Rail Freight Safety Improvement Programme Case Study

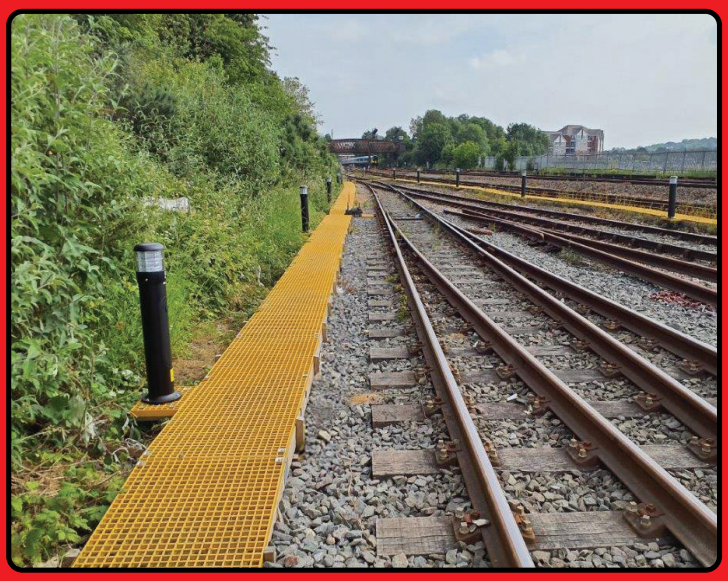
Abacus
Leaders in Lighting

FSIP Rail Project - Quartz Evo LED Bollard

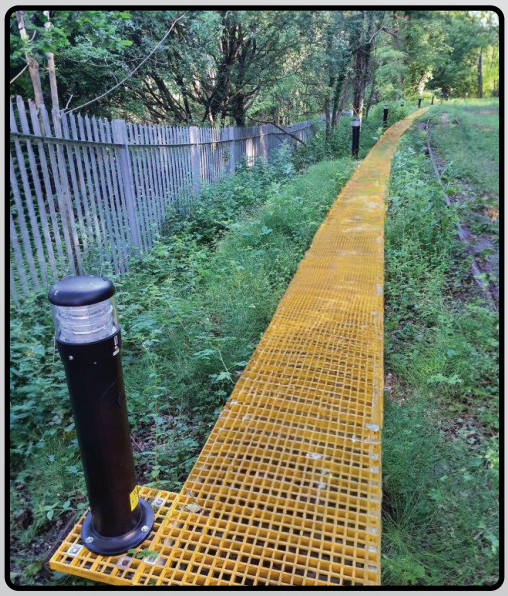
Abacus Lighting has successfully secured a contract for a ten-site rail scheme as part of the Freight Safety Improvement Programme (FSIP).

The project involved lighting design by CBG Rail, supply of the Quartz Evo Bollards by Abacus Lighting, and installation by KH Electrical for Dyer & Butler. Approximately 350 Quartz Evo Glass-fibre Reinforced Polyester (GRP) LED bollards were installed across the 10 sites.

In addition, Abacus Lighting supplied and installed 8 raise and lower (RL) lighting columns alongside the Quartz Evo bollards to minimise line closure time when access was available during possession.



Non-Conductive GRP



The Greatest Bollard Spacing in the industry that still achieves **Lighting Safety Standards**

Quartz Evo LED Bollards: Saving Time, Money and Energy

KH Electrical installed 350 Quartz Evo LED bollards to ensure compliance with current lighting safety standards for workers using the GRP walkways near live rails.

The majority of the Quartz Evo GRP bollards were asymmetrical, with a few symmetrical versions as per CBG Rail's lighting design specifications.

The Quartz Evo bollards were chosen for their superior performance, achieving an average 10LUX at a spacing of 12.5m between bollards. In comparison, competitor products could only achieve 8m spacings.

The unmatched spacing between Quartz Evo bollards results in significant time, money, and energy savings. This is not only evident during installation but continues throughout the product's lifespan, as it reduces energy consumption.

Greater spacings between bollards mean fewer units to install, resulting in quicker installation and reduced energy consumption. Additionally, the bollards were fixed directly to the GRP walkways, eliminating the need for additional ground works.

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Why Specify The Quartz Evo GRP Bollard?

The Abacus Quartz Evo GRP bollard was chosen for its capability to achieve greater spacings between bollards, between 12 - 15m, while still meeting safety standards due to its unmatched light distribution.

The Quartz Evo bollard is available in either non-conductive GRP or a combination of an alloy head with a steel body, with the alloy heads being suitable for retrofitting onto existing steel bodies. Retrofitting the head is quick and easy with just four fixings securing the head to the body.

