumeric Route Indicator, Current Proved, Terminations to T00036		
0086/008528	iLS Module, Miniature Alphanumeric Route Indicator, Indication to be Specified by the Customer, 110V, MIL5015, T00036, Current Proving, Long Tail Cable	LSS/-----/AAL
0086/008529	iLS Module, Miniature Alphanumeric Route Indicator, Indication to be Specified by the Customer, 110V, MIL5015, T00036, Current Proving, Short Tail Cable	LSS/-----/AAS
Miniature Alphanumeric Route Indicator, Single Volt-free Contact Proved, SSL Modular Scheme Terminations		
0086/008530	iLS Module, Colour Light Signal, 3 Aspect, Long Range Narrow Beam, Elevated, 110V, MIL 5015, SSL Modular, Volt Free single cut, Long Tail Cable	LSS/-----/CDS

## iLS Sighting Scope

Catalogue No.	Description	Part No.
0086/008542	iLS Sighting Scope Assembly including case	D04.03082

## Junction Indicator Harness

Catalogue No.	Description	Part No.
0086/008543	Junction Indicator Long Harness, Position 1, T00036, Current Proved	D04.03143
0086/008544	Junction Indicator Short Harness, Position 1, T00036, Current Proved	D04.03142
0086/008545	Junction Indicator Long Harness, Position 4, T00036, Current Proved	D04.03145
0086/008546	Junction Indicator Short Harness, Position 4, T00036, Current Proved	D04.03144
0086/008547	Junction Indicator Long Harness, Position 1+4, T00036, Current Proved	D04.03147
0086/008548	Junction Indicator Short Harness, Position 1+4, T00036, Current Proved	D04.03146
0086/008549	Junction Indicator Long Harness, Position 1+2, T00036, Current Proved	D04.03149
0086/008550	Junction Indicator Short Harness, Position 1+2, T00036, Current Proved	D04.03148
0086/008551	Junction Indicator Long Harness, Position 4+5, T00036, Current Proved	D04.03151
0086/008552	Junction Indicator Short Harness, Position 4+5, T00036, Current Proved	D04.03150

Catalogue No.	Description	Part No.
0086/008553	Junction Indicator Long Harness, Position 1+2+4, T00036, Current Proved	D04.03153
0086/008554	Junction Indicator Short Harness, Position 1+2+4, T00036, Current Proved	D04.03152
0086/008555	Junction Indicator Long Harness, Position 1+4+5, T00036, Current Proved	D04.03155
0086/008556	Junction Indicator Short Harness, Position 1+4+5, T00036, Current Proved	D04.03154
0086/008557	Junction Indicator Long Harness, Position 1+2+4+5, T00036, Current Proved	D04.03157
0086/008558	Junction Indicator Short Harness, Position 1+2+4+5, T00036, Current Proved	D04.03156
0086/008559	13 way to 25 way SSL Modular enclosure interface harness	D04.03088
0086/008560	Harness EN8086	D04.03089
0086/008561	Harness EN8061	D04.03090
0086/007487	13 way to 13 way extension cable, 400mm length (size 32 shell)	D04.03672

## iLS Blanking Plate

Catalogue No.	Description	Part No.
0086/009391	iLS Colour Light Signal Module Blanking Plate	B20.19380

## iLS Visors

Catalogue No.	Description	Part No.
0086/009501	Standard Visor	B20.20234
0086/007488	Extended iLS CLS Visor 600mm Long	B20.19436



0086/007486	Extended 3/4 iLS CLS Visor 600mm Long (Right Hand)	B20.19434
0086/007485	Extended 3/4 iLS CLS Visor 600mm Long (Left Hand)	B20.19433

## Out of Use Masks

Catalogue No.	Description	Head Type	Part No.
0086/008562	iLS Out Of Use Mask - 3 Aspect Colour Light Signal	01	B22.21000
0086/008563	iLS Out Of Use Mask - 4 Aspect Colour Light Signal	50	B22.21001
0086/008564	iLS Out Of Use Mask - 3 Aspect Colour Light Signal & Junction Indicator Position 1	02	B22.21002
0086/008565	iLS Out Of Use Mask - 3 Aspect Colour Light Signal & Junction Indicator Position 4	03	B22.21003
0086/008566	iLS Out Of Use Mask - 4 Aspect Colour Light Signal & Junction Indicator Position 1	51	B22.21004
0086/008567	iLS Out Of Use Mask - 4 Aspect Colour Light Signal & Junction Indicator Position 4	52	B22.21005
0086/008568	iLS Out Of Use Mask - 3 Aspect Colour Light Signal & Junction Indicator Position 1+4	04	B22.21006
0086/008569	iLS Out Of Use Mask - 4 Aspect Colour Light Signal & Junction Indicator Position 1+4	53	B22.21007
0086/008570	iLS Out Of Use Mask - 4 Aspect Colour Light Signal & Subsidiary Signal	59	B22.21008
0086/008571	iLS Out Of Use Mask - 3 Aspect Colour Light Signal & Junction Indicator Position 1 & Subsidiary Signal	11	B22.21009
0086/008572	iLS Out Of Use Mask - 3 Aspect Colour Light Signal & Junction Indicator Position 4 & Subsidiary Signal	12	B22.21010
0086/008573	iLS Out Of Use Mask - 3 Aspect Colour Light Signal & Junction Indicator Position 1+4 & Subsidiary Signal	13	B22.21011
0086/008574	iLS Out Of Use Mask - 4 Aspect Colour Light Signal & Junction Indicator Position 1 & Subsidiary Signal	60	B22.21012
0086/008575	iLS Out Of Use Mask - 4 Aspect Colour Light Signal & Junction Indicator Position 4 & Subsidiary Signal	61	B22.21013
0086/008576	iLS Out Of Use Mask - 4 Aspect Colour Light Signal & Junction Indicator Position 1+4 & Subsidiary Signal	62	B22.21014

