



BEACON

The Most Accurate Laser Positioning System for Autonomous Mobile Robots.

Pinpoint accuracy from reflector-based laser navigation.

BEACON is a highly accurate AMR/AGV laser navigation system, with an impressive 45m operating range. It is suitable for large open distribution, storage, warehouse and manufacturing applications.

BEACON derives position using a 360° Lidar scanner and reflective target constellation. An angular resolution of 0.1 mrad ($<0.005^\circ$) results in vehicle position repeatability/accuracy of +/-4mm (or better).

Provides a highly accurate means of determining Autonomous Guided Vehicle (AGV) position. Used for many applications including safety related medical devices such as autonomous mobile x-ray scanners.

The key to the accuracy of the BEACON navigation system versus similar solutions on the market is its use of a 'continuous wave' beam of light. BEACON calculates its position using distance and bearing data from the first point it 'sees' each reflector until the last moment that reflector is in its 'vision'.

The BEACON system is fast and easy to configure. To start, our engineers can recommend the positioning of a set of reflectors in the operating environment. Guidance Adopt BEACON software and a mapping vehicle are then used to survey the work areas to create a map which is used by the navigation system to accurately provide positioning for all your AGVs.

Pinpoint Precision for Automated Guided Vehicles.

The BEACON system has more than 25 years of development history making it not only proven, but extremely reliable. The system is also very versatile, should you wish to extend or reduce the existing working environment. By simply by adding additional reflectors and creating a new reference map, you can very quickly introduce changes to your workplace.



The system is designed to maximise your logistical requirements with the minimum of effort across multiple business sectors and is ideal in open and high bay warehouse, storage and production environments such as:

- Automotive production
- Agriculture
- Food and beverage
- Chemical storage
- Healthcare/pharmaceutical processes
- Textiles
- Tobacco
- 3C Electronics
- Warehousing
- Retail

BEACON Navigator Interface specification:

Performance		
Position Repeatability	± 4mm	
Range	0.5m - 45m	
Angular Resolution	0.005°	
Communications Interfaces		
AGV navigation comm's	RS232,RS422 User Configurable	
Diagnostics	Ethernet	
Software Upgrade	FTP	
Electrical		
Supply Input Supply Voltage (S1 A-B):	22 - 26VDC 330mA typical @24VDC (w/o USB)	
Max. Supply Voltage Ripple:	100mV at 20Mhz	
Case socket type S1 (male):	Binder (Series 440)	
Mating Cable Connector for S1 (female):	Binder (Series 440)	
Battery		
Part Description:	CR2032 PCB Vertical Mount Battery:	
Operating Life	Minimum 10 years (operating and storage)	
Laser		
Laser Product Classification:	Class 1 EN60825	
Continuous Laser Wavelength:	780nm nom.	
Environmental		
Operating Temp	0°C to +45°C (commercial grade option)	
Storage Temperature(non-operating):	-10°C to +55°C. Tested for 48 hrs with a minimum 3 hrs acclimatization to operating temperature range.	
Humidity	Operating	0% to 90% (non-condensing)
	Non-operating	5% to 95% (non-condensing)
Mass	1.9kg	
Vibration	IEC 60068-2-6	
EMC	EMC Directive 2004/108	
Housing		
IP Protection	IP54	
Construction	ABS	
Dimensions	Height: 200mm X Diameter Ø 125mm; flange Ø. 170mm	
Weight	1.9kg	
Certification		
CE		

An award-winning pioneer in guidance, navigation and control technologies, Guidance Automation has over 25 years' experience in developing advanced solutions for the global robotic vehicle market and has thousands of systems in service.

Our aim is to consistently meet our clients' needs by offering automated guided vehicle technologies which serve the market need and improve operational performance and efficiency.

We are proud to have enabled our clients to automate robotic vehicles, fork lift trucks, floor cleaning equipment and all types of mobile moving systems. These solutions have been applied in a broad range of autonomous transport applications such as airports, warehousing, healthcare, production, bottling plants, printing, retail, marine and more.

We are committed to the continuous advancement of innovative and optimal vehicle automation.



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