The Quartz Evo can be specified in symmetrical or asymmetrical lighting options with root or flange plate mounting. The robust IP66 Quartz Evo is relatively lightweight at 15.2kg, vandal-resistant, and has a quarter-turn closing mechanism on the wide access door for ease of installation and maintenance.

Click or Scan Here
To View The Quartz Evo Video

Retrofit:

Quartz Evo LED bollard *heads can be retrofitted to existing steel bodies

Quartz Evo Bollard Key Features:

- Greatest spacing in the industry between bollards
- Less units required to meet lighting safety standards
- Low glare optic design with unrivalled uniformity
- Non-conductive GRP or alloy/steel materials
- Symmetrical and asymmetrical options
- Flange plate or root mounted
- Vandal-resistant flush, extra-wide access door with quarter-turn locking mechanism
- Retrofit head units on to existing bodies (*Alloy/steel only)
- IP66 Rated

If you have a railway or road lighting scheme that you would like to submit to Abacus Lighting, please contact us using the details below.

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Quartz Evo Bollard

AL9100 (GRP) & AL9200 (alloy/steel) Series

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Quartz Evo Bollard Key Features

- Greatest spacing in the industry between bollards
- Less units required to meet lighting safety standards
- Low glare optic design with unrivalled uniformity
- Non-conductive GRP or alloy/steel materials
- Symmetrical and asymmetrical options
- Flange plate or root mounted
- Vandal-resistant flush, extra-wide access door with quarter-turn locking mechanism - GRP version only
- Retrofit head units on to existing bodies - Alloy/steel version only
- IP66 Rated
- 3 hour emergency battery backup option available
- Supplied in recyclable cardboard packaging

Quartz Evo Bollard (Alloy/steel)

Quartz Evo Bollard (GRP)

Product Applications

- **Railway Crossings**
- **Railway Platforms**
- **Railway Stations**
- **Car Parks**
- **Retail Parks**
- **Public Realm**

Quartz Evo GRP & Alloy/Steel LED Bollard

Introducing the next generation of LED bollard, the Quartz Evo. This bollard incorporates the trusted design of the LED Quartz with the latest advancements in optical and Glass-fibre Reinforced Polyester (GRP) technologies.

Our GRP range offers a non-conductive and passively safe alternative to steel, making it ideal for rail schemes. The Quartz Evo bollard is also available in a steel/alloy version, providing durability and the option to retrofit alloy head units onto existing steel bases.

With a 50% reduction in power consumption compared to the original product, the Quartz Evo delivers significant performance gains. It also offers market-leading bollard spacings, surpassing any other product available. In summary, the Quartz Evo sets a new standard for modern bollard lighting.

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Quartz Evo Bollard

AL9100 (GRP) & AL9200 (alloy/steel) Series

Technical Specifications

Technical Specification	Asymmetric	Symmetric
Power (Wattage):	12.8W	16.2W
Luminous Flux:	1590 lm	2050 lm
Colour Temperature:	4000K (Other option 3000K)	
Colour Rendering Index (CRI):	Ra70	
Body Colour:	Jet Black: RAL9005 as standard (Other options available)	
Lifetime:	L90B10 > 80,000hrs at 25°C Ambient temperature	
Dimensions: (H x W)	1325 x 187mm Root base 950 x 187mm Flange base	
Weight:	GRP Head: 3.6kg - Alloy Head: 4.5kg Root base: 5.6kg Flange Base: 6kg	
Working Temperature:	-40°C ~ +45°C (50°C optional)	
IP Rating:	IP66	
IK Rating:	IK10	