Catalogue No.	Description	Head Type	Part No.
0086/008577	iLS Out Of Use Mask - 3 Aspect Colour Light Signal & Junction Indicator Position 1 & Subsidiary Signal & Stencil/Theatre	29	B22.21015
0086/008578	iLS Out Of Use Mask - 4 Aspect Colour Light Signal & Junction Indicator Position 1 & Subsidiary Signal & Stencil/Theatre	78	B22.21016
0086/008579	iLS Out of Service Mask 3 Aspect CLS JI Pos 1+2	05	B22.21018
0086/008580	iLS Out of Service Mask 3 Aspect CLS JI Pos 4+5	06	B22.21019
0086/008581	iLS Out of Service Mask 3 Aspect CLS JI Pos 1+2+4+5	07	B22.21020
0086/008582	iLS Out of Service Mask 3 Aspect CLS JI Pos 1+2+4	08	B22.21021
0086/008583	iLS Out of Service Mask 3 Aspect CLS JI Pos 1+4+5	09	B22.21022
0086/008584	iLS Out of Service Mask 3 Aspect CLS + Subsidiary Signal	10	B22.21023
0086/008585	iLS Out of Service Mask 3 Aspect CLS JI Pos 1+2 + Sub + Signal	14	B22.21024
0086/008586	iLS Out of Service Mask 3 Aspect CLS 4+5 Sub Signal	15	B22.21025
0086/008587	iLS Out of Service Mask 3 Aspect CLS 1 2 4 5 + Sub Signal	16	B22.21026
0086/008588	iLS Out of Service Mask 3 Aspect CLS 1 2 4 + Sub Signal	17	B22.21027
0086/008589	iLS Out of Service Mask 3 Aspect CLS 1 4 5 Sub Signal	18	B22.21028
0086/008590	iLS Out of Service Mask 3 Aspect CLS + Stencil	19	B22.21029
0086/008591	iLS Out of Service Mask 3 Aspect CLS JI Pos 1 + Stencil	20	B22.21030
0086/008592	iLS Out of Service Mask 3 Aspect CLS JI Pos 4 + Stencil	21	B22.21031
0086/008593	iLS Out of Service Mask 3 Aspect CLS JI Pos 1+4 + Stencil	22	B22.21032
0086/008594	iLS Out of Service Mask 3 Aspect CLS JI Pos 1+2 + Stencil	23	B22.21033
0086/008595	iLS Out of Service Mask 3 Aspect CLS JI Pos 4+5 Stencil	24	B22.21034
0086/008596	iLS Out of Service Mask 3 Aspect CLS JI 1 2 4 5 + Stencil	25	B22.21035

Catalogue No.	Description	Head Type	Part No.
0086/008597	iLS Out of Service Mask 3 Aspect CLS JI Pos   2 4 + Stencil	26	B22.21036
0086/008598	iLS Out of Service Mask 3 Aspect CLS JI Pos   4 5 + Stencil	27	B22.21037
0086/008599	iLS Out of Service Mask 3 Aspect CLS + Sub + Stencil	28	B22.21038
0086/008600	iLS Out of Service Mask 3 Aspect CLS + JI Pos 4 + Sub + MI	30	B22.21039
0086/008601	iLS Out of Service Mask 3 Aspect CLS JI Pos   4 + Sub +MI	31	B22.21040
0086/008602	iLS Out of Service Mask 3 Aspect CLS JI Pos   2 + Sub + MI	32	B22.21041
0086/008603	iLS Out of Service Mask 3 Aspect CLS + JI 4 5 + Sub + MI	33	B22.21042
0086/008604	iLS Out of Service Mask 3 Aspect CLS JI Pos   2 4 5 + Sub + MI	34	B22.21043
0086/008605	iLS Out of Service Mask 3 Aspect CLS JI Pos   2 4 + Stencil + Sub	35	B22.21044
0086/008606	iLS Out of Service Mask 3 Aspect CLS JI Pos   4 5 + Sub + Stencil	36	B22.21045
0086/008607	iLS Out of Service Mask 3 Aspect CLS + Theatre	37	B22.21046
0086/008608	iLS Out of Service Mask 3 Aspect CLS + Sub + Theatre	38	B22.21047
0086/008609	iLS Out of Service Mask 3 Aspect CLS + Stencil + Theatre	39	B22.21048
0086/008610	iLS Out of Service Mask 3 Aspect CLS Sub MI + SI	40	B22.21049
0086/008611	iLS Out of Service Mask 4 Aspect CLS JI Pos  1+2	54	B22.21050
0086/008612	iLS Out of Service Mask 4 Aspect CLS JI Pos 4+5	55	B22.21051
0086/008613	iLS Out of Service Mask 4 Aspect CLS JI Pos  1+2+4+5	56	B22.21052
0086/008614	iLS Out of Service Mask 4 Aspect CLS JI Pos   2 4	57	B22.21053
0086/008615	iLS Out of Service Mask 4 Aspect CLS JI  1+4+5	58	B22.21054
0086/008616	iLS Out of Service Mask 4 Aspect CLS JI Pos  1+2 + Sub	63	B22.21055
0086/008617	iLS Out of Service Mask 4 Aspect CLS JI Pos 4 5 + Sub	64	B22.21056
0086/008618	iLS Out of Service Mask 4 Aspect CLS JI   2 4 + 5 Sub	65	B22.21057

Catalogue No.	Description	Head Type	Part No.
0086/008619	iLS Out of Service Mask 4 Aspect CLS JI   2 4 Sub	66	B22.21058
0086/008620	iLS Out of Service Mask 4 Aspect CLS JI   4 5 Sub	67	B22.21059
0086/008621	iLS Out of Service Mask 4 Aspect CLS + MI	68	B22.21060
0086/008622	iLS Out of Service Mask 4 Aspect JI Pos 1 + MI	69	B22.21061
0086/008623	iLS Out of Service Mask 4 Aspect JI Pos 4 + MI	70	B22.21062
0086/008624	iLS Out of Service Mask 4 Aspect JI Pos 1+4 + MI	71	B22.21063
0086/008625	iLS Out of Service Mask 4 Aspect JI Pos 1+2 + MI	72	B22.21064
0086/008626	iLS Out of Service Mask 4 Aspect JI Pos 4+5 + MI	73	B22.21065
0086/008627	iLS Out of Service Mask 4 Aspect CLS JI Pos 1 2 4 5 +MI	74	B22.21066
0086/008628	iLS Out of Service Mask 4 Aspect CLS JI   2 4 + MI	75	B22.21067
0086/008629	iLS Out of Service Mask 4 Aspect CLS JI   4 5 + MI	76	B22.21068
0086/008630	iLS Out of Service Mask 4 Aspect CLS + Sub + MI	77	B22.21069
0086/008631	iLS Out of Service Mask 4 Aspect CLS JI Pos 1 Sub + MI	78	B22.21070
0086/008632	iLS Out of Service Mask 4 Aspect CLS JI Pos 4 Sub + MI	79	B22.21071
0086/008633	iLS Out of Service Mask 4 Aspect CLS JI Pos 1 2 Sub + MI	81	B22.21072
0086/008634	iLS Out of Service Mask 4 Aspect CLS JI Pos 4 5 + MI + Sub	82	B22.21073
0086/008635	iLS Out of Service Mask 4 Aspect CLS JI Pos 1 2 4 5 + MI + Sub	83	B22.21074
0086/008636	iLS Out of Service Mask 4 Aspect CLS JI Pos 1 2 4 Sub + MI	84	B22.21075
0086/008637	iLS Out of Service Mask 4 Aspect CLS JI Pos 1 4 5 Sub + MI	85	B22.21076
0086/008638	iLS Out of Service Mask 4 Aspect CLS + SI	86	B22.21077
0086/008639	iLS Out of Service Mask 4 Aspect CLS + Sub + SI	87	B22.21078
0086/008640	iLS Out of Service Mask 4 Aspect CLS + MI +SI	88	B22.21079
0086/008641	iLS Out of Service Mask 4 Aspect MI + SI + Sub	89	B22.21080

Catalogue No.	Description	Part No.
0086/009496	CLS LITE - Tall Out of Service Mask	B22.21082
0086/009497	CLS LITE - Short Out of Service Mask	B22.21083

### Preliminary Route Indicator

Catalogue No.	Position	Part No.
0086/007459	0 + 1	LSP/01/AAL
0086/007460	0 + 1 + 2	LSP/012/AAL
0086/007461	0 + 4	LSP/04/AAL
0086/007462	0 + 4 + 5	LSP/045/AAL
0086/007463	0 + 1 + 4	LSP/014/AAL
0086/007464	0 + 1 + 2 + 4	LSP/0124/AAL
0086/007465	0 + 1 + 4 + 5	LSP/0145/AAL
0086/007466	0 + 1 + 2 + 3	LSP/0123/AAL
0086/007467	0 + 4 + 5 + 6	LSP/0456/AAL
0086/007468	0 + 1 + 2 + 3 + 4	LSP/01234/AAL
0086/007469	0 + 1 + 4 + 5 + 6	LSP/01456/AAL
0086/007470	0 + 1 + 2 + 3 + 4 + 5	LSP/012345/AAL
0086/007471	0 + 1 + 2 + 4 + 5 + 6	LSP/012456/AAL
0086/007472	0 + 1 + 2 + 3 + 4 + 5 + 6	LSP/0123456/AAL
0086/007473	0 + 1 + 2 + 4 + 5	LSP/01245/AAL

## Banner

<b>Catalogue No.</b>	<b>Position</b>	<b>Part No.</b>
0086/007456	Banner, 2 state 300mA,	LSB/300P/AAL
0086/007457	Banner, 2 state 500mA,	LSB/500P/AAL
0086/007458	Banner, 3 state Green 300mA,	LSB/GRN/AAL

## Theatre

<b>Catalogue No.</b>	<b>Position</b>	<b>Part No.</b>
0086/007456	Standard Alphanumeric Route Indicator (Indications to be specified by the Customer)	LST/-----/AAL

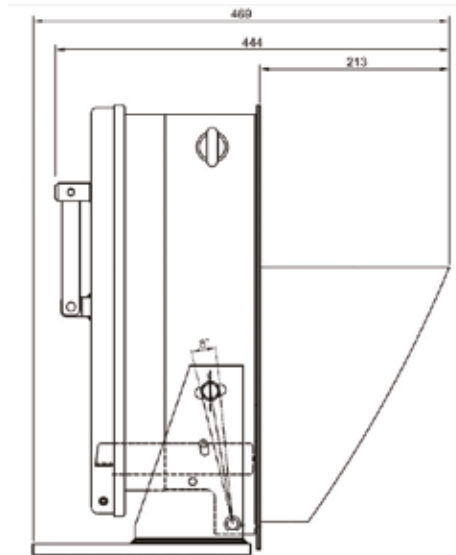
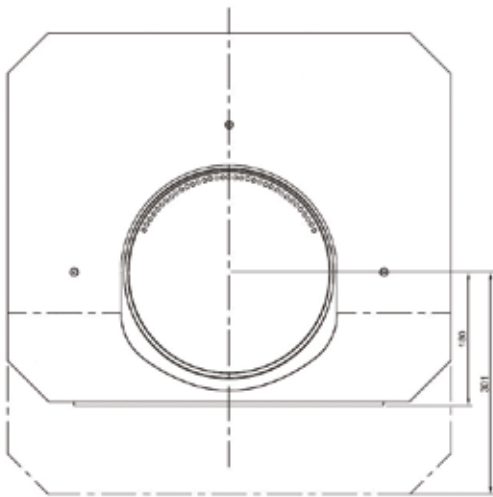
## CLS LITE Signals

### 3 Aspect Mainline Signal, Short Housing

Catalogue No.	Description	Part No.
0086/008728	Lightweight 3-Aspect, Short, Long Range Narrow Beam Colour Light Signal head, Red Yellow Green, MIL 5015, T00036, 110Vac/120Vdc, Current proved, Upper quadrant	CLLH/SRYG/AAE
0086/008729	Lightweight 3-Aspect, Short, Long Range Narrow Beam Colour Light Signal head, Red Yellow Green, MIL 5015, T00036, 110Vac/120Vdc, Double cut volt free contact proved, Upper quadrant	CLLH/SRYG/ACE
0086/008730	Lightweight 3-Aspect, Short, Long Range Narrow Beam Colour Light Signal head, Red Yellow Green, MIL 5015, T00036, 110Vac/120Vdc, Current proved, Bottom quadrant	CLLF/SRYG/AAG
0086/008731	Lightweight 3-Aspect, Short, Long Range Narrow Beam Colour Light Signal head, Red Yellow Green, MIL 5015, T00036, 110Vac/120Vdc, Double cut volt free contact proved, Bottom quadrant	CLLF/SRYG/ACG
0086/008706	Lightweight 3-Aspect, Medium Range Wide Beam Colour Light Signal head, Red Yellow Green, MIL 5015, T00036, 110Vac/120Vdc, Current proved, upper quadrant	CLWH/SRYG/AAE
0086/008707	Lightweight 3-Aspect, Short, Medium Range Wide Beam Colour Light Signal head, Red Yellow Green, MIL 5015, T00036, 110Vac/120Vdc, Double cut volt free contact proved, Upper quadrant	CLWH/SRYG/ACE
0086/008708	Lightweight 3-Aspect, Medium Range Wide Beam Colour Light Signal head, Red Yellow Green, MIL 5015, T00036, 110Vac/120Vdc, Current proved, bottom quadrant	CLWF/SRYG/AAG
0086/008709	Lightweight 3-Aspect, Short, Medium Range Wide Beam Colour Light Signal head, Red Yellow Green, MIL 5015, T00036, 110Vac/120Vdc, Double cut volt free contact proved, Bottom CLWF/SRYG/ACG quadrant	CLWF/SRYG/ACG