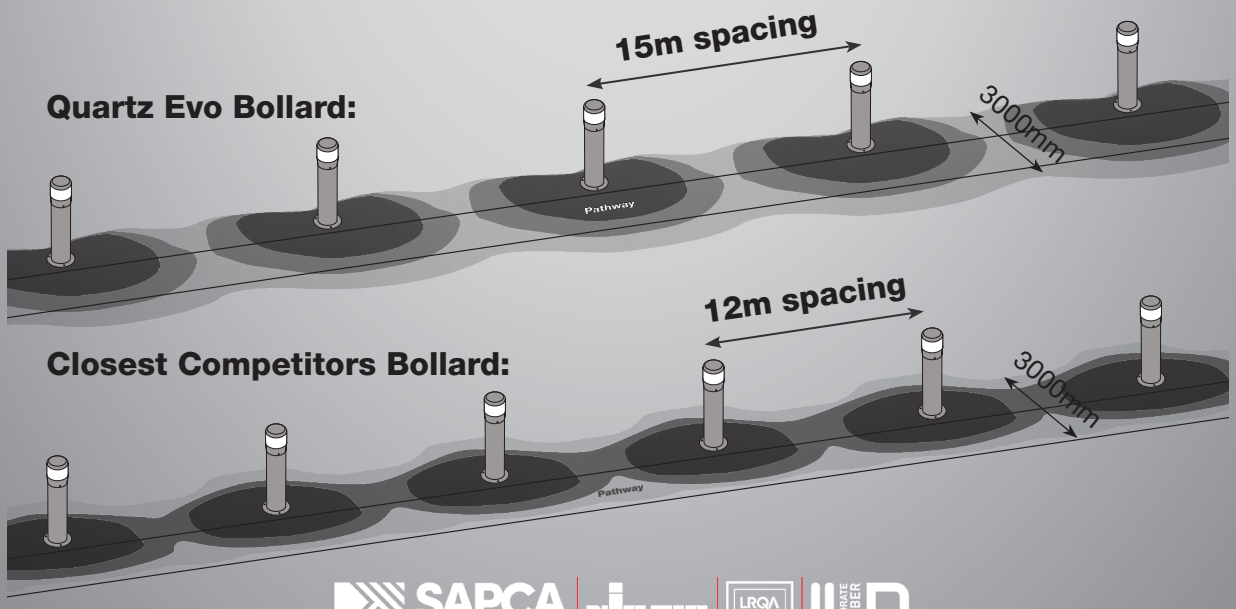
Spacing & Example Levels

Beam Type	Spacing (m)	Average LUX	Minimum LUX	Uniformity
Asymmetric	10	21.1	10.8	0.51
	12	17.6	5.9	0.34
	15	14.1	2.5	0.18
	18	11.8	1.2	0.10
	20	10.2	0.8	0.08
Symmetric	10	17.4	9.6	0.55
	12	14.5	6	0.41
	15	11.6	2.8	0.24
	18	??	??	??
	20	8.7	1.0	0.11

This information is based on a straight, 3m wide path with no obstructions and bollards 700mm back to centre

Quartz Evo Bollard vs Market Competition

Run Length In Linear Metres:	Quantity Of Bollards Required Per Run Length	
	Quartz Evo	Leading Competitor
200	**14**	17
300	**20**	25
500	**34**	42



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Quartz Evo Bollard
AL9100 (GRP) Series

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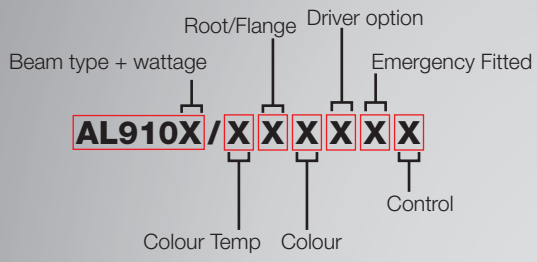
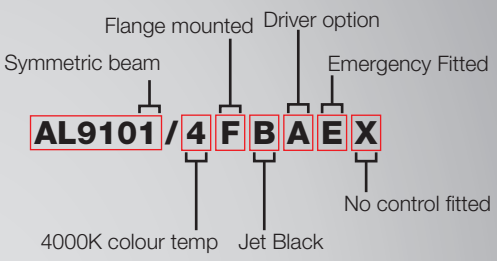
GRP - Quartz Evo Product Code Selection

Beam Type & Power	Colour Temperature	Mounting Method	Body Colour	Driver Options	Emergency Battery Back Up	Control
Symmetric (15W) = **AL9101**	4000K = **4**	Flange Plate = **F**	RAL9005 (Jet Black) Standard = **B**	1-10 = **A**	Fitted = **E**	Not Fitted = **X**
Asymmetric (12W) = **AL9102**	3000K* = **3**	Root Mounted* = **R**	RAL9006* (Silver) = **S**	DALI = **B**	Not Fitted = **X**	
			RAL7016* (Anthracite Grey) = **G**			

Example Product Selection:

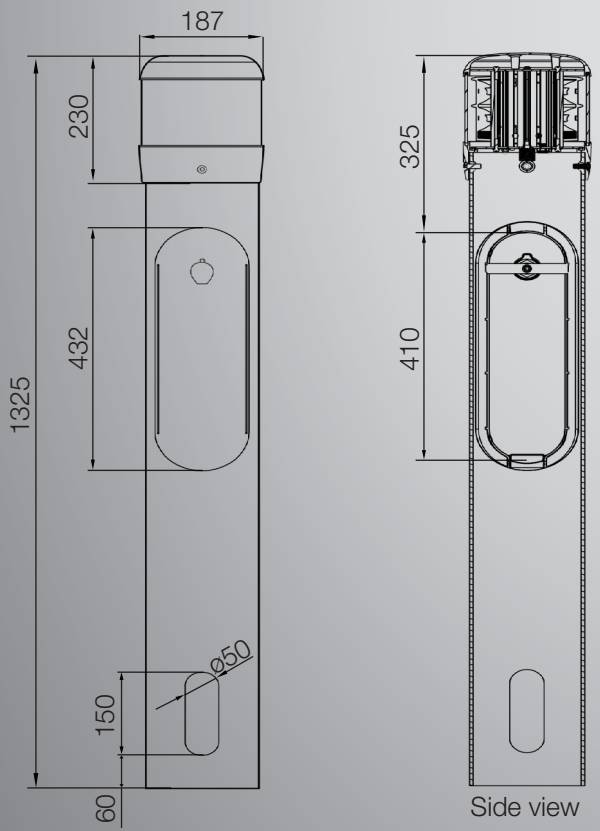




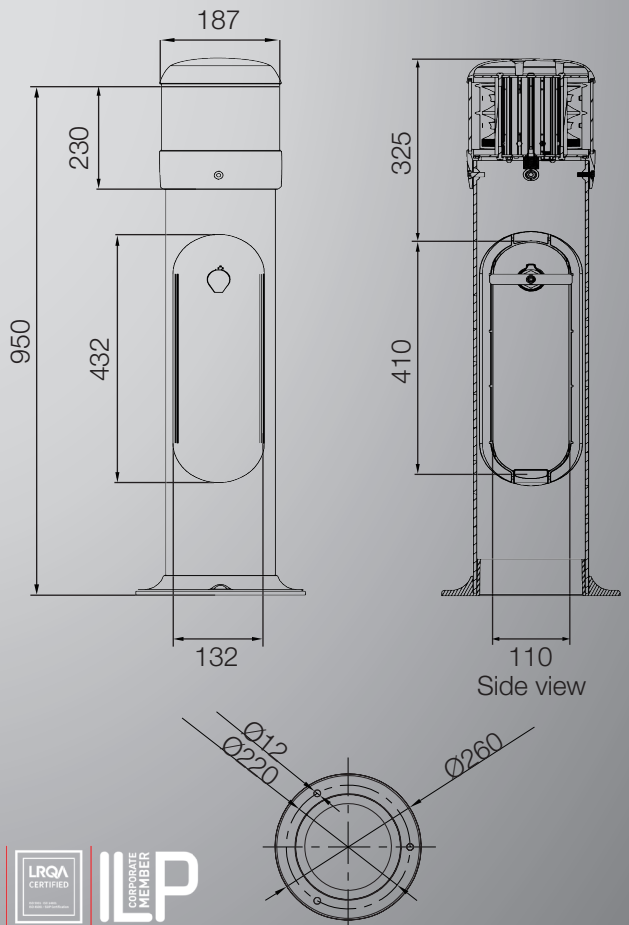
**Please contact Abacus for further details on non-standard options, MOQs may apply.*

GRP - Root Mounted & Flange Plate Quartz Evo Dimensions

GRP Root mounted:



GRP Flange plate:



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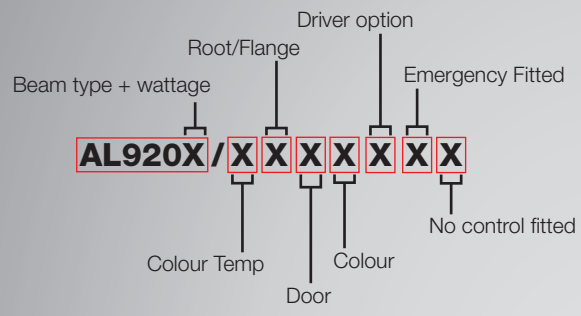
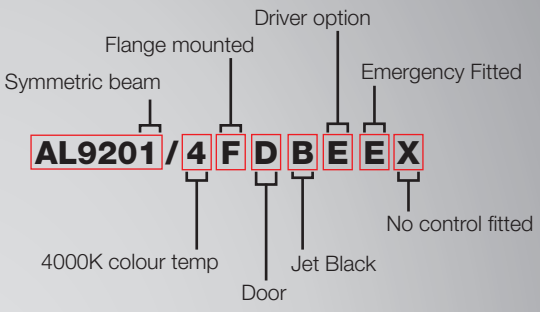
Quartz Evo Bollard
AL9200 (alloy/steel) Series