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0086/008716	Lightweight 3-Aspect, Medium Range Narrow Beam Colour Light Signal head, Red Yellow Green, MIL 5015, T00036, 110Vac/120Vdc, Current proved, upper quadrant	CLNH/SRYG/AAE
0087/008717	Lightweight 3-Aspect, Short, Medium Range Narrow Beam Colour Light Signal head, Red Yellow Green, MIL 5015, T00036, 110Vac/120Vdc, Double cut volt free contact proved, Upper quadrant	CLNH/SRYG/ACE
0086/008718	Lightweight 3-Aspect, Medium Range Narrow Beam Colour Light Signal head, Red Yellow Green, MIL 5015, T00036, 110Vac/120Vdc, Current proved, bottom quadrant	CLNF/SRYG/AAG
0086/008719	Lightweight 3-Aspect, Short, Medium Range Narrow Beam Colour Light Signal head, Red Yellow Green, MIL 5015, T00036, 110Vac/120Vdc, Double cut volt free contact proved, Bottom quadrant	CLNF/SRYG/ACG



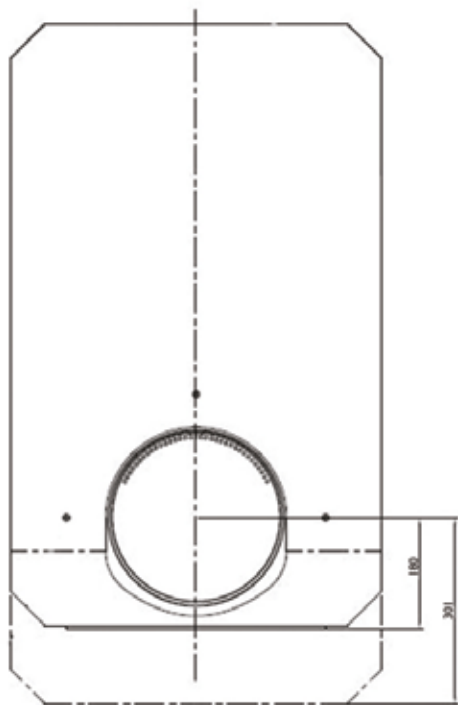
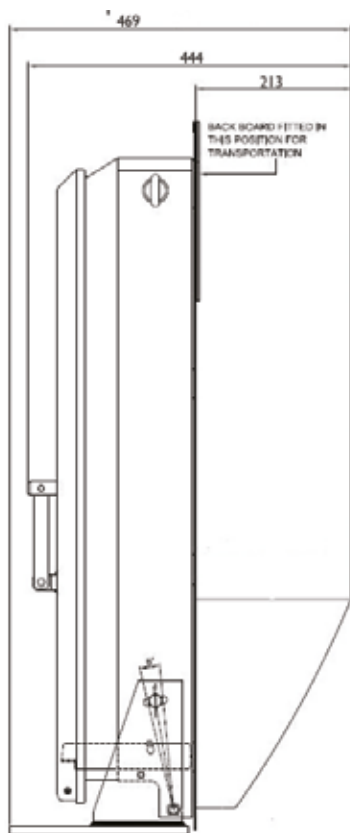
Signal Head Footprint Dimensions are shown on Page 68



### 3 Aspect Mainline Signal, Tall Housing

Catalogue No.	Description	Part No.
0086/008726	Lightweight 3-Aspect, Long Range Narrow Beam Colour Light Signal head, Red Yellow Green, MIL 5015, T00036, 110Vac/120Vdc, Current proved, upper quadrant (Tall Housing)	CLLH/3RYG/AAE
0086/008727	Lightweight 3-Aspect, Medium Range Narrow Beam Colour Light Signal head, Red Yellow Green Yellow, MIL 5015, T00036, 110Vac/120Vdc, Double cut volt free contact proved, upper quadrant (Tall Housing)	CLLH/3RYG/ACE
0086/008704	Lightweight 3-Aspect, Medium Range Wide Beam Colour Light Signal head, Red Yellow Green, MIL 5015, T00036, 110Vac/120Vdc, Current proved, upper quadrant (Tall Housing)	CLWH/3RYG/AAE
0086/008705	Lightweight 3-Aspect, Tall, Medium Range Wide Beam Colour Light Signal head, Red Yellow Green, MIL 5015, T00036, 110Vac/120Vdc, Double cut volt free contact proved, Upper quadrant	CLWH/3RYG/ACE
0086/008714	Lightweight 3-Aspect, Medium Range Narrow Beam Colour Light Signal head, Red Yellow Green, MIL 5015, T00036, 110Vac/120Vdc, Current proved, upper quadrant (Tall Housing)	CLNH/3RYG/AAE
0086/008715	Lightweight 3-Aspect, Tall, Medium Range Narrow Beam Colour Light Signal head, Red Yellow Green, MIL 5015, T00036, 110Vac/120Vdc, Double cut volt free contact proved, Upper quadrant	CLNH/3RYG/ACE

Not suitable for use with Assisted Lift Trunnion



Signal Head Footprint Dimensions are shown on Page 68

## CLS LITE Visors and Backboards

Catalogue No.	Description	Part No.
0086/009499	Extended Visor (CLS LITE)	B20.19374
0086/009501	Standard Visor (CLS LITE)	B20.20234
0086/007488	Extended iLS CLS Visor 600mm Long	B20.19436
0086/007489	CLS LITE Extended Visor (550mm), 135 Deg LH Obstruction (for 3 aspect CLS LITE signals)	B20.19412
0086/007490	CLS LITE 4 Aspect Extended Visor (550mm), 135 Deg LH Obstruction kit, (comprising of 2 off visors 0086/007489 and new backboard C60.59128)	D84.03686
0086/009502	CLS LITE 4 Aspect Backboard	B20.20238
0086/009503	CLS LITE Tall 3 Aspect Backboard	B20.19363
0086/009504	CLS LITE Short 3 Aspect Backboard	B20.20232
0086/009505	CLS LITE 4 Aspect Tunnel Backboard	B20.19368
0086/009506	CLS LITE 3 Aspect Tunnel Backboard	B20.19373
0086/009507	CLS LITE Backboard Extension	B20.20233

## CLS LITE Cable Management

Catalogue No.	Description	Part No.
0086/009508	Cable Coupler Support Bracket Angle	B20.19370
0086/009509	Cable Coupler Support Bracket (Heatsink Mounted)	B20.19369
0086/009510	Cable Coupler Support Bracket (No Heatsink)	B20.19371
0086/009511	MIL 5015 Receptacle Protective Cap Size 20	B14.13184
0086/009512	B14.13194 MIL 5015 Receptacle Protective Cap Size 32	B14.13194

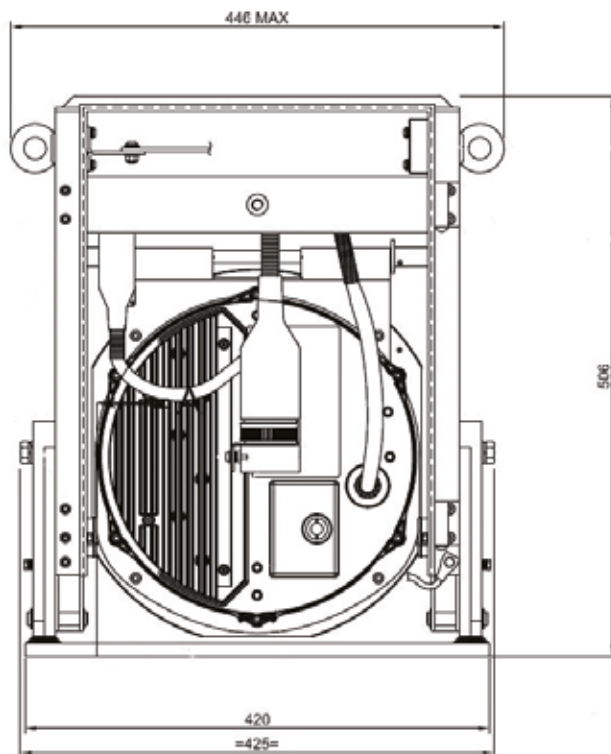
## CLS LITE Signal Sighting

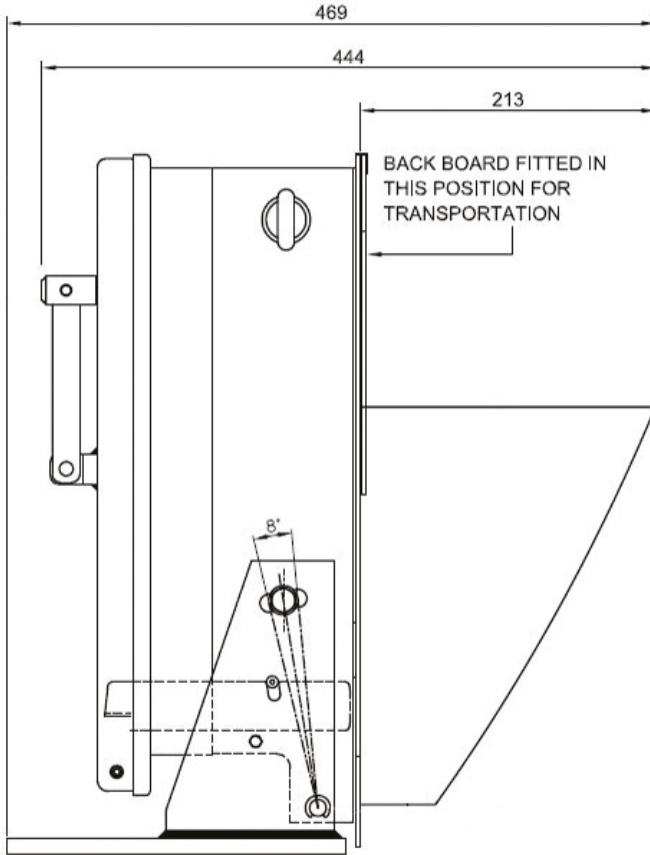
Catalogue No.	Description	Part No.
0086/009513	Sighting Scope Mounting Block	B20.19361
0086/008542	Sighting Scope Assembly (including case)	D04.03082

### 3 Aspect Tunnel Signal

Catalogue No.	Description	Part No.
0086/008732	Lightweight 3-Aspect, Short, Long Range Narrow Beam Colour Light Tunnel Signal head, Red Yellow Green Yellow, MIL 5015, T00036, 110Vac/120Vdc, Current proved, Bottom quadrant	CLLT/SRYG/AAG
0086/008733	Lightweight 3-Aspect, Short, Long Range Narrow Beam Colour Light Tunnel Signal head, Red Yellow Green Yellow, MIL 5015, T00036, 110Vac/120Vdc, Double cut volt free contact proved, Bottom quadrant	CLLT/SRYG/ACG