Alloy/steel Quartz Evo Product Code Selection

Beam Type & Power	Colour Temperature	Mounting Method	Body Colour	Door Option	Driver Options	Emergency Battery Back Up	Control
Symmetric (15W) = **AL9201**	4000K = **4**	Flange Plate = **F**	RAL9005 (Jet Black) Standard = **B**	**Door = D**	1-10 = **A**	Fitted = **E**	Not Fitted = **X**
Asymmetric (12W) = **AL9202**	3000K* = **3**	Root Mounted* = **R**	RAL9006* (Silver) = **S**	**No Door = X**	DALI = **B**	Not Fitted = **X**	

Example Product Selection:





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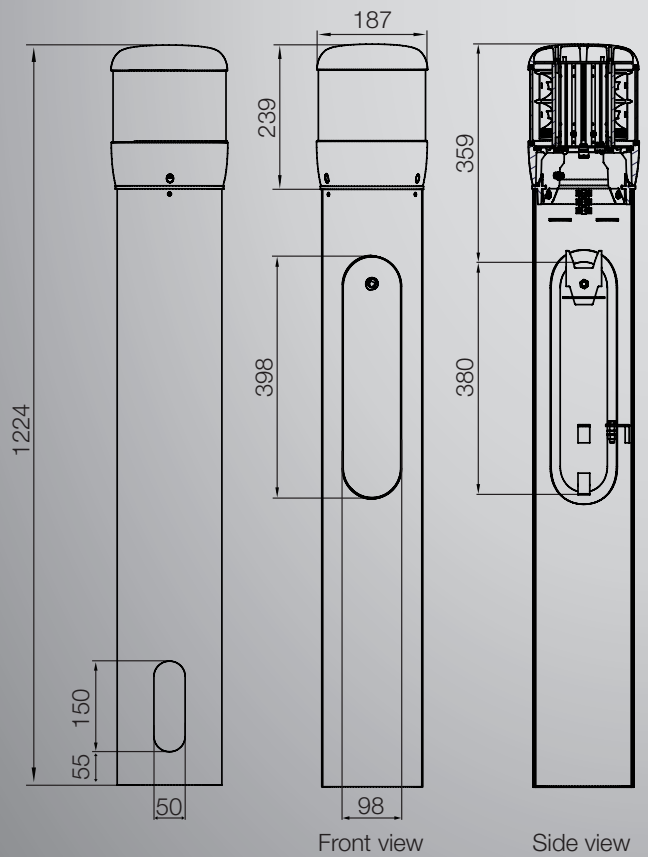
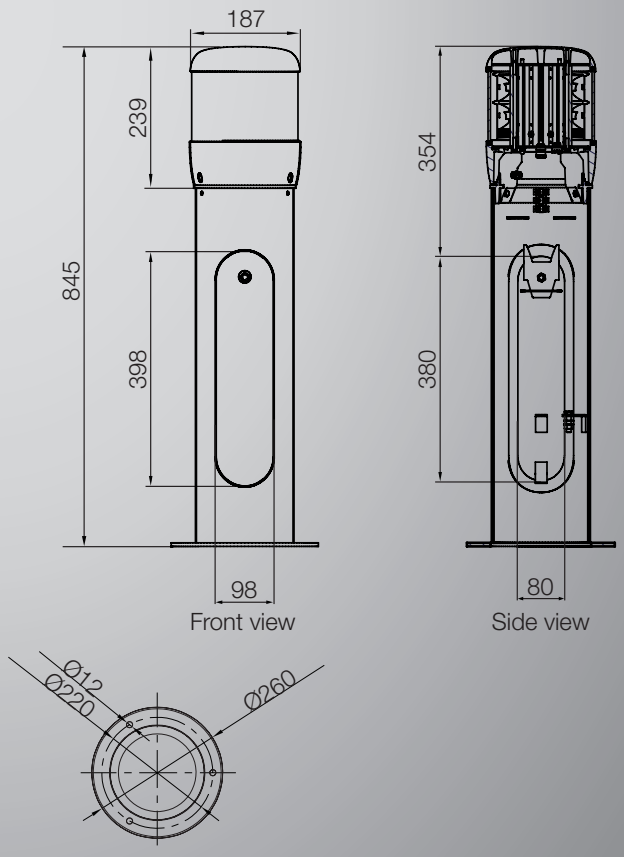
Alloy/steel - Root Mounted & Flange Plate Quartz Evo Dimensions

Alloy/steel Root mounted:



Alloy/steel Flange plate:



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