Not suitable for use with Assisted Lift Trunnion





Signal Head Footprint Dimensions are shown on Page 68

## 4 Aspect Mainline Signal

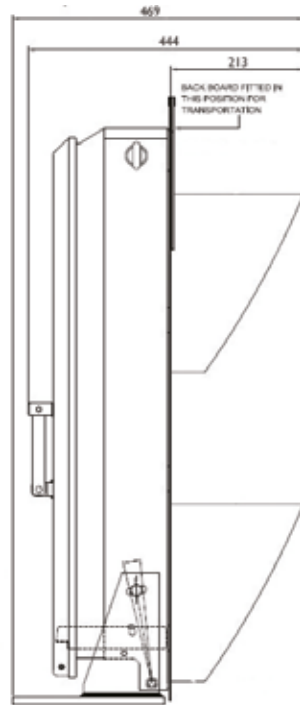
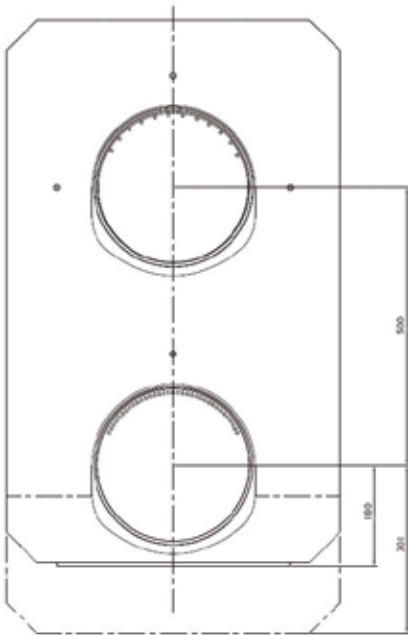
Catalogue No.	Description	Part No.
0086/008720	Lightweight 4-Aspect, Long Range Narrow Beam Colour Light Signal head, Red Yellow Green Yellow, MIL 5015, T00036, 110Vac/120Vdc, Current proved, Upper quadrant	CLLH/RYG/AAE
0086/008721	Lightweight 4-Aspect, Long Range Narrow Beam Colour Light Signal head, Red Yellow Green Yellow, MIL 5015, T00036, 110Vac/120Vdc, Double cut volt free contact proved, Upper quadrant	CLLH/RYG/ACE
0086/008722	Lightweight 4-Aspect, Long Range Narrow Beam Colour Light Signal head, Red Yellow Green Yellow, MIL 5015, T00036, 110Vac/120Vdc, Current proved, Bottom quadrant	CLLF/RYG/AAG
0086/008724	Lightweight 4-Aspect, Long Range Narrow Beam Colour Light Signal head, Red Yellow Green Yellow, MIL 5015, T00036, 110Vac/120Vdc, Double cut volt free contact proved, Bottom quadrant	CLLF/RYG/ACG
0086/008700	Lightweight 4-Aspect, Medium Range Wide Beam Colour Light Signal head, Red Yellow Green Yellow, MIL 5015, T00036, 110Vac/120Vdc, Current proved, Upper quadrant	CLWH/RYG/AAE
0086/008701	Lightweight 4-Aspect, Medium Range Wide Beam Colour Light Signal head, Red Yellow Green Yellow, MIL 5015, T00036, 110Vac/120Vdc, Double cut volt free contact proved, Upper quadrant	CLWH/RYG/ACE
0086/008702	Lightweight 4-Aspect, Medium Range Wide Beam Colour LightSignal head, Red Yellow Green Yellow, MIL 5015, T00036, 110Vac/120Vdc, Current proved, Bottom quadrant	CLWF/RYG/AAG
0086/008703	Lightweight 4-Aspect, Medium Range Wide Beam Colour Light Signal head, Red Yellow Green Yellow, MIL 5015, T00036, 110Vac/120Vdc, Double cut volt free contact proved, Bottom quadrant	CLWF/RYG/ACG
0086/008710	Lightweight 4-Aspect, Medium Range Narrow Beam Colour Light Signal head, Red Yellow Green Yellow, MIL 5015, T00036, 110Vac/120Vdc, Current proved, Upper quadrant	CLNH/RYG/AAE

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0086/008711	Lightweight 4-Aspect, Medium Range Narrow Beam Colour Light Signal head, Red Yellow Green Yellow, MIL 5015, T00036, 110Vac/120Vdc, Double cut volt free contact proved, Upper quadrant	CLNH/RYGY/ ACE
0086/008712	Lightweight 4-Aspect, Medium Range Narrow Beam Colour Light Signal head, Red Yellow Green Yellow, MIL 5015, T00036, 110Vac/120Vdc, Current proved, Bottom quadrant	CLNF/RYGY/ AAG

Not suitable for use with Assisted Lift Trunnion

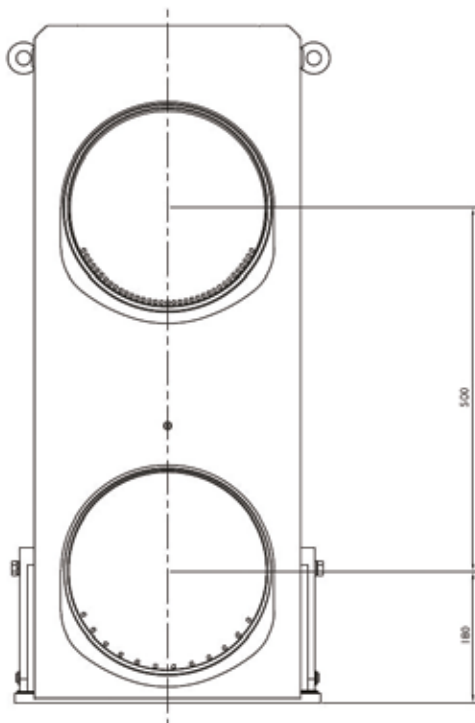


Signal Head Footprint Dimensions are shown on Page 68

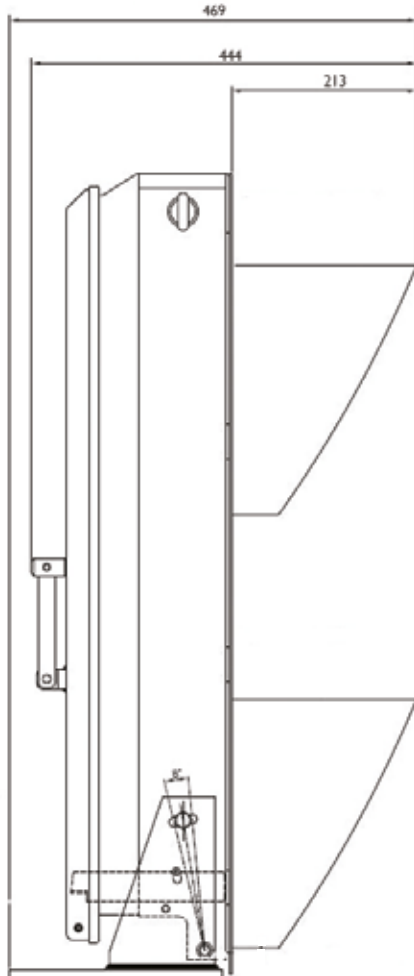
## 4 Aspect Tunnel Signal

Catalogue No.	Description	Part No.
0086/008723	Lightweight 4-Aspect, Long Range Narrow Beam Colour Light Tunnel Signal head, Red Yellow Green Yellow, MIL 5015, T00036, 110Vac/120Vdc, Current proved, Bottom quadrant	CLLT/RYGY/AAG
0086/008725	Lightweight 4-Aspect, Long Range Narrow Beam Colour Light Tunnel Signal head, Red Yellow Green Yellow, MIL 5015, T00036, 110Vac/120Vdc, Double cut volt free contact proved, Bottom quadrant	CLLT/RYGY/ACG

Not suitable for use with Assisted Lift Trunnion







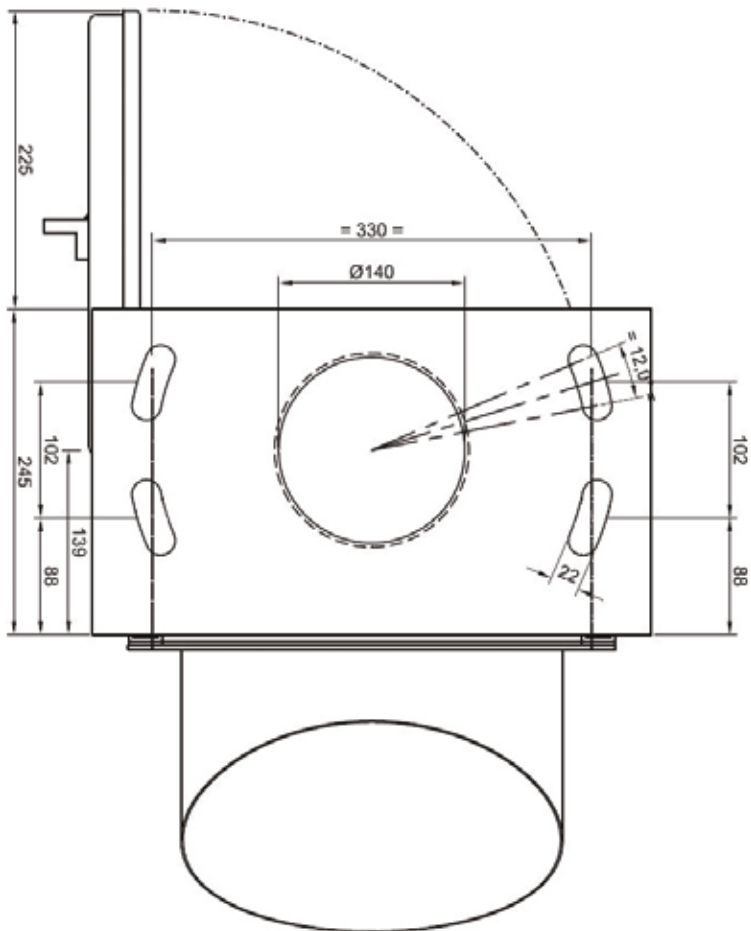
Signal Head Footprint Dimensions are shown on Page 68

## CLS LITE Base

The lightweight base is an integral part of the CLS LITE signal housing.

The mechanical interface shown above/below is standard across the CLS LITE range and complies with the requirements of NR/SP/SIG 10062.

### Footprint of the base



## CLS LITE Spare Modules

Catalogue No.	Description	Part No.
CLS LITE Colour Light Signal Modules, Current Proved to T00036		
0086/008503	CLS LITE Module, Colour Light Signal, 3 Aspect, Long Range Narrow Beam, Elevated, 110V, MIL 5015, T00036, Current Proved, Short Tail Cable	LC/CMLRYG-E/AAS
0086/008504	CLS LITE Module, Colour Light Signal, 3 Aspect, Long Range Narrow Beam, Ground, 110V, MIL 5015, T00036, Current Proved, Short Tail Cable	LC/CMLRYG-G/AAS
0086/009370	CLS LITE Module, Colour Light Signal, 3 Aspect, Medium Range Narrow Beam, Elevated, 110V, MIL 5015, T00036, Current Proved, Short Tail Cable	LC/CMNRYG-E/AAS
0086/009371	CLS LITE Module, Colour Light Signal, 3 Aspect, Medium Range Narrow Beam, Ground, 110V, MIL 5015, T00036, Current Proved, Short Tail Cable	LC/CMNRYG-G/AAS
0086/009478	CLS LITE Module, Colour Light Signal, 3 Aspect, Medium Range Wide Beam, Elevated, 110V, MIL 5015, T00036, Current Proved, Short Tail Cable	LC/CMMRYG-E/AAS
0086/009479	CLS LITE Module, Colour Light Signal, 3 Aspect, Medium Range Wide Beam, Elevated, 110V, MIL 5015, T00036, Current Proved, Short Tail Cable	LC/CMMRYG-G/AAS
CLS LITE Colour Light Signal Modules, SSL Modular Scheme Terminations with Single Volt-free Contact		
0086/008509	CLS LITE Module, Colour Light Signal, 3 Aspect, Long Range Narrow Beam, Elevated, 110V, MIL 5015, SSL Modular, Volt Free single cut, Short Tail Cable	LC/CMLRYG-E/CDS
0086/008510	CLS LITE Module, Colour Light Signal, 3 Aspect, Long Range Narrow Beam, Ground, 110V, MIL 5015, SSL Modular, Volt Free single cut, Short Tail Cable	LC/CMLRYG-G/CDS
CLS LITE Colour Light Signal Modules, Double Volt-free Contact Proving, Terminations to T00036		
0086/008513	CLS LITE Module, Colour Light Signal, 3 Aspect, Long Range Narrow Beam, Elevated, 110V, MIL 5015, T00036, Volt Free Double cut, Short Tail Cable	LC/CMLRYG-E/ACS
0086/008514	CLS LITE Module, Colour Light Signal, 3 Aspect, Long Range Narrow Beam, Ground, 110V, MIL 5015, T00036, Volt Free Double cut, Short Tail Cable	LC/CMLRYG-G/ACS
0086/009374	CLS LITE Module, Colour Light Signal, 3 Aspect, Medium Range Narrow Beam, Elevated, 110V, MIL 5015, T00036, Volt Free Double cut, Short Tail Cable	LC/CMNRYG-E/ACS

Catalogue No.	Description	Part No.
0086/009375	CLS LITE Module, Colour Light Signal, 3 Aspect, Medium Range Narrow Beam, Ground, 110V, MIL 5015, T00036, Volt Free Double cut, Short Tail Cable	LC/CMNRYG-G/ACS
0086/009482	CLS LITE Module, Colour Light Signal, 3 Aspect, Medium Range Wide Beam, Elevated, 110V, MIL 5015, T00036, Volt Free Double cut, Short Tail Cable	LC/CMMRYG-E/ACS
0086/009483	CLS LITE Module, Colour Light Signal, 3 Aspect, Medium Range Wide Beam, Ground, 110V, MIL 5015, T00036, Volt Free Double cut, Short Tail Cable	LC/CMMRYG-G/ACS
Upper Yellow modules (4th Aspect) for Current Proved Modules to T00036		
0086/008642	CLS LITE Module, Colour Light Signal, 4th Aspect, Long Range Narrow Beam, Elevated, 110V, MIL 5015, T00036, Current Proved	LC/CML4Y--E/AA-
0086/008643	CLS LITE Module, Colour Light Signal, 4th Aspect, Long Range Narrow Beam, Ground, 110V, MIL 5015, T00036, Current Proved	LC/CML4Y--G/AA-
0086/009376	CLS LITE Module, Colour Light Signal, 4th Aspect, Medium Range Narrow Beam, Elevated, 110V, MIL 5015, T00036, Current Proved.	LC/CMN4Y--E/AA-
0086/009377	CLS LITE Module, Colour Light Signal, 4th Aspect, Medium Range Narrow Beam, Ground, 110V, MIL 5015, T00036, Current Proved.	LC/CMN4Y--G/AA-
0086/009484	CLS LITE Module, Colour Light Signal, 4th Aspect, Medium Range Wide Beam, Elevated, 110V, MIL 5015, T00036, Current Proved.	LC/CMM4Y--E/AA-
0086/009485	CLS LITE Module, Colour Light Signal, 4th Aspect, Medium Range Wide Beam, Ground, 110V, MIL 5015, T00036, Current Proved.	LC/CMM4Y--G/AA-
Upper Yellow modules (4th Aspect) for Volt-free contact proved modules		
0086/008644	CLS LITE Module, Colour Light Signal, 4th Aspect, Long Range Narrow Beam, Elevated, 110V, MIL 5015, T00036, No Proving (For use in conjunction with the volt-free contact proved CLS LITE Module)	LC/CML4Y--E/AE-

Catalogue No.	Description	Part No.
0086/008645	CLS LITE Module, Colour Light Signal, 4th Aspect, Long Range Narrow Beam, Ground, 110V, MIL 5015, T00036, No Proving (For use in conjunction with the volt-free contact proved CLS LITE Module)	LC/CML4Y-G/AE-
0086/009378	CLS LITE Module, Colour Light Signal, 4th Aspect, Medium Range Narrow Beam, Elevated, 110V, MIL 5015, T00036, No Proving (For use in conjunction with the volt-free contact proved CLS LITE Module).	LC/CMN4Y--E/AE
0086/009379	CLS LITE Module, Colour Light Signal, 4th Aspect, Medium Range Narrow Beam, Ground, 110V, MIL 5015, T00036, No Proving (For use in conjunction with the volt-free contact proved CLS LITE Module).	LC/CMN4Y--G/AE
0086/009486	CLS LITE Module, Colour Light Signal, 4th Aspect, Medium Range Wide Beam, Elevated, 110V, MIL 5015, T00036, No Proving (For use in conjunction with the volt-freecontact proved CLS LITE Module).	LC/CMM4Y--E/AE
0086/009487	CLS LITE Module, Colour Light Signal, 4th Aspect, Medium Range Wide Beam, Ground, 110V, MIL 5015, T00036, No Proving (For use in conjunction with the volt-free contact proved CLS LITE Module).	LC/CMM4Y--G/AE

## CLS LITE Housing

Catalogue No.	Description	Part No.
0086/009392	Dorman CLS LITE One Aperture Housing for 3 Aspect Tunnel Colour Light Signal (Short)	D04.03508
0086/009393	Dorman CLS LITE One Aperture Housing for 3 Aspect Colour Light Signal (Short)	D04.03499
0086/009394	Dorman CLS LITE One Aperture Housing for 3 Aspect Colour Light Signal (Tall)	D04.03501
0086/009395	Dorman CLS LITE Two Aperture Housing for 4 Aspect Colour Light Signal	D04.03500
0086/009396	Dorman CLS LITE Two Aperture Housing for 4 Aspect Tunnel Colour Light Signal	D04.03504

## Out of Use Masks

Catalogue No.	Description	Part No.
	3 Aspect, Short Housing	B22.21085
	3 Aspect, Tall Housing	B22.21083
	4 Aspect, Standard Housing	B22.21082

## Cable Management

Catalogue No.	Description	Part No.
0086/009498	Cable Clamp	D04.03505
0086/009508	Cable Coupler Support Bracket Angle	B20.19370
0086/009509	Cable Coupler Support Bracker (Heatsink Mounted)	B20.19369
0086/009510	Cable Coupler Support Bracker (No Heatsink)	B20.19371
0086/009511	Protective Cap, Shell Sixe 20	B14.13184
0086/009512	Protective Cap, Shell Sixe 32	B14.13194
0086/009396	4 Aspect, Tunnel Head	D04.03504

## Backboards and Visors

Catalogue No.	Description	Part No.
0086/009499	Extended Visor	B20.19374
0086/009501	Standard Visor	B20.20234
0086/009502	4 Aspect Backboard	B20.20238
0086/009503	3 Aspect, Tall Backboard	B20.19363
0086/009504	3 Aspect, Short Backboard	B20.20232
0086/009505	4 Aspect. Tunnel Head Backboard	B20.19368
0086/009506	3 Aspect, Short, Tunnel Head Backboard	B20.19373
0086/009507	Lower Backboard Extension	B20.20233
0086/009002	40mm Offset Mounting Plate	D86.85056
0086/009001	40mm Offset Mounting Plate (for 'A' Frame)	D86.85057

Notes..





Notes..

## Members of:



Railway Industry Association



## Classic Signalling Range

In addition to our range of Lightweight Signals, Unipart Dorman offer a full range of rail products including Classic LED Signals, Route Indicators and Level Crossing equipment.

Details of our full selection of classic signalling products can be found at [www.unipartdorman.co.uk/rail.html](http://www.unipartdorman.co.uk/rail.html)

You can also download a copy of the handbook on our website at [http://www.unipartdorman.co.uk/assets/led\\_signalling\\_handbook.pdf](http://www.unipartdorman.co.uk/assets/led_signalling_handbook.pdf)

## Unipart Dorman and the International Market

Unipart Dorman has always been proud to be an innovative company, not simply resting on its past successes.

We have already built a market leading range of products for the UK market and have developed overseas projects for customers, creating bespoke signalling to fit their needs.

We attend a number of major rail exhibitions in both the UK and overseas markets. Visit our website for the latest details of our upcoming events.

Considerable interest is regularly shown in our signalling solutions by overseas customers and a number of these leads have resulted in major orders being achieved for non-uk markets.

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- Germany
- Portugal
- Republic of Ireland
- Spain
- USA
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**Issue 3: May 2017**

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